

## **The Contribution of Interactive Teaching Material in Pandemic : Interactive Website and Automation**

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**ABSTRACT:** *Pandemic makes all the activity especially learning to be done at home. The study contains the development of learning media college students using Edmodo. it is intended to prepare students to face the new era that called industrial era 4.0. it require students to master several application and automation. therefore, the instructor should be able to employ and use the application to enlighten the job. Its becomes the basis of this research to gain information whether storing the material and attendance list using Edmodo is helpful. The theory of R n D or called research and development is used. Some of the processes are storing the material. This study shows that the content consequence is good and applicable. In addition, the reliability and practicality of the material in the Edmodo also show good results and acceptable.*

**Keywords :** *Pandemic, interactive, Edmodo, Teaching, automation*

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### **INTRODUCTION**

The trend of education has gradually changed by using and adapting technology. The abundant production of laptop, computer, tablet and the usages of fast and easy-accessed internet has made the students familiar and even cannot be apart with the use of tools mentioned.

The tools be developed in the form of friendly interface website that contain not only the compilation of items according to the *sylabus*, but also provide grammar, expression, functional text, reading text, exercise, story, video, story, students upload or download material, and give feedback. The content will be designed using *Edmodo*. It is kinds of application that the teacher can easily add or develop the content based on the students' need.

To strengthen this research, the researcher presents some related studies that have been generated. The first previous study was carried out by Dogoriti and Pange (2012). This study resulting general overview that the majority of the teacher in Greece uses ICT in their daily life but do not apply it in classroom practice. However, they have positive expectations of ICT use in foreign language learning. The second

previous study is by Khamid (2011). The concern is research and development (R & D) study to develop computer-based reading test for tenth grader of vocational high school using *Net Support version 10* in Jombang. This study is resulting interactive computer-based reading test for vocational high school. The last study is from Ganinda (2016) resulting the offline interactive software containing *UN* item banks for Senior High School. According to preliminary studies this project is aimed to develop printed material into online tools that accommodates the needs of students in learning English.. The content will be designed using *Edmodo*. Based on the brief explanation above, the reesearch formulation are: 1) How is edmodo help the instructor to teach during pandemic ?. 2) How is the practicality of the interactive website. the purpose of this study is to describe how edmodo help the instructor, and to show the practicality of this interactive website

## REVIEW OF RELATED LITERATURE

### 2.1 *Pandemic*

Kelly (2011) gives a brief definition that A pandemic is defined as “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people”. It is including nothing about the immunity of population, the virus infection and serenity. By this definition, pandemics can be said to occur annually in each of the temperate southern and northern hemispheres, given that seasonal epidemics cross international boundaries and affect a large number of people. However, seasonal epidemics are not considered pandemics. effect is often an increase in study time near the time of the test

#### 2.1.1 *Covid 19*

WHO (2020) claims that bnewly discovered coronavirus caused this frightening disease (COVID-19)

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face.

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow).

## 2.2 *Validity*

Test validity refers to the extent to which inferences made from assessment are appropriate, meaningful, and useful in terms of the purpose of the assessment. To establish a valid test, the following evidence suggested by Brown (2004, p. 22) must be considered. There are several forms of validity. The first is Content-related Validity it often referred as content validity. There are two steps to evaluating the content validity of a classroom test as suggested by Brown (2004, p.32). Firstly, classroom objectives can be identified and framed appropriately. A good classroom objective is made up of appropriate performance verbs and specific linguistic targets (Brown, 2004). By specifying acceptable and unacceptable levels of performance, the goal can be tested. Secondly, the lessons' objectives are represented in the form of test specifications. The test specification is the design or the structure of a test. A good test would have a structure that follows logically from the lesson or unit that is being tested. The next is criterion-related Validity This validity deals with the extent to which the 'criterion' of the test has actually been reached. In this kind of test, specified classroom objectives are measured and implied predetermined level of performance are expected to be reached. In the case of teacher-made classroom, criterion-related validity is best demonstrated through a comparison of result of an assessment with the results of some other measure of the same criterion (Brown, 2004). The other validity is Construct-related Validity. A construct is any theory, hypothesis, or model that attempts to explain observed phenomena in one's universe or perception (Brown, 2004). Construct may or may not be directly measured. the next is consequential validity. it encompasses all the consequences of a test, including such consideration as its accuracy in measuring intended criteria, its impact on the preparation of test-takers, its effect on the learners, and the social consequences of a test's interpretation and use. For instance, a high-stakes test consequential validity that has drawn special attention such as the effect of the test preparation and its manual during performance. McNamara in Brown (2004, p. 26) cautions against test result that may reflect socioeconomic condition such as opportunities for coaching that are differentially available to the students being assessed. For example because some families can afford coaching, or because some children more highly educated parents are helped by their parents. There is also Face Validity. It refers to the degree to which a test looks right and appears to measure the knowledge or abilities it claims to measure, based on the subjective judgment of the examinees who take it, the administrative personnel who decide on its use. (Mousavi,2002,p.244).

