

Development of Inquiry-Based Practicum Module on Supply Management Course to Strengthening Students Self Regulated

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ABSTRACT

The aim of this research is to strengthen a student's self regulated by produce an Inquiry based practicum module of supply management course for Office Administration Education Students, Faculty of Economics, Universitas Negeri Malang. The practicum module developed in the form of mold to facilitate students in learning anytime and anywhere. This module provides the material and practice of practicum that can be directly used by students to know the level of student understanding. This research is Research and Development type, using a modified Borg & Gall model. Products have been tested for eligibility by module and material experts and tested on students. The results showed that the developed modules gained a good judgment from the module expert validator, the material expert validator and the student so that the practice-based inquiry management module inquiry was suitable for use as a teaching material at the lecturing process and help the students in developing their self regulated skills.

Keywords: *self regulated, practicum module, inquiry, supply management*

1. INTRODUCTION

The rapidly expanding pace of time makes students not only required to have an understanding of certain subjects but also should be able to develop critical thinking skills (Miri, David, & Uri, 2007). Ongardwanich says (Ongardwanich, Kanjanawasee, & Tuipae, 2015) we are on a 21st century education era that requires students to master 4 (four) skills, namely: (1) critically thinking and problem solving, (2) communication, (3) collaboration, (4) creative and innovative. The lack of learning resources that can be used resulted in declining learning outcomes as well as the insufficient skills needed in this 21st century education. Learners tend to depend on the teacher in the learning process. The form of effort that can be done is to provide adequate

learning resources for learners. The success of a learning process not only depends on the teaching materials used but also the base used. One of the bases that can be used is Inquiry.

Inquiry is the foundation for developing critical thinking skills. During the learning process, students should be allowed to seek out and discover for themselves everything that is questionable and given the opportunity to solve a problem based on its capabilities, the way it is expected to influence learners to understand concepts that have been learned with their own language and learning style.

Inquiry learning is able to apply scientific attitudes related to the habituation of character values of students (Erinda & Indriwati, 2018;

Mawantia, Fajaroh, & Afandy, n.d.; Varutharaju, 2014). The character values integrated in the learning activities are adjusted to the development of the phenomenon in the environment, so students can know, realize, implement, and familiarize the value of the character in life. Development of all three aspects can be carried out well when supported by the use of educational technology, one of the selection of teaching materials .

Vary of research and development of inquiry based practicum module has been done before. Almost all research concluded as a successful study. As shown on research conducted by Swandhana, DKK (2016) which shows that the development of inquiry-based teaching materials is able to improve the independence of students. The same result is found by Pedaste, Sari, Sudarmanto, Asrianengsi and Adriani (Adriani, Lubis, & Triono, 2018a; Agus Sudarmanto, 2017; Asrianengsi, 2018; Pedaste et al., 2015; Sari, Suputra, & Chasanah, 2017) that the development of the inquiry based learning module is able to develop self-reliance and critical thinking ability of students.

Based on the pre research interview with one of lecturer on Office Administration Education, Faculty of Economics, Universitas Negeri Malang, which said that during the learning process there is no practicum module used and equipped with practical questions, the learning process focuses more on the lecture and noted so that it is not yet known how far the students understand the provisions of supply management course. During the learning process, lecturers use question and answer methods and presentation so that students search for material from the Internet. The current books also been irrelevant to the current developments so that there is a need for renewal for the inquiry-based provisions management laboratory module. Based on the interview with S1 students of office administration education, it is important that students are struggling to understand the management of supplies and lack

of teaching materials that can be used as guidance in the process of practicum.

With the existence of laboratory modules, the supply management course is expected to be able to study independently anytime and anywhere as well as students can directly work on the practice that has been provided, so that lecturers can also assess how far students understand the management of supplies. In addition, with this practicum module can prepare students who have pursued higher education to face the work or industry era which more challenging with the requirements of skills more than a high school graduates. That is reasons why we needs a practicum module to practice student skills.

