Development of a Discovery Learning Model Physics E-Book Containing Al-Qur'an Values to Improve Students' Problem-Solving Skills and Spiritual Attitudes

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Abstract: This research aims to develop a physics e-book discovery learning model containing Al-Qur'an values to improve students' problem-solving skills and spiritual attitudes. This research is included in the Research and Development type. This research refers to the 4D research and development model which consists of four development stages, there are define, design, develop, and disseminate. The resulting product development went through several test stages including validity and reliability testing, limited testing, and extensive testing. The validity test results show that the product is in the very valid category. In limited trials, it was seen that the product developed provided students with practical use in the classroom learning process. In extensive trials, it appears that the product being developed has a positive influence in improving students' spiritual attitudes and problem-solving skills. This is demonstrated based on the results of the effectiveness tests that have been carried out. Spiritual attitude is in the medium category, while problem-solving skills are in the high category. This research concludes that the development of a physics e-book discovery learning model containing Al-Qur'an values is able to improve students' problem-solving skills and spiritual attitudes.

Keywords: Al-Qur'an values; Discovery learning; Physics e-book; Problem-solving skills; Spiritual attitude

Introduction

The main challenges in the world of education are technological advances and global competition. Technological advances have a positive influence on each individual user, including users in the world of education (Ngafifi, 2014; Setiawan, 2018; Taopan et al., 2019). The educational curriculum facilitates students to improve their abilities in dealing with the 4.0 era, where students are asked to get used to solving problems, critically, and creatively (Maimun & Bahtiar, 2022). The world of education is required to develop something that is responsive to this situation (Syaparuddin et al., 2020; Beddu, 2019). This kind of situation is an important concern so students need to be equipped with knowledge, skills and supportive attitudes. In Minister of Education and Culture Regulation no. 24 of 2016 also

states that learning success can be reviewed based on three aspects including attitudes, skills and knowledge (Depdikbud, 2016). Apart from that, the 21st century also requires students to be able to communicate, collaborate, be critical, creative, and solve problems (Erdoğan, 2019; Häkkinen et al., 2017; Rahayu, 2018).

Problem solving is the ability of students to choose various efforts from several alternatives that are considered correct for a particular goal (Bahtiar et al., 2022; Ince, 2018). Students' problem solving skills in learning can be identified through problem solving activities carried out on problems given by the teacher (Reddy & Panacharoensawad, 2017; Rokhmat & Putrie, 2019; Pandiangan et al., 2017). Students who have good problem solving skills provide enormous benefits in seeing the relevance of physics to other learning, as well as real life (Gunawan et al., 2017). However, students'

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problem-solving skills are still relatively low (Yana et al., 2022). Students' errors in solving problems are caused by a lack of accuracy and calculation as well as the use of strategies in problem solving (Malawu, 2023).

The results of the PISA survey conducted in 2018 stated that the abilities of Indonesian students in the aspects of reading, mathematics and science were in 5th place from the bottom (Sälzer & Roczen, 2018). Preliminary research conducted previously also revealed that problem solving abilities in various indicators were still below the average for complete learning outcomes (Rahmatullah et al., 2022). There are still many students who have difficulty identifying the problem to be solved. The lack of students' abilities illustrates that students are not yet able to analyze and apply physics concepts in solving physics problems.

Apart from problem solving skills, students must also have a good spiritual attitude. Spiritual attitudes are attitudes found in students' psyches which include moral, aesthetic, truth and religious values (Rahayu, 2018; Febriyanto et al., 2021). Spiritual attitudes include students' attitudes in terms of polite behavior, respect for religious diversity in their environment (Broćić & Miles, 2021). Results of preliminary research conducted by Sutarto (2017) and Rodrigues et al. (2019) state that the character of students to date is still only helping students understand a concept while at the application level it has not been fully emphasized. The results of interviews with teachers show that current educational outcomes in schools are only able to produce students who lack self-awareness, including spiritual attitudes, and are less able to communicate flexibly with the learning environment and social life of the community. The results of the observations also show that currently in society there is still a lot of deviant behavior carried out by teenagers and even minors. This indicates that there has been a decline in spiritual values (character) in students. One effort to overcome the negative influences that arise is by improving the quality of education (Ngafifi, 2014; Febriyanto et al., 2021).

