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R&D Based Islamic Religious Education Learning Strategy: Types of Models and Their Role

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Abstract

The dynamics of education are always faced with problems, both related to government policy and other aspects of the educational component itself. Teachers' problems in teaching, starting from the use of media, methods, and the evaluation process, still often encounter obstacles. Researchers can overcome problems and find solutions scientifically through research and development (R&D). The purpose of writing this article is to explain the R&D research model along with its type and role in PAI learning that requires innovation in the understanding and practice of Islamic values. The data collection method uses library research with data analysis techniques through the process of data collection, data reduction, data presentation, and drawing conclusions. The results of this research show that the R&D model is a research method that focuses on developing products in the form of media or methods to improve the quality of learning. There are various types of R&D development models, including the Borg and Gall model, the Sadiman model, the ADDIE model, the Dick & Carey model, and the Ministry of National Education's Pustekkom model. Each development model has steps that are arranged systematically and structured. In general, these types of R&D models have steps that include problem analysis, product development design, implementation, and evaluation. Regarding the implementation, researchers sometimes modify the development model into simpler steps based on needs analysis.

Keywords: Education, Islamic, R&D, Role, Strategy

Abstrak

Dinamika pendidikan selalu dihadapkan pada masalah, baik yang berkaitan dengan kebijakan pemerintah maupun aspek-aspek lain dalam komponen pendidikan itu sendiri. Problematika guru dalam mengajar mulai dari penggunaan media, metode, dan proses evaluasi masih sering mengalami hambatan. Sebagai pendidik ataupun peneliti dapat mengatasi permasalahan dan mencari solusi secara ilmiah melalui penelitian dan pengembangan (R&D). Penulisan artikel ini bertujuan untuk menjelaskan model penelitian R&D beserta jenis dan peranannya dalam pembelajaran PAI yang memerlukan inovasi dalam pemahaman dan pengamalan nilai-nilai Islam. Metode pengumpulan data menggunakan studi pustaka *(library research)* dengan teknik analisis data melalui proses pengumpulan data, reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian ini menunjukkan bahwa R&D merupakan metode penelitian yang berfokus pada pengembangan produk berupa media atau metode untuk meningkatkan kualitas pembelajaran. Terdapat berbagai jenis model pengembangan R&D antara lain model Borg and Gall, model Sadiman, model ADDIE, model Dick and Carey, dan model Pustekkom Depdiknas. Masing-masing model pengembangan memiliki langkah-langkah yang tersusun secara sistematis dan terstruktur. Secara garis besar dari jenis-jenis model R&D tersebut memiliki langkah-langkah yang mencakup analisis masalah, desain pengembangan produk, implementasi, dan evaluasi. Mengenai implementasinya, peneliti terkadang memodifikasi model pengembangan ke dalam langkah-langkah yang lebih sederhana berdasarkan analisis kebutuhan.

Kata Kunci: Pendidikan, Islam, R&D, Peran, Strategi

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INTRODUCTION

In the current 21st-century, the curriculum is designed to answer the challenges of an increasingly complex era where students are required to have 21st-century skills known as 4Cs, namely *critical thinking, creativity, collaboration, and communication* (Anton & Trisoni, 2022). However, in its implementation, the curriculum in Indonesia still experiences various challenges, such as the gap in education quality between urban and rural areas and limited supporting resources. The Ministry of Education continues to strive to improve and perfect curriculum components starting from objectives, media, methods, and evaluation so that they can meet the needs of a dynamic society. One way to identify problems and find solutions to educational problems is to conduct research. Through research, the data collected and analyzed are appropriate based on valid or proven scientific procedures (Hanafi, 2017).

Research is an effort to obtain evidence, developments, and new findings. The purpose of proof is an effort to check the truth of an object being studied, such as research on the effectiveness of applying discussion methods in learning (Ridwan et al., 2021). Next, development is related to developing products to be better, for example, developing digital modules to support students' learning interests. Development can come from existing products or newly created ones (Tabrani, 2023). And finally, discovery, which means finding a concept or conclusion from a new product that has been tested in the field. So research involves the process of developing and proving knowledge so that new findings are obtained (Hanafi, 2017).

