



DIGITAL MODULE DESIGN FOR ANIMATION-BASED MICRO MEDIA TRAINING AT SEAMEO SEAMOLEC USING THE LEE & OWENS MODEL

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Abstract

This research aims to produce a Course Design Specification (CDS) which functions as a reference in the process of developing digital modules for Animation-Based Micro Media training. This research was conducted at SEAMEO SEAMOLEC, South Tangerang under the auspices of the Training division. The research method used is Research & Development (R&D). The development model used in this research is the Lee and Owens model or by another name Multimedia-based Instructional Design which consists of five stages (Assessment/Analysis, Design, Development, Implementation, and Evaluation). This research focuses on the second stage, namely the Design stage. This stage refers to the results of the analysis that has previously been carried out and concluded. The results of this research consist of five CDS components and their details, namely: (a) Schedule (research schedule); (b) Project team (project team); (c) Media specifications (media specifications); (d) Lesson structure (learning structure); (e) Configuration control and review cycles.

Keywords: training, module, design.

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I. Introduction

Indonesia is a developing country that must enhance all systems, especially education. Not only the challenges of the present era, Indonesia must continue to improve the teaching and learning process due to differences in geographical areas and environments. In addition, the competence of teaching staff is also an important factor in the teaching and learning process. Another challenge faced by Indonesia is the lack of accessibility of quality teaching materials which cannot be distributed to all branches of education in Indonesia. The main solution to overcome these accessibility difficulties is to carry out *Proses Pembelajaran Jarak Jauh* (PJJ). With the presence of the internet, PJJ became more popular and developed continuously until the term "e-learning" appeared in 1999. However, the term "e-learning" or PJJ was recently used by the Indonesian people during the COVID-19 pandemic in 2020. Since then, PJJ has been a common thing for Indonesians and has helped a lot with accessibility and cost difficulties in various regions.

Not a few educational institutions in Indonesia have decided to use PJJ as a replacement for face-to-face meetings because it is considered more efficient and saves time spent. But in its implementation, PJJ is not far from the obstacles that must be faced. One of them, according to the Ministry of Education and Culture, 48.45% of educators have difficulty using technology during PJJ (Kemendikbud, 2022). For this reason, many organizations offer training to develop the competence of educators. One of them is SEAMOLEC (SEAMEO Regional Open Learning Center). SEAMOLEC training is divided into two types, namely Online Training (TO) and *Tatap Muka SEAMOLEC* (TMS). One of them is Animation-Based Micro Media.

This training focuses on developing creative and innovative learning media by inserting material into an animated video format that makes it more interesting to learn. However, in its delivery, the training instructor only uses presentation media as a learning resource for trainees. On the other hand, the instructor will guide you directly. Because the training consists of offline and online and is open for general participants in Southeast Asia, it will be less efficient if the media developed is in the form of printed books. Therefore, a digital module for Animation-Based micro media training will be developed. To develop the media, it will first analyze and create a media design. This article will elaborate on the specifications of the media design according to the stages in the Lee & Owens model.

II. Research Methods

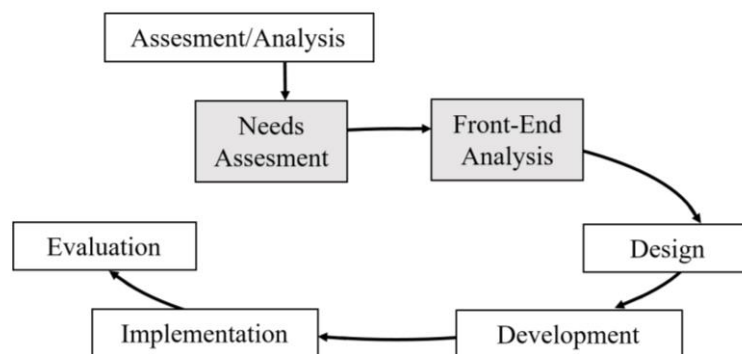
The research method to be used in this research is a Mixed Method, the step in this method by combining two forms of approaches in research, namely qualitative and quantitative (Sugiyono 2011: 18). The type of research conducted is Research & Development (R&D) using the model proposed by Lee & Owens or known as Multimedia-based Instructional Design. The selection of this model was influenced by its relevance and aligned with the development of digital modules (Hakim et al., 2020). The research was conducted at SEAMEO SEAMOLEC under the auspices of the

