Development of discovery guided learning module based on character education and competitive education

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Abstract: This research entitled the development of an Indonesian language module based on a guided discovery learning method with character education and competitiveness. Background of the research are teaching material and reference books have not been able to make students critical, and the students' reading culture is very minimal. There are still student characters that have not been shown following existing norms. The study aimed to produce a module based on the guided discovery learning method with character education and competitiveness in Indonesian language courses. The research method used was the research and development method with a 4-D model, namely define, design, develop, and disseminate. The subjects of the research trial were students of the technical study program 2018/2019 UMRAH academic year. Based on the results of the validity test of 88.31%, the effectiveness test was 9 students with grade A in the value range of 3.51–4.00, practicality test by lecturers was 88.22% and module practicality test by students were 84.52%. Based on the results of data analysis, it showed that the module was valid, effective, and practical to be used by students in understanding lecturing material in university.

1. Introduction

Indonesian general courses as compulsory subjects must be taken by students who take education courses in tertiary institutions. During the Indonesian lecture process, students can know and understand the material and imply the ins and outs of the Indonesian language. All of the Indonesian lecture materials are the spearhead for students writing thesis and scientific journals. Moreover, Indonesian is used as a defender of science and a means for the development of science and technology. However, not every student has the same metacognitive abilities and can understand lecture material quickly and accurately. When the learning process is carried out every semester, the lecturer strives to provide stimulants in helping to find solutions to each problem during the learning process faced by students.

In general, the problems are quite obvious for students because students work while studying and study while working. The urgency of the problem this study in the form of students’ motivation and learning interest is very low. This can be seen from the students’ response which shows that some of the students prioritize attendance rather than obtaining material given at each meeting. Furthermore, the use of e-learning has not been optimized by students so students have not mastered the whole lecture materials.

This study is a continuation of the results of [1] that the problems found in Indonesian lectures are very necessary to involve students activity and be able to find out for themselves about the topic of lecture material. Other problems encountered can be described as follows. (a) Teaching material and reference books have not been able to make students be critical and compete sportively. (b) The
culture of student reading is very minimal. When the lecture process is conducted at the beginning of the meeting, the lecturer acts as a mediator to ask the material to be discussed at that time. Students acknowledge that they have not read the lecture material before the lecture begins. (c) In general, there are still student characters that have not been shown following existing norms. This is also influenced by the lecture environment. Finally, they do not realize that they ignore the norms and culture they have. The fading of student character is caused by students' ignorance of the value of attitude and culture so that there are students who have not behaved smartly as an educated and educated generation. (d) The metacognitive abilities of students have not shown an even increase in learning achievement from each meeting. Based on the information of UMRAH, Indonesian language lecturers that training activities were held to test students’ competence still show results below the standard value of the study results of engineering students. Out of 18 students, 11 obtained grade A, 5 people got B, and 2 people got C. The university has stated that for the students to pass these general Indonesian language courses, they are required to earn at least B. Therefore, effective acceleration is needed to be able to improve the learning achievement of UMRAH students by developing products in the form of Indonesian language modules.

Modules designed can improve the lecture process so that it can improve students learning outcomes [2]. Lectures that are carried out using modules have advantages, namely modules that can provide feedback to students so that students study results [3]. Modules are arranged in such a way that the objectives are clear, specific, and competency standards can be achieved by students. Lectures by using modules are also able to motivate students and to minimize unhealthy learning competition among students. Besides, the module can also be oriented and used by lecturers in creating an active, conducive, effective, and practical lecture process [4].

Based on the research conducted by [5], the researchers concluded that the use of Reading Intervention Module (MIM) can develop better reading skills than learning to read without the specific reading module. It proves the using of modules give good impact for the students in the lecture.

Findings of a research conducted by [7] showed that the learning process using the guided discovery learning (GPD) method was easier to understand and could be used to answer the question process. Process models found using standard engineering discovery processes do not provide the required insight.

Relevant to the problems that have been described, this research is important because it produces a product in the form of lecture modules based on guided discovery learning methods with character education and competitiveness in Indonesian general subjects. The guided discovery learning method has advantages in designing modules so that learning is more meaningful. [8] describes the seven advantages of the invention method as follows. (a) It can help students develop or increase the supply and mastery of students' cognitive skills and processes. (b) Discovery strategies arouse passion in students, for example, students feel the labors of their investigations, find success and sometimes failure. (c) This method allows students to move forward according to their abilities. (d) This method causes students to direct their way of learning so that they feel more involved and motivated to learn. (e) This method can help strengthen students' personalities by increasing their confidence in themselves through the processes of discovery. (f) This strategy is child-centered, for example, giving opportunities to them and the teacher participating as peers in checking ideas. (g) Foster students' development towards healthy skepticism to find final and absolute truth.