Research and development model, is part of a research method that can be applied in the world of education. The R&D research model focuses on developing products in the form of media or learning methods (Purnama, 2016). According to Sugiyono, R&D research goes through systematic testing stages to produce products that are valid, effective, and in accordance with user needs (Purnama, 2016). R&D is very important to use in the world of education, considering that technological advances force individuals to be able to apply it in everyday life. Technology integration, if used wisely, can produce more dynamic and interactive learning methods so that the quality of learning can increase (Sugiyono, 2020). R&D can also be applied in research based on conventional learning where the aim is to provide learning that is interesting, interactive, and fun for students.

In previous literature studies, it was explained that effective learning models refer to the results of scientific research because they will give birth to various new innovations in education. Meanwhile, learning models that are not based on scientific research tend to be stagnant and attract less student attention, thus affecting the quality of learning (Faiqoh et al., 2016). This is a challenge for teachers as educators to apply various kinds of learning models that suit the characteristics of students and learning needs. Students feel bored with the teacher's monotonous delivery method and do not arouse their motivation to learn (Lafendry, 2023). Learning that involves student participation is considered much more effective and interactive so that it will have

an impact on maximum learning outcomes. So in this case, teachers are required to be able to implement various learning models or produce innovations in the form of development products (Febrita & Ulfah, 2019). Research can be focused on interactive learning models that combine effective and efficient technology.

The development research model can be applied in all subjects, including Islamic Religious Education (PAI). As is known, PAI subjects aim to provide students with an understanding and deepening of the values of Islamic teachings regarding faith, worship, and muamalah. Apart from that, PAI is also a subject that instills moral education in students. In supporting quality learning, the development of an R&D model is very appropriate for use in learning, for example, producing products in the form of media or methods that can be adapted to the content of learning material (Attorsusi et al., 2024). Therefore, implementing R&D in PAI learning is a strategic step to increase student motivation and quality of learning, ensure more relevant teaching materials, and help students understand and practice Islamic teachings in everyday life.

METHOD

In this research the method used is a qualitative approach. Data collection techniques use library research, namely collecting relevant data through various sources and analyzing it to obtain a clear and reliable theoretical study (Sugiyono, 2020). Sources of information are obtained through books, journals, or research results that are appropriate to the topic of discussion. The data analysis technique is based on (Miles and Huberman's, 2014) theory through the process of data collection, data reduction, data presentation, and drawing conclusions. This study attempts to reveal R&D-based PAI learning strategies by explaining models and his role in PAI learning. R&D is an important research method because it is based on product or process development. So if R&D applied in the field of education will certainly give birth to new innovations and make a major contribution to educational progress. Likewise with PAI learning, which basically aims to deepen religion and instill morals, of course the learning process will run better if it is integrated with technology.

FINDINGS AND DISCUSSION

1. Islamic Religious Education Learning

Islamic Religious Education is a discipline that seeks to build and teach Islamic values to students. Islamic Religious Education can also be defined as an effort to guide students to be able in understanding Islamic teachings comprehensively, appreciate the purpose, and be able to practice and make Islamic teachings a guideline for life (Nursaadah, 2021). The aim of Islamic Religious Education learning is to provide knowledge and understanding of Islamic teachings to students, so that they can practice them in life and form a religious character that is in accordance with Islamic values. Apart from that, Islamic Religious Education also aims to develop individual potential, both physical and spiritual.

