

## **Analysis of the Effect of Blended Learning Implementation to Academic Productivity Performance in Beginning Pandemic**

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### **Abstract**

*Modifications in learning methods were experienced by various educational institutions during the COVID-19 pandemic in Indonesia. The application of blended learning is the common method that combines offline and online learning. This is a simple form of implementing government policies to minimize the spread of COVID-19 by delivering learning activity from home. This research aims to determine the effect of the information systems use on the blended learning method on student's academic productivity performance. The research data is primary data, which is based on a survey using a questionnaire for students of the Accounting Department, Faculty of Economics and Business, Universitas Pembangunan Nasional "Veteran" Yogyakarta. The sample selection was conducted using a purposive sampling technique. Data were analyzed using descriptive analysis and regression analysis. This research showed the influence of using blended learning applications on student performance during the pandemic. This research found that blended learning application uses strongly impacts student's academic productivity performance. The small scope of sample and level of varian application use turn out to be the research limitation of this research.*

Keywords: Blended Learning, Information Systems Use, Academic Productivity Performance, Covid-19 Pandemic

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## **I. INTRODUCTION**

Currently, Indonesia is facing a COVID-19 pandemic phase. This pandemic occurs in the middle of the learning process. Moreover, COVID-19 pandemic changes learning patterns. It forces educational institutions to move quickly in adopting technology to carry out the teaching and learning process. Government policies require students and teachers to do remote learning from home. This policy is to minimize the spread of COVID-19 in Indonesia. Before the pandemic, educational institutions held face-to-face learning processes. However, the restrictions caused by the pandemic require the implementation of the educational process using online methods with the help of various information system applications offered by various online platforms. Furthermore, blended learning must be performed to keep running the learning process.

Various e-learning training was held before the government policy Work from the Home period was established. One of them is training the use of the Google Classroom application for lecturers at the

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Faculty of Economics and Business. This training is expected to improve the ability of lecturers to use online e-learning media to support the productivity of learning performance during a pandemic. On the other hand, students are required to be familiar with using online platforms in the learning process. This condition forces various parties to use various e-learning platforms in order to continue the learning process according to the Study Plan.

The face-to-face lecture period has been carried out until the Mid-term Exam and then continued with the e-learning method. With this application, all learning process at Universitas Pembangunan Nasional "Veteran" Yogyakarta is required to apply blended learning which combines the face-to-face meeting method that has been implemented and practice the online learning application. However, this application requires adequate information system application facilities and supports the implementation of learning.

Selecting the right application will be a successful factor in blended learning implementation. In line with the development of information technology, various applications have been developed to meet this purpose. It is usually called by the Learning Management System (LMS). This is an application in designing such a good organization document, tracing, recording, and producing a final report of online learning accomplishments (Ellis, 2009). The application used in this research is the acquainted application such as Google Classroom, Google Meet, Zoom Meeting, email, What Apps Group, etc. Inadequate infrastructure does not prevent education providers from continuing to carry out the learning process. Various methods and media for implementing blended learning are carried out in order to achieve the objectives of the learning process. The active role of educators and students is needed in achieving learning objectives. The achievement of the learning process can be seen from the success of blended learning implemented in tertiary institutions.

The sudden implementation of blended learning in the beginning pandemic has become the main problem of this research. Some applications are used to accommodate the learning process quite simple. Therefore this research gonna analyze the impact of this sudden application use of blended learning on productivity performance.

The goal of this research is to analyze blended learning applications use during a pandemic on the productivity of academic performance. The results of this research are expected to be useful for the development of knowledge about the use of various media for e-learning information system applications in the evaluation of academic performance productivity and can be used as an academic reference for further research. This research is expected to evaluate individual productivity in the use of university e-learning applications to further increase the application use of information technology to increase academic productivity performance.

## **II. LITERATURE REVIEW**

### **Blended Learning**

Blended learning defines as a combination of offline course or face to face performing class and online course (Graham, 2013). He ensures that using a combination structure of in-class meetings and interaction with the computer, not only the use of different information and communication technologies but also giving facilitates among participants.