During learning, the guided discovery learning method prioritizes the learning process [9]. Where the teacher's job is to help students and direct themselves to be able to achieve learning goals. A lecturer acts as a mediator and facilitator. In this approach, the lecturer also present problems, ask questions, make dialogues, help students to solve problems, and provide facilities during the learning process [10]. In addition, lecturers provide the support that can enhance students’ inquiry and intellectual growth. This approach can be implemented in an open classroom environment and can guide the exchange of students’ ideas.

[11] also states the advantages of discovery learning as follows: first, helping students improve and enhance skills in cognitive processes; secondly, improving the student's ability to solve problems; third, allowing students to develop quickly and at their pace; fourth, causing students to direct their learning activities by involving their minds and motivating themselves; fifth, help students strengthen their self-concepts because they gain the confidence to work together with others; sixth, the situation
of the learning process becomes more aroused; seventh, encouraging the involvement of student in learning activities.

It is lined with the investigation which conducted by [12] showed there is a significant difference in favor of the experimental group over the control group in terms of educational achievement scores, perception and inquiry learning scores, and retention of learning scores in both cognitive and affective levels. Therefore, it may be stated that the experimental group students, who scored high within the post-achievement test, have high perception of inquiry leaning skills scores. Using the discovery learning method, which is one amongst the assorted teaching methods within which the students are active and are guided by the teacher, is taken into account to extend students’ success and inquiry leaning skills over the traditional learning methods.

Modules are designed based on guided discovery learning methods with character education and student competitiveness. Existing character values are integrated with designing modules and are also applied during the lecture process. In line with [13], it is stated that the discovery learning strategy and the way of student learning is very influential on the character of the students. Character values are also presented in the Indonesian lecture module [14]. Lecturers are responsible for exploring and empowering the skills and knowledge possessed by students so that they can support the learning process and students’ achievement.

In addition, the character education is a regular lessons provided in school that follow to a relevant curriculum to encourage students’ character. According to statements by [15], character education emphasizes the growth of the moral character of the students as a whole, which is more than cognitive development of moral reasoning. Character education thus prizes the production of the emotions and values of students in a morally and socially competent manner.

On the other hand, there is a study conducted by [16]. This study aims to produce products in scouting activities that can look up the character of students’ discipline, and also be able to investigate the effectiveness of product development scouting activities in Air Kumbang 12 Elementary School. The results showed that the module is feasible of being used as a learning resource for both teachers and students in the process of disciplinary learning through scout activities at elementary school of 12 Air Kumbang. With this module, students are presumed to be disciplined in Elementary School of 12 through scouting activities.

The product specifications produced in this research development are modules based on guided discovery learning methods with character education and competitiveness of Indonesian students’ in general courses. Therefore, the module has specifications, which are developed based on basic competence of Indonesian language lectures. The module structure consists of three main parts, namely introduction, learning activities, and evaluation. Modules are developed logically, by using language that is easily understood by students and by paying attention to graphic skills, and the modules are given an evaluation to find out students’ understanding of the material presented.

The urgency of the research and the contribution of this research is to broaden students’ insights and references in understanding lecture material and developing their knowledge as well as making students able to possess intelligent characters and superior competitiveness. Following the specifications of the product produced, this research and development must be carried out to overcome problems during the Indonesian language lectures. Modules are arranged and adapted to the needs and potential of students. The use of modules based on guided discovery learning methods applied five stages, namely the orientation process on student problems, organizing students, guiding, developing and presenting results, and analyzing and evaluating the process and results of problem-solving. Besides, the module also integrates the values of character education that can make students as intelligent individual characters by empowering their metacognitive skills. This module can increase student motivation in learning and will improve student learning outcomes.

The findings of the research and the research outcomes can be used by students and lecturers as a reference in carrying out the lecture process and carrying out research activities and community service. Based on assumptions, the results of this study will help improve and develop the quality of Indonesian language lectures. This research is important to be carried out because using this module can improve the learning process and improve student achievement, especially in Indonesian language courses. Furthermore, the existence of this module can help the problems faced by students in mastering and understanding lecture material. This module is also useful in improving student
character. Theoretically, students should be presented with character shapes so they can apply them in everyday life.

