

## The Development of Teaching Materials on Practice Based- Mail Handling in Promoting The Competence of Office Administration Skills in Business and Management Area in Vocational Schools

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### ABSTRACT

**Purpose:** The aim of this study is to: (1) describe the teaching materials of handling mail currently used as the competency of Office Administration skill in Business and Management vocational school, (2) formulate the development of teaching materials prototype to be teaching materials of practicum/practice mail handling on the competency of office administration skill on business and Management, and (3) determine the effectiveness level of teaching materials based on practice of competency skills in Office Administration) in some vocational schools in Surakarta and Karanganyar.

**Method:** This research used 3 data collection techniques. There were : (1) a preliminary study by interview, observation and documentation, (2) limited testing and more extensive trials with interview techniques, focus group Discussion (FGD), and test techniques, (3) the effectiveness test by IQ tests and practice tests, also attitude scales test. Analysis of data are : (1) A preliminary study with interactive analysis, (2) limited and extensive trials/tests with interactive analysis and anakova statistical analysis, (3) and effectiveness test with anakova statistical analysis.

**Findings:** The research found that : (1) limited test qualitatively, the inputs from both the subject, the expert of teaching materials, and stakeholders, statistically  $F_{oRes} = 13.3033 > F_t = 4.08$  and it means that there is a significant difference in the learning achievement between the experimental group with the control group, (2) the anakova test without variabel of students covariate showed  $F_{oRes} = 53.9957 > F_t = 3.98$ , whereas anakova with covariates variable of students' learning motivation is  $F_{oRes} = 48.7135 > F_t = 3.98$ . It means that there are significant differences between the learning outcomes of experimental class with the control class, (3) from one way Anava test, IQ test shows  $F_{oRes} = 3388 < F_t 4:06$ . It means that there are not IQ differences between the experimental and the control group. It is indicated that  $F_{oRes} = 1336 < F_t 4:06$ . It shows that there is not difference in students' attitudes toward mail handling subjects. Anakova without covariate variable of students learning motivation showed  $F_{oRes} = 114 508 > F_t = 3.92$ . It means that there is a significant difference between learning outcomes without student motivation. Anakova with covariates variable of students learning motivation is  $F_{oRes} = 115 249 > 3.92 F_t$ . It shows that there is a significant difference between learning outcomes with student motivation.

**Keywords:** Teaching Materials, Mail Handling, practice, modules

## INTRODUCTION

Competency-based learning should embrace the principle of mastery learning) to be able to master the attitude, knowledge, and skills in order to work in accordance with the profession as demanded by a competency. In order to have mastery learning, it needs to develop principles of learning : (1) Learning through real activities which give meaningful learning experience (learning by doing) and (2) learning by taking into account the uniqueness of each individual which is implemented with a modular system (individualized learning). To realize these demands learning sources as one important component in learning can not be ignored, and one of them is learning materials.

In learning process, teacher does not only transfer knowledge but also manage the learning. The reality shows that the teacher is like expected as mandated curriculum that requires teachers to develop teaching materials with enrichment from their experience and the students themselves. For the constructivist, teaching is not an activity to transfer knowledge from teacher to student, but activity allows students to build their own knowledge (Paul Suparno, 1997: 65). The use of knowledge that has been held to gain new knowledge or skills is the learning principle according to constructivism paradigm. Constructivism paradigm is the basis of the underlying learning ethos, as for the smooth running of the learning activity is determined by how far the student has had the relevant knowledge as the basis to create new knowledge gained in learning process (Haris Mudjiman, 2007: 8). This new information can be obtained from teachers, other people, or other learning sources. As a center of learning, the students should be more active in the activity to build an understanding, skills, and attitudes / behaviors (active learning). The student activity is important to be emphasized because actually learning is an active process

and students use their minds to build understanding (Constructive Approach) (Nasar, 2006: 31). The students does not only learn by absorbing and memorizing knowledge given by the teacher (transfer of knowledge). Brain potential of the students can not only be used to memorize and recall, but also to process the obtained information and build new understandings. During this time, learning in the classroom is more dominated by concept of structuralism / objectivism / behaviorism, which aims to enable students to remember the current information. Textbooks are designed so that students will read or be informed, and the process of memorization happens (Nurhadi, et al., 2004: 33.)