Training division. Data were collected using interview techniques with the training instructors regarding training needs and direct observation techniques in the SEAMOLEC environment. The final data became the main source for the design of the digital training module to be developed.

III. Findings and Discussion

A. Lee & Owens Model

The Lee & Owens instructional model known as Multimedia-Based Instructional Design is a model specifically for developing a multimedia-based product. This model has 5 main stages, namely 1) multimedia needs assessment and front-end analysis, 2) multimedia design, 3) multimedia development, 4) multimedia implementation, and 5) multimedia evaluation. The design of this model is based on the characteristics of the model, this model is devoted to developing interactive multimedia based on a training or development organization (Lee and Owens, 2004).



Source: *Multimedia-Based Micro Media*, 2004

Figure 1. Stages of the lee & owens model

Before starting the design, researchers first conducted an Assessment / Analysis stage consisting of Needs Assessment and Front-End Analysis. In the Needs Assessment, an interview was conducted with the Animation-based micro media training instructor, Mrs. Daniah Adjani Putri, S.Ds. The results showed that Animation-Based Micro Media training only has PowerPoint as the main teaching material for both training instructors and training participants. The media that is appropriate to help this training process is digital media because digital media helps the online participants to access it easily. This media also needs to have video tutorials for each stage in the training process to help trainees remember the process.

In addition, the result component of the Front-End Analysis becomes a reference in developing a more specific module design. After the Assessment/Analysis results are concluded, the next stage is Design. The Design stage is the planning stage for the multimedia project to be developed. The final result of this stage is the Course Design Specification (CDS). CDS is a document that describes the details of the final product to be made (Lee & Owens 2004). The parts of the CDS include (a)Schedule;

(b)Project team; (c)Media specifications; (d)Lesson structure; and (e)Configuration control and review cycles.

The details in each CDS component depend on the type of multimedia to be developed. In this research, a digital module will be developed that contains videos inside so it requires detailed specifications such as scripts, song types, set designs, file types, material sequences, review sequences, and others. In addition, it is also suggested to consider SCORM (Shareable Content Object Reference Model) and LMS (Learning Management System) that will be used. This CDS has a function so that media development in the next stage can run smoothly and minimize too many revisions.

B. Design stage Results

1. Schedule

Describe the development deadline schedule. Creating a project schedule will make it easier to explain how the design affects the objectives, tasks in the project, roles involved in the project, etc. Three steps can be taken in creating a project schedule: Three steps that can be taken in creating a project schedule are: 1) Create general information; 2) Create a list of achievements; 3) Create a schedule of activities.

Tabel 1. Project Schedule

Description	Month					
	Nov	Des	Jan	Feb	Mar	Apr
Analysis	■					
CDS Development		■				
Storyboard			■			
Product Development				■		
Configuration Control Circle					■	
Product Revision						■

2. Project Team

Define the roles and structure of personnel involved in the development. Make a list of the roles and responsibilities required and define each role.

Tabel 2. Project Design Team


Role	Name	Description
<i>Author</i>	- Daniah Adjani Putri, S.Ds.	- Training Instructor
	- Deviana Maulidia Gusnadi	- Researcher
<i>Editor</i>	- Daniah Adjani Putri, S.Ds.	Training Instructor
<i>Graphic Designer, Interactive Designer, Instructional Designer, Video Editor and Producer</i>	Deviana Maulidia Gusnadi	Researcher

<i>Implementation Representative</i>	A small proportion of module trainees	Training Participants
<i>Performance Analyst, Quality Reviewer</i>	Validator - Media Expert : Ibu Yeni Raini, M.Pd. - Material Expert : Ibu Daniah Adjani Putri, S.Ds. - Linguist : Bapak Alan	- UIKA Lecturer - MP Staff - UIKA Lecturer

3. Media Specification

Create product specifications involving information presentation style, text, graphics, themes, symbols, and many others.