This module is also able to increase student interest and motivation to learn. Students are helped in understanding the material because the modules produced will be designed effectively and appropriately for students. Therefore, this study aims to describe the process of module development and module production based on guided discovery learning methods that are characterized by character education and competitiveness of Indonesian public language courses of students of the Indonesian Language and Literature Education at UMRAH Tanjung Pinang which are valid, practical, and effective.

The results of this study can contribute positively to the development of science. The results of scientific publications can be used as additional references for students, lecturers, and education practitioners. This study aims to produce modules based on guided discovery learning methods with character education and competitiveness in Indonesian general courses that can be utilized by students and lecturers.

2.  Methodology
Module development procedure based on guided discovery learning method with character education and competitiveness, following the 4-D (four D models) development model consisting of four stages which [17] has explained as follows: (1) The definition stage (Define) aims to establish and define learning requirements; (2) The design phase (Design) aims to prepare a prototype of learning devices, media selection, and format; (3) The development phase (Development) aims to produce revised learning tools based on expert input including validation of devices by revisions, simulation of activities, and trial dams; (4) The disseminate stage aims to test the effectiveness of the use of modules based on guided discovery learning methods with character education and competitiveness in the general Indonesian language courses of students on a broader scale.

The subjects of the trial in this study were students of the Raja Ali Haji Maritime University (UMRAH) Tanjung Pinang maritime engineering department in the 2018─2019 academic year. The data collection instruments were in the form of questionnaires, in the form of validation questionnaires, practicality questionnaires, observation questionnaires, and performance tests to see the effectiveness of modules based on guided discovery learning methods containing character education and student competitiveness.

Data collection techniques relevant to the instruments used in data collection are as follows. (1) The validation questionnaire as an assessment indicator is the feasibility of presentation, the feasibility of content, the feasibility of linguistics, and graphics [18]. (2) Practical questionnaire. The practicality questionnaire consisted of two, namely the practicality questionnaire for lecturers and students [18]. (3) Test sheets are used to determine the effectiveness of the modules that have been studied [19]. (4) Student activity observation sheets are used to determine student activities in the learning process by using an Indonesian language module based on guided discovery learning methods with character education and students’ competitiveness [19].

Descriptive analysis techniques were using descriptive statistics include product validity analysis, product practicality analysis that the questionnaire is filled in by lecturers and students, product effectiveness analysis to analyze student activities and analysis of student learning outcomes. The next step is analyzing the data that has been collected using correlated comparative analysis.

3.  Results And Discussion
This study aims to produce Indonesian language modules based on guided discovery learning methods with character education and student competitiveness. This study uses the R and D method with the 4-D model. First, define. This study aims to produce Indonesian language modules based on guided discovery learning methods with character education and student competitiveness. This study uses the R and D method with the 4-D model.

3.1. Initial to Final Analysis
This initial final analysis activity aims to analyze the curriculum, student potential, and RPS used. This activity is carried out during observation so that the research objectives are carried out optimally. During this preliminary analysis, the research team found problems during the lecture process in
Indonesian general courses as follows. (a) Teaching material and reference books have not been able to make students be critical and have positive competitiveness and also not to be responsive to the lecture material. (b) The culture of student reading is very minimal. (c) Some of the characters of students have not shown following existing norms. (d) The metacognitive abilities of students have not shown an even increase in learning achievement from each meeting.

Based on the final preliminary analysis, the researchers integrated the development of modules based on guided discovery learning methods with character education and Indonesian language competitiveness in UMRAH students. The module designed is a module on the topic of writing scientific papers.

3.2. Student Analysis

This student analysis aims to analyze cognitive abilities, metacognitive, and character analysis of students. The number of students as trial subjects was 18 people. Based on observations at the first meeting and interviews with lecturers supporting the course, information was obtained that not all students who mastered lectures during democratic activities with lecturers. In addition, when lecturers' instructions to open lecture material pages using their respective smartphones were still found by students who had not followed the instructor's instructions. Based on the student's character, there are still students who have not shown a positive character. Therefore, the existence of this research development activity can improve students' character positively and enhance students' metacognitive abilities.