The Government regulation number 19 of 2005 section 20, suggests that the teachers are expected to develop learning material, which is then reinforced through the regulations of Education National Minister number 41 of 2007 about Standard Process, which organizes the planning of learning process that requires the education in the educational unit to develop lesson plan. One component of lesson plan is a learning source. Thus, the teachers are expected to develop teaching materials as a learning source

The objective of establishing vocational schools is to create mid-level experts who are ready to work and to be independent. Practices to improve the work skills are conducted well in the classroom and in the practice room at the production units owned by the schools, and also done in the industry through work practices. In fact specifically for the students of Office Administration Skills have gaps between what is happening in the real world with the theories acquired in the school.

To support the learning-oriented work practices is required the development of teaching materials synchronized with the needs of the labor market. Debriefing through the practice is useful to prepare

students' competencies to be ready to work and it is supported with vocational school curriculum using a variety of approaches, namely: (a) an academic approach, b) life skills approach, c) approach of competency based curriculum, d) approach of broad based curriculum, and e) approach of production based curriculum. These approaches are the development of competency based curriculum to be education unit curriculum developed by education comprised in teaching material. Ministry of National Education (2008: 7) mentions the teaching materials include: (1) study guide (guide for student / teacher), (2) achieved competence, (3) the content of learning materials, (4) supporting information, (5) exercises, (6) work instructions, can be worksheet/job sheet, (7) evaluation, and (8) response or feedback to evaluation results.

Romiszowski.(1986: 22) regarding the development of teaching materials stated that the development of instructional materials should consider four aspects: (1) academic aspects, (2) social aspect, (3) recreational aspects, (4) personal development aspects. Systematic development of teaching materials starts from the process of design and development, or use the existing teaching materials, to test the materials. Knowledge of the factors affecting the results quality should be considered in the development of teaching materials and the systematic procedures for the development of teaching materials and modul.

Ministry of National Education (2008: 8) mentions that the teaching materials are arranged with the aims of: (1) Providing the appropriate instructional materials with the curriculum demands taking into account the students needs, such as the teaching materials in accordance with the characteristics and the social environment of the students, (2) Assisting the students in obtaining possible alternative of teaching materials (textbooks) which are sometimes difficult to obtain, and (3) Enabling teachers in the learning implementation.

Module is a set of teaching materials presented systematically so that the users can use it with or without a facilitator / teacher. Thus, a module should be able to be used as a teaching material for a substitute of the teacher's function. If the teacher has a role to explain something so that the module also must be able to explain something in an acceptable language to the students according to their level of knowledge and age.

In writing teaching materials, especially module, there are several steps, namely: (a) analyze the competency standards and basic competency, (b) determine the module title, (c) give the code of module 1, and d) write the module. (Ministry of National Education, 2008: 18-19).

Practicum/practice-based module is a module equipped with student worksheets (job sheet) for easy in practice. This module is also equipped with the performance assessment rubrics as assessment criteria. The module is packed with a systematic sequence of work steps which coherently brings students to the real world (work world).

The completeness of practicum-based teaching materials in the form of student worksheet (job sheet) are as follows:

1. Different types of letters both official letter or letter of commerce
2. List of classification
3. Agenda form of incoming and outgoing mail
4. Control card of incoming and outgoing mail
5. Disposition sheet
6. Expedition books / form

The completeness of a set of the teaching materials in the form of modules contains:

1. Mail handling syllabus
2. Learning instructions (student / teacher instructions)
3. Supporting information
4. Exercises
5. Valuation/assessment

#### 6. Performance evaluation rubric

The completeness and a set of teaching materials are prepared in accordance with the syntax or the stages of practicum/practice-based learning. It will help the teachers to facilitate the learning process and the learners to achieve the competence in the achieved competence standards.

