
THE PERCEPTION AND APPLICATION OF BLENDED LEARNING AS A LEARNING ALTERNATIVE IN THE INDUSTRY 4.0 ERA

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Abstract

The purpose of this study is to look at the perceptions and application by Accounting teachers of blended learning as an alternative to learning in the 4.0 era. The research method used is qualitative with the type of case study research. Informants were determined by using a purposive sampling technique. The criteria are teachers who apply blended learning and students who receive blended learning at the Accounting Department of SMKN 2 Blitar. Primary data sources were obtained from teachers and students through in-depth interviews regarding the application of blended learning as an alternative learning in the Industry 4.0 era and secondary data obtained from teacher documentation, training activities and assistance in using technology in learning. Data collection techniques were carried out by means of interviews, observation and documentation. Data analysis was performed using data reduction, data presentation, conclusion and verification. Checking the validity of the findings was carried out using source triangulation techniques and technique/method triangulation techniques. The results of the study show that 1) accounting teachers and students give positive perceptions about the application of blended learning as an alternative for learning in the 4.0 era; 2) two accounting teachers have implemented blended learning, namely combining face-to-face learning with online e-learning such as Gnomio and Google Classroom, while five accounting teachers have not implemented blended learning due to several obstacles; 3) the perceptions of teachers and students show that the application of blended learning has an impact on student learning motivation, such as independent learning, being active in teaching and learning activities and collecting assignments on time.

Abstrak

Tujuan penelitian ini yaitu untuk melihat persepsi dan penerapan oleh guru Akuntansi tentang blended learning sebagai alternatif pembelajaran di era 4.0. Metode penelitian yang digunakan yakni kualitatif dengan jenis penelitian studi kasus. Informan ditentukan dengan melakukan teknik purposive sampling. Kriteriaanya adalah guru yang menerapkan *blended learning* dan siswa yang mendapatkan *blended learning* di Jurusan Akuntansi SMKN 2 Blitar. Sumber data primer diperoleh dari guru dan siswa melalui wawancara mendalam tentang penerapan *blended learning* sebagai alternatif pembelajaran di era Industri 4.0 dan data sekunder diperoleh dari dokumentasi guru, kegiatan pelatihan dan pendampingan pemanfaatan teknologi dalam pembelajaran. Teknik pengumpulan data dilakukan dengan cara wawancara, observasi dan dokumentasi. Analisis data dilakukan dengan menggunakan reduksi data, penyajian data, penarikan kesimpulan dan verifikasi. Pengecekan keabsahan temuan dilakukan dengan menggunakan teknik triangulasi sumber dan triangulasi teknik/metode. Hasil penelitian menunjukkan bahwa 1) guru dan siswa akuntansi memberikan persepsi positif tentang penerapan blended learning sebagai alternatif pembelajaran di era 4.0; 2) dua guru akuntansi sudah menerapkan blended learning yaitu menggabungkan pembelajaran tatap muka dengan e-learning online seperti Gnomio dan Google Classroom, sedangkan untuk lima guru akuntansi belum menerapkan blended learning yang disebabkan oleh beberapa kendala; 3) persepsi guru dan siswa menunjukkan penerapan blended learning berdampak pada motivasi belajar siswa, seperti belajar mandiri, aktif dalam kegiatan belajar mengajar dan mengumpulkan tugas tepat waktu.

INTRODUCING

The whole world has arrived at the age of technology. Every human activity involves technology, starting from communication activities carried out remotely using the Internet network. The technology offered in the industrial sector in the 4.0 era carries an internet network that offers many conveniences. This era started from the 18th century using a steam engine to help humans produce goods, which was followed by the use of electric power and has now arrived at the industrial era 4.0 which is still developing. According to Rizaldy et al. (2018) that industry 4.0 is a transformation of the development of information technology as a major component in the 3.0 industrial revolution with the addition of internet assistance. One of the fields that is based on the development of the 4.0 revolution era is the field of education. According to Sapriani (2019) that education in the Industry 4.0 era is characterized by the use of technology in the learning process without time and space boundaries, known as the cyber system.

According to Wardoyo (2012) that teachers as educational agents must have the expertise, ability and high professionalism in improving the quality of education. The teacher's efforts in improving the quality of education must be supported with the willingness to keep up with the times. Same as with Sodikin (2022) that a teacher must also be able to be a role model for others, tolerant, open to the times and able to adapt to all changes that exist Based on the Regulation of the Minister of National Education No. 16 of 2007, in the core competencies of teachers, it is recommended to take advantage of technology, information, and communication for the benefit of learning. This regulation is a signal for teachers and prospective teachers to be able to implement learning that involves technology to improve the quality of learning activities. Teachers can develop skills in the use of technology, information and communication in learning by participating in training and mentoring activities on the use of technology, information and technology.