Increasingly advanced development situations can have an impact on students' weak morals. The reason is because the education taught so far is partial. This means that the current education is more about improving the intellectual aspect but is not balanced with the formation of morals. Even though school participation is very important for the formation of morals and reducing crime rates (Lochner, 2007). However, in reality the results that have been seen so far in the community are that there is still a lot of deviant behavior carried out by teenagers and even minors. This indicates that there has been a decline in spiritual values (character) in students (Ghufron, 2010). One effort to overcome the negative

influences that arise is by improving the quality of education (Ngafifi, 2014).

Students' declining spiritual values become a collective task so that everything can be resolved. The decline in spiritual values (morals) that occurs also has implications for a decline in students' understanding of knowledge. Good morals can also be an easy way to gain knowledge because morals occupy an important position in the scientific structure (Rahmatullah et al., 2021). Science will be difficult for the mind and mind to accept if the attitude towards that science is not good.

The information above is a note that the level of success in students' learning not only in knowledge but also in aspects of spiritual attitude also needs to be improved. The progress of civilization is also a consideration or reason why attitude (spiritual) aspects need to be emphasized in the learning process (Khaidir & Suud, 2020). Efforts to address this problem have been made by education providers, especially ministries. One of the efforts made is to create a policy of embedding character values in each subject. This business is considered good in terms of planning but not in reality. There are still cases of violations that occur between knowledge and character values that are not fully integrated (Rahmatullah et al., 2021). Therefore, it is necessary to develop electronic physics-based teaching materials that have nuances of Al-Qur'an values.

Electronic-based teaching materials or what are known as e-books are teaching materials designed in such a way as to support students' learning activities which can be accessed using gadgets (Anwar & Wibawa, 2019; Kusuma et al., 2022). Physics e-books can facilitate students to learn independently (Merkle et al., 2022). Physics e-books contain complete learning materials and are widely used (Adam & Suprapto, 2019). E-books that are widely used among teachers and students are e-books published and issued by the Ministry of Education in the form of Electronic School Books (BSE). However, the e-book published and issued by the Ministry of Education does not yet facilitate students to carry out investigations independently. One of the learning models that can be used in developing this physics e-book is the discovery learning model.

Discovery learning is a learning model that applies constructivist learning theory based on inquiry. Students learn based on previous experience or existing knowledge in order to find relationships and facts with newly learned material in problem solving situations (Ekins et al., 2019; Rahman, 2017; Rahayu, 2018). Discovery learning teaches the students to manipulate things (variables and parameters) through experimental activities, and observe the effects of these manipulations (Ramdhani et al., 2017; Ibrahim et al., 2020). Through this learning model, students actively answer various

questions or problems and solve problems to discover a concept where some or all of the knowledge is discovered by themselves through teacher guidance (Bahtiar et al., 2022; Gunawan et al., 2021).

The learning model that fits the description above is discovery learning. The characteristics of discovery learning direct students to discover their own knowledge and construct it in solving existing problems. The learning model is designed to help students for develop thinking skills and problem-solving abilities in their daily lives (Masril et al., 2019). *Discovery learning is able to stimulate students' creativity* (Asri & Noer, 2015) improve students' skills and develop quickly in learning (Ningsih & Pramaeda, 2020) and help understand physics concepts. Learning using physics e-books using the discovery learning model will be more meaningful if it contains the values of the Al-Qur'an.

The Al-Qur'an is a holy book that has many dimensions and broad insight, plus its scientific references really amaze today's scientists (Fahyuni et al., 2020; Purwati et al., 2018). The Al-Qur'an also plays a major role in the context of the development of science, especially Islamic science (Hanafi et al., 2020). The Al-Qur'an is the source of all sources of knowledge, which seems familiar to our ears (Mukri & Anwar, 2019). In fact, almost all the knowledge that appears on the surface today has been contained in the holy book Al-Qur'an, even though it is not explained in detail (Mastuang et al., 2019; Rostam & Malim, 2021).

In general, the discovery learning model with nuances of Al-Qur'an values provides freedom for students to explore to deepen physics material by combining Al-Qur'an verses. This is important to observe in the hope that students: 1) able to have concepts and understand them concretely; 2) able to relate physics concepts to Al-Qur'an values; 3) have good physics problem-solving skills; and 4) have a good spiritual attitude.

Thus, it is necessary to conduct research with the title "Development of a Physics E-book Discovery Learning Model Containing Al-Qur'an Values to Improve Students' Problem-Solving Skills and Spiritual Attitudes."

