Effective practical learning model for the subject of basic information technology

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Abstract. Learning process requires students to have the ability to use computer as a means of life. A learning that utilizes technological devices entails special treatment in its process, including practice pattern usage. This article reveals the concept of technology learning process based on students’ perspective. The research applied a facts disclosure method of technology learning based on the observation and interviews with the X class students at the International Standard Boarding School of Amanatul Ummah, Mojokerto, on learning introduction of MsWord as word processor software. The research finding shows that the effectiveness of technology learning process is influenced by the adequate facilities, teacher competence, student motivation, and learning atmosphere. As a part of technological learning, the effective practical technology-based learning process should: explain the benefits that students will gain; the ease of technology device usage; the access and availability of technology devices, the facilitation for student’s knowledge sharing, and using of multimedia in the learning process.

1. Introduction
Learning for skill enhancement is an ideal learning process to fulfill students’ ability in using computer software. In general, learning with skill approach- can be done through practical work based-learning. Practical work is defined as a series of activities that enables a student to apply a skill or practice something. In other words, in practical work there possibly emerges the application of diverse skills and the development of scientific attitudes that support the knowledge acquisition (scientific products) of students.

The implementation of education nowadays requires learning priority from the teacher with his experiences and the students’ direct process. In education process, there are three aspects demanded and evaluated in their application namely, knowledge, attitude and skill [1]. Practical work constitutes one of the ways to improve learning outcome through student’s real and direct experiences on the learning objects [2].

Based on the interview with teachers on research object, that in order to strengthen student’s learning skill in ICT basic learning at the International Standard Boarding School of Amanatul Ummah (MBI Amanatul Ummah), providing practical work is demanded to meet learning and skills assessment. According to the author, in ICT basic subject, practical work is a primary learning activity that can help students to actively understand learning material through a real practicing the subject materials. This is corresponding with one principle of effective education i.e. students have active participation in teaching and learning activities. This article aims to discuss the concept of learning technology based on the
practical education pattern, especially in computer software usage. This study is focused on student perspectives based- practical learning patterns.

2. Methodology
This study applied analytical method as a discussion instrument, with the following main data sources: observation, interview, and literature review relevant to the topic in this article. Moreover, the study comprises 24 respondents of class X students at the MBI Amanatul Ummah, Mojokerto, Indonesia and the author acts as a participant observer.

3. Results and discussion
Computer is the device of information and communication technology embedded to human life. Computer does merely function to be typing or calculating tool, but it has been a part of other areas, including communication. The fields of education, economy and business, military, art, entertainment, telecommunication networks and others have utilized computer to solve their problems. In the field of education, computers functions to support learning media, analytical tools, and many other things related to academic activities. Moreover, using computer in economic and business fields covers various business sectors that are now almost entirely computerized [3].

One of the simple using computer hardware is word processing. Word processing is a computer application used for production (including compilation, editing, formatting, and printing) of all types of printed materials. In learning activity, word processor software that is taught at MBI Amanatul Ummah is MS Word. In general, MS Word application taught includes creating, saving, opening, closing and printing document. The concept map of MS Word is presented in Figure 1.

![Figure 1. Concept map of learning word processor.](image)

Learning pattern is performed in two learning mechanisms, namely face-to-face meeting in classroom and learning activity in computer laboratory. This article is focused on practical work conducted in computer laboratory. Based on the author’ observation, the process of MS Words software practical work in basic operations does not have any significant constraint, in which students generally have been accustomed and have good knowledge and experience in using MS Words. Even some students have good skills in creating the forms of letter, image, and table in their worksheets.

