

EMPOWERING THE DEVELOPMENT OF DIGITAL-BASED FLIPBOOKS USING LEE & OWENS MODEL FOR ELEMENTARY TEACHERS

¹Dedi Kuswandi, ²Zahid Zufar At Thaariq, ³Citra Kurniawan, ⁴Lu'luil
Maknuunah, ⁶Muhammad Zidni Ilman Nafi'a, ⁷Muhamad Fahmi Hariadi
^{1,2,3,4,5,6}Educational Technology, Universitas Negeri Malang

Email: dedi.kuswandi.fip@um.ac.id

Abstract : One of the current instructional media trends tend to lead to the development of digital-based flipbooks. Flipbook is one of the instructional media development products that is favored by many people. This is due to its relevance to the dynamic development of ICT. Therefore, the service provider carries out the empowerment of elementary teachers regarding the development of digital-based flipbooks. Elementary school teachers were chosen because of the need for a curriculum regarding learning modules for elementary schools. This activity refers to the Lee & Owens model which boils down to references to pre-implementation, implementation and post-implementation activities. The result of this service activity is a learning module in the form of a digital-based flipbook produced by elementary teachers. It is hoped that the development of modules in the form of digital-based flipbooks can be an alternative reference for the development of other flipbooks.

Keywords: Flipbook, Lee & Owens Model, Elementary Teachers

INTRODUCTION

The widespread development of digitalization has led to many instructional paradigm transitions. Teachers at this time need to revolutionize their instructional towards the direction of student-centered learning or learner-centered learning. This thinking encourages to try better to assess and build existing paradigms and mental models of students, taking what they already know and inductively moving them to build new concepts and ideas (Smart, Witt, & Scott, 2012). The inductive approach begins with observations and experiential data, from which students analyze and generalize then find ways to apply conclusions in solving real-world problems (Prince & Felder, 2006).

Learning outcomes are the first component in the course design of a student-centered approach. It must be complemented by constructive alignment (Biggs & Tang, 2011; Koohang, Riley, Smith, & Schreurs, 2009). Constructive alignment means that the learner constructs his own learning process through

relevant instructional activities. The teacher's responsibility is to create a learning environment that supports appropriate learning activities to achieve the desired learning outcomes (Tadjibaeva, 2022). Learning outcomes are one of the most important parts of the course and the outline of the program – the core of the course and a student-centered approach. By reading the registered learning outcomes, the employer or professional in the field should be able to identify what knowledge, skills and attitudes can be offered by the student after taking the course (Tadjibaeva, 2022).

Discussions about whether teachers and schools are taking advantage of digital technology opportunities in the classroom often culminate in discussions about technical facilities and the availability of digital technology in schools (Sailer, Murböck, & Fischer, 2021). In anticipation of the successful implementation of digital learning in schools, governments around the world have arranged considerable investments in digital technology in schools (Kearney, Schuck, Aubusson, & Burke, 2018). Given the hope that investment in digital technology may result in improved learning achievement, findings from the 2012 Program for International Student Assessment (PISA) study, which showed mixed results regarding the relationship between computer use in the classroom and student performance, may be considered devastating. On the one hand, students who use computers moderately in school tend to have better learning outcomes than students who rarely use computers. On the other hand, students who use computers very often in school perform much worse in most of the included learning outcome measures (OECD, 2015). In addition, PISA 2015 showed that the use of technologies that are very often negatively related to an important outcome relevant for learning in the 21st century, namely collaborative problem solving. A possible explanation is that the way students interact with computers can replace learning content and other types of interaction (OECD, 2017).

Integrating digital technologies in schools and enabling digital instruction must occur within and through teacher practice in specific educational contexts (Blundell, Lee, & Nykvist, 2016). The reasons for the integration of digital technologies have to do with increasing standards; increase vocational relevance; contribute to a knowledge-based economy; enriching the learning experience; transforming pedagogy to be more student-centered, constructivist in nature, and with a focus on higher-level learning; and facilitate personalized learning (Fullan, 2013; Hammond, 2014; Somekh, 2007).