The aims of Islamic education stated by Muhammad Athiyah al-Abrasy consist of five, namely: a) forming good morals; b) preparing for life in this world and the afterlife; c) preparing to seek halal sustenance and take advantage of it; d) growing enthusiasm *tholabul ilmi* for students; and e) preparing future professional staff (Yusuf, 2022). In general, Islamic education material covers the relationship between humans and God *(hablumminallah)* and human relationships with each other *(hablumminannas).* So, as mentioned in the Qur'an, humans' duties are as servants of Allah SWT as well as leaders on earth *(caliph fil 'ardh)* who protect and manage nature well (Siregar & Zainal, 2024).

Islamic Religious Education is a mandatory subject for every formal educational institution from elementary to tertiary level. Apart from that, learning Islamic education is a top priority in Islamic boarding school education or similar. The scope of Islamic Religious Education material includes the Koran, hadith, creed, morals, fiqh, and Islamic history. Islamic Religious Education learning needs to apply various methods that are appropriate to the topic of discussion, characteristics of students, as well as existing infrastructure. Teachers have a crucial role in providing an interesting and conducive learning atmosphere so that students can understand the material and apply Islamic teachings in everyday life (Aziz et al., 2021).

Among the responsibilities of teachers as a profession are to educate, teach, and train. Educating means maintaining and developing life principles. Teaching means developing science and technology, while training means developing students' skills. Teachers in the humanitarian field are expected to act as second parents, attract sympathy, and become motivators for students. Meanwhile, teachers in society are expected to be able to provide knowledge to society in order to advance and improve the quality of society itself (R. Hidayat et al., 2024).

In an effort to improve the quality of Islamic Religious Education learning, teachers need to apply various learning methods and media that attract students' interest in learning. There are many methods that can be practiced other than the lecture method, such as *problem-based learning, discovery learning, cooperative learning*, etc. The learning media that can be used include modules, concept maps, e-books, learning videos, podcasts, educational applications, quizzes, and others (Sari, 2024). The various methods and media used of course take into account the topic material and characteristics of students as well as the availability of facilities and infrastructure. Therefore, teachers need to continue to innovate in creating and developing new, interesting learning methods or media in order to increase student motivation and learning outcomes. In this way, the quality of Islamic Religious Education learning can continue to improve and be in line with advances in information technology.

2. Definition of R&D

R&D *(Research and Development)* is one type of research and development model that can be used in the field of education. Historically, R&D experienced rapid development in the fields of technology and business to produce products needed by European society in the 1960s. Then this research model was used in the world of education in the 1980s by Borg and Gall to produce learning products that could improve the quality of education. Borg and Gall stated that the R&D research model received funding allocations of more than 4% in certain fields such as computers and pharmaceuticals. Meanwhile, in the education sector, only 1% of funds are spent to carry out R&D research, which is one of the reasons why progress in the education sector is slow when compared to other fields (Hanafi, 2017).

The term R&D has two words, namely *research* (research) and *development* (development). Research is a scientific activity carried out based on rules that have become standard and universal. Meanwhile, development is the activity of developing an object by adding or improving it in terms of quality and quantity. According to Purnama (2016), research and development is a type of research to produce learning products through needs analysis, product development, product evaluation, revision, and product distribution. According to Lalu Jaedun (2010), research and development is a type of research that aims to test the usefulness and effectiveness of a product being developed.

In line with the definition above, Sugiyono (2020) defines research and development as a research method used to produce a product and test its feasibility. Meanwhile, according to Gay

(1991), research and development is not a method of testing the truth of a theory, but rather an effort to develop learning products to be used in schools. From these definitions, it can be concluded that R&D is a type of scientific research based on product development through a series of problem analysis to product feasibility testing to determine the effectiveness and benefits of the product being developed. Of course, producing this product is expected to be appropriate for society because it has been scientifically tested.

Basically, R&D is not only a type of product development but it can also be the development of a process or service. R&D is a structured and systematic research method with a series of processes of problem identification, product planning, data collection, analysis, and product development. So, R&D emphasizes the process of experimentation and observation to obtain valid data and to answer hypotheses and in-depth studies. Through R&D research, you can answer basic questions as well as produce new findings related to the products being developed. So, if this method is applied in the world of education, it will certainly create innovation and creativity that can improve the quality of education itself (Rachman et al., 2023).

