

# Development of Online Project Based Learning Models in Graphic Media Development Courses

Utari Dewi<sup>1</sup>

<sup>1</sup>Universitas Negeri Surabaya

**Abstract.** Current learning patterns require synergy with technology. In the era of disruption of online-based learning answers the challenges of the time, learning without being bound by space, distance and time that requires the active role of students in the learning process itself. Integrating project-based learning models and online learning methods, the purpose of this research is to produce a Online Project Based Learning model in the subject of Graphic Media Development that has feasibility aspects for students of Educational Technology. This research is a development research using the development model of Borg and Gall which has ten steps. The results of this study indicate that the Online Project Based Learning model has been validated by learning design experts and material experts. Learning design experts and material experts have assessed and stated that this model is feasible. Thus, it can be concluded that the Online Project Based Learning model is declared suitable for use in learning subjects in Graphic Media Development.

## 1. Introduction

The era of industrial revolution 4.0 is currently facing us, all joints of life are connected to the presence of the internet, all information can be obtained quickly without being bound by space, distance and time. The world seems to be in your hands. That change also has an impact on the world of education. Formerly education was a broadcasting or broadcasting activity where the teacher as a source of information and students were receivers, so in the era of industrial revolution 4.0 the learning process was more interactive. Teachers are not the only source of information, online learning resources greatly facilitate students now and can be accessed quickly. The forms vary from text-based ones that are packaged in the form of e-journals, e-books or audio-visual-based ones, this is the challenge of 21st century education which is a field of cultivating Educational Technology, this is in accordance with the definition of Educational Technology, namely study and practice ethics to facilitate learning and improving performance through the creation, utilization and management of appropriate technology and resources.

The Education Technology Study Program at State University of Surabaya is a study program that will produce graduates with competencies as developers of learning media. Learning in the 21st century is currently a requirement for digitalization and is predominantly visual. In order to develop learning media which are the requirements for digitalization and visualization in the 21st century, students of Education Technology must certainly have adequate visual literacy skills. Referring to the opinion of Smalldino (2011) that visual literacy skill is the ability to interpret visual messages in curate and the ability to create visual messages as appropriate. In addition, according to Brill, Kim and Branch (2007)

visual literacy skill is the ability to interpret and produce or choose images to communicate ideas and concepts. Visual literacy skill is defined as a series of competencies obtained to produce, design, and interpret visual images and messages, which shows that visual literacy is a continuous activity that treats visual material and its proper use for intelligent consideration (Avgerinou, 2009).

Based on the results of the preliminary study through observation and interviews with the lecturers of this course it was found that visual literacy skills of Unesa's students were still uneven, empirical data in the field showed that 65% of 90 TP S1 students did not have adequate visual literacy skills, this can be proven from the tasks in the form of graphic media products that they produce. One of the factors that causes this to happen is the strategy for delivering learning that has not been maximized to achieve learning outcomes in the course description, so that a relevant learning model is needed.

Based on these problems and based on the suitability of the characteristics of the graphic media development subject described earlier, it is necessary to develop an appropriate learning model, namely a project-based learning model, this refers to an expert statement about the importance of developing learning models, (Mustaji, 2017) states that " learning models cannot be used in all situations, providing learning models based on assumptions and conditions related to the results to be achieved.

The project-based learning model is an innovative learning model, which emphasizes contextual learning through complex activities. The focus of learning lies in the concepts and core principles of a study discipline that involve students in investigating problem solving and other meaningful task activities, thus giving students the opportunity to work and construct their own knowledge, and reach the peak of producing tangible products. Thomas (2000) suggests that project-based learning has criteria: "centrality, driving question, constructive investigation, autonomy, and realism". In the Online Project Based Learning model students will have different learning experiences than traditional classes. Encounter Theory by Rod Sims and John Hedberg states that learning conducted in an online environment must be able to accommodate like classical meetings, therefore a teacher must be able to provide an online learning environment that can improve communication, interaction and involvement online. Rod Sims and Jhon Hedberg have presented these ideas because they have helped provide a series of learning outcomes that are appropriate to the context of online learning and that will help new online facilitators to focus experiences so students are supported through their learning process

Students and teachers can interact without limited space and time like presentations in traditional classes. Implementing the syntax of online project-based learning from project planning to publication of study works is expected to accommodate space and time limitations, this is in line with the function of digital technology to support learning and pedagogy. So that project-based learning in a virtual environment can encourage more meaningful learning. In addition, it will be easier for teachers to record all student activities in the online environment provided.