Method

This research is included in the Research and Development type. This research refers to the Thiagarajan & Sivasailam research and development model, namely the 4D development model which consists of four development stages, there are define, design, develop and disseminate. Physics e-book development uses the 4D model because it looks simpler and more sequential. The flow of developing a physics e-book product containing the values of the Al-Qur'an is shown in detail in Figure 1 below.
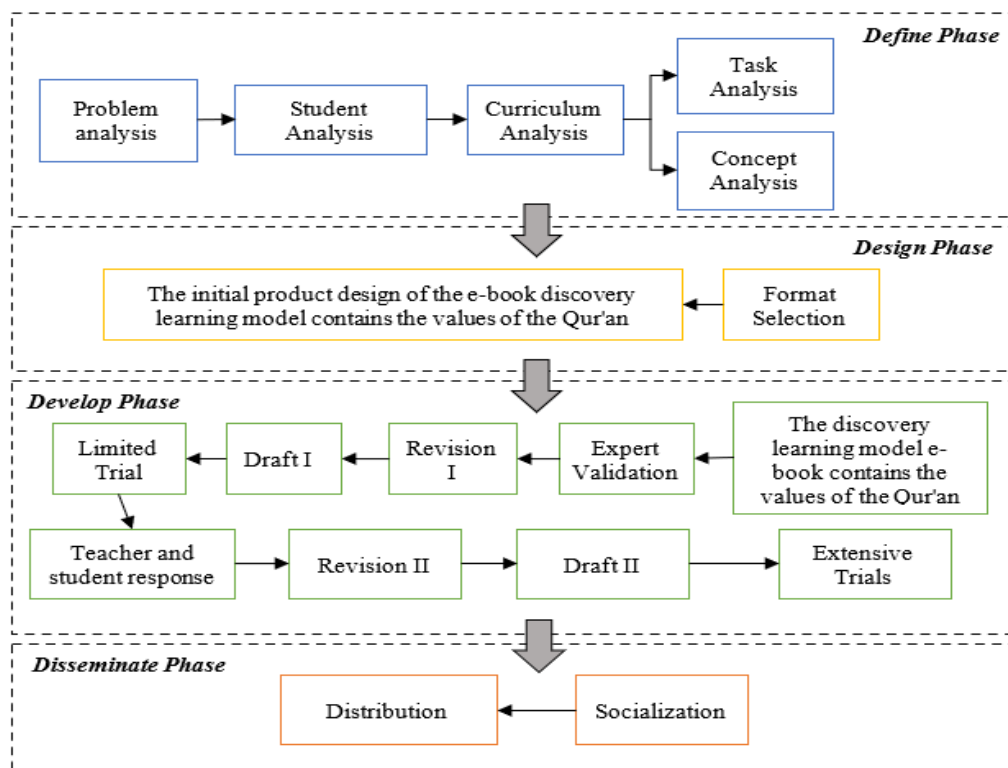
Figure 1. Physics E-Book development process for the discovery learning model containing the values of the Al-Qur'an define

Define

The define stage is related to the preliminary study stage. Learning needs will be obtained by analyzing the following things, namely, analysis of physics e-books containing Al-Qur'an values; relevance of the curriculum to basic competencies; relevance of the physics e-book discovery learning model containing Al-Qur'an values to the assignment.

Design

At the design stage, what was done was to design a physics e-book containing Al-Qur'an values. The physics e-book component contains teaching materials, LKPD, and student evaluation instruments.

Product Development

This research design simply goes through several processes including designing, assessing, improving, testing.

Design Validation

The physics e-book resulting from the design stage is validated by experts. This expert validation validates the content and construction of the physics e-book that has been developed.

Design Revision

This stage is carried out based on the results of the analysis after validation by experts. The results of the revision are named Draft I, which will be used in the limited trial stage after being approved by experts. Draft II was then revised again based on suggestions and input from limited trial activities regarding the weaknesses of the learning tools being developed.

Product Trial

Physics e-books that have been corrected and approved by experts are tested for practicality. Limited trial using a one shot case study design. This design is illustrated in Table 1. In limited trials, assessments were carried out on the implementation of learning, problem solving skills and scientific literacy during learning and after learning. Apart from that, educators and students also provide assessments of physics e-books and the learning process by filling out response questionnaires.

