

# Electronic Module Practices Development for Office Technology Course to Produce Advanced Administrative Teachers

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## ABSTRACT

Advances in information and communication technology have encouraged the renewal of technological utilization in the learning process with the shift from printed books to electronic books. Therefore, the purpose of this research is to develop an E-Module Practicum of Office Technology course with 3D Page Flip Professional application for students. This type of research is Research and Development in the Office Technology course in the Bachelor Degree in Office Administration Education. The data analysis techniques used are quantitative and qualitative data. The result of this research and development is a 3-dimensional E-Module which can be able to facilitate the students to perform the practice. The E-Module has been validated by material experts and media experts whose results are well worth to use and have been tested to students and the results are also very worthy to use. So that the conclusion E-Module Practicum for Technology Office course based on 3D Page Flip Professional can be used as a learning resource and meet the requirements of legal standardization.

*Keywords:* electronic module, office technology, teacher

## 1. INTRODUCTION

Advanced information technology encourages the renewal of technological utilization in the learning process (Ferdianto, Setiyani, & Nurulfatwa, 2019). The stage of technological adaptation has led to Pradigma doing new things in a new way, the emergence of change and paradigm shifts are learning to impact various aspects of learning, among them in instructional design and development of media that need to integrate with technological developments (Herawati, 2017). The development of digital technology also encourages educators to develop educational products such as conventional

teaching materials that are converted into electronic teaching materials in the form of e-books (Raihan, Haryono, & Ahmadi, 2018). The rapid development of technology makes changes in changing the traditional learning process in the classroom against the use of computers, tablets and the Internet (Huang, Liu, Chu, & Cheng, 2007). Technology has been applied regularly to teach and learn that makes high understanding by reading on the computer screen when compared with the printed/traditional materials (Blummer, 2006). Therefore, learning services for students must also be improved by providing electronic teaching materials under the concept of the process (Letchumanan & Tarmizi, 2010).

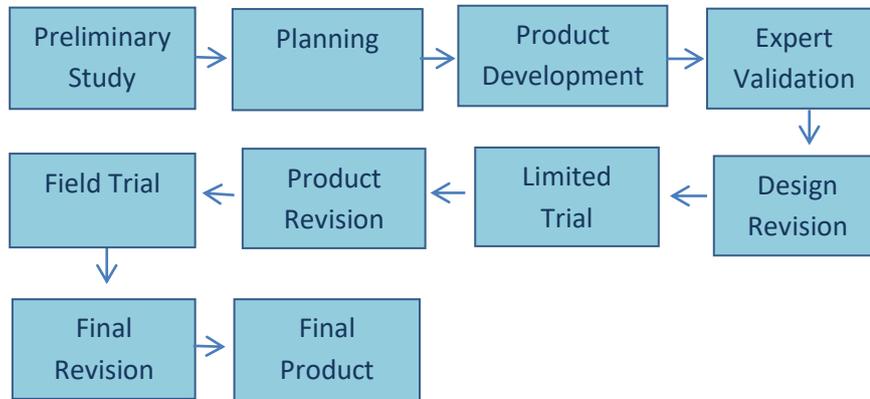
E-Module is an electronic book that has several components that are not by printed books (Elyazgi, 2018). Many of the benefits of using e-books include: Easy to access, inexpensive as a learning tool, and effective for attracting attention to learning (Evans, Nowak, Burek, & Willoughby, 2017), improving learners' literacy (Karemaker, Jolley, Clancy, & Sylva, 2017). A module's characteristics are independent (Hadar, 2017). The E-Module can be accessed anywhere and anytime (Chen et al., 2015). Most learners are more interested in using e-modules to help them perform their learning process as well as complete their duties (Letchumanan & Tarmizi, 2010). The digital technology used to make good e-books can promote learners' studies (Dalton, 2014).