Based on the author’s observation and interview, there are several factors that can support the learning process of MS Word processing software as part of the introduction to Information Technology, namely:

3.1. Sufficient means
The facility of education covers all tools, material and furniture that are directly used in the educational process [4]. The sufficient facility in this article means the equipment directly related to the learning process, i.e. computer and LCD Projector. The available facilities in the computer laboratory of MBI
Amanatul Ummah is fairly good, in which each student get one computer in a good laboratory room, so that students have a good focus on learning. The available facility that will increase learning goals which are corresponding the research by Nurhayati and Sagoro which states that the infrastructure has a positive and significant effect on learning outcome standard [5]. Lack of facility in practical work is presumed to make students take turns in using tools. This possibly leads students to have less enthusiasm during the practical work. Some students may get bored, have less concentration to the practical work, and prefer watching to doing activity or do other activities that are not related to the practical work.

3.2. Teacher’s competence
Teacher has an important role to change the behavior and thinking of learners in achieving educational goals. Competence is a set of knowledge, skill, and behavior that the teacher must possess, understand, and master in performing his profession. Teacher’s competence covers the level of knowledge, skill, and behavior of the teacher in educating, teaching, guiding, directing, training, and evaluating learners [6]. There are four competencies that must belong to the teacher, namely pedagogical, personality, social, and professional competence [5]. The teachers at MBI Amanatul Ummah have good competences, so that the learning process works well.

3.3. Practical work module
Learning module is a whole and complete unit, comprising a series of learning activity that have been empirically proven to give effective learning outcomes to meet defined and specific objectives. Learning module functions to facilitate learning activity in practical work with the easy steps practiced by the learners [7]. The learning module applied at the MBI Amanatul Ummah is good with the easy understanding language, pictures of instruction, and easy practicing.

3.4. Student’s motivation
Learning motivation is the whole force within student that leads to learning activity and provides learning direction so as to meet learning outcomes [8]. In general, students at MBI Amanatul Ummah who attend computer practical work have a good motivation, as they have enthusiasm in operating their computers, and all students can complete every exercise in the learning module.

3.5. Learning atmosphere
Learning atmosphere is a condition that students experience and capture during education process. The application of exciting and fun learning model is an alternative way to remove the student’s boredom during learning activity, and to increase the students’ enthusiasm and passion to pay attention to the learning material [9]. For most students, learning atmosphere in computer laboratory is comfortable, as they are enthusiastic in doing exercises. The teacher in the laboratory is a fun and smart person who always make funny stories, which make learning more interesting.

As a part of learning technology, the author sees that the practical work process for software application materials should follow the following conditions:

- **Stating the benefits for students.** Students’ enthusiasm in the learning process is supposed to be influenced by their understanding of the benefits of learning material. Motivation to get high score should be followed by the motivation to understand the learning material, through growing the awareness of the benefit of certain learning materials. In this regard, teachers should explain the benefits of learning material since the early time, so that students have learning motivation.

- **Easy using of technology device.** The application material should be adjusted to the students’ ability to understand learning material, and the application material is taught gradually from the easy topic to the hard one. Step-by-step way of education will improve students’ learning adaptation and maintain student learning motivation.

- **Access and availability of technology device.** Students generally require continuous training to be skillful in practical work material. Easy access and availability of technology devices, i.e.
computer and good access to the computer laboratory is an important part to improve students’ skills in running computer application.

- **Facilitating knowledge sharing among students.** Peer learning, with the same age and the same common language use will enable students to learn effectively. In consequence, a group discussion and tutorial among students is an activity that should be arranged in a technology-based learning process.

- **Using multimedia in learning process.** Multimedia in learning means a collection of materials in different media designed to be presented in using more than one media that is integrated for learning benefit. Multimedia covers writing, drawing, video, and/or audio, that show case study material, procedure, and self-study or simulation module [10]. To improve the effectiveness of learning process, it is suggested that learning technology uses multimedia based-learning materials. Many studies show that using multimedia will enhance students’ understanding in the learning process [11–16].

4. Conclusion
The effectiveness of learning technology is strongly supposed to be influenced by the adequate facilities, teacher competence, learning module, student motivation, and learning atmosphere. As a part of technology education, technology-based practical work will work effectively when it is intended to explain the benefits for students; easy using of technology devices; access and availability of technology tools, facilitating knowledge sharing among students, and using multimedia in the learning process.

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