



Development of Module Integrated with Quranic Verses Based on Discovery Learning on Reaction Rate Material

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Abstract. This study is grounded in the idea that the poor achievement of learners in class is, at least in part, attributable to a dearth of useful instructional resources. Quranic verses should be incorporated into Discovery Learning-based pedagogical tools for use in the classroom. The goal of this research was to develop a reliable and useful Module Integrated with Quranic Verses using Discovery Learning on Reaction Rate Content. The 4 stages of research and development (define, design, develop, and disseminate) make up this study. However, only the first three phases of this 4-D model's research, defining, designing, and developing, are really carried out; from there, the results of the first module designed are carried forward into validity and practicality tests. The validation results obtained for the module integrating Quranic verses based on discovery learning were 81.32 percent; the results of the student response questionnaire were 91.5736 percent; and the results of the teacher response questionnaire were 92.85 percent. The study's findings suggest that the created module can be included in classroom instruction.

Keywords: discovery learning, module, quranic verse

1 Introduction

Chemistry is a science that discusses the nature, structure, composition, and changes in matter and stores meaning that can be applied in a contextual and actual way in routines, therefore chemistry can improve the spiritual insight (Islamic) of students [1]. Chemistry is one of the subjects that is very important for students to learn, because chemistry can improve students' thinking skills and encourage creative thinking. But the fact is that almost all students find it difficult to understand chemistry while studying. The difficulty of students understanding chemistry subjects is because chemistry is a conceptual and comprehensive understanding, therefore it requires a high level of understanding to learn it [2].

In addition, chemistry subjects have the aim of obtaining a strong understanding of various facts, the ability to recognize and solve problems, have skills in using the laboratory, and have scientific abilities in everyday life [3]. If the learning objectives of chemistry are achieved then learning chemistry can be said to be successful. The way that the goal is achieved educators can develop techniques, methods, media, and teaching materials [4].

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Teaching materials are materials or topics that are systematically arranged and then used by teachers and students during the teaching and learning process. Printed teaching materials in their presentation present words, numbers, pictures and others well. Self-sufficient is the nature of printed teaching materials where its use can be utilized directly or indirectly for its users. Meanwhile, teaching materials that are often and easily found anywhere such as on the internet and from other sources are the advantages of non-print teaching materials. So, the point is that teaching materials can be obtained and utilized independently and can be used anywhere. One example of such teaching materials is modules.

In adherence to the independent curriculum, independent learning affords students the autonomy to engage in their educational pursuits. This approach offers students the liberty to articulate their viewpoints and engage in conversations, both among their peers and with their teachers [5]. To facilitate independent learning, particularly in the context of chemistry education, it is imperative to employ a pedagogical framework that effectively supports the instructional module. One example of a model is the Discovery Learning model. The Discovery Learning model is an instructional approach in which students independently explore and seek out the content or concepts they need to learn, without the teacher providing comprehensive knowledge on the subject matter. The Discovery Learning model is a pedagogical approach that emphasizes critical thinking, active student engagement, independent information retrieval, and the cultivation of creativity. In this model, the teacher assumes the role of a facilitator, guiding students through learning activities[6].

Research conducted by Mawarnis, Maiyena [7] that most students are less excited during the chemistry learning process because of the amount of material they have to memorize. Therefore, the suitability of the learning model can maximize enthusiasm in learning activities, especially in chemistry lessons. To solve this problem, the appropriate learning model is the discovery learning. The discovery learning model occurs when there is no information for learners to focus on or conceptual understanding and must find out independently, meaning that in using this model the teaching and learning process is not just focused on the teacher, but centered on students [8]. This learning model can cultivate students to have the capability to think independently and think scientifically [9].

In practice, educators and learners exclusively rely on government-provided teacher books and student books for instructional purposes. Meanwhile, for the learning process to be better, the independent curriculum requires learning to be able to use diverse sources, media and teaching materials. One additional challenge faced by students in comprehending and acquiring knowledge of the subject matter is the presence of constrained and intricate content within the student book. In addition, examples and discussion of questions to train students' abilities before facing daily tests, semester MID exams, and semester final exams are difficult to understand [10]. In the present case, it undeniably exerts an influence on the educational results of students, wherein students are required to have supplementary learning resources in order to enhance their comprehension and academic performance. However, they are unable to acquire these resources due to the dearth of instructional materials at their disposal.