3. Types of R&D Models

The R&D research model has several types and steps that have similarities and differences. The similarities generally lie in the steps which include problem analysis, product design and development, product testing, and product evaluation. Meanwhile, to find out the characteristics of each type of R&D, they will be detailed and explained further as follows:

a. Borg & Gall Development Model

Borg and Gall began developing research models in the field of education in the 1980s (Borg & Gall, 1983). This model is oriented towards the creation or development of products that can be used in learning activities after passing the educational product validation stage. The characteristic of the Borg and Gall development model is that it uses a waterfall flow *(waterfall)* in stages (Mesra et al., 2023). Here are the ten steps of the development model as presented by Borg and Gall (Maydiantoro, 2021):

1) *Research and collect information*, referring collecting initial information about the problem to be studied through observation, interviews, surveys, or literature studies related to the research theme.
2) *Planning*, refers to the planning stage by determining the research objectives from the beginning to the final conclusion.
3) *Development of a preliminary form of the product*, refers to developing the initial product form to be tested, as well as preparing supporting components.
4) *Preliminary yield testing*, refers to the initial product trial stage on a limited scale.
5) *Main product revision*, refers to revising products that have been tested at the beginning to be improved again.
6) *Main field testing*, that is, researchers conduct primary trials over a wide range.
7) *Operational product revision*, refers to the stage of improvement or refinement of operational products that have been tested on a wide scale so that later the product is ready to be validated.
8) *Operational field testing*, refers to the validation test stage of operational products that have gone through the revision stage.
9) *Final product revision*, refers to the final improvement that produces the final product.

10) *Dissemination and implementation*, refer to researchers disseminating and applying development products in the field.

The schematic of the Borg and Gall development model can be seen in the following figure 1:

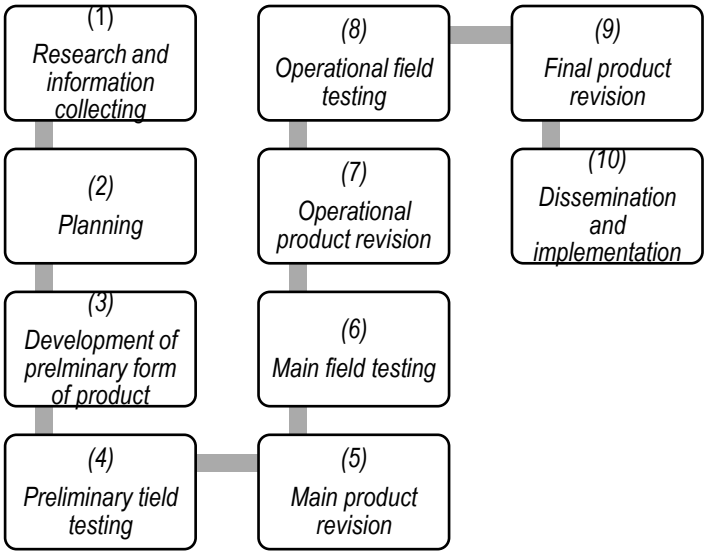

Figure 1. Borg and Gall Development Model

Of the ten development stages described in figure 1, researchers usually modify them into several simpler stages. This is done based on the context and analysis of each researcher's research needs. The advantage of the Borg and Gall development model is that products are produced based on problem or need analysis. The next stages in product development are so systematic and detailed that they are comprehensive. The (Borg and Gall, 1983) model has a high level of feasibility and validity because it has been tested repeatedly to produce a product that is suitable for use. Apart from that, the product is also continuous, which means that product innovation continues to be developed on an ongoing basis (Anggermawan et al., 2024).