### METHOD

Model of teaching materials development used in this research is based on teaching materials of practice/practicum-based mail handling which consists of three stages, namely: (1) the exploration stage, (2) the model development stage, and (3) the model testing stage. Data are collected through interviews, questionnaires, documentation, Focus Group Discussion (FGD), IQ tests, and practice tests.

The data analysis in the exploration stage used an interactive analysis, an analysis of limited test, and a broader test with an interactive analysis and a statistic analysis using an anakova test. The analysis of the effectiveness test uses the statistical analysis with anakova test, before the treatment the subjects are measured their IQ and attitudes toward mail handling subject as both the control variables are considered to influence the mail handling learning outcomes

Through the IQ test instruments, the attitude of students towards mail handling subjects, students' motivation, pre-test and post-test were used to measure the normality and homogeneity. Normality test used lilliefors and homogeneity test used the Bartlet test. IQ tests were not tested for its validity and reliability, because this test was already standardized by the Guidance and Counseling Program in Faculty of Teacher Training of Education, Sebelas Maret University.

The exploration stage is the stage for analyzing the needs of teaching materials. Output of this stage is to obtain a prototype of the teaching materials. It is discussed with the experts of mail handling subject and the

teaching materials experts to get input and suggestions. The teaching materials are assessed by experts with the format: (1) eligibility content, (2) linguistic, (3) performance/display, and (4) graphic design (Ministry of National Education, 2008:26-27). Before the teaching materials are tested, they have been validated by the experts and discussed with the teachers (stakeholders) in the form of Focus Group Discussion (FGD). Before the testing, the attitude scale instruments and the practice test are tested its validity and reliability.

The learning device for the implementation of limited testing, more extensive testing, and the effectiveness test includes: (1) syllabus, (2) lesson plan that includes: (a) teaching materials, (b) evaluation, (c) assessment criteria, (d) the items clues, (e) job sheet, and (f) the answer key. Limited trials/tests aim to obtain input from stakeholders on instructional materials that have been developed to get corrections and revisions. More extensive trial/test is the second trial/test for the improvement of the products that are produced in the form of modules of mail handling.

The effectiveness test of the model that has been developed in this research is examined to compare the learning achievement with the teaching materials used commonly in vocational school and the teaching/instructional materials that have been developed with anakova test. Before the treatment, the research subjects (the experimental and the control group) are measured with the IQ test and the tests of students' attitudes skill toward mail handling subject. It is caused by these control variables are considered to give effect to the learning outcomes.

### RESULTS

The produced products in the form of practice-based mail handling teaching materials (module) have been developed based on the needs analysis. This analysis has been obtained from the information both the teachers and the students on mail

handling subject. The collection of information is carried out in a preliminary study. This study was conducted in SMKN 1 Surakarta, SMKN 3 Surakarta, SMK Kristen 1 Surakarta, and SMKN 1 Karanganyar. The researchers conducted interviews, observation, and document analysis. The main focus in this study is to explore the relevance between the teaching materials of mail handling used in the vocational schools and the curriculum. The output of this preliminary study is a prototype of teaching materials on practicum/practice-based mail handling.

The draft of the products that has been produced is discussed with the experts of subject matter and the expert of instructional materials. There are various input and suggestions from those experts such as the input from instructional materials expert:

1. Instructions for the task group would be better if they are arranged detail.
2. The writing of items/questions is still ambiguous and it should be better divided into 2 questions.
3. Diagrams should be numbered.
4. All english spellings should be written in Indonesian language, such as *esai* for essay.
5. It needs graphic illustrations, drawings, and original photographs which are not photo copied.
6. It needs more interesting design/performance, because it will be presented to vocational school students.