## **2. Research Methods**

To develop the learning model in this study using the development model of Research and Development, Borg and Gall (2003). According to Borg and Gall, product development is not only in the form of textbooks or learning media, but also can be in the form of procedures and learning processes. The reason for choosing the model is that this model is relevant for developing the design of the learning model, the procedure is quite systematic, and each stage has an evaluation. The Borg and Gall model steps have ten steps that must be followed when developing models, starting from 1. Research and information collecting; 2. Planning, 3. Develop preliminary form of product, 4. Preliminary field testing, 5. Main product revision, 6. Main field testing, main trial involving all students, 7. Operational product revision, 8. Operational field testing, 9. Final product revision, namely 10. Dissemination and implementation.

### 2.1. Research Subject

The subject of this research is Education Technology Study Program students who took the Graphic Media Development course with a total of about 90 students divided into two parallel classes, namely class A and class B with an adequate and heterogeneous number so that it is in accordance with the implementation of the learning model to be developed .

### 2.2. Time and Place of Research

This research was conducted at 2018 in the Curriculum and Educational Technology Department, Faculty of Education, Surabaya State University, the meeting was at the O4 Building, 2nd floor of the 2017 A classroom and the 2017 B classroom, Unesa Lidah Wetan Campus - Surabaya.

### 2.3. Data Analysis and Collection Techniques

#### 2.3.1. Interview

Interview is a dialogue carried out by the interviewer (interviewer) to obtain information from the interviewee (interviewee) (Arikunto, 2013: 198). Interviews were carried out on learning design experts, to obtain data in the form of suggestions or inputs that will be used as a basis for improvement of product development in the form of Learning Models and ultimately as a reference to test the feasibility of product development. Interview with learning design experts, in this case Prof. Dr. Mustaji, M.Pd, Dr. Bachtiar, M.Pd and material expert Dr. Andi Mariono, M.Pd, where each expert has fulfilled academic qualifications and competencies to test the feasibility of product development.

#### 2.3.2. Questionnaires

Questionnaires are given by students to get input regarding the products developed and conformity with the material. This development research uses a closed questionnaire, namely questions and alternative answers are available, so that respondents only have to choose alternative answers only. Furthermore, the results of the questionnaire will be calculated using the linkert scale. The linkert scale is a measurement scale that has answers ranging from 1-4. Distribution of questionnaires to Educational Technology students who are taking the Graphic Media Development course in odd semester 2018/2019 to get data about student responses related to the positive response and novelty of the learning model.

The data obtained from filling out the interview instruments as a result of product testing originating from, learning design experts to test the feasibility of the product were assessed using a linkert scale, with a range of scores 1-4, described by percentage techniques. If the calculation shows the percentage value of each aspect: 81% - 100% or 61% - 80%, then this aspect is stated to be very good or good and does not need to be revised. However, if the percentage value shows that every aspect is in the area of 41% - 60%, 21% - 40% or 0% - 20% then this aspect is declared to be lacking and not good so it must be revised.

## 3. Result and Discussion

The results of this study are a Project Based Learning Online model that has feasibility aspects to be used in learning subjects in Graphic Media Development. As in general, the learning model does not only describe the syntax or steps of learning, this model will use the theoretical basis of Joyce and Weil (2009) about the components of a learning model. The Project Based Online Learning model has five main components, namely 1. Syntax, 2. Social System, 3 Reaction Principles, 4 Support Systems, 5 Impacts of Instructors and Impact of Accompaniment. The following will be described about each component of the Online Project Based Learning model

### 3.1.1. Online Project Based Learning Syntax Model

**Table 3.** Online Project Based Learning Syntax Model

Syntax	Lecturer Activity	Student Activities
<b>Plan</b> Day 1	The lecturer opens a classic discussion forum discussing lecture contracts <ul style="list-style-type: none"> <li>• Providing Fundamental Questions about the importance of developing Graphic Media to be produced</li> <li>• Determination of Media Themes to be produced</li> <li>• Determination of the type of graphic media to be produced</li> </ul> Agree on schedules and deadlines while working on the project	Students listen, respond actively in discussion forums and ask questions if they feel unclear about project planning
<b>Design and Development</b> Day 2 - 3	The lecturer facilitates students to design and design developing poster media	Students carry out design and development until finishing products in accordance with the rules of media and graphic design independently
<b>Monitoring</b> Day 3	The lecturer monitors the upload process student work as part of visual literacy skill and attitude of responsibility	Students upload their respective works according to agreed deadlines
<b>Peer Review</b> Day 3-4	Dosen mengobservasi proses <i>peer review</i> , keaktifan siswa sebagai bagian dari <i>visual literacy skill</i> dan sikap tanggung jawab	Peer Review, between students giving suggestions and evaluating works as part of the learning process, especially related to visual literacy skills and forms of responsibility play an active role in learning
<b>Revised</b> Day 4-5	Lecturers facilitate students to work revision according to input and advice when peer review	Students make revisions to work / products based on suggestions when peer review
<b>Publication</b> Day 5	The lecturer monitors students in publishing works and give a value along with it evaluation of student work	Students publish the revised work in accordance with the results of the perr review