Therefore, the author is interested in exploring how to describe the use of learning media in the form of modules that have been used by teachers. Modules were chosen for their orientation to self-learning (Thaariq, 2022). Based on the results of observations made by the author, it was found that as many as 94.4 percent of teachers still use microsoft word office applications in making modules. The remaining 5.6 percent are already using FlipHTML5. This is the inspiration for the author to carry out service in the development of flipbooks.

METHODS

This empowerment is carried out with the main stages (1) pre-implementation, (2) implementation and (3) post-implementation. The training model used was adapted from Lee & Owens (2004) which consisted of (1) assessment / analysis, (2) design, (3) development, (4) implementation and (5) evaluation. The illustration of the training is as follows.

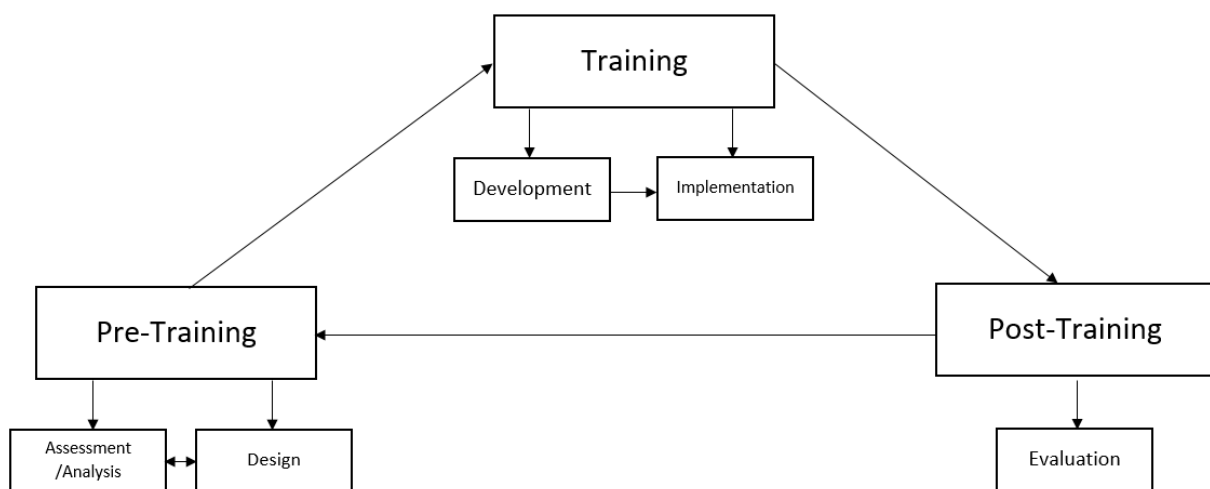


Figure 1. Illustration of training activities

The participants in the empowerment of Flipbook development are a collaboration of teachers from SDN Bareng 3 and SDN Bandungrejosari 3. This empowerment activity was attended by 17 teachers. The main material presented is a digital-based flipbook. The form of this module was chosen because based on research from Sriyanti et al. (2020) shows that learning using flipbook-based e-modules can be used as an alternative for teachers in schools in an effort to improve learning outcomes. For this reason, this empowerment seeks to develop teacher capabilities professionally, especially regarding the development of digital flipbooks.

RESULT AND DISCUSSION

Educational technology is a science related to facilitating learning and improving performance used to solve educational problems (Januszewski & Molenda, 2013). In solving these problems, a person engaged in educational technology needs to be able to facilitate learning and improve the performance of the "field" he faces (Kuswandi et al., 2021). So as practitioners to educational technology scientists, the author carries out training that prioritizes solving educational problems.