The expert of mail handling material stated that the material has been appropriate and referred to the material in the curriculum. Instrument format of instructional materials evaluation includes the following components: (1) Eligibility of the contents includes: (a) the appropriateness with the competence standard and basic competence, (b) the appropriateness with the students' needs, (c) the appropriateness with the needs of the teaching materials, (d) the truth of the material substance, (e) the use for giving additional knowledge, and (f) the appropriateness with values, morality, and

social.2) Linguistic includes : (a) readability, (b) clarity of information, (c) the appropriateness with the Indonesian grammar, and (d) the effective and efficient use of language, (3) The presentation/performance includes: (a) the clarity of the purpose , (b) the order of the presentation, (c) giving motivation, (d) interaction (stimulus and respond), and (e) the completeness of the information, and (4) Graphic design includes : (a) the use of the font (type and size), (b) layout, (c) illustrations, graphics, pictures, and images, and (d) the performance design. (Ministry of Nasional Education, 2008: 26-27).

## DISCUSSION

From the various suggestions and input of the experts, the module draft has been revised in accordance with the directives, especially in the performance which has been completed/improved with the supporting pictures, content, and colored images. After the improvements, the module is validated by both experts.

The practice-based teaching materials in the form of validated module are ready to be tested. Before it, the module is discussed with the mail handling teachers (stakeholders) for the suggestions and input. The discussion of Focus Group Discussions (FGD) were conducted in the laboratory of SMK Negeri 3 Surakarta, which was attended by the mail handling teachers. Many suggestions came after reading module, such as : the syllabus of mail handling subject consists of 4 basic competences. The first competence was taught in class X and the fourth basic competence is given in class XII. They have been appropriate with the students' difficulty level. In the first basic competence , the material is still simple and theoretical (Letter definitions). So that it is suitable taught in class X. While the material in fourth basic competence (e-mail processing) is very difficult and it requires the use of computer skills or information technology (IT). So that

this material needs to be taught in high grade (class XII)

The limited testing/experiment was conducted in SMK Kristen 1 Surakarta on November 5, 2012 in 2 classes in class X (XI AP1 and X1 AP2). XI AP1 is the experimental class consisting 22 students and XI AP2 is the control class consisting 20 students. This test was held for 2 weeks. SMK Kristen 1 Surakarta is selected with the consideration that it is an alternative vocational school after the state vocational school in Surakarta. The students' quality in this school is under the students' quality in state vocational school. Of the various inputs can be stated about the matter of letters that the students' job sheet form of incoming letter in agenda books and job sheet form of expedition books, and item about the practice of processing incoming letters should be revised. To consolidate the results of limited testing in addition to input and suggestions from stakeholders, the subjects (the control group and the experimental group) were given evaluation of Anakova test.

To test statistically the results of the limited testing/experiment for teaching materials product, the Anakova test was conducted between the achievement of Pre test and Post test values in the experiment and control groups. The result of the calculation is  $F_{oRes} = 13.3033 > F_t = 4.08$  and it can be concluded that there is a significant difference of the learning outcomes between the experimental and the control group. It also shows that the class who uses the developed products has better results than the class who uses the usual instructional materials.

The test was held for 2 weeks. This vocational school is selected because it is a pioneering international school and the students have good quality. The purpose of this phase is to improve the teaching materials (the developed products). The results of broader test/experiment shows that the developed product (module) has been accepted by the mail handling teachers and

there are not meaningful suggestions for this module. The more extensive trial/experiment was carried out on 7 November 2012.

Besides the suggestions from the stakeholders, to consolidate the results of more extensive trial/test, the subject ( the control and the experimental group) were tested with Anakova test by the calculation : (1) anakova without covariates of learning motivation is  $F_{oRes} = 53.9957 > F_t = 3, 98$ , (2) ancova with covariates of learning motivation is  $F_{oRes} = 48.7135 > F_t = 3.98$ . It can be concluded that there are significant differences of learning outcomes between the experimental group and the control group. It means that eventhough the test is added with the variable covariates on learning motivation, there is still a difference between the experimental and the control groups. It can also be said that the resulting product in the form of modules is significant.

At this development stage, the practise-based teaching materials (The prototype on teaching materials of practise-based mail handling) have been revised and tested their feasibility in terms of appearance, graphic design, and content from the experts and the stakeholders. The results (output) of the development phase is obtained that the prototype can become practise-based teaching materials in the form of the proper module that is feasible to be used as the classroom materials.

