Developing hybrid learning models platform based on user experience

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Abstract. This study aims to develop a hybrid learning model on the brightspace platform to be more user friendly. The hybrid learning model is one of the sophistication of internet-based technology that is a trend today and will be sustainable in the future. Almost every activity requires digital skills. Hybrid learning activities that can be used to discuss using online forum features. However, there is still a lack of hybrid learning models that lack interaction between instructors and students who use social aspects. This expertise arises in the brightspace platform that is used in the hybrid learning activities, therefore, it requires the development of communication features that exist in the activities and resources in the brightspace SPADA application in the form of video conferencing features for instructors and participants. The method in this research is research and development (R&D). Based on the application development offered, the video conferencing feature can answer the problems that have been discussed in the use of the brightspace platform from user experience.

1. Introduction

Online based activities are now increasingly becoming a necessity. An online system that can also be accessed by various sources of information. Various sectors that carry out activities through the digital world will present practical applications and access to hybrid learning is increasing [1]. Hybrid learning is a challenge that must continue to innovate continuously to meet user needs [2]. To meet these needs various platforms must know a clear lifecycle process for hybrid learning software for planning, development, deployment, maintenance, and upgrading, and termination [3]. Hybrid learning is a learning approach that combines face-to-face learning and web-based online education technology more effectively [4]. Hybrid learning digital technology offers alternative facilities that can be used by all people [5].

One platform for optimizing the learning process can be used by WeChat Public Platform (WPP) which is used on the Jawa web Blended Learning System (MBLS) [6]. The development of hybrid learning continues to be sustainable in various education sectors and various platforms with its application creating more flexible online-based learning [7]. Previous research says that software development can make it easier for users, such as the support vector machine (SVM) method, which is used more flexibly [8]. Various alternative software was created to solve problems in hybrid learning and has been reviewed in previous research in the last three years [9]. The problem that often arises is that communication is less effective when compared to face-to-face so it needs development in hybrid

learning to minimize problems that arise. The SPADA Brigtspace platform has a lot of application activities and resources, but there are still shortcomings, namely the absence of media application are video conferencing. With the development of software, it will provide convenience in doing hybrid learning [10]. Various alternatives are offered so that learning is well distributed it requires the development of hybrid learning significantly both software and hardware [11]. The development of e-Learning systems can also be simulated by using robot agents in real world hardware and software in the virtual world as Hybrid Agent Tutors (HATs) that can make interactive relationships so that they are more effective and efficient [12]. The challenge faced by application users is the Z generation who likes the ease of technology because of its flexible, effective and efficient nature [13]. The need is so significant and there is no initiation of development of the brightspace platform it is deemed necessary to develop features on the brightspace platform in terms of user experience. The purpose of this study is to develop a hybrid learning model on the brightspace platform based on user friendly.

2. Methods

The method in this research uses research and development (R&D). Research and development methods are research methods used to produce certain products and test the effectiveness of these products. This research develops communication features that exist on the brightspace platform to be more user friendly. The need to develop communication features in the form of video conferencing features that make it easy to communicate between instructors and participants during hybrid learning.

3. Results and discussion

Technology has an important role in various aspects of life. Developments in the digital world are experiencing developments every time that make users increasingly spoiled with technological sophistication. Hybrid learning is a form of utilizing technology in learning that combines face-to-face with learning conditions that are mediated by computers. With the convenience of hybrid learning users, the application utilization rate is of particular concern because users will look for hybrid learning applications from various user friendly platforms. Very important user experience (UX) in the use of technology in order to facilitate the application. The challenges offer the use of information technology in delivering a variety of content that is provided by an attractive and easy platform [14]. An attractive appearance and effective design are needed so that hybrid learning users feel the benefits, both in the availability of documents ranging from planning to assessments that make it easier in practice [15]. Visual design is very important in terms of the aesthetic dimensions applied to graphical, multimodal and virtual faces in the digital field and will have an impact on people's experiences [16]. User experience (UX) will provide the experience provided by the website or software to its users so that interaction and communication are interesting and exciting. Various interpretations can be put forward by users both positive experiences and negative experiences, so there is a need for ongoing research [17].

Based on the survey said that the current generation prefers things that are online especially in learning because it is more practical and adds insights that are quickly understood [18]. Determination of features in a hybrid learning system is necessary to conduct a survey in advance to the users to know the convenience in applying [19]. Although many educational institutions use hybrid learning platforms, in reality, many research results reveal that hybrid learning still needs the development of various features to be easily applied [20].