The first activity begins with an assessment/analysis. This stage is divided into two, namely need assessment and front-end analysis. Need assessment means a systematic process of determining goals, identifying differences between actual and desired conditions, and setting priority actions (Lee & Roadman, 1991). During the needs assessment, it is very important to focus on collecting the information needed to be able to make the right decisions. Information from the needs assessment provides input into the front-end analysis where, once the need for intervention is established in the needs assessment, the front-end analysis explores the deeper level of information needed for solution design (Lee & Owens, 2004). Thus, the author carried out a need assessment activity for searching literature as secondary data and conducted a profile survey on the use of instructional media.

After the need assessment, the author conducts a front-end analysis. This analysis consists of (1) audience analysis, (2) technology analysis, (3) task analysis, (4) critical-incident analysis, (5) situational analysis, (6) objective analysis, (7) media analysis, (8) extant-data analysis and (9) cost-benefit analysis. Audience analysis means that the author identifies the background, learning characteristics, and prerequisite skills of the audience. Technology analysis means that the author identifies the capabilities of existing technologies. Task analysis means that the author describes work-related tasks performed as a result of training or performance support. Critical-incident analysis means that the author determines what skills or knowledge should be targeted in the intervention of the training program. Situational analysis means that the author identifies environmental or organizational constraints that may have an impact on the objectives and design of the training. Objective analysis means that the author writes the goal for the task of the work to be handled. Media analysis means that the author chooses the appropriate media delivery strategy. Extant-data analysis means that the author identifies existing training materials,

manuals, references, and syllabuses. Cost-benefit analysis means identifying costs and benefits, and return on investment (Lee & Owens, 2004). Finally, we chose a digital flipbook as the material to be delivered in this empowerment program.

After the assessment/analysis, the author designed his training activities. The design phase uses the conclusions of the project assessment and the analysis phase to build a development roadmap. The design process is an opportunity to design the interventions carried out, document the plan, build consensus, and clarify expectations before starting development (Lee & Owens, 2004). There are three activities carried out by the author in this phase, namely (1) scheduling activities, (2) identifying the project team and (3) making project planning.

In the scheduling activity, the author begins to compile a list of what will be trained. This is because in theory, project scheduling at the activity level is often the result of design decisions and compromises made based on cost, availability, and capabilities of key personnel and tools (Lee & Owens, 2004). Based on the reference of Lee & Owens (2004), the stages of project scheduling are (1) document general project information, (2) list project deliverables and (3) schedule project activities. The following is a schedule that has been determined by the author.

Table 1. Schedule of Activities

Day/Date	Mode	Training Subjects
Saturday, August 6, 2022	Virtual	Conceptualization of Teaching Materials in the form of Modules
Saturday, August 13, 2022	Virtual	Development of a Digital-based Flipbook
Saturday, September 3, 2022	Face to Face	Digitization and Flipbook Presentation

After scheduling, the author begins to compile who will play a role in empowerment activities. Determining who performs project development tasks affects decisions made during design (Lee & Owens, 2004). The following is the arrangement of the project team that has been compiled.

Table 2. Project Team

Name	Role	Job Description
Dr. Dedi Kuswandi, M.Pd	Leader	Responsible for coordination of teams and partners

Dr. Citra Kurniawan, S.T, M.M	Deputy Leader	Responsible for assisting leaders in coordination
Zahid Zufar At Thaariq, S.Pd	Main Instructor	Developers of training materials as well as speakers
Lu'luil Maknuunah, S.Pd	Data Collector	Collecting field data
Muhamad Fahmi Hariadi, S.Pd	Data Collector	Collecting literature data
Muhammad Zidni Ilman Nafi'a, S.Pd, M.Pd	Data Collector	Collecting participant data

The next activity, the author carries out the development stage. The storyboard is written; video was recorded, edited, and recorded; audio is recorded, edited, and recorded; graphs are created, edited, and recorded; and the initial version of the web page was developed, tested, and reviewed. All of that is part of the development. In this case, the author uses social media as a forum for developing assistance when the empowerment process is carried out. As Thaariq (2020) said that social media can be used as an alternative step for learning resources compared to other learning application platforms that tend to be paid.