### 2.3 Teaching materials

Ministry of Education, Guyana (2016) states "Teaching materials" is a generic term used to describe the resources teachers use to deliver instruction. Teaching materials can support student learning and increase student success. Ideally, the teaching materials will be tailored to the content in which they're being used, to the students in whose class they are being used, and the teacher. Teaching materials come in many shapes and sizes, but they all have in common the ability to support student learning.

Teaching materials can refer to a number of teacher resources; however, the term usually refers to concrete examples, such as worksheets or manipulatives (learning tools or games that students can handle to help them gain and practice facility with new knowledge -- e.g. counting blocks). Teaching materials are different from teaching "resources," the latter including more theoretical and intangible elements, such as essays or support from other educators, or places to find teaching materials.

### 2.2 R and D (Research and Development)

R & D is used to develop a tool or product to maintenance the spirit of the learners or user. Borg and Gall (2003) define educational research and development as the process used to develop and validate educational products. Borg and Gall (2003) says that educational research and development (R & D) is a process used to develop and validate educational products. Learning materials is going to be the product of this educational research and development. There are some main steps in R & D cycle D (Borg, & Gall, 2003);

1. Research and information collecting.
2. Planning.
3. Developing preliminary form of product.
4. Preliminary field testing.
5. Main product revision.
6. Main field testing.
7. Operational product revision.
8. Operational field testing.
9. Final product revision.
10. Dissemination and implementation

Richey, Klein, & Nelson, (2004) further explain Typically Type 1 studies address not only product design and development, but evaluation as well. At times they may validate a particular design or development technique or tool. Type 2 studies, on the other hand, focus upon a given design, development, or evaluation model or

process. They may involve constructing and validating unique design models and processes, as well as identifying those conditions that facilitate their successful use.

#### 2.4 Interactive Website

An interactive site is basically a site providing the visitors to *interact* with the content in some way. It could like a blog that allows comments and includes a contact form. Interactive websites engage students by providing information and resources along with practice, simulations, and other learning activities.

#### 2.5 Edmodo

Edmodo is an educational website that takes the ideas of a social network and refines them and makes it appropriate for a classroom. Using Edmodo, students and teachers can reach out to one another and connect by sharing ideas, problems, and helpful tips.