Therefore, requirement for the inquiry based practicum module which has a capability of developing critical thinking skills and solving problems for students. One of the criteria being a good module is stand-alone, means that the module does not require other materials because the developed modules are equipped with the student materials and worksheets that facilitate students in learning. Researchers have developed a mold-shaped module that is easy for students to bring and also equipped with material that is in accordance with Rencana Pembelajaran Semester (RPS). The developed modules can be used for a semester and facilitate lecturers to provide assessments because they are equipped with scoring criteria in each learning activity.

Developing of practicum module of Supply Management Course consists of 9 learning activities that can be used for a semester and is adjusted to the Rencana Pembelajaran Semester (RPS). The Practicum Module developed then be applied to improve the students independence and understanding for supply management courses. This research and development is very important because the inquiry based can be improve the critical thinking and self-reliance skills that are much needed in the 21st century education this is in line with the research conducted.

Based on those problem, researchers takes the title "Strengthening Students Self Regulated, Through The Development of Inquiry-Based Practicum Module on Supply Management Course"

2. METHODS

The method of this research uses Research and Development by Borg and Gall, which has been modified, i.e. 1) Preliminary research and information collection, for data collection and preliminary information to determine the learning needs in the field. 2) Planning. Product developed in the form of practicum module consisting of 3 (three) parts, namely the introduction, the core part and the cover. 3) Initial product draft development. At this stage researchers have made the design of the module developed. 4) Expert validation, this stage to know the level of eligibility of the program that is done by the module and material experts so that module can be used in the learning process. 5) Product revision, improvement of the practicum module after obtaining input from the expert modules and material experts through the poll. 6) Limited trial. Limited trials conducted on 6 students by studying the laboratory modules and then fill-in the poll. 7) Product revision. Revisions are made after the student's input if there is a deficiency in the laboratory module that has been tested. 8) Field Trials. The field trials were conducted by observing the Practicum module which was developed and then filled the poll so that the assessment of the subject of field trials. 9) Product revision. At this stage obtained an analysis of the qualitative and quantitative data that have been obtained, if there is a lack of the final revision, and 10) Final product. The final stage of the study is to produce a laboratory module that has been known to its level of agility.

The design of this study used two experimental classes, first class as the subject of a limited trial and second class as the subject of field trials. The two classes were chosen based on

the advice of the lecturer on the Supply Management course.

Prior to the trial, a validation of the module was developed to determine the feasibility level of the module. The validation is done by the module expert and material expert, then generates quantitative and qualitative data. To find out the response from the subject of limited and field trials, the students previously worked on one practicum and observed the entire contents of the Inquiry-based Practicum Module of Supply Management course and then filled the poll.

The population of this research is Office Administration Education, Faculty of Economics, Universitas Negeri Malang. For the subject of limited trials coming from the 2017 students, namely offering NN, consisting of 6 students based on the advice from lecturers of the provisions management faculty with the heterogeneous ability (low, medium, and high) while the subject of field trials is offering MM consisting of 37 students.

Data collection instruments using module expert validation polls, expert material validation polls, limited trial questionnaire and field trial poll. Data obtained in the form of quantitative data of poll value and qualitative data of criticism and suggestion provided. Data collection techniques are done by collecting through interviews and poll deployments.

Data analysis techniques use an average that is classified using a level of validity and to ensure that the Practicum module is developed worthy to be used as a teaching material at the lecture process.

3. RESULTS AND DISCUSSION

The inquiry-based Practicum Module for Supply Management course has been successfully developed and can be used as teaching materials that can be used in the lecture process especially the guidelines when students perform practicum. The structure of practical preparation consists of Introduction, Preface, Table of Contents,

Practicum Module Description, Module Guide, Learning Activities, in each then part of the content consisting of learning activities presented in the practicum module of provisions management courses consisting of several parts: (1) Course Description, (2) Course Learning Outcomes, (3) Achievement Indicators, (4) Learning Objectives, (5) Materials, (6) Student Worksheets, contain practical instructions, tools and materials, working steps that include training on exercises, stages of preparation and process stage, (7) Assessment Criteria and (8) Closing Section consisting of glossary, referral list and the back-cover of the practicum module which presents a description of the Practicum Module and a researchers biography.