Table 1. Limited Trial Design

Group	Treatment	Evaluate
Class XI MIA	Learning uses discovery learning model physics e-books containing Al-Qur'an values	Posttest

The revised physics e-book is presented in draft II form. The wider test subjects were carried out in class XI MIA. The extensive trial research design used a nonequivalent control group design. This design is used to determine the effectiveness of the product in its use by using control and experimental classes. The next stage is the data analysis process. In pre-research activities, a feasibility test was carried out for the physics e-book which was developed after being validated by an expert lecturer using Aiken's V and Percentage of Agreement formulas. During the research, the practicality of the learning process was tested using observation sheets and questionnaires. Meanwhile, for post-research, effectiveness testing was carried out using the N-gain and effect size tests.

Result and Discussion

Research Result

This development research aims to describe the validity, practicality and effectiveness of the learning process using the physics e-book discovery learning model containing Al-Qur'an Values. The development carried out measure students' skills on the variables of problem-solving ability and spiritual attitude. After all the devices have been completed, including the physics e-book product, the next main stage in development is validation assessment, practicality and effectiveness testing. The following is a review of the results of the development that researchers have carried out.

Validity Test Result

Every development research needs to assess the validity of the research tools and products being developed. The assessment was carried out by several experts including media and material experts. Decisions on assessment results are made by confirming the value with predetermined criteria. Following are some of the results of expert validation that has been carried out.

Data from product validation results in the form of assessments and input on materials and media. The assessment is carried out by three validators. The assessment of the material in the application can be seen in Table 2. The results of calculations using Aiken'V for product validation show a value of 0.93 and are included in the very valid criteria.

Tabel 2. Product Assessment Results

Aspect	Skor	Aiken'V	Information
Contents	4.67	0.92	Very valid
Presentation	4.74	0.94	Very valid
Language	4.83	0.96	Very valid
Media	4.67	0.92	Very valid
Average	4.73	0.93	Very valid

The media aspect received positive notes from the assessors. The media displayed as a whole is interesting and varied. In the physics e-book product developed,

there are various learning videos, such as apperception and reinforcement videos, there are even practical videos to help students' reasoning in discovering new knowledge.

The level of product confidence is tested using the reliability percentage of agreement. The score obtained based on the test results was 98.62%. These results indicate that the product produced can be trusted according to the results of the expert validator's assessment.

Trial Product Test Result

The product trial results presented consist of quantitative data and qualitative data that have been obtained during classroom learning, including the results of observing learning implementation, assessing problem-solving skills and spiritual attitudes, teacher and student responses to learning. Product testing is the next activity in the development stage after the validation and revision process is carried out. This trial consists of limited trials and extensive trials.

Limited Trial

The discovery learning model physics e-book contains Al-Qur'an values which have passed the validation and revision stages according to the suggestions and comments of expert validators and are then ready to be tested. This test is better known in 4D as developmental testing which aims to find data on responses, reactions or corrections as well as suggestions from users of the learning tools being developed. Apart from that, limited trials were also carried out to determine the practicality of the learning tools being developed. This trial was carried out over four meetings with 28 students in class XI-A MA Hidayatullah Mataram. The result data from the limited trials that have been carried out can be explained as follows.

Extensive Trial

The discovery learning model physics e-book contains Al-Qur'an values which have then been tested extensively using different classes. The aim is to see the level of effectiveness of using the product that has been developed. The trial was carried out on 30 samples from each class involving two research classes. Extensive trial result data includes data from the initial test (pretest) and final test (posttest) of students.

The final test is given to students after learning using physics e-books. The pretest score obtained by the control class was 14.43 while the experimental class was 15.35. Meanwhile for the posttest results, the control class got an average score of 71.35 and the experimental class 86.94. Data on the initial test, final test, and N-Gain of students in applying the product in extensive trials are presented in the following Table 3.

Tabel 3. Assessment of Problem-Solving Skill

Class	Students	Average		Gain Score	Category
		Pretest	Posttest		
Control	30	14.43	71,.35	0.67	Medium
Experiment	30	15.35	86.94	0.84	High

Based on the results of the analysis carried out by researchers, it can be said that there was an increase in students' problem-solving skills after receiving treatment. The treatment in question is the use of physics e-books contains Al-Qur'an. According to the view that states that, use of instructional media is very necessary in learning physics, because many abstract phenomena and natural phenomena are difficult to understand both by students without the right means (Maryani et al., 2022). When compared between the two groups, the experimental group made a higher increase. The increase that occurred in the experimental class was 84%, while the control class received an increase percentage of 67%. These results explain that there are differences in results that occur due to differences in treatment with the experimental class being treated with discovery learning model physics e-books containing Al-Qur'an values while the control class uses physics e-books in general.