The next stage is the implementation of the experiment to determine the effectiveness of the product in the form of module that has been produced in the previous stage. The focus at this stage is on the learning outcomes of mail handling after the students are given mail handling lessons using practice/practicum-based teaching materials in the form of module.

Before the experiment, the researchers measured the students' IQ and attitudes toward mail handling subject. It is caused by the two control variables are considered to affect the learning outcomes. The IQ Instruments used the standaridized IQ tests of the Guidance and Counseling Program of



Teacher Training and Education Faculty of Sebelas Maret University and the attitude scale test had been tested its validity and reability. Both tests were also tested in the control and the experimental group to determine the balance of these two classes.

The effectiveness test was conducted in SMKN 1 Surakarta and SMKN 3 Surakarta. Each school uses two classes, one class as the experimental class and the other one as a control class. These vocational schools are selected in this research because both schools have the same quality (A accreditation) and the same culture. The implementation of the experiments was conducted in 3 meetings (one basic competence). The activity was to process letters / documents held at SMKN 1 Surakarta on 23 and 24 November 2012 and implemented in SMKN 3 Surakarta on 26 and 27 November 2012.

Before the experiment, both groups (the experimental and control group) were measured their IQ and attitudes toward mail handling subjects. Both components were tested for normality with Lilliefors test and homogeneity with Bartlett test.

To test statistically the results of the effectiveness test on instructional materials,

it was conducted Ancova test between the achievement of pre test, post test, and motivation in the experiment and the control group. The results of these calculations are as follows: (1) one way Anava of IQ test is  $f_{obs} = 3388 < F_{4:06}$  and it means that there is not IQ difference between the experimental and the control group, (2) one way Anava of students' attitudes toward the mail handling subject is  $f_{obs} = 1336 < F_{4:06}$  and it means that there is not difference in students' attitudes toward mail handling subjects between the experimental and the control group, (3) anakova without covariates variable of motivation is  $f_{obs} = 114.508 > 3.92$  and it means that there is a significant difference in learning outcomes on mail handling between the experimental and the control group, (4) anakova with covariate variable of motivation is  $f_{obs} = 115.249 > F_{3.92}$  and it shows that there is a significant difference in learning outcomes of mail handling between the experimental and the control group.

The calculation steps can be seen in the following table 1:

Table 1. Summary of Normality Test/Experiment

| Test/Experiment Type          | Group      | Test Type  | Lilliefors <sub>count</sub> | Lilliefors <sub>Tabel</sub> | Conclusion |
|-------------------------------|------------|------------|-----------------------------|-----------------------------|------------|
| Limited Test/Experiment       | Experiment | Pre Tes    | 0.1671                      | 0.1832                      | Normal     |
|                               |            | Post Tes   | 0.1708                      | 0.1832                      | Normal     |
|                               | Control    | Pre Tes    | 0.1552                      | 0.1900                      | Normal     |
|                               |            | Post Tes   | 0.1552                      | 0.1900                      | Normal     |
| Broader Test/Experiment       | Experiment | Pre Tes    | 0.12712                     | 0.14770                     | Normal     |
|                               |            | Post Tes   | 0.12646                     | 0.14770                     | Normal     |
|                               |            | Motivation | 0.08917                     | 0.14770                     | Normal     |
|                               | Control    | Pre Tes    | 0.12831                     | 0.14770                     | Normal     |
|                               |            | Post Tes   | 0.12951                     | 0.14770                     | Normal     |
|                               |            | Motivation | 0.08875                     | 0.14770                     | Normal     |
| Effectiveness Test/Experiment | Experiment | Pre Tes    | 0.1026                      | 0.1059                      | Normal     |
|                               |            | Post Tes   | 0.0989                      | 0.1059                      | Normal     |
|                               |            | Motivation | 0.0656                      | 0.1059                      | Normal     |
|                               |            | IQ         | 0.0716                      | 0.1059                      | Normal     |

|         |            |        |        |        |
|---------|------------|--------|--------|--------|
| Control | Attitude   | 0.0988 | 0.1059 | Normal |
|         | Pre Tes    | 0.0994 | 0.1010 | Normal |
|         | Post Tes   | 0.0983 | 0.1010 | Normal |
|         | Motivation | 0.0970 | 0.1010 | Normal |
|         | IQ         | 0.0831 | 0.1010 | Normal |
|         | Attitude   | 0.0902 | 0.1010 | Normal |