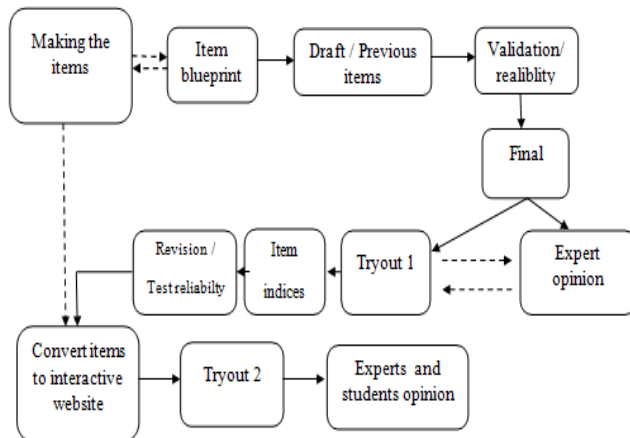
### METHODOLOGY

Educational Research and Development is used as the design in this study for this study is aimed to develop the interactive item banks and materials using interactive website for midwifery diploma III. As Borg and Gall (2003) said that educational research and development is a procedure in developing and validating a product to be a new product which then field tested, evaluated and revised. In this study, the main stages are collecting the information for answering the students' need, developing the material, and evaluating the result of the designed material. Similarly, Richey and James (2007:1) define R and D as a type of Research that offer a way to establish new procedure, techniques, or tools based upon the methodical analysis of specific cases.

The subject of this study is the material inside the Edmodo. The items will be conditioned in accord the syllabus trough validity, reliability and practicality. The participant will be taken from ninth Midwifery Diploma III Stikes Bina Sehat PPNI

Firstly, the researcher will use the *provided midwifery book to make the teaching materials*. After the items have done, the teaching learning will be conducted to check the validity, and practicality and also ask the opinion of the items expertise. The data will be taken with interview. If the items are considered as the valid items, the researcher will go to the next step. The next step the researcher will ask the student's opinion about the interface, configuration, accessibility and the web expertise opinion will be asked. The data will be taken with questionnaire and observation form .

R and D model steps scheme modified (Borg and Gall, 2003)



Two theories has been mentioned by (Cresswell, 2012a) that describes the way to collect the data . It means identifying and selecting individual for the need of study, obtaining their permission, and gathering information for them by asking question and observing their behavior. The purpose is to provide evidence to answer the research question, so the instrument and technique should be appropriate, and the data itself must be defined clearly. Additional explanation from (Richey & James, 2007, p.99) says that detailed data collection plans are intertwined with the issue of measurement, instrumentation and specific strategy or technique

## RESULT AND DISCUSSION

The findings are classified into 2 elements .the reliabilty of the interactive website and the practicality of interactive website.

In the research and information collection phase, the researcher takes the information about familiarity of gadgets amongd students. . In this year, almost one hundred percent students in Indonesia are aware of technology. Technology becomes part of everybody lives especially students. All of midwifery diploma III students are familiar with smartphone and the usage of it

Reflecting the step scheme from Borg and Gall (2003) the next is planning or item design. The process of designing and developing the test involved the process of selecting the sources by adapting and adding the necessary test item, simplifying and reordering the items. After the experts states that the items were valid, the third step in development process was the test development from the paper-based item bank into the interactive one. The researcher used *Edmodo*. The application allows your whole community to learn together from anywhere with all-in-one LMS, communication, collaboration, and Zoom video conferencing tools. The application adapted the Suvorov and Hegelheimer (2014 ) principles of interactive application by adding multimedia-enriched items like pictorial multiple choice with sound, instant scoring, and immediate feedback. Yet, the objects of the research are midwifery

diploma III college students and the priority of the website is practicality so the researcher did try the interactive web.

The responds from the expert is the web is ready to be delivered for teaching activity. This next phase of this step was aimed to gain students opinion dealing with this web .In the other hand, the product teaching was also conducted to ensure the quality of the product. In the first phase of the implementation, some of the has difficulty to the log in. With the help of the instruction, finally the students knew the way to use this web. The students said the web was so practical. Some of them asked their friend how certain button works. Most of the students said that the display was appropriate, the navigation was easy and the instruction was simple. In the other words, the web is user friendly.

A few problems were happened in this phase that was technical problem from the poor connection of internet. And not include the sound or listening section. so, the instrucot put he listening material from Randdals ESL lab. The students just click the url link to go to the listening content . After uploaded the items into interactive website, the researcher asked the expert to try and give opinion.

. The internet connection for the teacher's smartphone was also very weak. Yet, Edmodo can work well even with weak signal of internet.