Technological developments brought by the industrial revolution 4.0 not only have a million benefits for students and teachers but can also have a negative impact on technology abuse. According to Maya (2020) that in welcoming the era of the industrial revolution 4.0, teachers must instill religious values and balanced manners to equip a generation that has intelligence in science and technology and behaves according to values and norms. Therefore, the role of the

teacher is needed in filtering technological developments that will be accepted by students.

Blended learning was chosen as an appropriate alternative to be implemented in this generation as a teacher's effort to keep abreast of technological developments without leaving the teacher's obligation to provide character education by means of face-to-face learning. Changes in learning into blended learning have been recognized as having a positive impact on students, namely developing self-regulation, increasing learning motivation, and providing time and opportunity for discussion and reflecting on the knowledge that has been obtained (Al-ani, 2013; Sari & Azizah, 2021).

Blended learning is a combination of face-to-face learning and the use of technology and the internet in learning which is known as e-learning. Blended learning provides opportunities for students to actively discuss both face-to-face and online learning (Irwan et al., 2019; Ekawati et al., 2022). This is because Blended learning has the character of being open, and flexible, and can occur anywhere, but the material being studied is quite a lot with a limited time. Therefore, it takes longer to learn so it can be done outside of learning hours (Aminah, 2020). According to Dwiyogo (2016) that the general meaning of blended learning is teaching and learning activities that combine or mix face-to-face learning and computer-based learning. Blended learning has the advantage that it is not limited by space, time, and learning resources and continues to carry out professional learning to make direct interactions with participants in teaching and learning activities.

According to Anggraeni et al. (2019) that the advantages of blended learning in the face of the Industry 4.0 industrial revolution era are learning that combines face-to-face learning to monitor students' learning development and online learning (e-learning) which uses digital media as a learning resource that is limitless. According to Rizaldy et al. (2018) that in the application of blended learning between face-to-face learning and online learning has shown quite positive results as a solution for educators to adapt to developments in the 4.0 industrial revolution era.

Based the initial research conducted by the researcher, the accounting teachers at SMKN 2 Blitar stated that they did not know about the term blended learning, even though the teacher had implemented blended learning in the learning process and accounting students showed interest in the application of blended learning or

combined learning. In the results of research conducted Hasanah & Anggaraeni (2016) it shows that SMK teachers do not know or have never heard of the term blended learning, even though blended learning has been run or applied since the beginning of the school's establishment. Therefore, the researcher wants to know how the perception and application of blended learning for accounting teachers as an alternative to learning in the Industry 4.0 era (studies on accounting teachers at SMKN 2 Blitar)

METHOD

This research used a qualitative approach with the type of case study research. Informants were determined by carrying out purposive sampling technique, namely a method with criteria in accordance with the study. The criteria are teachers who applied blended learning and students who received blended learning in the Accounting Department of SMKN 2 Blitar. There were 2 sources of data used in this study, namely, primary data obtained from teachers and students through in-depth interviews about the application of blended learning as an alternative to learning in the era of Industry 4.0 and secondary data obtained from teachers' documentations of training and mentoring activities on the use of technology in learning. Data collection techniques were carried out by means of interviews, observation and documentation. The steps in data analysis were carried out using data reduction, data presentation, drawing conclusions and verification. Checking the validity of the findings was carried out by using the source triangulation technique, namely by checking data from several sources and triangulating techniques/methods by checking the data to the same source with different techniques, such as interviewing techniques which were then followed by checking with observation techniques to produce the same or different data.

RESULTS AND DISCUSSION

Perceptions of the Blended Learning Application as a Learning Alternative in the Industry 4.0 Era

Learning in the Industry 4.0 era is marked by the development of the education system on the use of information technology in the learning process. According to Castro (2019) that the use of information technology in learning by providing more access to students can facilitate online independent learning and maximize unlimited learning interactions. The application

of blended learning can be an alternative to keep up with the development of information technology in the era of Industry 4.0. The application of blended learning can become a learning trend not only in Western countries but also in Asian countries, by conducting education and training for teachers in an effort to optimize the application of blended learning. Teachers as educators are the main key to bringing about change in the field of education in Indonesia. According to Sharma (2019) that the efforts of teachers to adapt to learning in the Industry 4.0 era, namely by applying blended learning to improve learning, skills and opening up to using technology. This study focuses on the perceptions of accounting teachers and accounting students at SMKN 2 Blitar on the application of blended learning as an alternative to learning in the Industry 4.0 era. Obtained from 10 respondents, the data showed that the application of blended learning is appropriate as an alternative to learning in the era Industry 4.0. Meanwhile, according to 1 respondent, the perception is that with differences in subjects and teacher abilities, the application of blended learning could be suitable as an alternative to learning in the Industry 4.0 era. This can support teachers in optimizing the application of blended learning. The results of Perceptions The Teacher of the Blended Learning Application as a Learning Alternative in the Industry 4.0 Era carried out by researchers can be seen based on table 1.