Table 2. Summary of Homogeneity Test/Experiment

| Test/Experiment Type          | Test Type  | $\chi^2_{\text{count}}$ | $\chi^2_{\text{Tabel}}$ | Conclusion  |
|-------------------------------|------------|-------------------------|-------------------------|-------------|
| Limited Test/Experiment       | Pre Tes    | 0.0178                  | 3.841                   | Homogeneous |
|                               | Post Tes   | 0.7128                  | 3.841                   | Homogeneous |
| Broader Test/Experiment       | Pre Tes    | 0.973                   | 3.841                   | Homogeneous |
|                               | Post Tes   | 1.841                   | 3.841                   | Homogeneous |
|                               | Motivation | 3.242                   | 3.841                   | Homogeneous |
| Effectiveness Test/Experiment | Pre Tes    | 0.000                   | 3.841                   | Homogeneous |
|                               | Post Tes   | 0.004                   | 3.841                   | Homogeneous |
|                               | Motivation | 1.907                   | 3.841                   | Homogeneous |
|                               | IQ         | 2.2133                  | 3.841                   | Homogeneous |
|                               | Attitude   | 0.8874                  | 3.841                   | Homogeneous |

Table 3. Summary of Anakova Test/Experiment

| Test/Experiment Type          | Analysis                            | $F_{\text{count}}$ | $F_{\text{Tabel}}$ | Conclusion     |
|-------------------------------|-------------------------------------|--------------------|--------------------|----------------|
| Limited Test/Experiment       | Anakova                             | 13.3033            | 4.08               | $H_0$ refused  |
| Broader Test/Experiment       | Anakova without motivationcovariate | 53.996             | 3.98               | $H_0$ refused  |
|                               | Anakova with motivationcovariate    | 48.7135            | 3.98               | $H_0$ refused  |
| Effectiveness Test/Experiment | One way Anava of IQ                 | 3.388              | 4.06               | $H_0$ accepted |
|                               | One way Anava of attitude           | 1.336              | 4.06               | $H_0$ accepted |
|                               | Anakova with Motivation covariate   | 114.508            | 3.92               | $H_0$ refused  |
|                               | Anakova with motivationcovariate    | 115.249            | 3.92               | $H_0$ refused  |

The conclusion from the effectiveness test is that the produced product (practice-based teaching materials in the form of modules "mail handling material") is very significant in the study. Although it is added the variables of IQ and students' attitudes toward mail handling subjects (control variable ) and the variable of students' learning motivation (covariate variable), the developed product remains significant.

## CONCLUSION

The conclusion of the study after going through several stages that are the exploration syage, the stage of model development with various testing, and the stage of the model testing are produced practice based teaching materials in the form of module. The products have got the validation of the expert of mail handling material, the expert of teaching materials, and mail handling teachers (stakeholders)



have also been validated product. The products of practice/practicum-based teaching materials in the form of modules is worthy of being a final product that can be transmitted and implemented to users (stakeholders). The eligibility can be seen from the various test either limited test, broader test, and effectiveness test. In the effectiveness testing, there is a very significant difference on the learning outcomes of mail handling between the experimental and the control group. Eventhough the experiment is added the IQ variable and the variable of students' attitudes

toward mail handling material (control variables) and the variables of student motivation in learning (covariate variable), the result shows that there is still a significant result difference between the experimental group (the class uses the product from the research) with the control group (the class uses existing teaching materials). Thus, the products of practice-based teaching materials in the form of the developed modules are assessed appropriate for the teaching materials in the vocational schools in Surakarta.

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