Based on the problems found by the researchers/journals above, this situation is not much different from the results of interviews the authors conducted with teachers and students of class XI Phase F SMA N 1 Batipuh. The results of observations and interviews that the authors conducted with educators, namely, regarding learning media, facilities and infrastructure, learning models, and teaching materials at the school.

When viewed from the results of observations and interviews with students, the authors also asked about learning media, facilities and infrastructure, learning models, and teaching materials. Regarding media using PPT, students are not constrained as well as facilities and infrastructure. When viewed from the learning model, students say that educators rarely apply learning models when delivering material, so that students are only fixated on delivering material that looks boring so that it makes students not interested in learning chemistry. Students want that when learning chemistry educators can arouse the enthusiasm of students to learn, and in the material there is an application of Islamic values that can be obtained so that it can develop the spiritual abilities of students.

It is known that students are less interested and motivated in learning chemistry due to the limited teaching materials used, even though there is a package book, students feel that the package book is not interesting, too monotonous and uses long language in describing the material, so that students have difficulty understanding the book and ultimately do not understand chemistry lessons. Then in the package book it guides students to do a practicum first in order to understand more about the material, but in reality students cannot do practicum because the laboratory is used as a class and the tools and materials available in the laboratory are limited or lacking. So in interpreting and concluding their own material, students are confused in understanding the package book. In addition, students say that the questions in the textbook are difficult to understand so that students feel overwhelmed in working on these questions.

The aforementioned observations and interviews suggest the presence of deficiencies and constraints in the instructional materials employed. The lack of aesthetic appeal and constraints inherent in the instructional resources employed in chemistry education significantly impede students' engagement and academic achievements in this subject within the classroom setting. The percentage of completeness of students in class XI Phase F 2 SMA N 1 Batipuh when taking daily test is 60% who are not complete and 40% who are complete. It can be inferred that there exists a subset of students who encounter challenges in acquiring knowledge in the field of chemistry.

After explaining the above conditions, the author wishes to develop a module integrated with with Quranic verses. The reason the author wants to develop this module is so that students have teaching materials that are easy to understand, so that students are able to learn independently anywhere. In addition, in order to grow and develop religious values and be kept away from misguided aqidah and devotion to Allah SWT in students, this integrated module of Al-Quran verses plays an important role for students and their environment.

Modules have a crucial role in facilitating autonomous learning among students, serving as valuable references during the learning process. Moreover, they have been widely recognized as useful tools for enhancing students' learning capabilities [11].

Teaching materials in the form of modules are meticulously crafted in accordance with a certain curriculum and are intended to be studied autonomously within a designated timeframe, with the aim of enabling students to acquire mastery of the competencies being taught [12]. According to Article 36 of Law No. 20 of 2003, the development of a curriculum should take into account the enhancement of faith and taqwa, the cultivation of virtuous character, as well as the promotion of students' potential, intelligence, and interests. Such an independent learning curriculum creates an active learning atmosphere. Curriculum changes also aim to perfect the education system from the previous education system. Although the improvement of students' spiritual education has been implemented in the previous curriculum, the independent curriculum makes learning more fun. So that students are easier to accept various things in improving their spiritual education [13].

In addition to being assessed from the cognitive aspects of the module, it is also assessed from the religious (spiritual) aspects as described in the laws and journals above, that increasing faith and piety and improving noble character must be considered in the curriculum. To achieve this, it is necessary to develop a module integrated with Quranic verses. The integrated module of verses of the Qur'an is needed by students to support learning activities, so that in its implementation there is no / separation between religion and science (chemistry), because basically all existing science comes from the Quran [14].