Even though it has many advantages, the Borg and Gall model also has several weaknesses, including that this model is quite complex so; it requires a relatively long time to research. The research based on problem analysis with sampling is usually difficult to generalize because it does not come from a population. Apart from that, it also requires quite large financial resources in the product development process (Maydiantoro, 2021).

b. Sadiman Development Model

There are eight stages that researchers need to carry out in the Sadiman development model as follows (Lestari et al., 2019):

1) *Identification of needs,* refers to analysis of products to be developed based on needs in the field through observation and interviews.
2) *Formulating learning objectives,* refers to determining the goals to be achieved from developing the educational product.
3) *Formulating learning materials,* refers to creating learning content by paying attention to content standards and competency standards according to the educational curriculum.
4) *Formulation of a success measuring tool,* refers to defining the indicators that will form the grid of statements in the questionnaire.

5) *Media scriptwriting (production),* refers to preparing development products, for example, in the form of *e-books*, modules, quizzes, and games.
6) *Trial (validation),* refers to the researcher carrying out product trials in the field, which includes three stages, namely individual trials, small group trials, and large group trials.
7) *Revision,* refers to the stage of repairing and refining the product from existing errors or deficiencies so as to produce a product that is feasible and on target.
8) *The manuscript is ready to be produced and used (media),* meaning that the results of the development product can be used for learning.

The above stage scheme can be simplified in the following image:

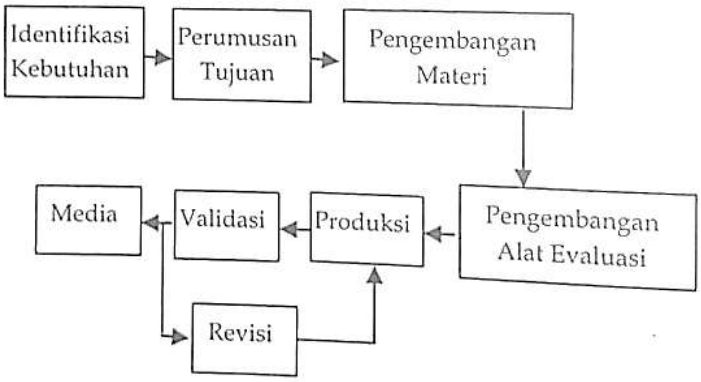

Figure 2. Sadiman Development Model

The advantage of the Sadiman development model is that the steps are arranged systematically, making it easier for researchers to control the research process. Sadiman's eight steps are also quite concise and clear, make it easy for researchers to understand and carry out according to the procedure. In its application, it is often associated with contextual learning, which aligns teaching material with the context of students' daily lives (Ulyana et al., 2019). Meanwhile, the weaknesses of the Sadiman model include that it needs to be carried out carefully. The reason is that if if an error occurs at one of the stages, it can affect the overall development results. The quality of the validator also influences the product being developed. Validators (experts) who are not professionals can result in a product that is not suitable for use in learning (Faiqoh et al., 2016).

c. ADDIE Development Model

The ADDIE model is an abbreviation of *Analyze, Design, Develop, Implement, and Evaluate.* This development design was developed by Robert A. Reiser and Michael Molenda and appeared in 1967 (Risal & Hakim, 2022). ADDIE is a systematic instructional design that centers on individual learning with a systems approach. The ADDIE model concept is applied to build basic performance in learning, namely the concept of developing a learning product design. Effective ADDIE instructional design focuses on implementing authentic tasks, complex knowledge, and genuine problems. Thus, effective instructional design promotes high fidelity between the learning environment and the actual work setting (F. Hidayat & Nizar, 2021). The following are five steps that must be taken when developing using the ADDIE model, namely:

1) *Analyze*, it is the ability to analyze supporting and inhibiting factors for learning to determine the right solution so that learning objectives are achieved (Nurhikmah et al., 2023).
2) *Design,* is an effort to create an effective, efficient, and interactive learning design (Bulhayat et al., 2021).

