

## **Learning Design in Online Learning with AVOD**

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**Abstract:** Life based learning through a rich media technology AVOD and providing comprehensive sharing features in an integrated online learning reinforces cognitive and psychomotor Practical implications is a form of ability learners 21st Century Development of instructional design with virtue Audio Video on Demand (AVOD) in an effort to strengthening the cognitive and psychotropic practices. The development of learning design strives to develop features that allow students to share activities both synchronously and asynchronously.

**Keywords:** life-based learning, synchronous, asynchronous

### **I. INTRODUCTION**

Practical cognitive and psychomotor skills are abilities that must be mastered by 21st century students. It is important to remember that the analysis of evidence for thinking and activity skills is not directly compared to sharing in classrooms when face to face, but the focus only on sharing is connected or connected (Davidson-Shivers et al., 2000). While Cognitive and Psychomotor Practical may also occur in the classroom during face-to-face (Kenyhercz and Nagy, 2017; Vandenbroucke et al., 2017), the most important key is to provide Audio Video on Demand (AVOD) sharing and provision of special features. Which can accommodate sharing activities both synchronously and asynchronously (Smith, 2005).

Research on e-learning applications that have been implemented at the State University of Malang (Universitas Negeri Malang) by a team of Educational Technology Department researchers has been carried out since 2007. The development of INHERENT K-1 institutions has resulted in the On-line Learning Application System (SAPROL) which is used today. Researchers at the Adi Educational Technology Department (2015) stated that the problem of learning resources is the lack of teacher's writing, so that to make it easier to make an on-line editing container to facilitate the development of learning resources.

The results of SAPROL's development and online learning resources have built a system that offers unique opportunities but still has limitations to building an independent learning environment for students. Praherdhiono (2016) stated that the convenience of ergonomics learning environments is supported by physical locations such as buildings in universities, libraries or classrooms, as well as learning devices both digital and nondigital devices. This statement is sharpened in Trilling and Fadel (2009) that learning tools included in the learning environment are online learning tools, virtual schools, and combining digital and non-digital devices. The opportunities offered by the learning environment of the State University of Malang Laboratory School are

Learning Resources that can be accessed freely and openly for students of the State University of Malang Laboratory School. The learning resources are supplemented by user friendly application applications by empowering local networks and the Internet.

### **II. METHODS**

Davidson-Shivers and Rasmussen (2006) On-line Learning Design Development Model (2006) was chosen based on suitability with the development characteristics needs. Learning development needs that are carried out are the development of an on-line management system based on applications. Overall the Davidson-Shivers and Rasmussen models are development methods that have dominant characteristics in application-based development.

Learning Design Development Methods Based on the Davidson-Shivers and Rasmussen Model applications have other development phases: (1) analysis; (2) evaluation plan; (3) concurrent phase which includes design, system development, testing and formative implementation and evaluation, this phase can be done repeatedly until an unspecified time limit; and (4) comprehensive implementation; summative and research evaluation.

Analyze. The analysis process is carried out for high school students as the analysis is illustrated in the model and will only affect the design process and does not affect the simultaneous design. The analysis process for Universitas Negeri Malang Laboratory High School students and their development design is not a sequential process. But the analysis process has an influence on the design process of AVOD development. Processes that are in the Design environment are simultaneously affected indirectly. The analysis process includes two steps, namely teacher analysis and student analysis.

Learning resources that use learning media in the form of mobile gadgets. The results of these two phases are documentation of the initial design development. The design documentation will be used as a policy determinant in the development of teacher

and student collaboration management systems through an on-line system. Design documentation is a rational management system-based application design and preliminary justification of the application management system based on the application. The intended justification is a justification for sustainability towards the next process. Problem Analysis is an investigation activity on the performance of a problem and not just finding a problem but at the same time finding a problem solving. Analysis of learning components is an analysis of community situations.

The evaluation design, application-based AVOD developers determine formative evaluation instruments at the same time. The evaluation design process developed to evaluate AVOD media has an impact on the formative evaluation process. Simultaneous Design. Simultaneous Design is an activity that is patterned in a circular process model that is intertwined. Activities with one another are a series of mutual influences. In the linked design there are several stages and processes, among others:

1. Activity planning. Activity planning stage in the process image is not described because it is only the stage that initiates the design process. This activity involves teachers, researchers and students of Educational Technology in building a comprehensive understanding of research.
2. Process design, in the design process, investigations are carried out on object specifications, drafting assessments, or better known as Task Objective Assessment Item Blueprints (TOAB). AVOD development uses the design of gadget application automation application development through application development. Technically the design process is as follows: (a) development design, (b) user design, (c) design of learning in learning, and (d) design of learning outcomes assessment.
3. Process development, process development cannot be separated from the trial process, formative evaluation and design process. This process is an activity of forming learning products. To be a product that is considered good, the development process is carried out more than once. This means that other processes also experience repetition.
4. Trial Implementation. The testing phase is carried out in a laboratory scale. This trial only determines whether the teacher control management system and application-based student autonomy experience technical problems. The constraints in question are access failures and system delays caused by the selection of Open Source technology.
5. Formative. Formative evaluation is an evaluation activity that is conditioned at the time of starting to design until the development of an application-based teacher collaboration management system. Formative evaluation is intended to review the design of application-based teacher collaboration management systems against weaknesses and is used to revise the design of teacher control

management systems and application-based student autonomy.