Tabel 3. Media Specifications

Specifications	Description						
Media Type	An interactive digital module entitled "Animation-Based Micro Media Training Module"						
Application	Editing : Canva.com Module view : Hyzine.com						
Interface	<ul style="list-style-type: none"> - Digital modules are displayed as if the user is using the original printed module - There is a video tutorial at every stage of the unit - There are mini games that can increase user knowledge - Videos can be played directly in the module, by pressing the play button, and/or clicking on the links provided - Users can scan barcodes to open videos on other websites - There are document links that users can freely access, copy, and modify - Users will be asked to fill out a quiz to measure their understanding of the theory - There is a final training assignment submission link can be accessed by users 						
Text Design	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Title</u></td> <td style="text-align: center;"><u>Module Content</u></td> </tr> <tr> <td>- Font : Staatliches, Zing Rust Base</td> <td>- Font : Open sauce</td> </tr> <tr> <td>- Sizes : 30, 60, and 70</td> <td>- Sizes : 13, 16, and 20</td> </tr> </table> <p>The color, position and resolution of the text adjust.</p>	<u>Title</u>	<u>Module Content</u>	- Font : Staatliches, Zing Rust Base	- Font : Open sauce	- Sizes : 30, 60, and 70	- Sizes : 13, 16, and 20
<u>Title</u>	<u>Module Content</u>						
- Font : Staatliches, Zing Rust Base	- Font : Open sauce						
- Sizes : 30, 60, and 70	- Sizes : 13, 16, and 20						
Graphic Design	<ul style="list-style-type: none"> - File type : JPG, PNG, GIF - File name : "Image_(Number in order).jpg" Example : "Image_1.jpg" - Color Palette : 						

Video	<ul style="list-style-type: none"> - File type : mp4 / m4v - File name : "(Material unit number)_(Video title).mp4" Example : "04_Creating an Account.mp4" - Video duration no longer than 1-5 minutes/video - Types of videos are screen recordings - There is an opening and closing video
Video audio	<ul style="list-style-type: none"> - File type : mp3 - File name : "(Material unit number)_(Video title).mp3" Example : "04_Creating an Account.mp3" - Audio script to match the screen recording video - Video backsound : <i>non lyrics / instrumental</i>
Video Animation	<ul style="list-style-type: none"> - The bumper animation is the same for both opening and closing - Transitions are consistent (no more than 2 types of transitions)

4. Lesson Structure

Describes how content is structured, organized, connected, or operated by users. This relates to the methodology of message conveyance. Three steps that can be taken in creating a media specification are: 1) Dividing the content into units: Researchers divided five units and one final project. The flow of material in the module can be seen in the figure below; 2) Creating an information map (such as making a syllabus/lesson plan); 3) Determining the type of LMS: The LMS used in this research is Massive Open Online Course (MOOC) which has been provided by SEAMOLEC.