3) *Development,* refers to the stage that involves developing teaching materials that suit educational needs to support effective learning (Sulistyo & Ismarti, 2018).
4) *Implement,* trial development products by involving teachers and students in the process of delivering the material (F. Hidayat & Nizar, 2021).
5) *Evaluation*, refers to the process carried out to determine the value of the learning process, including assessment standards, selection of assessment instruments, and implementation of the assessment itself (Nurhikmah et al., 2023).

The ADDIE development model scheme can be seen in the following image:

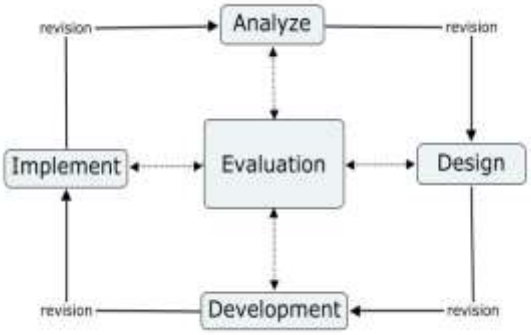

Figure 3. ADDIE Development Model

Of the five development stages describe in figure 3, learning development is based on an effective and efficient system. An interactive process can produce products from each phase it goes through. The final result of this development can produce innovative learning that suits the characteristics of the material and students so that it can be satisfying. The advantage of this development method is a systematic and organized structure, because the ADDIE development model consists of analysis, design, development, implementation, and evaluation. Furthermore, flexibility in various learning contexts, including distance learning. However, this development model also has drawbacks; namely, the process takes a long time because each stage requires in-depth attention and detail. Furthermore, it is less adaptive to change because this model is linear and less flexible in dealing with rapid changes.

d. Dick & Carey Development Model

The Dick & Carey model is a systematic approach to learning design that combines important elements of the learning process such as analysis, design, development, implementation, and evaluation (Masruroh, 2023). This development design was developed by *Walter Dick, Lou Carey, and O. Carey* in 2005. One of the well-known approaches for learning using this model can create an effective, efficient and interesting learning climate (Hastutie & Ramli, 2024). This model is more familiarly known as the Dick & Carey Model. The following are ten steps or stages that must be gone through systematically because each step of this model is related to one another as follows:

1) *Identifying goals,* refers to identifying learning objectives so that the results obtained can be satisfactory (Dila Rukmi Octaviana et al., 2022).
2) *Condusting instructional analysis,* refers to analyzing learning objectives to identify student abilities so that designers can determine student learning needs (Ramadhan et al., 2017).

3) *Identifying entry behaviors and learner characteristics,* refers to identifying the behavior and characteristics of students as a basis for developing effective education (Magdalena et al., 2020).
4) *Writing performance objectives,* refers to learning system designers who must set specific learning objectives by considering conditions, criteria, and indicators that support students in achieving optimal learning outcomes.
5) *Developing criterion-referenced test items,* refers to the designer creating an evaluation tool with benchmarks to measure student achievement in learning outcomes.
6) *Developing instructional strategy,* refers to the method used to carry out learning; the design must be able to describe the extent of students' understanding after implementing the learning.
7) *Developing and selecting instructional materials,* refers to designers choosing effective learning materials or media, such as textbooks, modules, audio-video programs, and so on.
8) *Designing and conducting the formative evaluation of instruction,* refers to formative assessment to determine information on how far the learning objectives have been achieved, as well as to find out how effective the media used is.
9) *Revising instruction,* refers to improving and refining development products so that they are suitable for use in learning.
10) *Conducting summative evaluation*, at this level of evaluation, the evaluation is not done by the planner but is evaluated by an independent evaluator (Akbar et al., 2024).