In designing this module, focus on the topic of scientific attitudes in writing papers to college students. Writing papers for each subject becomes a competency that students must familiarize with especially in writing assignments. Students are invited to be able to discover for themselves the nature of the paper, the characteristics of the paper, the technique of determining and limiting the topic of the paper, and the structure of the writing of the paper. Students are trained to be able to determine by themselves with the initial knowledge possessed by students. Module design based on the guided discovery learning method is very helpful for students in understanding lecture material so that it can improve student learning achievement. The module design is also based on character education to make students as prospective educators who must have character. They will be role models and role models in the community and other social environments. Character education becomes the basic coffers for every human being as a social creature. Students must cultivate sorry, please, and thank you. Character is not just a student's attitude towards others, but also a form of student gratitude towards the creator.

3.3. Task Analysis

3.3.1. Content Structure Analysis

Content structure analysis aims at analyzing curriculum and course descriptions. The module design consists of a front cover page, preface, table of contents, indicators of competency achievement, lecture objectives, the benefits of studying paper theory, lecture material, summary, practice, and reference list. The scientific attitude module of writing papers for students in tertiary institutions is designed to be effective, valid, and practically used by students. The content structure in the module is designed considering the metacognitive levels of students in the classroom.

3.3.2. Concept Analysis

Concept analysis activities in module design make the most important part because the concepts designed must be understood by students as a whole. To find out and assess the initial knowledge of students, the concepts presented in the form of understanding papers, characteristics of papers, techniques for determining and limiting paper topics, and the structure of writing papers. The concept is given so that students can imply when writing a paper by the rules and order of the Indonesian language. The concepts presented in the text are systematically written and strived to be easily understood by students. The concept given was adjusted to the RPS of Indonesian Language courses based on KKNI with the existence of department CPL and CPMK.
3.3.3. Formulation of Learning Objectives

The formulation of learning objectives aims to ensure that the material and objectives of the lecture do not come out of the determined RPS. Formulation of learning objectives so that the material and concepts presented in the module are right on target. Formulation of learning objectives can be in the form of lecture analysis, course review, competency standards, instructional objectives, lecturing indicators, to learning instructions for students. Besides, lectures are also based on guided discovery learning methods. The following are presented in the learning objectives table paper writing.

Second, design. The design stage in developing this module consists of two parts, namely the framework of the module framework and the writing of the module draft. The following will be explained in the discussion.

3.3.4. Module Design Framework

The module framework design aims to develop modules based on guided discovery learning methods with character education and Indonesian language competitiveness of UMRAH students. Modules are designed to motivate student learning, foster student character education, increase reading interest, and develop students' metacognitive abilities and help students compete with the demands of the workforce. Modules are designed to adapt to the IQF and follow the development of the industrial revolution 4.0.

The following are the steps for writing a module based on the guided discovery learning method. [8] suggests the steps of the invention method as follows. (a) Identification of student needs. When designing the draft module, researchers identify the needs of students to enrich student references and assist students in understanding lecture material optimally. Students also need examples of positive character and can be competitive during the lecture process and competence in dealing with the world of work. (b) Preliminary selection of the principles, conceptual understandings, and generalizations to be studied. In writing modules, it is necessary to pay attention to the right concepts and be presented effectively so that they are easily understood by students. Besides, the principles of writing modules become the most important part so that the modules produced are effective, valid, and practical. (c) Selection of materials, and problems/tasks. In presenting materials and lecture materials must be following the needs and competencies of students. The modules presented must be effective and simple without reducing the true meaning. Also, writing modules must have assignments to be done by students and complete with student worksheets. (d) Help clarify the task/problem to be learned and the role of each student. Modules become a very effective supporting teaching material used by students to improve student learning achievement. The module also explains the role of each student so that the assessment can be done transparently and objectively. (e) Prepare class settings and necessary tools. When lectures use modules, students first read the modules before lectures take place. The time allotted can be used appropriately because class settings have been made. If there are tools that are used as other supporting materials, it is also prepared so that the lecture process can take place actively and on time. (f) Check student understanding of the problem to be solved and student assignments. With the existence of student worksheets, fellow students in class using modules can check each other's understanding including lecturers. If there are students who do not understand or are weak, they can be assisted by students who have a good understanding so that lectures are not only centered on lecturers. (g) Allow students to make discoveries. Modules are designed so that creative students find the things and materials discussed. Modules provide broad opportunities to explore understanding in a guided manner. (h) Assist students with information/data, if needed by students. The concepts presented in the module must also be able to provide the latest information about the development of lecture material. The module can be research based on an implication of the results of lecturers' research. (i) Leading self-analysis with questions that guide and identify the process. Modules as a means to be able to assist students in analyzing a problem related to lecture material. Lecturers also give direction consistently so that students have the same understanding. (j) Stimulate the interaction between students and students. With this module, students can interact with each other. This can happen that students who have a good understanding can help students who do not understand the material. (k) Praising and raising students who are active in the discovery process. The module based on the guided discovery learning method examines ample opportunity to give praise to students in the discovery process. Praise was given aims to motivate so that students actively study
and earnest. (l) Helping students formulate principles and generalize their findings. Module based on the guided discovery learning method aims to make students able to form ideas or general conclusions from each inventor submitted so they can solve problems.