Comprehensive Implementation Process, a comprehensive implementation process can be done if input from several experts is considered complete. Summative Evaluation Process, because of the limited time of the study, the summative evaluation process which is a process that can be used as a tool by policy holders is omitted or not implemented in this study.

### III. RESULTS AND DISCUSSION

Research has conducted analysis and development of learning models. The process of analysis is done to high school students as described by the analyst is the user and the media to produce a model and will have an impact on the design process only and does not affect the simultaneous design. The analysis process for Universitas Negeri Malang Laboratory High School students and their development design is not a sequential process. but the analysis process has an influence on the design process of AVOD development. Processes that are in the Design environment are simultaneously affected indirectly. The analysis process includes two steps, namely teacher analysis and student analysis. Learning resources that use learning media in the form of mobile gadget.



Figure 1  
LMS technologyeducation.hol.es

The design documentation is used as a policy determinant in the development of a teacher and student collaboration management system through an on-line system. Design documentation is a rational management system-based application design and preliminary justification for application-based management system design. The intended justification is a justification for sustainability towards the next

process. Problem Analysis is an investigation activity on the performance of a problem and not just finding a problem but at the same time finding a problem solving. Analysis of learning components is an analysis of community situations.

In the initial view (figure 1) web development using rector building in Universitas Negeri Malang to give a character on this website is purely done by a team of researchers from the State University of Malang. The teacher has not been involved in the process of web development and content development. The design is carried out based on the development carried out jointly with the individual learning team of the main researchers and students of the Bachelor of Education in the State University of Malang. In the percentage of learning design, elements of individual and group strengthening are included. Technically, as shown in Figure 2, it is an icon as symbol to enter the LMS *teknologipendidikan.hol.es* system.



Figure 2 Learning Icon

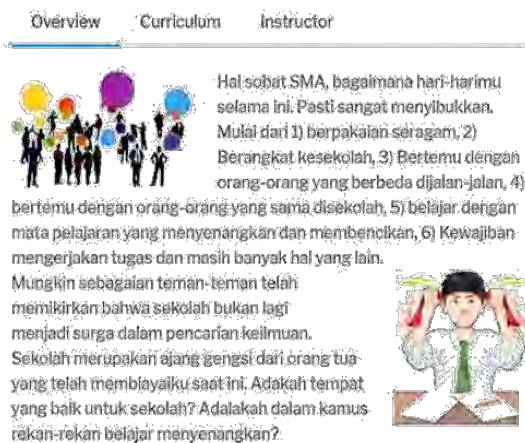


Figure 3 Learning Overview

Overview of learning in Figure 3 is used to motivate students and build an impression of analysis as a very important activity. Motivational activities are intended so that students have an independent learning approach and are grouped in using LMS in Educational Technology. The next activity is the activity of developing student behavior for individual development and developing collaborative behavior (Figure 4). Learning is done by giving segmentation so that partial giving remains in the corridor of learning as a whole.



Figure 4 Development of LMS with segmented learning

Students can independently access but viewed from the learning design and application layout, the application still has limitations for use in mobile gadgets. This condition is not only applicable at Universitas Negeri Malang Laboratory School The ownership of the autonomy of learning by students needs to be supported by teacher control. Individual learning environments strengthen student autonomy ontonomy in improving self-regulation learning (Beckers et al., 2016; Broadbent and Poon, 2015). However, increasing responsibility and control on the part of students is not always the same for student motivation (Reeves, 2006).

Students involved in network learning research must be more self-directed. Not only did they navigate several application-based applications for the first time, they were also asked to play an active role in the learning process by making decisions about how to search, where to look, and why certain content fulfilled learning objectives. No longer smooth, map the path that defines what must be done to get "A". Traditional, lecture-based classes are designed as passive learning environments where the teacher communicates knowledge and learners respond (Chen, 2010). Imagine the potential frustration that independent learning applies to students who are comfortable enough to be familiar with the direction of certain Teachers with limited expectations.

The teacher as the manager of the pursuer must control the learner in a good and elegant way. University environmental teachers need to provide the right balance between learning control and student autonomy in order to facilitate independent learning activities in an independent learning environment (Beaudoin, 1990; McLoughlin and Lee, 2010). Learning activities with the control of student autonomy present challenges to teacher control in measuring, evaluating and evaluating learning outcomes. If students have primary control, then the teacher must consider how to measure, evaluate and evaluate (Pedersen and Liu, 2003). The role of the teacher in a student-centere approach to learning is that of a facilitator and trainer (Wang et al., 2016).

#### IV. CONCLUSION

The research activity aims to strengthen students' cognitive and practical psychomotor in the domains of knowledge, attitudes and skills in Life-Based Learning through AVOD technology-rich media and the provision of extensive sharing features in integrated online learning. Cognitive and Psychomotor Practical is a manifestation of the implications of 21st century capabilities. Research activities will be continued with implementation. This is to find out how the effectiveness and efficiency of the model developed.

And expected pThe research provides evidence analysis for Practical Cognitive and Psychomotor skills not directly compared to sharing in classrooms when face-to-face, but the focus only on sharing has been connected or connected. Cognitive and Psychomotor Practical is expected to be a learning material in class during face-to-face and online, so the most important key is to provide Audio Video On Demand (AVOD) sharing material and the provision of special features that can accommodate sharing activities both synchronously and asynchronously.

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