In more depth, this research analyzes each indicator of problem-solving ability used. Indicators of problem-solving skills used include problem identification, problem description, concept application, mathematical procedures, and logical conclusions. The analysis results for the experimental class are plotted on the graph shown in figure 2.
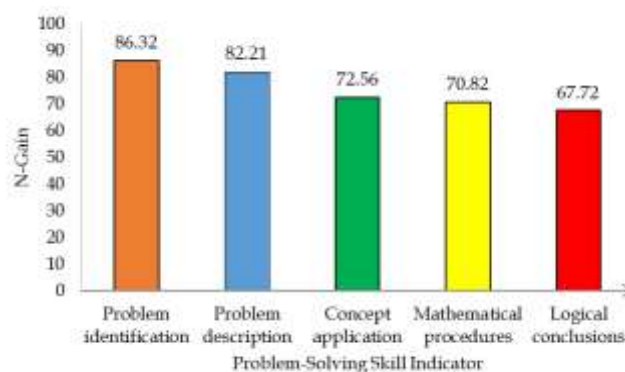
Figure 2. Improvement of each KPM indicator

Based on this graph, all indicators have increased. If converted to the criteria for increasing N-gain, the indicators for problem identification, problem description, concept application and mathematical procedures are in the high category (>70). Meanwhile, the logical conclusion indicator experienced a moderate increase. The highest increase occurred in the problem identification indicator. These results illustrate that there

is an influence of providing interesting apperception in physics e-books. In the physics e-book there are embedded apperceptions in the form of videos and images. This is different from usual e-books.

Meanwhile, in the student spiritual attitude variable, there were differences in results between the two classes. The experimental class got a higher spiritual attitude score than the control class. This data explains that learning in the experimental class using the physics e-books product that was developed has an influence compared to other e-books.

Tabel 4. Assessment of Students' Spiritual Attitudes

Class	Students	Spiritual attitudes average
Control	30	79.80
Experiment	30	84.82

Statistically, development research also tests using multivariate analysis the two variables (KPM and spiritual attitude). The results of the multivariate test can be seen in Table 5. If you look at the table, the sig value (0.00) is smaller than 0.05. This data shows that the physics e-book discovery learning model containing the values of the Al-Qur'an is effective in improving students' problem-solving skills and spiritual attitudes.

Tabel 5. Multivariate Tests

Effect		Value	F	Hypothesus df	Sig.
Class	Pillai's trace	447	22.994[b]	2.000	.000
	Wilks' lambda	.533	22.994[b]	2.000	.000
	Hotelling's trace	.807	22.994[b]	2.000	.000
	Roy's largest root	.807	22.994[b]	2.000	.000
Exact statistic					

Meanwhile, to see the results separately between the dependent variables, the Tests of Between-Subjects Effects test was used. The use of discovery learning model physics e-books containing the values of the Al-Qur'an has a significant effect on students' problem-solving skills. These results are in line with the findings of Budiarti et al. (2017) who found a positive influence on the learning outcomes of vocational school level students. Based on the test results, spiritual attitudes also receive a significant influence from the products applied.

Tabel 6. Test of Between Result

Source	Dependent variable	Type III sum of squares	F	Sig.
Class	KPM	3256.067	32.824	.000
	spiritual attitude	385.067	7.604	.008

In-depth testing for successful product development is carried out by looking at the effectiveness of use. The effectiveness test uses partial eta squared values (Sari et al., 2018) which are then converted based on the set values in the effectiveness category. The complete test results are shown in Table 7. The partial eta squared value for the spiritual attitude variable shows 0.11. If these results are converted based on the Cohen's f equation, it results in a decision that the level of effectiveness of physics e-book products is in the medium category. Meanwhile, for the problem-solving ability (KPM) variable, the partial eta squared value shows 0.34. These results provide a decision that the level of effectiveness given to problem solving skills is in the high category (Ibnusaputra et al., 2023).

Tabel 7. Effectiveness Test Results based on Partial Eta Squared Value

Source	Dependent variabl	Sig	Partial eta square
Class	Spiritual attitud	.00	.11
	KPM	.00	.34

Discussion

This development research aims to develop an physics e-book discovery learning model containing Al-Qur'an values that are valid, practical, and effective in improving students' problem-solving skills and spiritual attitudes. The final product developed in this research is an physics e-book. To qualify physics e-books as valid, practical, and effective in learning, the development steps refer to Thiagarajan (1974). Below we will discuss the results of tests on the validity, practicality, and effectiveness of the physics e-book that has been developed.