3.4. **Writing Module Draft**

3.4.1. **Outer Module Cover Draft**
The outer cover, also known as the front cover, is designed with colors that attract students' interest in reading and support the contents of the module. The cover color of the module consists of green, orange, and white. On the front, there is the writing of the Indonesian language module, the UPB logo, the UMRAH logo, the title of the Scientific Attitude Writing Paper for Students in Higher Education, the name of the drafting team, the logo of Putera Batam University, and in 2018. The cover is designed in neutral and inconspicuous color. The front cover is combined with relevant images and motifs so that it adds an interesting look to the module. The cover writing used is Century Schoolbook.

3.4.2. **Draft Introduction to Modules**
The preface contains opening greetings. In addition to capturing student news as a module trial subject. The contents of the preface also briefly explain the module title and its purpose. Then the city, month, year of writing, and the writing team were written. The introduction is also given the word motivation to students. The writing used is Century Schoolbook 14.

3.4.3. **Draft Table of Contents Modules**
The table of contents becomes the most important part of the module because it makes it easy for readers to be able to know from the beginning about the subject matter in the module along with the page numbers. The contents of the table of contents in the form of preface, table of contents, indicators of achievement of competence, objectives of lectures, the benefits of studying the theory of papers, lecture material, lecture material, summaries, exercises, and reference lists. The writing used is Century Schoolbook 14.

3.4.4. **Module Introduction Draft**
The preliminary draft content includes indicators of competency achievement, the objectives of lectures, and the benefits of studying the papers. This course is also explained about the lecture activities so that you can understand and implicate paper theory. In writing a paper, you also have a scientific attitude, critical, character, competitive, and have an objective view of the topic that is used as an object of study in writing a paper. Besides, you will also have metacognitive skills that can support the lecture process and have a positive impact on your learning outcomes.

3.4.5. **Draft Learning Activity Module**
Draft learning activities about exploring students' initial understanding of paper topics. This section also provides a column in the form of student worksheets so students can effectively fill in the topic of the paper as they know it before the lecture begins. At the bottom of the worksheet, students include notes in the form of character education.

3.4.6. **The Draft Guided Discovery Learning Method Integration with Character Education and Indonesian Student's Competitive MK in Module Learning Activities**
Learning is characterized by character education and Indonesian students' competitiveness in the learning activities of this module because it has the following advantages. [11] states the advantages of the application of discovery learning, as follows. (1) Helping students improve and enhance skills in cognitive processes. (2) It can improve the student’s ability to solve problems. (3) It allows learners to develop quickly and at their own pace. (4) Causing students to direct their learning activities by involving their minds and motivating themselves. (5) Helping students strengthen their self-concepts because they gain the confidence to cooperate with others. (6) The situation of the learning process becomes more aroused. (7) Encourage the involvement of student activity.
3.5. Draft Module Material
The module material presented is understanding papers, characteristics of papers, techniques for determining and limiting paper topics, and the structure of writing papers. The material presented is relevant to the curriculum and student needs. In presenting the material also delivered the values of character education so that students have intelligent characters.

3.6. Draft Summary
The summary is a brief conclusion about all the material that has been presented. Summaries on the modules are written so that students can understand lecture material that is specifically designed and clear.

3.7. Exercise Draft
The exercise aims to measure which student's understanding of the material has been learned. This becomes an authentic assessment for lecturers to provide effective and accountable assessments. After the exercise, student worksheets are also provided so that students can fill in the answers to these questions easily.

3.8. Draft Reference List
The list of references for scientific papers must not be separated. A reference list as a guideline that the material presented does not violate the plagiarism law. The reference list only lists references that are referenced and used in the development of this module.