Based on the interview with the lecturer of the Office Technology teachers is known that there are constraints during the learning process in the classroom, especially when students do practice activities that are the lack of office tools in the laboratory, with this lecturer should be able to provide innovative learning so that students can understand how to operate the Office tools even if there is no equipment supporting the practice. Based on interviews conducted with students who have taken Office Technology courses, it is known that the lack of complete teaching modules that can facilitate students in doing office practice due to Office Technology Courses requires students to do a lot of practice operating office machines so a module is needed that can be used as a guide by

students when practising so that students can practice independently. Complete and interesting modules that contain practicum learning of Office Technology course is required for students to measure the extent of understanding gained and to practice psychomotor skills students in receiving learning office technology, therefore researchers develop E-Module practical Office Technology based on 3D Page Flip Professional application for Students of Office Administration Education. 3D Page Flip Professional is a software that can be utilized to create a digital book-shaped teaching material with 3D effect. This software can transform PDF-shaped teaching materials into stunning 3D flash electronic books with formats such as EXE, ZIP, Html, 3DP and others. 3D Page Flip Professional-based electronic module can be used immediately without having to have the application (Sari, Jufrida -, & Pathoni, 2017). The use of interactive learning media for Office Technology courses is expected to help while lecturers can not attend to deliver material in the classroom as usual and also make students can understand with the operation of the Office tools without laboratory.

## 2. METHODS

Researchers conducted research and development E-module of Practicum on Office Technology using research and development model by Borg & Gall with modifications. The research phase is shown in Figure 1 below.



**Figure 1.** Modified Research Steps from Borg & Gall [15]

Figure 1 consists of 10 stages, namely: (1) Preliminary Study, which is to compile information relevant to the topic of research and development of e-Module Practicum, whether it is a literature study to learn the relevant theories and field studies to know the needs, (2) Planning, to create a design plan for the development E-Module (3) Product Development aims to produce a draft of E-Module of practicum from Lecturers, (4) Expert Validation the expert whether it is material experts or media experts to know the feasibility value of developed E-Module, (5) Design Revision is reviewing the criticism and suggestions provided by the validator to conduct the revision of E-module, (6) Limited Trials, namely for test of the effectiveness and feasibility of e-Module in teaching activities in small scope , (7) Product Revision, namely for correction to the E-Module if there is a lack or weakness in the test result, (8) Field Trials that aim to get responses from the subject field trials and know the level of feasibility of the E-Module before being used as teaching materials for lecture, (9) Final Revision of product based on the criticism and suggestion provided by the field test subject, (10) The Final Product is results e-Module Practicum of Office Technology course that has been through the trial

and revision level so it has reached the feasibility and can be used as a teaching material in the course.

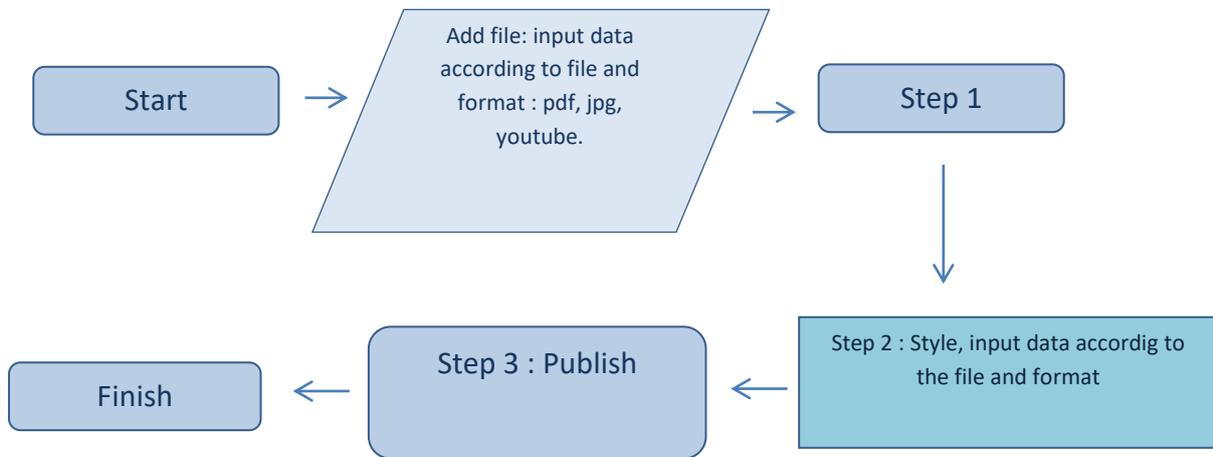
The design of the study use limited trials and field trials to assess the feasibility of e-Module. The result is seen from the test subjects poll. After receiving an evaluation from the material expert, media expert and conducted from limited trials and field trials to determine the e-Module Practicum of Office Technology course worthy to use as teaching materials for the lecture. As the subject of field trials, the students can perform one of the practicums based on the explanation in the e-Module, then students can assess the feasibility of the e-Module.