In the context of chemistry education, the topic of interest in class XI Phase F SMA semester I pertains to the concept of reaction rate. One of the learning objectives that students are expected to attain is the comprehension of collision theory in order to elucidate chemical reactions and assess the various elements that influence reaction rates, drawing upon empirical evidence. The analysis of the ATP reveals that the subject matter of this reaction rate pertains to comprehending the collision theory as a means to elucidate chemical reactions. Conversely, the elements that influence the reaction rate are characterized by the practical uses of the content in everyday life. Given that it is an application, it is imperative that it be instructed through the utilization of the experimental approach. Through the process of conducting experiments, students have the opportunity to immediately observe and comprehend the various changes that transpire. Consequently, this firsthand experience enables students to develop a deeper understanding of the ideas they are studying, thereby enhancing the overall effectiveness of their learning.

Hence, the learning module that has been created incorporates the verses of the Qur'an, which can be presented in the format of a learning module that utilizes the discovery learning model. This discovery learning-based Quranic verses integrated module emphasizes on its syntax. Based on Based on previous researcher [6] the developed module contains six syntax (steps) of discovery learning. In general, it consists of six steps, namely (1) stimulation, (2) problem statement, (3) data collection, (4) data processing, (5) verification, and (6) generalization. Based on the above problems, Teaching materials integrated with Quranic verses based on Discovery Learning need to be developed to be used as a learning resource by students Method.

2 Methods

The research methodology employed in this study was Research and Development (R&D). Research and development (R&D) refers to the systematic investigation conducted to create specific products and evaluate their efficacy. Research and development (R&D) refers to a systematic procedure or series of activities undertaken to create novel products or enhance existing ones, with the ability to be quantified and documented.

The present study was carried out at SMAN 1 Batipuh, utilizing a sample of students enrolled in the eleventh grade science and mathematics program. The data collection devices utilized in this study consisted of validity sheets, which were evaluated by three validators, and practicality questionnaires, which were completed by a total of 32 students and one chemistry teacher. The present study involves doing a data analysis on the outcomes obtained from the validity and practicality instruments, utilizing the percentage formula:

$$P = \frac{\text{score of each item}}{\text{maximum score of each item}} \times 100\%$$

Table 1. Scoring categories

Categories	Score
Not valid/practical	0%-20%
Less valid/practical	21%-40%
Fairly valid/practical	41%-60%
Valid/practical	61%-80%
Highly valid/practical	81%-100%

Modification from Riduwan [15]

3 Results and Discussion

3.1 Results

The researchers have successfully conducted research and development (R&D) studies. The present study employed the 4D model, consisting of the define, design, develop, and disseminate stages. However, the researchers solely executed activities up to the development phase. The subsequent passage is an account of the findings obtained from the research.

3.1.1 Define

The define stage is a fundamental phase in the development of a module that incorporates Quranic verses using the Discovery Learning approach. This stage involves a series of activities:

Front-end analysis

During this phase, observations were conducted in order to analyze the challenges encountered in chemistry learning activities. The following are the procedural steps:

Interview with teacher.

According to the interviews conducted with Ms. Nadia Khairunnisa, S.Pd, a chemistry teacher at Class XI SMA N 1 Batipuh, various aspects of the educational environment were discussed. These included the utilization of learning media, the availability of learning facilities and infrastructure, the implementation of different learning models, and the selection of appropriate teaching materials. Educators said that during learning with regard to media educators use PPT. In this case the use of PPT is not a problem in learning. Likewise with facilities and infrastructure educators are not too constrained. However, educators only regret that chemistry learning is not only done in the classroom but also in the laboratory. In fact, the laboratory cannot be used because it is used as a class by the school and the tools and materials needed during practicum are also limited, so students cannot do practicum in the laboratory.

Furthermore, regarding the learning model, according to educators, there is a need for a learning model, because the learning model plays a very important role in making students become more active in order to improve student learning outcomes. However, educators rarely apply learning models, because educators lack mastery of the characteristics of learning models. Therefore, during learning, students become passive, and the learning process is boring so that in the end it makes students' enthusiasm for learning decrease and results in learning objectives not being achieved. So in overcoming this, educators say it is necessary to have a learning model whose characteristics are easy to understand and in accordance with the material to be taught.