The validation results of module and material experts show that the inquiry-based Practicum Module of Supply Management course are worthy to be used as a teaching material by students during the lecture process. After validation and trial activities, a revision of the product has been developed based on the advice and criticism that has been given by the modules and material experts. The results of data analysis conducted by the material and the module experts are acquired data of 97% and 89.1% which means that the module deserves use in the learning process but needs to be revised based on input from the expert modules and experts.. The module's expert validation data is presented in the following table 1.

Table 1. Quantative Data by Modules Experts

No		Σx	Σxi	$\frac{\Sigma x}{\Sigma x1} \times 100\%$	Criteria
	Drs. H. Mohammad Arief, M.Si				
1.	Content	20	25	80%	Valid
2.	Language	12	15	80%	Valid
3.	Servings	21	25	84%	Very Valid
4.	Graphics	16	20	80%	Valid
5.	The Effectiveness of Module	12	12	80%	Valid
	Drs. I Nyoman Suputra, M.Si				
1.	Content	23	25	92%	Very Valid
2.	Language	15	15	100%	Very Valid
3.	Servings	25	25	100%	Very Valid
4.	Graphics	19	20	95%	Very Valid
5.	The Effectiveness of Module	15	12	100%	Very Valid
Total Score				89.1%	Valid

While the content Data Validation of Material Expert can be seen in table 2

Table 2. Data Validation of Material Expert

No		Σx	Σxi	$\frac{\Sigma x}{\Sigma x1} \times 100\%$	Criteria
1.	Content	39	40	97,50%	Very Valid
2.	Language	28	30	93,30%	Very Valid

Table Cont...

3.	Servings	30	30	100%	Very Valid
Total Score				97%	Very Valid

According to the data, the inquiry-based Practicum Module of Supply Management course worth for the students to know the student's response to the feasibility of the developed module. This Inquiry-based Practicum Module of Supply Management course is developed to be a guidance and facilitates the students to understand and apply materials that have been studied in practical activities.

Practical activities play an important role in bestows the way to think and the activities of obtaining a data through the process of discovery. Practicum activities will provide a very large role especially in building understanding of concepts, verifying concepts, cultivating student process skills, growing motivation to lessons learned and practicing psychomotor skills and also making learning more meaningful and making students more active during the learning process (Adriani, Lubis, & Triono, 2018b; Alqodiri, 2013; Asrianengsi, 2018; Prabowo & Saptasari, n.d.)

The developed modules are also printed, considered better applied in the learning process because it can cause learning readiness and improved learning performance and modules have a high adaptation to the development of science and technology and more flexible to use (Alhudaya, Hidayat, & Koeshandayanto, n.d.; Bahri, Syamsuri, & Mahanal, n.d.; Mawantia et al., n.d.). In line with the opinion (Mahfudhillah & Al-Muhdhar, n.d.) which states that contextual teaching materials can help students to connect materials learned in real-life contexts. Learning using modules can also create an independent learning process because students can learn individually according to their respective learning style in a significant way to improve students skills (Pratiwi & Hidayah, 2017; Putri,

Dasna, & Sulistina, n.d.; Susanto, Sa'dijah, & Gipayana, n.d.)

An inquiry-based module that can focus on students as students are required to be independent and active in the learning process (Parahita & Susilaningsih, 2018; Pedaste et al., 2015; Puti, n.d.; Winnie Siew Li & Arshad, 2015). The process of Inquiry learning emphasizes on students to engage actively and have direct experience because the purpose of learning Inquiry is to provide students with knowledge through investigation rather than receiving directly from the teacher, then modules must be packaged in a constructivist-based learning that gives students the opportunity to construct their own knowledge and cultivate scientific attitudes (Jerrim, Oliver, & Sims, 2019; Nisak & Suwono, n.d.; Pedaste et al., 2015, 2015; Salehuddin & Winskel, 2015). One of the characteristics of inquiry learning is students in groups and individuals to solve a certain problem through several scientific steps, namely exploring the phenomenon, focusing on questions, planning investigations, conducting investigations, analyzing data and evidence, building knowledge, and communicating new knowledge (Llewellyn, 2013). The inquiry-based Practicum Module of Supply Management course has an essay task, that is more varied with different levels of problems in each material so as to increase the insight and ability of students in understanding the Supply Management course. Alqodiri (Alqodiri, 2013) said that essays have a purpose to avoid speculation in answering questions and to train students to settle on their own ideas in addition to being guided by the book.