Table 1. Perceptions The Teacher of the Blended Learning Application as a Learning Alternative in the Industry 4.0 Era

| No | Perception | Information |
|----|--------------------------------|--|
| 1 | Perception Appropriate | Appropriate habits in producing graduates who are ready to compete in the Industry 4.0 era |
| 2 | Perception Appropriate | The teacher's efforts to adjust to the development of the Industry 4.0 era |
| 3 | Perceptions Fit Considerations | The ability of teachers and subjects |

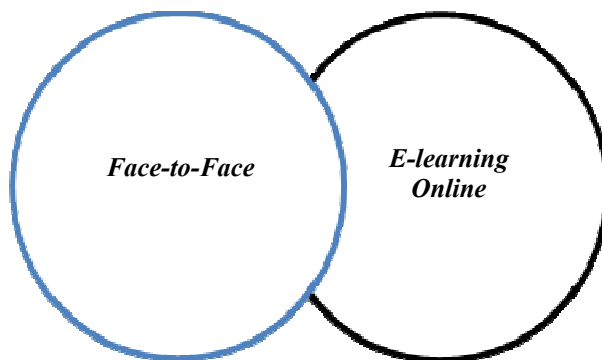
Source : Researcher

Application of Blended Learning by Accounting Teachers at SMKN 2 Blitar

The preparation of accounting teachers in implementing blended learning had been proven by making offline e-learning media and uploading learning materials in online e-learning media combined with face-to-face learning. Making online media such as web based learning

is a form of professional competence for teachers in implementing blended learning. The data obtained from interviews and observations show that blended learning has been applied by two accounting teachers at SMKN 2 Blitar. It has shown a combination of face-to-face learning

with online e-learning based on the Learning Management System which is applied in class 12 Accounting. Here is a picture of the blended learning component according to Rusman et al. (2011).



Description:

Face-to-face : Face-to-face
 E-learning : E-Learning
 Online (Gnomio dan Google Classroom)

Planning face-to-face is the teacher's initial stage in the application of blended learning. In this stage, the teacher makes plans such as making materials and assignments through the Learning Management system which will be given after the teacher explains the material in the face-to-face learning process. In this stage, the teacher's skills in preparing online e-learning learning media will be seen in addition to face-to-face learning. The higher the knowledge and experience of the teacher in using the Learning Management system, the more innovative the teacher will be in achieving the learning objectives to be achieved. The online e-learning used is Gnomio and Google Classroom which carry innovative learning in making it easier for teachers and students in the learning process such as online attendance, making/giving questions, checking students' work, submitting assignments/reports, providing material in various forms. Form files, create forums and question and answer chats, and so on.

The second stage is the learning process by applying blended learning by doing two stages, namely face-to-face learning and online e-learning learning. The face-to-face learning process still dominates the application of blended learning by accounting teachers. In the face-to-face learning process, the teacher conveys the material using powerpoint media which is displayed through an LCD projector. The teacher

interacts directly with students by asking questions. Teachers also use it to measure the skills of individual students in accounting practice. According to Ho et al. (2016) that face-to-face learning in blended learning is a balance in online learning to maintain interaction between teachers and peers. Furthermore, online e-learning as a support for face-to-face learning, teachers use Learning Management systems such as Gnomio and Google Classroom.

Gnomio and Google classroom are some of the types of online e-learning learning in making online classes that provide convenience to teachers and students in the teaching and learning process, such as ease of providing materials or assignments, making practice questions, correcting work results. Students quickly, to create an online discussion forum. Accounting teachers use the Learning Management system to upload materials made by teachers in the form of PDF, Microsoft Word, and Power Point which can be downloaded by students for independent study, and to give assignments or questions to students online with time restrictions in place. work. According to Al-Busaidi & Al-Shihi (2012) that one of the keys to the satisfaction of the Learning Management System in blended learning is to improve the quality of learning in obtaining online materials.

Meanwhile, the five accounting teachers at SMKN 2 Blitar have not yet implemented

blended learning. Online e-learning such as Gnomio or Google Classroom is only used to provide final school exam questions that are required by the school. In every teaching and learning process, face-to-face learning is carried out with the help of Power Point and cell phone media.

Accounting teachers who have not implemented it are caused by several obstacles such as the lack of knowledge of accounting teachers about blended learning as evidenced by the results of interviews which show that none of the accounting teachers who give the perception of knowing about blended learning. As explained Subaidi et al. (2019) that before the service was carried out, an initial study obtained that teachers did not use ICT in the learning process and did not know about blended learning, while the results after the dedication showed that teachers had increased knowledge about blended learning and were even able to utilize internet-based applications that support teachers in implementing blended learning.