Third, development. (a) Module Validation for Scientific Attitudes Writing Papers for Students in Higher Education. The scientific attitude module is writing a paper for college students and is being researched by a research team. Furthermore, before validation is carried out validation by the validator. The validated aspects of the module are four aspects, namely the feasibility aspect of the module presentation, the feasibility aspect of the module content, the linguistic aspects, and the graphic aspect. Validator 1 gives tools in the form of adding the concept of research-based material, exercises are reproduced so that students are accustomed to writing papers, use diction that is easily understood. Validator 2 gives a suggestion that gives more student worksheets, multiplies the material to broaden students' insights.

Based on the table above, four things that can be described. These four things, namely (1) the feasibility of the presentation. In the aspect of the feasibility of the presentation, the validator provides suggestions for the module to be more integrated with the guided discovery learning method and to provide more student worksheets. (2) the feasibility of the content. The validator suggested adding research-based material concepts, modules were also reproduced in the material section. (3) the feasibility of the language. The advice given by the validator is to use language that is easily understood. Besides, the diction used also needs to be revised so that it is easily understood by students. (4) the graphic. Graphic design is related to the layout and layout of modules. The module layout is already interesting, but it needs to be designed as student worksheets as neatly as possible so that students have space to explore their insights in the columns provided.

Following the results of the validation carried out by the validator, the research team revised the feasibility of the presentation, the feasibility of the content, the feasibility of language, and graphics in the module. After the revision, the module will be tested on the first semester students of UMRAH Tanjung Pinang. The module validity test results will be presented in the following table.

| Num  | Assessment Aspects      | Validity Value (%) | Category     |
|------|-------------------------|--------------------|--------------|
| 1.   | Feasibility of presentation | 87,15              | Very Valid   |
| 2.   | Content eligibility      | 90,34              | Very Valid   |
| 3.   | Linguistic              | 85,78              | Very Valid   |
| 4.   | Grafting                | 90,00              | Very Valid   |
|      | Overall Module Validity | **88,31**          | **Very Valid**|

Based on the results of the data on the expert validation questionnaire, it can be obtained that the overall module validation results obtained a value of 88.31% with a very valid category. The
description of each aspect is as follows. First, the feasibility aspect of the module presentation has a value of 87.15% with a very valid category. Second, the feasibility aspect of the contents of the module obtained a value of 90.34 with a very valid category. Third, the language aspect gets a value of 85.78% with a very valid category. Fourth, the aspect of graphics obtained a value of 90% with a very valid category. Then the overall validity of 88.31% in the category is very valid.

Based on the results of expert validation of the modules developed in the table above, it can be concluded that overall, the modules developed are in a very valid category. The following is a histogram of the expert validation analysis.

![Figure 1. Histogram of Module Validation Results by Experts](image)

### 3.9. Module Practicality

Module practicality aims to test the practicality of modules used and used by students. The practicality test is conducted by lecturers and students. The implementation of the module trials on November 7, 2018. The module practicality is presented below.

#### 3.9.1. The Practicality of Modules by Lecturers

The practicality of the module is done by this lecturer to obtain input so that the resulting module becomes better, effective, valid, and practical. Suggestions are given and questionnaires filled out were considered by the research team to conduct revision actions before the product was tested on the test subjects. The practicality of a module includes the accuracy in its use, the practicality of time during the lecture process for 2 credits for 100 minutes is a very interesting consideration. It is intended that the modules produced can be suitable and implemented during the lecture process every week. The following is an explanation of the lecturers' suggestions for the developed module.

| Practitioner's Name | Occupation          | Suggestion                                                                 |
|---------------------|---------------------|-----------------------------------------------------------------------------|
| Validator 1         | Bahasa Lecturer     | 1. Modules need to be integrated with character education and competitiveness. |
|                     |                     | 2. Modules are added and collaborated with the results of lecturer research so that they can achieve the learning targets optimally. |

### 3.9.2. Module Effectiveness

The effectiveness of the module was carried out on November 27, 2018. During this activity, the research team and lecturers supporting the course collaborated during the lecture process with the
topic of writing papers. This activity aims to see the effectiveness of the modules that are designed so that they can support students interested in learning. In the designed module the material is presented briefly and accompanied by an attractive design. In addition, to see the student understanding test in the module also presented exercises that can be done by students independently. When the lecture process takes place, lecturers supporting the course also collaborate on the use of smartphone media. Students are active and enthusiastic in the lecture process. This is proven during the lecture, students can answer the lecturer questions and follow the lecturer. They communicate with each other so that the lecture process is created in two directions. Besides, lecturers are also creative and communicative when interacting with students. This is a positive activity because it stimulates and engages students during the lecture process so that they can achieve the targets and objectives of the applicable curriculum.