Based on the results of both limited and field trials, this inquiry-based Practicum Module of

Supply Management course deserves to be used as a teaching material in the course of practice in

particular practicum, as seen on table 3.

Table 3. Quantitative Data of Limited Trial

No	Statement	Score		Percentage (%)
		Score Earned	Maximum Score	
1.	Content Eligibility	100	120	83,33%
2.	Presentability	47	60	78,33%
3.	Language Eligibility	98	120	81,60%
4.	Graphics Eligibility	103	120	85,80%
		348	420	82,265%

While the results of field trials performed on one class differ from the subject of a limited trial,

it generates data that can be seen in the following table 4.

Table 4. Quantitative Data of Field Trial

No	Statement	Score		Percentage (%)
		Score Earned	Maximum Score	
1.	Content Eligibility	660	740	89,12%
2.	Presentability	328	370	88,64%
3.	Language Eligibility	630	740	85,15%
4.	Graphics Eligibility	644	740	87%
		2262	2590	87,33%

The inquiry-based Practicum Module of Supply Management course are developed to meet the eligibility criteria. Based on the percentage calculation of validation results by module expert for the Practicum Module developed by the researcher is "Valid" and can be used with minor revisions based on the advice of the module expert. These results include language, presentation, and graphic aspects. This shows that the practicum module are worthy for use in limited trial activities.

The result of the validation by the material expert on the contents of the inquiry-based Practicum Module of Supply Management course shows that the practicum module developed is "Valid" and can be used with minor revisions based on the advice of the material expert. These results include aspects of content, presentation aspects and the effectiveness of the

use of modules. Based on the results, the content presented in the module has been in accordance with the achievement of Capaian Pembelajaran Matakuliah (CPMK)/ Courses Learning Outcomes (CLO) has been set. So it can be stated that the Practicum Module has been feasible for use in limited trial activities.

Limited Trial to 6 students of Office Administration Education, Faculty of Economic, Universitas Negeri Malang has good response. The response covers the aspects of Content Eligibility, Presentability, Language Eligibility, and Graphics Eligibility. So it can be stated that the developed Practicum Module worth trying out for field trials activities with a larger subject. Based on the results of the field trials of the developed Practicum Module with a trial subject of 37 students of Office Administration Education showed that the practical module is

tested for a good responses. The response covers the feasibility, content, presentation, linguistic and graphic aspects. So that the Practicum module is considered appropriate for use in lecture activities of Supply Management course.

The results of this research and development gained an overall feasibility aspect based on the validation of module members, material experts, limited trials and field trials to be very valid or worthy of use in the learning process, but there are several components in the laboratory module that need to be repaired or revised to improve the quality of the products developed. The implementation of such repairs or revisions has been made.

4. CONCLUSIONS

This research and development has produced a Inquiry-based Practicum Module of Supply Management course, for bachelor degree students on Office Administration Education, Faculty of Economic, Universitas Negeri Malang. Inquiry-based Practicum has been validated by module and material experts and results "valid" criteria. While the limited and field trials show that the Practicum Module received a good response from the students. So it can be stated that the Practicum Module developed has been appropriate to use in lecture activities. There are some sections need to be revised in order to become better teaching materials and can be used in lecture activities. With the availability of a well-validated module is expected to strengthen Students Self Regulated of Office Administration Education students, Department of Management, Economics Faculty of the Universitas Negeri Malang.

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