The Dick and Carey Model development model scheme can be seen in the following image:

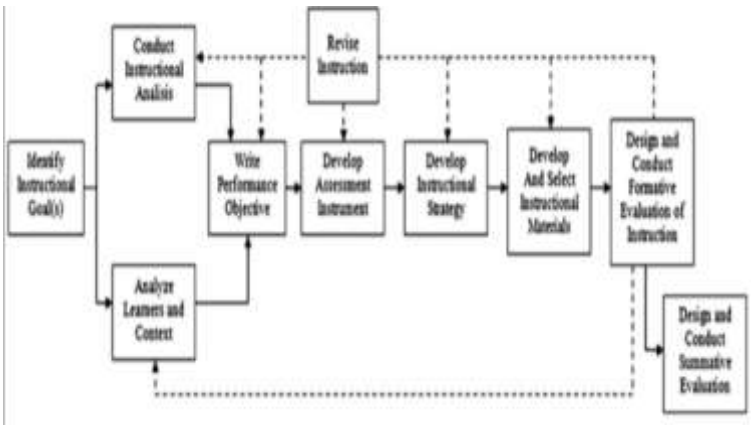

Figure 4. Dick and Carey Development Model

The Dick & Carey development model is based on a systems approach (*system*), which is different from the traditional approach model, which only has three elements, namely teacher, student, and textbook. A model like this only focuses on a teacher's ability to convey learning well or simply transfer knowledge from a teacher to his students. This is different from the Dick & Carey model, at which each step has been formulated into several stages with the aim that a teacher can clearly understand the cause if there are obstacles to student's understanding the material after learning. So, there needs to be a good contribution between teachers and students (Mutaqin et al., 2021). The advantage of the Dick & Carey development model product is its systematic and

structured approach; this model consists of 10 stages so that it is able to design larger and more complex learning activities (Dila Rukmi Octaviana et al., 2022). The validity of this development method is very high because the validation process was carried out twice, both formatively and summatively (Hasan Al et al., 2021).

e. Ministry of National Education's Pustekkom Development Model

The *Pustekkom* model, which stands for the Center for Educational Information and Communication Technology, is part of the Indonesian Ministry of Education and Culture, which has undergone many changes. Pustekkom initially functioned as a content development house with a focus on audio, radio, video, film, and television. However, as information and communications technology (ICT) advances and new mandates are given, Pustekkom's role now includes planning and providing ICT infrastructure, services, professional development, and resources for schools (Aini et al., 2021).

The following are seven stages carried out in developing Pustekkom in learning, namely:

1) *Curriculum review,* is an effort to review and analyze the existing curriculum to understand the objectives, competencies, and learning materials in order to determine the right media (Melisa, 2024).
2) *Media identification,* refers to choosing the media that will be used in learning based on student needs and learning objectives (Koesnandar, 2019).
3) *Developing a script,* is the writing of learning media scripts that contain material and technical instructions for learning programming.
4) *Production,* is a step in creating interactive learning media, which includes text, graphics, photos, audio, and animation.
5) *Refinement,* is an improvement in the media that is developed after receiving feedback from experts.
6) *A test or trial,* is the stage of testing media that is developed to evaluate the effectiveness of the media.
7) *Revision,* refers to revising the media from the results of trials that have been carried out and ensuring that the media developed is perfect and can be used en masse (Koesnandar, 2019).

The scheme of the Ministry of National Education's Pustekkom development model can be seen in the following figure 5:

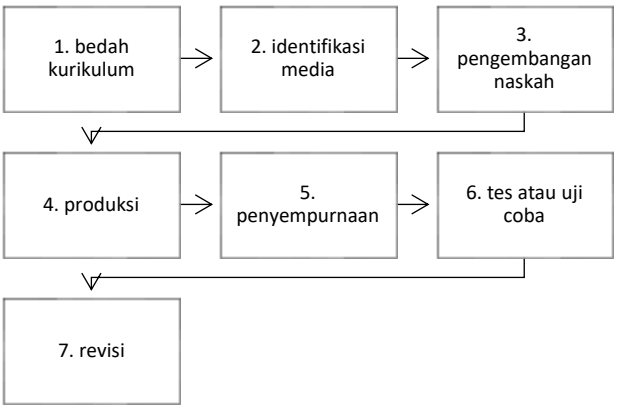

Figure 5. Ministry of National Education's Pustekkom Development Model

From the seven development steps given in figure 5, learning development is part of a government structure that operates in the field of technology and can produce media that is interactive and interesting, making it easier for students to understand lessons and can help in achieving the expected educational goals. In this case, there are several advantages that can be felt when developing with the Ministry of National Education's Pustekkom, namely the structure in development is systematic, uses information technology, and the level of flexibility in its use is very high because it adapts to student needs (Supriyanto et al., 2013).