Brigtspace's hybrid learning platform has been widely applied by various participants who took part in teacher professional training. Content generally offers courses such as adaptive hypermedia and hypermedia, ICT in education (internet, WWW, computer-mediated communication (CMC), e-learning (blended learning, distance learning), web design, web-based courseware (planning, design, development, and evaluation of courseware) and instructional design [21]. Likewise, with the Brigtspace hybrid learning platform which is used for distance learning, participants can utilize teaching materials, audio, video, and multi-media for enriching material online and discuss with instructors who are limited

not to face-to-face. Based on the results of the user satisfaction survey on the brightspace platform application, amounting to 97 participants, the presentation can be seen as follows.

Table 1. Ciding categories for positif platform brightspace user experience reports.

Course Administration	Positive	Negative	Participant	User Frendly (%)
Site Resources	81	16	97	79
Learner Management	90	7	97	87
Assessment	78	19	97	76
Communication	54	43	97	52
Administration	80	17	97	78

Based on table 1 it can be seen that the categories for positive platform brightspace user experience report the lowest percentage is communication. Based on these data, the researcher develops the communication feature by adding a video conference feature that can be used by instructors and participants.

Participants using the application on the participant's brightspace web can type the brower address https://ppgspada.brightspace.com/d2l/login then log in to enter their username and password. Participants and instructors can log into the system by entering the username and password provided by the helpdesk in the login that is available. Participants and instructors can see the courses in the application as well as the administration course display as follows:

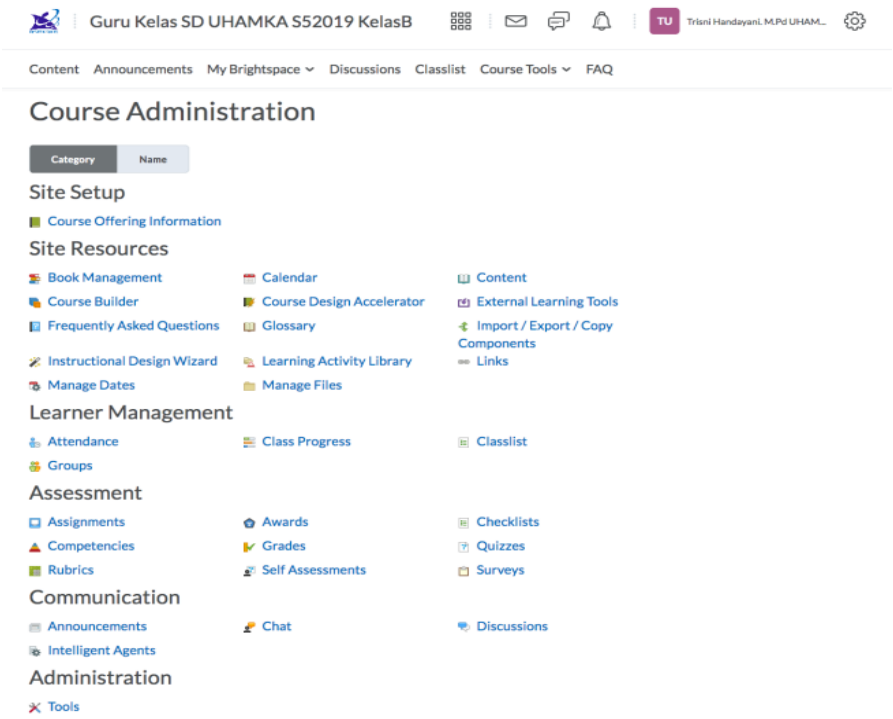

Figure 1. Course administration.

Figure 2 shows that the instructor and participant can choose the menu that will be used for hybrid learning. The instructor can assess the work of participants, communicate by creating a discussion forum in accordance with the topic of the material being discussed. This communication process can be done through chat and discussion features. However, this feature has limitations in communication between

instructors and participants. Because written communication usually often misunderstands the content to be conveyed by the instructor to participants or vice versa. Therefore, this is where according to researcher's important additional features to facilitate communication between instructors and participants. The form of development that can be used on the brightspace platform is video conferencing so that the aims and objectives to be conveyed can be more effective and easier for users. Display development that can be added to the communication features can be seen as follows:

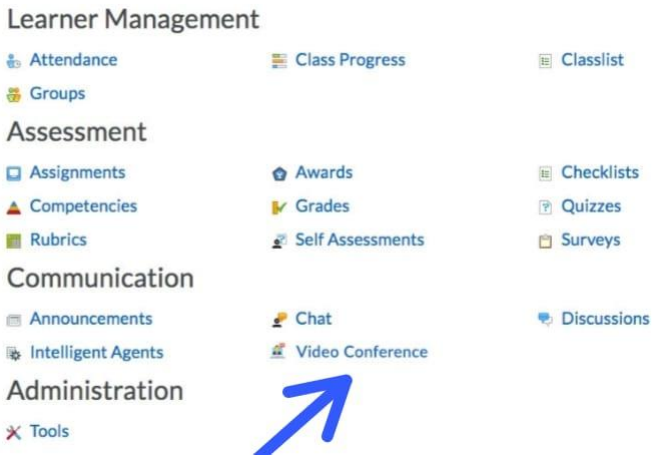

Figure 2. Discussions feature with additional development of video conference features.