Discussion of Validity Results

The product validation stage is the stage of assessing the feasibility of the product design that has been developed. This validity test needs to be carried out because the device will be used to show the extent to which the measuring instrument used measures what is being measured. Therefore, the device must meet the valid criteria (Anam, 2017). Validation is an initial requirement for product development.

Validation of this product was carried out by a team of material experts in physics, learning technology, and religious experts. The assessment includes validation of the syllabus, RPP, KPM test instruments, and spiritual attitudes as well as assessment of the physics e-book product being developed. Confirm the final product decision using Aiken'V analysis. The assessment results show that all tools, including syllabus, lesson plans, KPM instruments, and spiritual attitudes as well as physics e-books meet the valid criteria. The Aiken'V values are 0.94, 0.94, 0.95, and 0.91 respectively.

Meanwhile, the product (e-book) received an Aiken'V value of 0.93. Assessment aspects include content, presentation, language, and media. This decision is the basis that the device can be used for field trials.

Reliability testing uses a percentage of agreement to see the level of device trust. The results of reliability tests on the syllabus, lesson plans, KPM instruments, and spiritual attitude instruments show reliable criteria with percentages of 97.57%, 98.41%, 98.23%, and 96.77% respectively. Based on these results it can be said that the instrument has a high level of confidence for use in collecting research data.

During the validity and reliability testing process, there were no significant obstacles. However, the results that appear still receive suggestions and input from validators. The aim is to provide something more to make it an even better product with maximum results.

Validity assessments are also carried out on products that have been developed. Product assessment shows that the discovery learning model physics e-book containing Al-Qur'an values is in the very valid category with an average Aiken'V score of 0.93. The level of reliability obtained was 98.62%. In line with the findings made by Anggreni et al. (2022) who developed an physics e-book based on discovery learning integrated with 4C skills. The categories obtained are included in the valid criteria. These results provide a decision that the product being developed can be used for limited trials or extensive trials.

Discussion of Practicality Test Results

The discovery learning model physics e-book contains Al-Qur'an values which have been validated and revised into a new draft and then tested on a limited basis. The purpose of the test is limited to seeing the practicality of the physics e-book produced. A physics e-book is said to be practical if theoretically, according to practitioners or experts, the device can be implemented well (Sari, 2020). Data on the practicality of extensive trials was obtained from observations and questionnaire responses from students and teachers.

The results obtained in extensive trials for the use of physics e-books and other devices fall into the practical category. The learning was carried out over four meetings on static fluid material. The trial involved the teacher and two observers. During the activity, learning went well without significant obstacles. The results of the observer's observations showed that there were several things that needed to be improved. One note is that the lesson implementation time must be controlled so that the final phase is not too tight. The suggestion is that you need an appropriate timekeeper or clock control function for each learning phase.

At the first meeting the students were quite enthusiastic about participating in the learning because they got new learning resources. The first meeting discussed pressure material including hydrostatic pressure, atmospheric pressure, and absolute pressure. Try to connect this material with the discovery learning model in the form of stimulus questions and demonstrations. The first step is that students are asked to collect information from reading sources. After trying to collect information, the researcher then tried to invite students to think and analyze the concepts contained in the demonstration given. The use of demonstrations in the discovery learning model has a good influence and is able to increase students' creativity (Nursakinah & Suyanta, 2023; Arlindawati, 2020).

At the confirmation stage, some students immediately understood the concepts contained in the demonstration. However, there are also things that still require further explanation by researchers so that everything can be confirmed properly and understand the topic of that day's meeting. Overall the first meeting went well and smoothly. When asked questions in the form of problem-solving, many students were able to solve them well according to the achievements of the KPM indicators.

The second meeting discussed Pascal's law and its application in everyday life. Learning that day went well even though there were a few obstacles at the beginning that were noted. The teacher's suggestion is that group divisions be carried out before learning so as not to waste too much time (Churiyah et al., 2020). This suggestion was revised and then tried again at the next meeting. The results of the limitations test at the second meeting were good responses from students. They tried to carry out an investigation based on the video provided in the e-book.