The next deficiency is found in the influence of age. Old school teachers who are foreign to information technology will prefer face-to-face learning compared to online e-learning which carries the concept of distance learning that prioritizes cell phones and the internet as a medium for learning, whereas according to teachers, students without supervision in using cell phones will running everywhere not only the material seen but other things will also be done.

The Impact of Blended Learning Application on Students' Learning Motivation

The application of blended learning applied by teachers is also felt by students. students filled by young people who are familiar with the world of internet-based technology. Social media such as intragrams and twitter are already used by students to communicate remotely. Now is a great time for teachers to introduce learning that uses technology. As one of the efforts of teachers to produce a generation that has the ability to compete with the business world and the industrial world 4.0. According to Majir (2019) that explaining that the application of blended learning by teachers will produce students who have the ability to operate computers, know computer software and hardware, utilize internet media in enriching learning materials and form productive, creative, innovative, and effective learners through strengthening integrated attitudes and skills to

attend higher education or find a job.

The following results of research on the 12th grade students of AK, it showed that there were several changes in the level of student motivation, namely independent learning, being active in teaching and learning activities and submitting assignments on time. Reinforced by the results of Maskar & Wulantina (2019) which shows that to make the learning process more interesting, effective, increase learning motivation, students' independent learning attitudes, active, and creative as well as improve student understanding and learning outcomes, teachers need to apply the Blended Learning Method through Google Classroom. Students also define that the use of blended learning is beneficial in the learning process since they are actively involved in learning activities and creating online learning experiences, flexible learning activities also leads to students' increasing confidence (Bouilheres et al., 2020). Research result Uğur et al. (2011) showed that students' views on the application of blended learning are quite positive in an effort to improve students' independent learning styles.

Only a small proportion stated that there was no significant effect on students' learning motivation. There are some teachers who give the perception that the presence of cellphone media makes students more fun playing their own cellphones and tends to pay less attention to the teacher. According to Ningsih, et al. (2017) that it was explained that the use of mobile phone media in the learning process can make it easier to communicate, improve social relations and eliminate boredom in learning, in addition to positive impacts there are also unavoidable impacts, namely negative impacts such as making students lazy to study, reducing student learning concentration and affecting assignments and assignments. obligations that must be completed by students. There's also the problem of cheating like citing a friend's work. According to Maunah. (2016) that one of the impacts of the application of ICT on changes in student behavior in schools is a negative change in student behavior which is indicated by the visible dependence of students on the copy-paste feature which makes them less creative in compiling assignments and seems dependent on the internet as a learning resource.

There is a negative impact that ICT brings, so the application of blended learning can be a solution for teachers to be able to balance it while continuing to supervise using face-to-face learning. This proves that the application of

blended learning can increase the learning motivation of grade 12 AK students at SMKN 2 Blitar. The results of The Impact of Blended

Learning Application on Students' Learning Motivation carried out by researchers can be seen based on table 2.

Table 2. The Impact of Blended Learning Application on Students' Learning Motivation

| No | The impact of applying blended learning | Information |
|----|---|---|
| 1 | Independent learning | To prepare for the National Examination (UN), students in grade 12 AK usually look for material or practice questions on the internet, study independently when the teachers attend meetings. They complete or update the material that has not been provided by the teacher. |
| 2 | Punctual assignments submission | For assignment submissions, there are time restrictions in the Learning Management System (LMS) such as Gnomio and Google Classroom. Assignments are collected in the form of e-papers such as PDF and Microsoft Word doc that make teaching and learning activities efficient and effective. |
| 3 | Negative impact of information technology | Accounting material is difficult to animate because the material mostly consists of numbers. The freedom of time to learn makes students pay less attention to the teaching and learning activities and cheating as in quoting friends' work can occur. |

Source : Researcher

CONCLUSION

Based on the discussion and results of research conducted by, it can be said that teachers and students at SMKN 2 Blitar provide different positive perceptions about the application of blended learning as an alternative to learning in the 4.0 era 1) suitable as a solution for teachers in producing graduates who are ready to compete to face the business world and The Industrial World in the 4.0 era, the efforts of teachers in adjusting to the development of the 4.0 era, and Blended learning is a combination of e-learning with face-to-face learning; and 2) in accordance with the consideration of differences in the ability of each teacher in preparing online e-learning media and consideration of subjects that have material with different competencies. The application of blended learning was found in two accounting teachers at SMKN 2 Blitar, namely combining face-to-face learning with online e-learning such as Gnomio and Google Classroom, while the five accounting teachers had not implemented blended learning due to several obstacles, such as; lack of knowledge of accounting teachers about blended learning and old age.

The impact of the application of blended learning on learning motivation is based on the perceptions of teachers and students who state that the application has an impact on changing the level of student learning motivation, namely independent learning, being active in teaching and learning activities, and collecting

assignments on time. a small proportion stated that there was no significant impact on students' learning motivation.

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