3.10. Trial Data Presentation

3.10.1. The Practicality of Modules by Lecturers

The overall practicality value is 88.22. This value is in the category of very practical. The value is obtained from the calculation of the score of each practical indicator. (1) Fill in the practicality value of 100 with a very practical category. (2) Language has a practical value of 90.16 with a practical category. (3) Graphic obtained a practicality value of 88.75 with a very practical category. The following is presented in the table.

| Num | Rated Aspect | Value of Practicality (% | Category |
|-----|--------------|---------------------------|----------|
| 1   | Content      | 85.75                     | Very practical |
| 2   | Linguistic   | 90.16                     | Very practical |
| 3   | Graphics     | 88.75                     | Very practical |
|     | Overall module practicality | 88.22 | Very practical |

3.10.2. The Practicality of Modules by Students

The module practicality questionnaire for students consists of content, language, and graphics. For clarity, the results of practicality analysis can be seen in the following table.

| Num | Rated Aspect | Value of Practicality (% | Category |
|-----|--------------|---------------------------|----------|
| 1   | Content      | 90.26                     | Very practical |
| 2   | Linguistic   | 82.56                     | Very practical |
| 3   | Graphics     | 80.75                     | Very practical |
|     | Overall module practicality | 84.52 | Very practical |

3.11. Module Effectiveness

The effectiveness of this module is assessed in the affective, cognitive, and psychomotor aspects.

3.11.1. Affective Assessment

Affective assessment is following the theme of research containing character education. The number of students in one class is 18 people. From the results of the research activities, 13 students showed a good character attitude and 5 students showed bad character. This is seen in the actions and attitudes of students during the learning process. The results of the study are supported by the opinion of [20] that there are two main values in character education namely respect and responsibility. Respect means showing one's appreciation for the dignity of others or other things outside of himself. Meanwhile, responsibility is oriented towards others, provides a form of attention, and actively responds to what is desired by others. Responsibility emphasizes the positive obligation to protect one another.
3.11.2. Cognitive Assessment
Cognitive assessment becomes an important part to see the impact of the lecture process. Students as test subjects who have good cognitive abilities. This can be seen in the results of student worksheets that have been distributed. Students generally respond to questions and lecturers and students show an attitude of curiosity about the material discussed. Based on the results of the analysis of students' cognitive assessments, it can be concluded that 9 students received an A qualification with a range of grades 3.51-4.00, 7 students received a B qualification with a range of grades from 3.00 to 3.50 and 2 students got a qualification C with a range of values from 2.50 to 2.99.

3.11.3. Psychomotor Assessment
Psychomotor assessment in the form of assessment of students' practice and skills. Psychomotor assessment to measure the competency of students is based on the results of the development of modules based on guided discovery learning methods with character education and Indonesian language competitiveness in the first semester students of UMRAH. Based on the results of the trial, obtained a psychomotor assessment of 89.14% categorized as very valid. Therefore, students' psychomotor test sheets can be tested on students at other tertiary institutions.

3.12. Product Revision
Product revision as an effective step after product validation is done by the validator and product trials to students. The results of the product revision to improve and improve the quality of the products produced so that it is disseminated to students in other tertiary institutions who have different social backgrounds and competencies without neglecting the KKNI-based curriculum as well as making students character and foster healthy competitiveness.

4. Conclusion
The results of the study aimed to produce and develop modules based on guided discovery learning methods with character education and competitiveness, the Indonesian language of UMRAH students. Based on the results of statistical tests it was shown that (1) the overall module validity test obtained a validity value of 88.31% in the very valid category. (2) The module practicality test by the lecturer obtained a value of 88.22% in the very practical category and the module practicality test by students obtained a value of 84.52% in the very practical category. The effectiveness test results that 9 students get a qualification with a range of grades 3.51–4.00, 7 students get a qualification B with a range of grades 3.00–3.50 and 2 students get a C qualification with a range of grades 2.50–2.99. It can be concluded that the module is effectively used by students in tertiary institutions.