The population of the research is students from Office Administrative Education who takes Office Technology course on 3rd semester, 37 students from MM class and as a limited trial was taken 6 students with heterogeneous skills (low, medium and high) from NN class. Data collection instruments using a material expert validation questionnaire, media expert validation questionnaire, limited trial questionnaire and field trial questionnaire. Data obtained quantitative data of poll values and qualitative data of

suggestions and criticism. Data collection techniques are done by collecting through interviews and poll deployments. Data Analysis techniques use an average classified using a level of validity and to ensure that the e-Module Practicum is developed worthy to be used as teaching material at the time of the lecture.

### 3. RESULTS AND DISCUSSION

The process of creating an e-Module using the 3D Page Flip Professional application is presented in Figure 2 on the following next page.



**Figure 2.** Diagram of E-Module Development using the 3D Page Flip Professional application

In general, the structure of e-Module Practicum same as a regular printing module, Introduction section (cover, preface, table of contents, description of Office Technology course, description of the title, study instruction, learning objectives and Course Learning Outcome), theory learning activities, practical learning activities (learning topics, achievement indicators, learning objectives, materials, practical activities, practical instruction, assessment criteria, practicum video) and closing section (glossary, bibliography, author and mentor biography, back cover).

Part of the learning activities both theory and practicum where the contents have been adapted to the course learning outcomes used by lecture. The e-Module Practicum also comes with a

printed instruction manual consist of an explanation of how to use e-Module Practicum using the 3D Page Flip Professional application, it also included with the name of the button and also uses to guide the student to operate E-Module Practicum.

The validation from material and media experts results that e-Module Practicum for Office Technology course, based on 3D Page Flip Professional software is very worthy to be used as teaching material by students. The product was subsequently revised based on suggestions and critiques that have been obtained from material experts and media experts. The results of the expert validation of the following table 1.

**Table 1.** Quantitative Data Validated by Material Expert

No	Aspects	Score		Percentage (V-ah)
		Tse	Tsh	
1	Relevance	24	25	96%
2	Accuracy	9	10	90%
3	Completeness and Serving System	25	25	100%
4	Conformity with Learning Demands	10	10	100%
5	Serving Achievement	10	10	100%
6	Graphics	15	15	100%
<b>Total</b>		<b>93</b>	<b>95</b>	<b>97.89%</b>

While the data obtained from the score of the results of a poll by the media experts can be seen in Table 2 below.

**Table 2.** Quantitative Data validation by Media experts

No	Indicators	Score		Percentage% (V-Ah)
		Tse	Tsh	
1	Aspects of display eligibility	25	25	100%
2	Image aspect	25	25	100%
3	Audio aspects	9	10	90%
4	Video aspect	9	10	90%
5	Aspects of Media usage	45	45	100%
<b>Total</b>		<b>113</b>	<b>115</b>	<b>98.26%</b>

According to the table, it can be said that the e-Module Practicum for Office Technology course based on 3D Page Flip Professional software is worthy to be tested for students to know the response from students to know the feasibility result of a developed e-Module Practicum.

E-Module Practicum for Office Technology course based on 3D Page Flip Professional software successfully developed, this development is a practical method and innovative techniques to connect the understanding of

knowledge and technology that makes readers more active and independent in the learning environment (Mohan & Kesari, 2014), (Evans et al., 2017), (Suyoso & Nurohman, 2014), (Alqodiri & Grummy, 2013). The e-Module makes the reader easy to capture digital content, has an easier distribution, and can be read differently (Fojtik, 2015), (Jou, Tennyson, Wang, & Huang, 2016). The e-Module also has effective and relevant content (Muir & Hawes, 2013). Content is all kind of visual material both text, image, audio

as well as video and different combinations (Dore et al., 2018), (Gorghiu, Gorghiu, Bizo, & Suduc, 2011), (van Dam, 1992). The videos featured in this e-Module Practicum turn the abstract material into more real material (Puspasari, Astuti, & Suratman, 2018) so that the student can do a better office practice. Most of the current teaching materials present a dull look of text. In this practical e-Module made as interesting as possible with video on every practicum material. E-Module has 18 practicums, presents practical instruction so that students can do practical and

self-help (Suyoso & Nurohman, 2014). After students do the practicum, they can immediately know the number of values obtained by counting on the assessment criteria that have been provided in the E-Module Practicum.

Based on the results of the trials of both limited and field trials, e-Module Practicum for Office Technology course based on 3D Page Flip Professional software worthy to be used as teaching material. The results of the limited trial can be seen in table 3.