It is hoped that these additional features will minimize misunderstandings in communication between instructors and participants compared to writing short messages via chat and discussion.

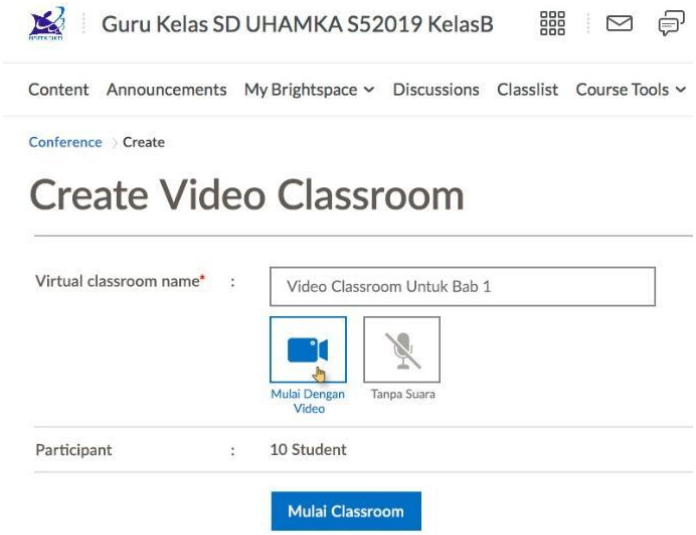

Figure 3. Display create video classroom.

The video classroom feature has limitations in participating members, this depends on the application that is used on the Brightspace platform. However, this is more effective than written communication. The researcher designed the appearance of creating video classroom more simply without having to select many menus to make it easy for users friendly.

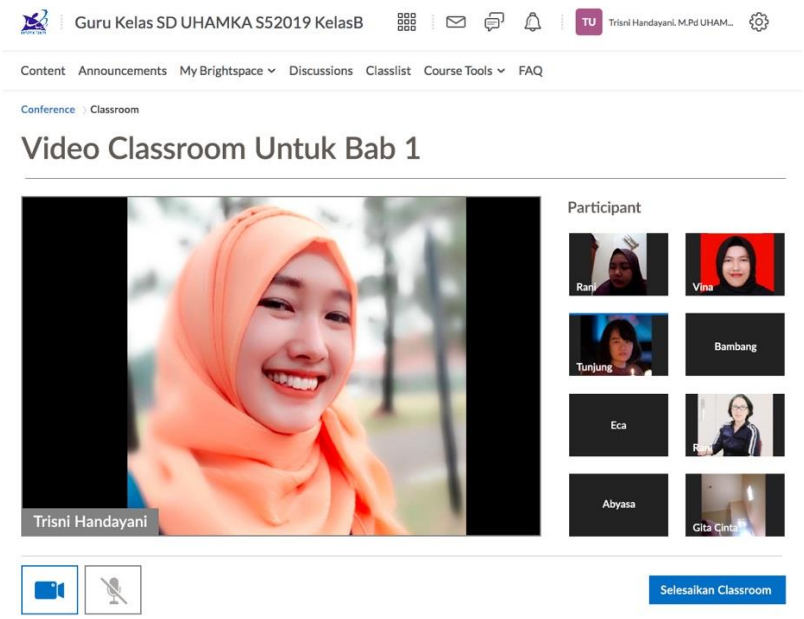

Figure 4. Display classroom videos with participants.

Video classroom can be set by anyone instructor who can join and can arrange the video to make it look more real. Voice messages can also be arranged by instructors to appear or be muted. The development of the brightspace platform application is expected to provide comfort and convenience for its users so that the hybrid learning process can run smoothly. With the comfort of brightspace platform users, the communication process will be more effective and efficient. The interface on the website must remain in line with the purpose or use of the application to provide a user experience (UX) to enjoy the application.

4. Conclusion

Hybrid learning model is a learning application that is currently needed for ease in providing information about knowledge. Platform is the most important part of service providers who must pay attention to user experience (UX) in applying it. The addition of features on the Brightspace platform according to researchers is very important for the needs and comfort of users so that the process of communication and interaction can run smoothly. Development of hybrid learning web-based applications so that further research can be done to provide convenience for users so they can enjoy features easily.

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