### 3.1.2. Social System

The social system describes the role of lecturers and students, communication or relations between lecturers and students and the rules agreed upon during the implementation of the Project Based Online Learning model. Students are conditioned as individuals in a project but later when peer review will occur a balanced interaction between students in providing input, suggestions and criticism related to the work produced by each student individual. The role of the lecturer as a facilitator, mentor, activity motivation is centered on learners. Give input suggestions, and discussions in discussion forums. Based on the description above the interaction between lecturers and students in each stage is different. In stage 1 the role of the lecturer as a motivator is very dominant and is related to the lecture contract or project planning. While in stages 2 and 3 students are more dominant because there is a

production process carried out by students. While stages 4 and 5 students are also dominant because the peer review stage is that all students have an obligation to provide input and suggestions related to the uploaded student work. While the 6 phase of the lecturer is dominant because there is an element of assessment / feedback from the lecturer.

### *3.1.3. Principle of Reaction*

According to Joyce, Weil & Shower (2009) the principle of reaction is a pattern of activities that describes how the lecturer should see and treat students, including how a teacher responds to students. In learning for example, later the lecturer gives a reasonable response to students. The principle of reaction is also related to the techniques used by the lecturer in reacting to the treatment of students in learning activities such as conveying learning objectives, giving ideas or solving problems when students ask about projects. According to Joyce, Weil & Shower (2009) that the principle of reaction is the guideline of lecturers in respecting and responding to stimulus in the form of attitudes or behavior of students when learning takes place. The response here is expected to be a response that can have a positive impact on the achievement of learning objectives

### *3.1.4. Supporting System*

According to Joyce, Weil & Shower (2009) that what is meant by a support system is all the means, materials and tools needed to implement the model. The support system referred to in this model is a learning device developed. In developing the Project Based Online Learning model this time includes RPS, Teaching Materials which will later be uploaded in the learning management system, which is a means of online learning environment in implementing this model.

### *3.1.5. Instructional Impacts and Companion Impacts*

Joyce, Weil & Shower (2009) asserted that the application of a learning model was directed to support the achievement of the optimal learning goals or objectives that had been set. Even in principle the use of the model must attempt to synergize all components of the model in order to achieve the learning objectives. The instructional impact of the application of this model is an increase in students' visual literacy skills as a basis for being able to develop graphic media and other visual-based media in the field of education and contained in learning outcomes stating that students have responsibility and work together through the development of graphic media to optimize and facilitate learn according to the scientific development of Educational Technology as a developer of Educational Technology and Education / Training Analyst. While the accompanying impact of the application of this model is the impact that is not directly obtained in the specified time eg honesty, self regulated, timely talking, creativity, and innovation. All of these are the accompanying effects that are expected to emerge or become the accompanying impact of the implementation of the Online Project Based Learning model.

The results of this development are in the form of products from the Online Project Based Learning model, then the next step is to test the feasibility of developing products. The feasibility test is carried out to learning design experts and material experts by obtaining 90% and 95% results, if converted to feasibility tables it can be described that the Online Project Based Learning model is declared suitable for use in learning Graphic Media development courses for Education Technology students. The results of the questionnaire responses from educational technology students as research subjects showed a value of 92%, this indicates that this model is suitable for use in the learning process.

## **4. Conclusion**

From the exposure of the results and discussion, it can be concluded that the Project Based Learning Online model is declared suitable for use in learning subjects in Graphic Media development for Education Technology students.

## **5. References**

- Arikunto Suharsimi 2013 *Prosedur Penelitian: Suatu Pendekatan Praktik* Edisi Revisi 2010 (Jakarta: PT Rineka Cipta)
- Avgerinou, M. D. (2009). Re-viewing visual literacy in the “bain d’image” era. *TechTrends*. 53(2), 28–34
- Brill JM Kim D & Branch R M 2007 *Visual literacy defined-The results of a Delphi study: Can IVLA (operationally) define visual literacy?* *Journal of Visual Literacy* 27(1) p 47 – 60.
- Joyce Bruce & Marsha Weil 2009 *Educational research: an instruction* (New York: Longman)
- Rod Sims and John Hedberg 2006 *Interactions in Online Education: Implications for theory and practice* (New York: Routledge)
- Mustaji 2017 *Model dan Desain Pembelajaran: Teori dan Implementasi Problem Based Learning dan Collaborative Learning* (Surabaya: Unesa University Press)
- Smalldino E 2008 *Instructional Technology & Media For Learning* Nineth edition. (US: Pearson Prentice Hall)
- Thomas J W 2000 *A review of research on project-based learning* (San Rafael CA: Autodesk Foundation)
- Walter R Borg and M D Gall 2003 *Educational Research: An Introduction* 7th Edition (University of Oregon : Pearson)