However, in using this development, there are several shortcomings, namely limited resources, unequal distribution, and lack of resources, both in terms of funds and teaching staff who are still insufficiently trained in operating the technology. Meanwhile, uneven distribution means access to models and media being developed is still limited, especially in remote or less developed areas (Supriyanto et al., 2013).

4. The Role of R&D Development Model in Islamic Religious Education Learning

The R&D development models described previously can be used in Islamic Religious Education learning to develop and test the feasibility of a product. R&D has an important role in efforts to increase the effectiveness of Islamic Religious Education learning through developed methods or media. R&D focuses on developing learning products that are tested through several stages until finding the best results to apply. Therefore, products in the form of methods or media can improve the quality of learning where students are more enthusiastic and interested in learning. Teachers as researchers try to develop the most effective products by adapting the curriculum and students' needs. The product developed will be able to create deeper, more comprehensive, and more applicable learning based on Islamic teachings (Hanafi, 2017).

Products developed from R&D can be contextual to real life. For example, by presenting a problem, students are directed to be able to find a solution by linking teaching material as a literary source. This approach can certainly make learning relevant and more meaningful, because students are able to harmonize theory with practice. Teachers can internalize Islamic values so that students become accustomed to applying these values (Hanafi, 2017). R&D encourages innovation in the use of interesting and interactive learning media. Especially in today's sophisticated era, the development of digital-based media allows students to learn in a more enjoyable way. Digital media provides various complete features and supports learning development. This media is not only a means of conveying information to students, but it can also increase their participation in learning so that Islamic Religious Education learning can be more effective (Darma, 2024).

R&D helps teachers to improve their abilities in teaching Islamic Religious Education. Research on best practices and the latest teaching methods gives teachers the knowledge they need to implement more efficient approaches in the classroom. This also provides an opportunity for teachers to share experiences and learn from each other, thereby adding new relationships to the educational community (Darma, 2024). By using R&D-based learning strategies, students' learning experiences can become more interesting and relevant. Students feel more involved and motivated to learn about Islamic values when lessons are provided through an innovative and contextual approach. In addition, when students see that the teaching material is related to their own lives, they tend to be more interested in participating in learning (Darma, 2024).

CONCLUSION

Based on the explanation above, it can be concluded that research and development or *Research and Development* (R&D), is a research method for designing and testing product effectiveness. R&D is often used in educational research to produce development products in the form of media or methods that can be applied in learning. The R&D development model has several types with different steps. By narrowing them, the R&D stages include problem analysis, product design and development, implementation, and evaluation. Problem analysis can be found from field studies related to problems or needs in learning. After carrying out the analysis, the next step is to start designing the product and conducting product trials in the field, ranging from small classes to large classes. This trial process is also accompanied by validation from a team of experts (validators) and repeated revisions. This process ensures that the resulting product is effective and can be applied optimally in learning. The application of the research and development (R&D) model in Islamic Religious Education (PAI) learning allows the creation of innovative products, such as media and learning methods, which can increase the effectiveness and quality of PAI teaching according to student needs.

RECOMMENDATION

Future researchers are advised to expand the study by exploring the effectiveness of implementing R&D-based Islamic Religious Education learning strategies in various educational contexts. This includes its application at different levels of education, such as primary, secondary, and higher education, as well as in non-formal environments such as Islamic boarding schools or community education. This recommendation is important because learning strategies must be adapted to the diversity of student needs, educational context, and challenges of the digital era to be more relevant, effective, and have a broad impact.

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