According to educators, one of the challenges they encounter is to teaching materials, as both educators and students rely solely on packaged textbooks for instructional purposes. The instructional material's restrictions contribute to a sense of lethargy among students when attempting to comprehend the package book. This is mostly due to the utilization of complex language, which poses difficulties in comprehension. Additionally, the book's presentation necessitates students to engage in an experiment pertaining to reaction rate material prior to fully grasping the content. Because the laboratory cannot be used and the tools and materials written in the package book are not available in the laboratory, learning cannot be done according to the package book so that learning becomes undirected. Then this situation makes the lack of enthusiasm for learning for students and results in decreased student learning outcomes. Educators also said that in understanding chemistry material there should be an explanation of material related to Islamic values because this is the main foundation in the curriculum and the development of spiritual values for students.

Hence, it is imperative for students to have access to supplementary instructional resources that enable independent learning, minimizing the requirement for extensive teacher intervention. In summary, it can be inferred that students require printed instructional resources that facilitate the exploration of their skills, offer autonomous

accessibility at any time and place, and incorporate Islamic principles. This ensures that the presented content is purposefully structured and easily comprehensible throughout.

Student Analysis.

Student analysis is carried out by asking questions or interviews with students. During interviews with students, researchers also asked about learning media, learning facilities and infrastructure, learning models, and teaching materials used. Discussing learning media in accordance with interviews with educators earlier, namely using PPT is also not an obstacle for students, as well as facilities and infrastructure.

According to learners, there is a perceived lack of utilization of learning models by educators during the learning process. The perception of students towards the learning process may be influenced by a perceived lack of engagement, leading to a potential decrease in attentiveness towards the material presented by educators. Students desire a learning process that incorporates a pedagogical model capable of fostering active student engagement and stimulating their excitement for acquiring knowledge.

Researchers also obtained information that students lack understanding, as well as lack of interest and motivation in learning chemistry caused by the limited teaching materials used, besides that the package book is too monotonous and uses long language in describing the material. In addition, students also want in learning there needs to be an application of Islamic values in the material. The next obstacle of this package book is that the package book guides students to do practicum first in order to understand more about the material, but in reality students cannot do practicum because the laboratory is used as a class, and many tools and materials are lacking.

So in interpreting and concluding their own material, students are confused in understanding the package book. In addition, students say that the questions in the package book are difficult to understand so that students feel overwhelmed in working on these questions. Therefore, students say that we need teaching materials that can help us in learning in which it does not only explain the material but there is a simple experiment that we can do in the classroom. So that the learning we do is easy to understand, directed and sustainable.

Analyzing teaching materials.

From the observation of teaching materials used by students is a Chemistry book obtained from school. This book has weaknesses in reaction rate material, namely the book has not presented some material completely and the experiments carried out in the book lead students to carry out experiments, while students cannot do it because the laboratory is used as a class and the tools and materials written in the textbook are lacking in the laboratory.

Curriculum Analysis.

The chemistry course in the eleventh grade, Phase F, following an independent curriculum, focuses on the topic of Reaction Rate. This topic includes the learning outcomes (Capaian Pembelajaran or CP), the learning objectives (Tujuan Pembelajaran or TP), the flow of learning objectives (Alur Tujuan Pembelajaran or

ATP), and the criteria for achieving the learning objectives (Kriteria Ketercapaian Tujuan Pembelajaran or KKTP).

Literature Analysis.

The module developed by previous researchers uses several sources and said that dynamic learning techniques are often applied to learning modules. When learning takes place, learners are expected to be able to collaborate with their group mates instead of just listening to educators explain the material [16]. Although the module is personal, learners still communicate with their friends whether in the form of discussion or sharing insights.

The module developed is based on an independent curriculum. The independent learning curriculum creates an active learning atmosphere. Curriculum changes also aim to perfect the education system from the previous education system. Although the improvement of students' spiritual education has been implemented in the previous curriculum, the independent curriculum makes learning more fun. So that students are easier to accept various things in improving their spiritual education [13]. Therefore, the module developed on learning material integrates with the verses of the Qur'an which can be packaged in the form of a learning module applying the discovery learning model.