After the development is completed, the author carries out implementation activities. The modes used are virtual and face-to-face. Face-to-face (live) means the learning experience that occurs between the learner and the learning resource at the same time and place. Whereas virtual face-to-face means a learning experience that occurs between the learner and the learning resource at the same time, but different places (Chaeruman & Maudiarti, 2018). In this activity, the author carries out virtual face-to-face activities first as a strengthening of concepts as well as practices. After that, the author held face-to-face activities for reviews by teachers and instructors.



Figure 2. Virtual-Live Process

After the activity is completed, the author carries out an evaluation. According to Kirkpatrick (1998) there are four levels of evaluation. The four levels include (1) reaction, (2) knowledge, (3) performance and (4) impact. However, the author will only explain two levels, namely reaction and knowledge. At the reaction level, one of the participants (the teacher) said:

“Participants have one module product that is useful to apply in learning”.

In essence, teachers already have superior modules that can be used in the classroom. In addition, the other participants also said the following.

“I am motivated to create digital media that is more innovative, liked by students, and makes it easier for students to understand learning materials”.

Thus, it can be concluded that the empowerment activities carried out are very attractive to teachers and are able to build learning motivation for them. As for the measurement of knowledge, it is determined from the products they develop. Here is one of the products.

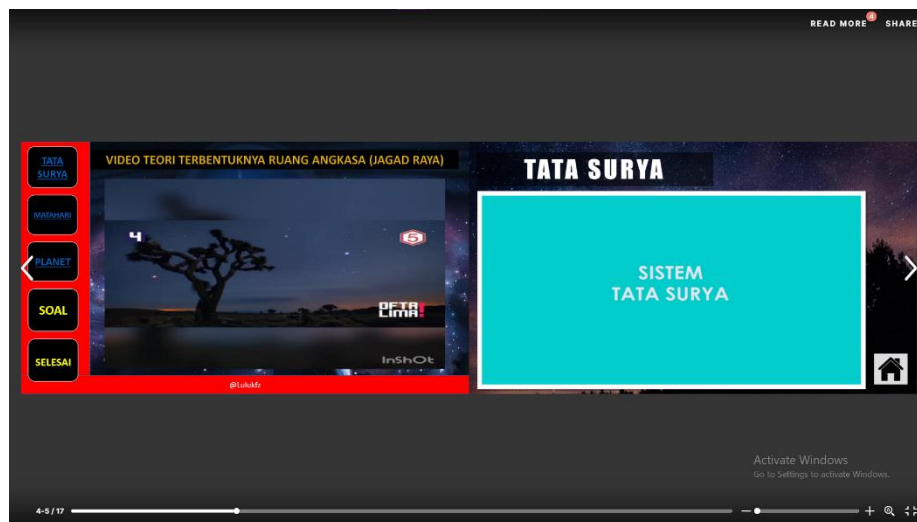


Figure 3. Teacher-developed products

So looking at the presentation above, the empowerment activities carried out have been successful and run smoothly, especially in forming empowered teachers. As stated by Thaariq et al (2020) that the teacher can be likened to a travel guide, who based on knowledge and experience is responsible for the smooth journey of learners in the learning process. As a "travel guide", teachers can be said to be empowered if they have successfully managed learning well. One way is by empowering digital technology that can be used by teachers as a

digital learning medium that supports distance learning (Thaariq, Ramadhani, et al., 2020).

CONCLUSION

Based on the exposure that has been explained, this service has produced teachers who are empowered in digitization. This means that the teachers who take part in this empowerment activity have been able to develop their capabilities professionally. This can be seen from the reactions given as well as the digital flipbook products that have been developed. So the author recommends that there be an advanced program related to the empowerment of teachers in the form of similar training, but emphasize more on interactive media. In addition, based on what we do, the author recommends teachers to develop digital-based flipbooks independently even though this activity has ended.

Apart from the various obstacles that exist, the support of education stakeholders will certainly be needed. So that this empowerment can contribute great benefits to education.

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