After observing carefully, students are asked to fill out the discovery LKPD to understand the concepts contained in the practicum carried out. The LKPD has been provided directly in the physics e-book (not separately) and is considered practical by teachers, so students can use it anytime and anywhere (Manalu et al., 2022). Make it easier for students to learn independently (Khairini et al., 2021). The presence of discovery learning trains students' critical reasoning skills (Bahtiar & Maimun, 2022). Scientific procedures in the LKPD need to be filled in, including formulating problems, making hypotheses, analyzing and concluding. The work results looked very good because all participants were able to finish on time. Using the discovery learning model in the form of LKPD can train students' problem solving skills (Yani et al., 2021; Sari & Haryani, 2020) considering that discovery procedures are similar to problem solving indicators.

If we look at the results of observations from each meeting, the second meeting experienced an improvement over the first meeting. This is due to several things, including improving learning conditions. The students began to look enthusiastic because the first meeting was given treatment that they had rarely received before, such as demonstration methods and discussion of the values of the Al-Qur'an. At the second meeting, discovery learning was also slightly different because of the use of experimental methods in discovering knowledge or concepts (Simamora & Saragih, 2019). Several studies have explained that the use of experimental methods is better than demonstrations (Katimo et al., 2016).

At the end of the second meeting, students were asked to recite the verses of the Al-Qur'an to see their connection with what Allah had recorded. When discussing this section, students looked enthusiastic because they felt compelled to explore concepts which in fact have existed for a long time (Hailikari et al., 2018). Several propositions contained in the Al-Qur'an illustrate that Allah is almighty above everything.

The test results at the third meeting were observed to be smooth without significant obstacles. The suggestions and input given at the previous meeting have been implemented well so that learning can run properly. The groupings have been prepared beforehand so they don't waste study time. In group conditions, students are asked to discuss the concept of Archimedes' law.

The learning process begins with a group prayer activity. At this third meeting, students realized the importance of praying when starting each activity so that they were able to follow it solemnly and carefully (Wirajaya & Sudardi, 2020). This awareness cannot be separated from reinforcement at previous meetings. At the previous meeting, many people still had to be invited to take part in prayer activities, but after applying the values of the Al-Qur'an, students began to wake up.

Once successfully conditioned properly, learning then continues according to the learning syntax of discovery learning. This opportunity is not much different from previous meetings. Students make observations based on existing experiments. The findings were then confirmed by researchers to convince students that the findings they obtained were correct. In order to better understand the learning outcomes, students are directed to watch learning videos contained in discovery learning model physics e-books (Ndoa et al., 2022: Neswary & Prahani, 2022) containing the values of the Al-Qur'an.

At the fourth meeting, students were accustomed to discovery-based learning. No significant obstacles were found. When students are asked to collect information from reading (e-books), they carry out the task well. The material studied at the fourth meeting was surface tension and viscosity. This meeting was interesting in discussing the spiritual corner in the physics e-book. There are several phenomena that are explained scientifically, but they were written in the Al-Qur'an long before. During this discussion, students seemed focused on listening because previously many did not know about this event. After explaining the concept, they began to understand the causes of what happened. The values of the Al-Qur'an make students aware that creation in this universe is by the power of Allah, no one can carry it out except Him. God keeps these events as signs of His power. After confirmation, students believed in this and felt a change in their spiritual attitude.

The practicality of physics e-books in embedding the values of the Al-Qur'an is explaining the meaning of each verse contained based on expert interpretation. This interpretation makes it easier for students to interpret a verse contained in the Al-Quran. So that everything is clearly depicted and makes it easier to understand the situation.

The implementation of classroom learning carried out by researchers has an impact on the activities carried out by students. At the end of the meeting, students try to do the solving ability test that has been provided. Time to complete the questions is 90 minutes with essay questions. The question contains four problem solving indicators including understanding the problem, planning a solution, carrying out the solution, checking the results. The measurement data is based on the results of using physics e-books while studying. The use of physics e-books makes it easier for students to discover new knowledge (Ambarwari et al., 2019; Sari et al., 2022). The use of technology-based teaching materials is very effective in learning (Rahmatullah et al., 2023). Apart from that, students can also practice systematic skills in solving problems. The problems given at the end of the meeting were able to be resolved well by the students.

Discussion of Effectiveness Test

The effectiveness of the physics e-book discovery learning model containing Al-Qur'an values was obtained from extensive trials in two classes (experimental and control). Data on the effectiveness of physics e-book discovery learning models containing Al-Qur'an values in the form of data on problem-solving skills and spiritual attitudes. Indicators of problem-solving skills include problem identification, problem description, concept application, mathematical procedures, and logical conclusions. Data about students' problem-solving skills before and after treatment was obtained through pre-tests and post-tests.