The module, which integrates Quranic texts and is focused on discovery learning, has a strong emphasis on synthesis. According to the findings of Sunarto and Amalia [6] the module that was built comprises six sequential processes, which are representative of the syntax of discovery learning. Typically, it comprises six sequential stages, specifically (1) stimulation, (2) problem formulation, (3) data acquisition, (4) altering the data, (5) validation, and (6) extrapolation. The subsequent elucidation outlines the sequential procedures encompassed within the Discovery Learning concept.

Analysis of learning objectives.

The examination of learning objectives is conducted in order to assess the attainment of Capaian Pembelajaran (CP), Tujuan Pembelajaran (TP)/Alur Tujuan Pembelajaran (ATP), and Kriteria Ketercapaian Tujuan Pembelajaran (KKTP). The reaction rate material encompasses a single TP/ATP, specifically the examination and analysis of phenomena occurring in the surrounding environment that are directly associated with the reaction rate. Then KKTP is developed based on the learning objectives that have been made. Based on CP, TP/ATP, and KKTP, the development of modules integrated with Quranic verses based on Discovery Learning on reaction rate material can be developed for the achievement of CP, TP/ATP, and KKTP.

3.1.2 Design

The Design stage is a stage that aims to produce an initial design for a product. The steps are as follows:

Choosing teaching materials.

The module integrated with Quranic verses based on Discovery Learning is a printed teaching material that is selected and then made using the Canva application. This is in accordance with the needs of educators and students, where SMAN 1 Batipuh is still lacking in teaching materials for chemistry learning. The school has not used modules.

Choosing format.

The chosen format will fulfill all the components of the module. The module display also contains images and material related to the reaction rate and also displays examples of the application of the reaction rate in everyday life.

Designing a module integrated with Quranic verses based on Discovery Learning.

The parts of module integrated with Quranic verses based on Discovery Learning consist of: cover, foreword, table of contents, instructions for use, achievement indicators, material with discovery learning syntax, practical experiments, evaluation, glossary, bibliography. Fig.1 shows the design of the material content of module integrated with Quranic verses based on Discovery Learning.



Figure 1. Material content of the module integrated with Quranic verses based on Discovery Learning

The research instrument design consisted of module validation sheets and response questionnaire sheets. and research instrument validation sheets.

4 Development

At this stage, the module integrated with Quranic verses based on Discovery Learning that has been discussed with the supervisor will be tested for validity and practicality by three validators.

Validation results

Results of research instrument validation

Before validating the module integrated with Quranic verses based on Discovery Learning, what must be done first is to validate the validity test instrument with a validation questionnaire sheet.

Table 2. Analysis of the Results of the Module Validity Test Instrument Validation Sheet

No	Aspects to be validated	Validator			Total	Max score	%	Remarks
		1	2	3				
1	Questionnaire format	3	4	4	11	12	91.67	Highly valid
2	Language used	6	8	7	21	24	87.50	Highly valid
3	Questionnaire statement items	11	12	12	35	36	97.21	Highly valid
Total		20	24	23	67	72	93.05	Highly valid

Based on table 2, it can be seen that the questionnaire format, language used, and questionnaire statement items as a whole obtained a percentage of 93.05%, which means it is highly valid.

Table 3. Analysis of Response Questionnaire Instrument Validation Sheet Results

No	Aspects to be validated	Validator			Total	Max score	%	Remarks
		1	2	3				
1	Questionnaire format	3	4	4	11	12	91.67	Highly valid
2	Language used	6	8	8	22	24	91.67	Highly valid
3	Questionnaire statement items	11	12	11	33	36	91.67	Highly valid
Total		20	24	23	66	72	91.67	Highly valid

The results of the validation of the module integrated with Quranic verses based on Discovery Learning

After the validity test instrument is valid, then the validity test is carried out on the module. The following table outlines the results of the module validation sheet:

Table 4. Analysis of the Results of the Validation Sheet of the Module Integrated with Quranic Verses Based on Discovery Learning

No	Aspects to be validated	Validator			Total	Max score	%	Remarks
		1	2	3				
1	Aspects of content feasibility	37	38	32	107	132	81.06	Highly valid
2	Aspects of presentation fea-	27	32	21	80	96	88.17	Highly valid

	sibility							
3	Aspects of linguistic feasibility	21	25	20	66	84	78.57	Highly valid
4	Aspects of graphical feasibility	13	14	12	39	48	81.25	Highly valid
Total		98	109	85	292	360	81.11	Highly valid

Based on table 4, it can be said that the overall validity test obtained a percentage of 81.11%, which means it is highly valid.