**Table 3.** Quantitative Data of Limited Trial Results

No	Statement	Score		Percentage (%)
		Score Earned	Maximum Score	
1.	Content Eligibility	30	30	100%
2.	Linguistic	86	90	95.56%
3.	Serving	145	150	96.67%
4.	Graphics	264	270	97.78%
Total		525	540	97.22%

The results of the Field Trials as in table 4 below.

**Table 4.** Quantitative Data of Field Trial Results

No	Statement	Score		Percentage (%)
		Score Earned	Maximum Score	
1	Content Eligibility	177	190	93.15%
2	Linguistic	519	555	93.51%
3	Serving	862	925	93.18%
4	Graphics	1585	1665	95.19%
Total		3141	3420	94.38%

From the results of the trial above e-Module Practicum has a high value and to be very decent if used as teaching material by lecturer especially for a practicum activity.

Through the use of this e-Module, students can experience many benefits of the e-Module. The use of e-book applications has been widely studied and used in various fields (Troseth & Strouse, 2017). The benefits of using e-Module are easy to use as learning tools (Perdana, Sarwanto, Sukarmin, & Sujadi, 2017), effective for use and the attention of learners to study (Raihan et al., 2018) can provide a variety of learning experiences when technology and teaching materials are designed following their respective principles (Mawarni & Muhtadi, 2017), based on research (Borchers, n.d.), (Schugar, Smith, & Schugar, 2013), (Roskos, Brueck, & Lenhart, 2017). E-Module can improve the user's learning outcomes. With this e-Module can increase students self-awareness and control their own reading experience. E-Module also makes the students more active and independent (Suyoso & Nurohman, 2014), (Alqodiri & Grummy, 2013), in addition to this e-Module Practicum motivates students to learn more and improve the learners critical thinking skills (Encheff, 2013), (Earle, 2002). E-Module can gain a better understanding of the concept of science and can operate the application of scientific technology (Encheff, 2013). E-book technology is more popular among young people (Doty, Popplewell, & Byers, 2001), E-book technology is also very popular with public and special academic libraries (Rahim & Bakar, 2014).

Material presented in this e-Module Practicum has very interesting with easy-to-understand language, the e-Module also comes with practical instructions that will assist in the implementation of practicum (Muslim, Syuhendri, & Saparini, 2017). Through practical activities, students had a variety of skills both by hand as well as practice skills (Muslim et al., 2017). In addition to the practical instructions e-Module also comes with a video that fits the practicum material, allows students to gain knowledge regarding the concept of material. This an impact on increasing student understanding of the materials learned (Doty et al., 2001). Another important thing is most of the students use the e-Module to search for material which has relevancies to the content (Mawarni & Muhtadi, 2017). To develop and operate e-Module, the lecturer must know IT (Information Technology).

Making the e-Module starts with opening the 3D Flip Page Professional software. The next step is to start entering the serial key in the software and selecting create new in the menu display in the software. The third step is to insert the module file that was created previously where the file is also has been changed in .pdf format. Find the file that has been created in the pdf file source menu. After selecting the file, choose import now menu to upload the module file into the software. The fourth step chooses a theme that will be used for the e-Module Practicum. On the top menu of the 3D Flip Professional application select the scene to select the theme used for the developed E-Module, as shown in Figure 3 below.



**Figure 3.** Display options of E-Module theme on 3D Page Flip Professional

Next step, when you want to add an image or video to the e-Module, select the menu edit pages, to add a sound click "Add Sound", to add a video click "Add Movie" and to add the image click "Add Image". The last stage is to publish, this stage publishes E-modules that have been created in the form of Flash/HTML5, ZIP, EXE, 3DP, to FTP Server, Screen Server and Email too. While researchers choose to publish in the EXE format because it can be opened even if the PC/laptop does not have 3D Page Flip Professional software.

**4. CONCLUSIONS**

This research resulted in an e-Module Practicum for Office Technology course, based on 3D Page Flip Professional Software for students of Office Administration Education, Faculty of Economics, Universitas Negeri Malang. The validation result of material, media experts, limited trials and field trials on the feasibility of e-Module Practicum is highly feasible. Indicates that the application of e-Module Practicum relevance in the 21st Century Learning era.

This similar research is important with a wider subject on other courses or a different “e-book” making software to support the learning activities in the 21st Century Learning era. As well, learning using an e-Module Practicum also needs to be measured with other variables.

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