Sari (2014) stated that blended learning is a teaching strategy which unites in-class meeting processes with online method supported using information system applications to achieve learning objectives. While (Sukarno, 2014) states that the "blended learning" term becomes widespread among higher education. In general, blended learning meaning can be divided into three. Here the explanation.

- 1) As a mixture of the traditional learning method and online method.
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- 2) As an arrangement of new format learning material used in an online method such as e-book and.
- 3) As a unification of several learning methods regardless of the use of information technology offered.

Overall, blended learning defines as a mixture of online technology and face-to-face learning, which is a relatively low cost, but effective for transmitting knowledge in a globalized world.

### **Application use for Blended Learning**

The use of an LMS or Learning Management Systems supports the blended learning model. This application is a software for conducting good administration, recording, tracing, and producing report online learning activities. Learning Management System has text, graphics, animation, auditory, and audio-visual facilities, which optimized the learning quality. Another advantage of using this application is the capability of having a familiar group discussion platform with the professional inside. LMS provides the availability of learning material, which gives an opportunity for the student to learn outside or inside the class. Student's learning skills improved while using the application offered by the online course (Nair & Patil, 2012). Ebarido (2009) stated that the use of the Learning Management System increases academic performance. Moreover, the Learning Management System allows students and teachers to communicate directly and give feedback within a comment or provide assessment instantly. So, the student can figure out their achievement at the current time.

### **Academic Productivity Performance**

Various studies on the use of information system applications have been carried out. One of the studies by (Sukarno, 2014) proves that simplifying the functional procedures of the LMS application and optimizing the collaboration between lecturers and the Information Technology teams increase the performance of the lecture. Lecture easily upload course material, or performing videoconference and delivering task or quizzes. Mandernach, Donnelly, & Dailey-Hebert (2006) shows that time spent during the learning process while online has a positive effect on improving academic performance. The emphasis is on the application of blended learning adaptation and the combination of traditional methods and e-learning or online methods (Khan et al., 2012). Other studies show that the use of LMS can contribute to improving academic performance through the features offered by LMS (Ebarido, 2009).

Meng Tang & Lee, (2013) found that there are students who easily adapt to online learning have a positive attitude to the kind of online learning, online management study, and interaction as well as learning flexibility. The higher the positive attitude, the more adaptable and readier the student is having a blended learning class.

### **Conceptual Framework**

This research analyses the effect of blended learning application use on academic productivity performance. This result accommodates the pandemic condition, which forces education institutions to run a blended learning method and the implication to academic performance. The focus is on the adaptation of blended learning on the use of information applications and the combination of traditional methods and e-learning or online methods (Khan et al., 2012).

Application blended learning use is an acquired behavior to realize gains from technology utilization to productivity performance. The benefit of information technology will be gained when it is used. Otherwise, the interaction among the user of information technology will give a benefit to

productivity. Researchers such as (Goodhue & Thompson, 1995) and (Jain & Kanungo, 2005) conducted a study whose results indicate that there is a strong positive influence between information systems use to increase the productivity performance for the individual user.

H1: Application Blended Learning use has a positive impact on academic productivity performance

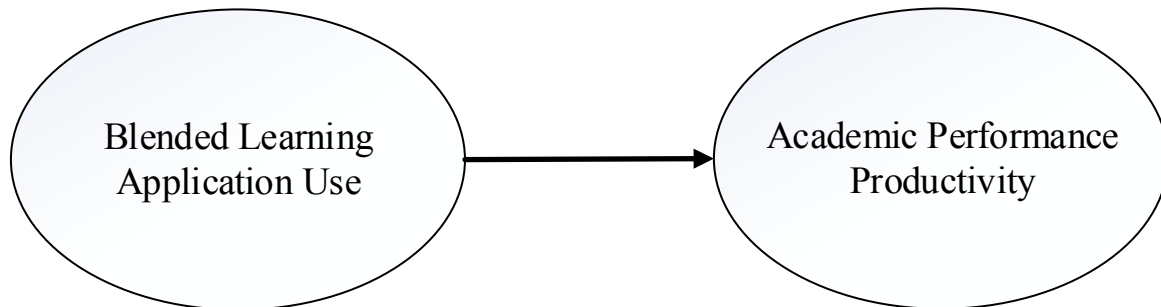


Figure 1. Productivity Performance Framework

### III. RESEARCH METHODOLOGY

The research population was an accounting student's 3 and 5 semesters. This research uses a purposive sampling technique with specific criteria as follows:

- 1) Accounting students UPN Veteran Yogyakarta who use blended learning applications in supporting the blended learning process.
- 2) Respondents active in using blended learning applications in the form of (Google Classroom, Zoom Meeting, Google Meets, email, etc.)
- 3) Respondents interact directly with the blended learning application platform.

This research used a survey as a type of data collection technique. Data collected by spreading an instrument with various questions related to Academic productivity performance indicators. This research use questionnaire as an instrument of the survey. This research adapts the previous questionnaire done by the previous researcher. Each indicator indicates the statement of the variable. Academic productivity measure by the indicator of efficiency, effectivity, and the increase of productivity.

Instrument measurement uses a Likert scale. The endogenous variable in this research is academic productivity performance. Meanwhile, exogenous variables are variables that affect other variables. The exogenous variable in this research is the use of blended learning applications.

This research conduct validity and reliability tests. Hypothesis testing is conducted by using regression analysis. Hypothesis accepted if the probability value is less than the significance level. If the p-value  $\leq 0.05$ , then the hypothesis is accepted, and if the p-value  $\geq 0.05$ , then the hypothesis is rejected.

#### IV. FINDING AND DISCUSSION

The research population is an accounting student. Collected respondent's data are 111 from the total population.

Here the result of the validity and reliability test of collected data.

	Validity Value	Reliability Value
Academic Productivity	0,768	0,877
Use	0,507	0,753

Table 1. Validity and Reliability Value

Table 1 shows the outcome of the validity and reliability test. It shows that the validity value of academic productivity performance is 0.768, and the validity value of the use of the blended learning application is 0.507. all the validity value is more than 0.50. Consequently, the research's validity value is very good. Meanwhile, the result of the reliability test shows that the constructs tested in this research have trustworthy indicators. This is revealed in the reliability value, which is more than 0.60, the academic productivity performance reliability value is 0.877, while the Blended Learning Application use's reliability value is 0.753. Thus, altogether constructs of this research are valid and feasible to analyze.

H	Causality	Prediction	Std. Coefficient	S.E.	Sig. Level	Conclusion
H1	P <--- U	Positive	0.431	0.008	0.000	Supported

Table 2. Hypothesis Test Result

Based on Table 2 above, it can be concluded that the results of hypothesis testing in this research show significant and supported results. This can be seen from the significant level value. The significant level value is smaller than the p-value, which is 0.05, so the hypothesis is proven significantly. The measurement of productivity performance using three indicators of efficiency, effectivity, and productivity of the respondent's academic performance when using the application.

Hypothesis testing result (H1) shows 0.431 with a significant level value 0.000, at the 0.05 level. This result points out that the more intensive blended learning application use is proven to increase the individual performance of the application user. This is due to the increasing ability of users, along with the increase of applications used in the blended learning method. Therefore, blender learning application users gain more efficient and effective in accomplishing their learning activities.

#### V. CONCLUSION AND FURTHER RESEARCH

The shifts learning from offline to online learning has accelerated the process of working on assignments to achieve increased academic productivity from using the applications offered. The more often, users use these applications, the level of their understanding of an information system

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will increase. These individuals easily take advantage of the available application functions in completing their duty in an effective and efficient way. Blended learning user's behavior at the beginning of the pandemic shows an affirmative attitude to the use of information technology. So, by using these applications can reveal the rise of productivity.

The research's limitation is the research sample limited to one study program so that the results of this research only represent conditions in one study program. Besides, the level of the system application used during the Blended Learning learning process is the main limitation of this research.

Further research is suggested to expand the sample coverage, research objects and add various new variables that are more reliable in supporting research development. On the other hand, the education institution must increase the quality of information systems with various applications offered to run the perfect blended learning method.

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