Practicality Results.

After the practicality test response questionnaire instrument is valid, the instrument can be used. Analysis of the results of the practicality response questionnaire sheet of the module integrated with with Quranic verses based on Discovery Learning. The following table outlines the results of the response questionnaire sheet

Table 5. Analysis of the Results of the Student Response Questionnaire Sheet

No	Practicality aspect	Total	Max score	%	Remarks
1	Ease of use	372	384	85.28	Highly practical
2	Display	482	512	94.14	Highly practical
3	Learning material	589	640	93.43	Highly practical
4	Language	234	256	91.40	Highly practical
Total		1641	1792	91.57	Highly practical

Based on the table 5, it can be said that in the practicality test students obtained a percentage of 91.57%. This is categorized as Highly practical

Table 6. Analysis of Teacher Response Questionnaire

No	Practicality aspect	Total	Max score	%	Remarks
1	Ease of use	16	16	100	Highly practical
2	Display	18	20	90	Highly practical
3	Learning material	12	12	100	Highly practical
4	Language	8	8	100	Highly practical
Total		52	56	92.85	Highly practical

Based on the table 6, it can be said that the overall practicality test for teachers obtained a percentage of 92.85%. This is categorized as Highly practical.

4.1 Discussion

The 4-D development model (define, design, develop, and disseminate) has been utilized to complete R&D research. The 4-D model was not implemented until the

disseminate stage of this research project. This is due to the fact that researchers have limited time, whereas the disseminate phase requires a considerable amount of time. Furthermore, researchers have other limitations in terms of ability, energy, and finances.

The initial phase of the conducted research is the define stage. The defining stage serves a valuable purpose in ascertaining and delineating the requirements within the educational process, as well as gathering diverse information pertaining to the product that is to be created. [17]. During the define stage, it is essential to conduct a front-end analysis, literature analysis, and analysis of learning objectives. The front-end analysis encompasses several analyses, including interviews with educators, analysis of learners, analysis of instructional materials, and curriculum analysis. The examination of educators and students is conducted via the utilization of observation and interviews in order to ascertain the areas that will be explored and developed inside the study[18].

The design stage might be initiated subsequent to the completion of the define stage. The objective of this stage is to formulate the preliminary module design and develop research equipment. The instruments utilized in this study include of validation sheets and practicality answer questionnaires. The module's design, which incorporates Quranic verses and utilizes discovery learning, has been tailored to align with the cognitive, psychomotor, and affective domains of the autonomous curriculum. This practice ensures that the module's content aligns with the curricular requirements, hence achieving synchronized material coverage. The content incorporated within the module design pertains to the topic of reaction rates.

The subsequent stage in the process is the development stage. During this phase, the initial module derived from the design stage will undergo testing to assess its validity and practicality. In order to assess the validity of the module, a validity test was carried out including many validators. Following the completion of the validation and revision procedures, a practicality assessment was conducted on the module in order to evaluate its feasibility.

The validation procedure was conducted using research instruments and modules that were incorporated with Quranic verses, utilizing a discovery learning approach. Prior to utilizing the research instruments in the validity test and practicality test, a process of validation will be conducted. The validation of research instruments is conducted to ascertain their suitability and appropriateness for use in research endeavors. The method of validating the research instrument was conducted by utilizing a validation sheet in the form of a questionnaire. The validation of research tools encompasses various dimensions, including the format, language, and assertions employed within the questionnaire. Once the research instruments have been deemed viable through the validity test and practicality test, they can be utilized. The validation process of the module, which incorporates Quranic verses and utilizes discovery learning, was conducted by a panel of three validators. This panel consisted of two lecturers and one educator specializing in Chemistry. The instrument utilized for assessing validity is a validation sheet questionnaire that incorporates a Likert scale. Prior to the completion of the module validation sheet by the validator, the validation sheet had through a validation process resulting in highly valid outcomes.