The content validation according to (Brown, 2004, p. 33) said that Secondly, the lessons' objectives are represented in the form of test specifications. The test specification is the design or the structure of a test. A good test would have a structure that follows logically from the lesson or unit that is being tested. The items itself and the items inside the website passes the content validation because according to the expertise it is suitable with the syllabus and rps of the midwifery diploma III

#### 1) Expert view for the Test Items

To assess the test item, two validators for the materials were involved. Two of them are the English Lecturer of STIKES BINA SEHAT PPNI. The general content and the appropriateness of the lay-out design were also assessed.

It was stated during the validation process that the materials have syllabus and rps of midwifery diploma III. As it is students (H. D. Brown, 2004, p. 33) stated that an appropriate test would elicit an adequate number of samples of student performance, have a clearly framed test of standard for evaluating the performance, and provide some sort of feedback to the students.

There are only minor problem such as error typing, illustration,. The revisions were carried to excel the quality of the product. A good media should meet the set criteria. Therefore, two phases of test item and media validation were carried out. The product must achieve at least 75% of the set criteria to be considered as a good product. The variation level of difficulties shows that the test is valid (Brown, 2004) yet, there were several options and items that are needed to be exchanged



The next is practicality, According to Brown (2004, p.19) an effective test is practical. Practical test taps four particular criteria. First, practical test is not excessively expensive. Therefore, the ICT teacher and students' opinion and suggestion were used to check the practicality to get the best form of the product. Moreover the web is generated with very little money and almost free. According to the data taken from the first lecturer teacher, the researcher can describe the practicality of the website (*Edmodo*).

The result of practicality check showed that the media needed very little revision. Based on lecturer suggestions, a little revision were carried on. The log in process is considered little difficult for the students. So the lecturer suggested omitting the key pass at log in. In this case every student can access the items inside the web without waiting the password from administrators.

There was no problem from the media interface because it is already good and comfy the students to use it. (Luecht & Sireci, 2012, p. 11) said that media interface is any aspects of the software or test design that have some direct effect on examinees' performance and perceptions.. In accord to the media interface, specifically the font of the word was revised. The font might too small for the students who have the eyes problem because they need to focus on it for a long time.. The most important thing is almost all of the students (93%) said that the website is practical to be used in computer or smartphone. So this data meets the research goal that its has to be very useful, light and practical as interactive website.

## CONCLUSION AND SUGGESTION

### 5.1 Conclusion

In accord to the findings and the discussion, the contribution of interactive teaching material in pandemic : Interactive website and the formulated procedures orderly. Thus follow in producing the materials that meet the user's demand. Therefore it can be concluded that the research is successfully create a useful product though modified R and D cycle from Borg and Gall (1989).

In addition, the final product of this study is validated by the experts with satisfied feedback. Based on the expert's response, the product is applicable for teaching and students' self-improvement ahead of industrial 4.0 era. The application is user friendly, thus even a user with very low background with computer, will get familiar with it quickly. The test items or questions are printable. So if the users want to do it offline, they just need to print it.

However, there are weaknesses in this product. Since the media is in interactive mode and were only provided online, so the students need an internet connection to use it. The *QuizzEgg* is just fit for multiple choices with no listening section. Because



of its simplicity, the *QuizzEgg* does not provide the audio input for the questions setting.

## 5.2 Suggestion

Based on the result of finding and discussion, there are three suggestions for this study. Firstly, it is suggestion in the future research to improve the quality of the application adding audio format to provide the listening question. It means that the media can be used for Senior Based on the result of finding and discussion, there are three suggestions for this study. Firstly, it is suggestion in the future research to improve the quality of the application adding auto respond or bot chat. It means that the application can respond the students comment aor answer bu auto intellegence before the techer reviewe it.. .The next is the exploration of the other test maker or interactive website like Google drive form, *QuizStar*, *Quiblo*, *google form*, *quizzeg*

The last, due to the trend in the technology and education are always upgraded, it is expected in the future research that this research can inspire the next researchers to excel the product to assist teaching-learning process that fit the students and the teacher necessity.

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