Meanwhile, spiritual attitude data was obtained from observations and assessment questionnaires.

Initial test data on students' problem-solving skills is intended to see students' initial skills. The initial ability of students before treatment was 14.43 for the control class and 15.35 for the experimental class. This score is relatively low because students have not studied the material that will be tested. These results indicate that the classroom can be used as a test site for product effectiveness. Some students tried to answer by trying to remember what they had received and there were also those who left their answers blank.

The final test data is intended to see the effectiveness of the product that has been developed by comparing the experimental class and the control class. The final test score for the experimental class after treatment was 86.94 while the control class was 71.35. These results indicate that there is an effect of treatment in both the experimental class and the control class. The magnitude of the influence provided by each treatment can be measured by looking at the resulting gain score.

Based on the conditions of the two tests that have been carried out, it appears that there is a significant increase in results. The improvement that occurred in the experimental class was much greater than the control class. The experimental class got a gain score of 0.84 and was in the high category. Meanwhile, the increase in the control class fell into the medium criteria with a gain of 0.67. The large increase in the experimental class was due to the use of discovery learning model physics e-book products containing Al-Qur'an values.

Discovery-based learning (discovery learning) directs students to discover for themselves the knowledge they want to convey in learning (Dari & Ahmad, 2020). The characteristics of this discovery learning model place students as the center of learning. This condition is very suitable with the characteristics of the 2013 curriculum which expects student independence. Embedding the characteristics of discovery learning in textbooks is very appropriate because it helps stimulate students' enthusiasm for learning and curiosity. The introductory assignments in the book open students' minds and make it easier to accept the core material which will then be confirmed by the teacher. The presence of the discovery learning model has a positive influence on increasing students' problem solving skills (Bahtiar et al., 2022).

The results of assessing the spiritual attitude of students in the experimental class received higher scores than the control class. The class average obtained by the experimental class was 84.82 and the control class was 79.80. It was noted during the research that the spiritual attitude of the students at the beginning of the meeting was still relatively small and between the two classes looked the same. However, at the next meeting, the students' responses in the experimental class began to change positively. The cause of this change in attitude is due to the use of Al-Qur'an values in every learning process. The connection with religion provides benefits for the integration of Islamic values and the implementation of learning (Baba et al., 2015). The textbooks being developed not only prioritize scientific findings, but are also accompanied by providing facts contained in the Al-Qur'an. This form of confirmation convinces students of the power or Oneness of their God. Implicitly, the Al-Qur'an gives orders to integrate religious values into general science (Purwati et al., 2018). This is stated in the Al-Qur'an surah al-Ghasyiyah and An-Nisa which states that all matter in the universe is filled with signs of God's greatness, and only knowledgeable humans are able to pay attention to them properly.

Learning outcomes in the 2013 curriculum direct students to achieve divine values. Many lessons are still minimal in linking material with divine values. So that many students do not get good spiritual results (Tohri et al., 2022). This is the reason researchers embed Al-Qur'an values in textbooks. The character of this book provides a new nuance in learning and offers advantages that other textbooks do not have. Physics concepts are linked to the meaning contained in the Al-Qur'an. This is proof that the Al-Qur'an has clearly described the state of science that exists in the universe. Linking concepts with the values of the Al-Qur'an is something that is interesting for students and increases their enthusiasm for learning.

Conclusion

The discovery learning model physics e-book containing the values of the Al-Qur'an to improve students' problem-solving abilities and spiritual attitudes has been developed into the very valid category. Second, the physics e-book discovery learning model developed is practically used in learning. Usage during learning shows a good category with positive responses from users. Then results of the effectiveness trial show that the discovery learning model physics e-book containing the values of the Al-Qur'an is effective in learning physics. The magnitude of effectiveness falls into the medium category in improving students' spiritual attitudes, and the high category in students' problem-solving skills.

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Author Contributions
The publication of this article was a collaboration between the authors, namely Bahtiar (as first author) and Muhammad (as second author). The author has carried out several tasks including preliminary studies, designing research, compiling instruments, developing products, collecting and processing data, analyzing and drawing conclusions (B & M).

Conflicts of Interest
The publication of this article was carried out as a form of implementing the research stage, namely dissemination. The aim is to provide widespread information about the success of product development and the benefits it can provide in the learning process

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