The parts of the module's validation that are based on discovery learning and use Quranic verses are changed to match the parts of the BNSP textbook evaluation that: 1) The suitability of the material, 2) The suitability of the language, 3) The suitability of the presentation, and 4) The suitability of the graphics. [19]. The four aspects of validation must be met for the developed instructional materials to be deemed suitable as learning resources[20]. The validity of the four elements of feasibility is measured using the Likert scale, with 61%-80% valid information and 81%-100% highly valid information [21].

The initial step was completing a content feasibility test, followed by a validity test specifically focused on the content feasibility component. The results of the validity test indicated that the content feasibility assessment received a percentage score of 81.06% from the validator, placing it inside the very valid category. Furthermore, in order to evaluate the feasibility aspect of this module, a validity test has been conducted. The criterion for determining the validity of the presentation is to achieve an evaluation percentage of 88.17%, placing it inside the highly valid category. Furthermore, the assessment of the validity test for the language element yielded a percentage of 78.57% among the validators, therefore warranting its inclusion in the valid category. The practicality component of graphics underwent a fourth validity test, which resulted in an assessment percentage of 81.25% among the validators. Consequently, this test was classified as highly valid.

The module's overall validity test yielded a percentage score of 81.32%. This indicates that the module has satisfied the necessary criteria for eligibility, including its ability to accurately assess the intended measurements, its alignment with the principles of scientific validity, and its suitability for achieving the desired competencies and learning objectives. This aligns with the assertion made by Djaali, which posits that an instrument is deemed genuine when it possesses the capability to be utilized for the purpose of measuring the intended variables [22]. Hence, the inquiry regarding the resolution of problem number 1 has been addressed, demonstrating the substantial validity of including modules with Quranic verses.

Following the validation and subsequent revision of the module in accordance with the suggestions provided by the validator, a practicality test was conducted on the module. The practicality test was conducted with a sample size of 32 students. The examination was conducted by completing a response questionnaire pertaining to the module. An experiment was conducted to assess the effectiveness of a single meeting. The study involved the implementation of a Discovery learning-based Quranic verses integrated module on the topic of reaction rate in a student population. Following the intervention, participants were asked to complete a response questionnaire.

Elements of the survey instrument The evaluation of the module's practicality test, which incorporates Quranic verses through the utilization of Discovery learning, involves an examination of several changed characteristics [23]. These aspects include: 1) the level of user-friendliness, 2) the visual aesthetics, 3) the quality of learning resources, and 4) the language used within the module. The response questionnaire comprises two components: an instructor response questionnaire and a student response questionnaire. The practicality test results for the ease of use feature were classified as highly practical by students, with a percentage of 85.28%, and by educa-

tors, with a percentage of 100%. The practicality test results for the display component were deemed extremely practical by both students (94%) and instructors (90%). The practicality test findings for several parts of learning materials were classified as extremely practical by both students, with a percentage of 93.43%, and educators, with a percentage of 100%. The language aspect's practicality test yielded extremely practical results, as reported by 91.40% of students and 100% of educators.

The module's practicality test results indicate a learner response questionnaire score of 91.57% and an educator rating of 92.85%. According to Riduwan's analysis, this percentage suggests that the produced module falls inside the category of highly practical [24]. The efficacy of teaching materials is deemed practical when they effectively support instructors in the facilitation of learning and are readily comprehensible to students [25]. Practical modules are expected to help students and educators during learning.

5 Conclusion

The developed module was tested on students of class XI Phase F 2 at SMA N 1 Batipuh. Based on the research and the results of the validity test of the integrated module of Discovery Learning-based Quranic verses on reaction rate material met the criteria highly valid based on the validator validation sheet with a percentage of 81.32%. The results of the practicality test of the integrated module of Discovery Learning-based Quranic verses on reaction rate material meet the criteria of highly practical based on the student response questionnaire with a percentage of 91.57% and the educator's response questionnaire is 92.85%.

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