Modules are designed to motivate student learning, foster student character education, increase reading interest, and develop students' metacognitive abilities and help students compete with the demands of the workforce. Modules are designed to adapt to the IQF and follow the development of the industrial revolution 4.0. Based on the results of data analysis, it is found that the module is valid, effective, and practically used by students in tertiary institutions. After doing validation, the feasibility of the presentation, the feasibility of the content, the feasibility of linguistics, and graphics. After validation and testing are done, the product is revised before being distributed.

References
[1] Y. dan Oktavia and F. Hulu, “Pengembangan Modul Ejaan Bahasa Indonesia Berbasis Pendekatan Contextual Teaching and Learning Bermuatan Pendidikan Karakter,” Belajar Bhs., vol. 2, no. 2, pp. 250–265, 2017.
[2] D. Kariman, Y. Harisman, A. Sovia, and R. C. I. Prahmana, “Effectiveness of Guided Discovery-Based Module: A Case Study in Padang city, Indonesia,” J. Math. Educ., vol. 10, no. 2, pp. 239–250, 2019.
[3] R. Asyar, Kreatif Mengembangkan Media Pelajaran. Jakarta: Gaung Persada Press, 2011.
[4] E. N. Khabibah, M. Masykuri, and M. Maridi, “The Effectiveness of Module Based on Discovery Learning to Increase Generic Science Skills,” J. Educ. Learn., vol. 11, no. 2, pp. 146–153, 2017.
[5] R. M. M. & N. A. B. Saayah Abu, “Amalan membaca dan penggunaan buku kepada kanak-kanak prasekolah dalam perspektif rakan sebaya,” in Prosiding Seminar Kebangsaan
Pendidikan Negara ke 4 2010, 2010, pp. 3-4 Ogos 2010. Bangi.

[6] R. Majzub and K. Buang, “The development and testing of preschool Bahasa Malaysia reading intervention module using multimedia,” Procedia - Soc. Behav. Sci., vol. 9, pp. 595–598, 2010.

[7] F. Mannhardt, M. de Leoni, H. A. Reijers, W. M. P. van der Aalst, and P. J. Toussaint, “Guided Process Discovery - A Pattern-based Approach,” Inf. Syst., vol. 76, pp. 1–18, 2018.

[8] B. Suryosubroto, Proses Belajar Mengajar di Sekolah. Jakarta: Rineka Cipta, 2009.

[9] N. dan C. S. Hanafiah, Konsep Strategi Pembelajaran. Bandung: Refika Aditama, 2012.

[10] H. Hanafi, “The Effect of Discovery Learning Method Application on Increasing Students’ Listening Outcome and Social Attitude,” Din. Ilmu, vol. 16, no. 2, p. 291, 2016.

[11] Hosnan, Pendekatan Saintifik dan Kontekstual dalam Pembelajaran Abad 21. Bogor: Ghalia Indonesia, 2014.

[12] A. Balm, “The Effects of Discovery Learning on Students’ Success and Inquiry Learning Skills,” Eurasian J. Educ. Res., vol. 9, pp. 1–17, 2009.

[13] M. T. Hidayah, T. Reh, and B. P. Dede, “The Effect of Discovery Learning Strategy and the way of Students Learning to Students’ Character,” vol. 7, no. 5, pp. 85–93, 2017.

[14] F. I. Muzaki, “Character Education in the Last Song: A Conceptual Review,” J. Educ. Hum. Dev., vol. 5, no. 2, pp. 149–154, 2016.

[15] C. kiu Cheung and T. yan Lee, “Improving Social Competence Through Character Education,” Eval. Program Plann., vol. 33, no. 3, pp. 255–263, 2010.

[16] Sulastri, E. Harapan, and D. Wardiah, “Development Of Learning Module Discipline Character Based On Scouting Education At The State Elementary School Of 12 Air Kumbang, Banyuasin Regency,” Int. J. Sci. Technol. Res., vol. 8, no. 05, pp. 115–119, 2019.

[17] Trianto, Mendesain Model Pembelajaran Inovatif-Progresif. Jakarta: Kencana Prenada Media Group, 2012.

[18] Purwanto, Evaluasi Hasil Belajar. Yogyakarta: Pustaka Pelajar, 2011.

[19] Sudjino, Pengantar Statistik PendidikanPengantar Statistik Pendidikan. Jakarta: RajaGrafindo Persada, 2009.

[20] T. Lickona, Mendidik untuk Membentuk Karakter. (Terjemahan Juma Abdu Wamaungo). Jakarta: Bumi Aksara, 2012.