Source: Author

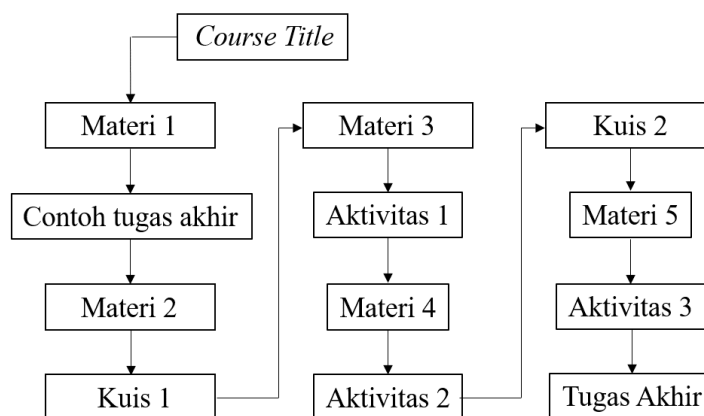


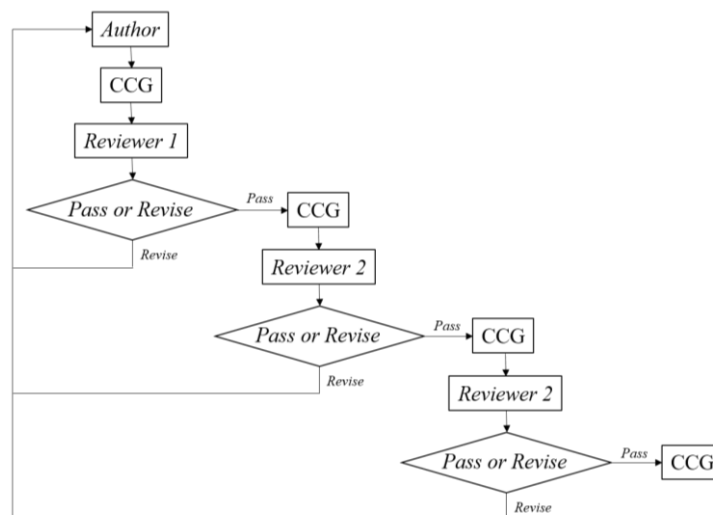
Figure 2. Module Material *Folwchart*

Material 1 (Definition of animation), Material 2 (Types of animation), Material 3 (Topic & Storyline), Material 4 (Media development), Material 5 (Downloading final project). The first and second quizzes use Google Form links for comprehension assessment. In Activities 1, 2, and 3, trainees will be asked to do hands-on practice according to the material that has been described. The final assignment is useful for assessing participants' skills.

5. Configuration Control

Define a program control setting. Create a CC process governing versions of materials currently being designed, developed, or reviewed. Each original version of the material should be archived in case of file destruction.

In this study, the researcher became the Configuration Control Gatekeeper (CCG) responsible for CC rotation. The CC stages that have been created are as follows: 1) Author's role: sending materials to CCG for review; 2) CCG's role: duplicate the materials, save the original files as "Master Version 1" and "Copy Version 1", and give the duplicate documents to the reviewers; 3) Task of reviewers: check the completeness and correctness of the material, if there are any errors reviewers can return the material to the Author for revision. If there are no errors, they can proceed to the second reviewer. The last reviewer returns the material to the CCG; 4) Change the name of the final file to "Final Version".



Source: Adapted from the book Multimedia-Based Instructional Design

Figure 3. CCG Flowchart

After the CDS is complete, then the CDS can be combined into one document allowing easier product-making in the next stage, namely the Development stage. The media will be developed based on the results of the CDS that have been compiled. At the next stage, storyboards will be created, videos will be recorded and edited, audio will be recorded, graphics will be created, and web page templates will be developed and tested.

IV. Conclusion

Based on the description above, the design of this training module development uses the Lee & Owens model as the main reference. The final result of the Design stage in this model is a Course Design Specification (CDS) which has five components, including (a) Schedule, media development will be carried out for six months (November 2023 to April 2024); (b) Project team, there are ten roles in media

development; (c)Media specifications, the media is edited using canva and capcut and then displayed using Hyzine; (d)Lesson structure, the training material follows the training syllabus which is divided into six units; (e)Configuration control and review cycles, the researcher becomes the CCG who is responsible for managing the flow of review cycles. The final results of the CDS will be combined into one document and become a reference in the module development process at a subsequent stage.

V. References

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