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Implementation of human-machine friendship learning in the new-normal era

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Article Info	ABSTRACT

The 2019 coronavirus disease (COVID-19) pandemic outbreak has changed the conventional learning system to an online learning system. Online learning system is an alternative that can solve this problem with the principles of human-machine friendship learning (HMFL). This research was conducted to obtain an overview of the implementation of human-machine Friendship learning at IKIP PGRI Pontianak, Indonesia. Lecturers and students become research subjects, especially those in the History Education Study Program of the IKIP PGRI Pontianak. The research employed a qualitative approach with the type of phenomenological research. Data collection in this research was carried out by survey, interview and documentation. The results showed: 1) Implementation of HMFL of History Education Study Program of FIPPS IKIP PGRI Pontianak as a solution for implementing learning; 2) Effectiveness of Human-Machine Friendship Learning which is carried out in an effort to break the chain of the spread of COVID-19 using the application as a whole, students are satisfied with flexible learning; 3) The challenges of implementing HMFL include the weak supervision and control of students, the problem of weak internet signals, especially in rural areas, and the relatively high cost of internet quota.

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1.   INTRODUCTION

The 2019 coronavirus disease (COVID-19) issued 215 countries around the world and an outbreak that announced knowledge problems, especially campuses. In order to fight COVID-19, the Government prohibits crowding, social distancing and physical distancing, using standard masks, and always washing hands with soap. Through the Indonesian Ministry of Education and Culture, the Government has prohibited universities from holding face-to-face (conventional) lectures and has been instructed to hold lectures or online learning. Higher education institutions are required to be able to organize online learning using media that can be adjusted.

Colleges both universities, institutes, high schools, and even academies, have issued letters of guidance to reduce the impact of coronavirus disease (COVID-19) spread among the community. To reduce the impact of COVID-19, WHO has appealed to stop events that can cause crowds to gather. Therefore, direct learning in class that gathers all students in the class must be reviewed for application. Lectures should be held in a scenario that prevents physical contact between students and faculty and students and students.

According to Milman [1], Hamid [2] and Sintema [3], in utilizing digital-based technology, it is very possible for students and lecturers to carry out the learning process even though they are in different nuanced places.

The learning system that can be used as a solution in the COVID-19 pandemic is an online learning system. Online learning is learning that combines the human ability to manage technology or messages as a means of learning and media. Online learning in question is Human-Machine Friendship Learning, which then the short researcher becomes (HMFL) in this case the researcher uses the term above. According to Moore [4] Attri [5] and Sintema [3], online learning or Human-Machine Friendship Learning is learning that uses an internet network with accessibility, connectivity, ability and the ability to generate various types of learning interactions. Research put forward by Gikas [6] shows that the use of internet and multimedia technology is able to change the way of conveying knowledge and can be an alternative to learning that is carried out in traditional classrooms. Human-Machine Friendship Learning is learning that is expected to be able to bring together students and lecturers even though it is hindered by distance to make learning interactions with the help of internet media.

The stages of application in this research, Human-Machine Friendship Learning requires support from cellular devices such as cell phones or android phones, laptops, computers, tablets, and iPhones which can be used to access information anytime and anywhere [6]. Universities during the WFH era need to strengthen online learning. Online learning has become a demand in the world of education since the last few years [7], [8].

The use of cellular technology is an important contribution to educational institutions, including successful learning goals [9]. Many media can also be used to support online learning. For example, virtual classes use Google Classroom, Edmodo, and Schoology services [10], [11], and instant messaging applications such as WhatsApp. Online learning can even be done through social media such as Facebook and Instagram [12]. Human-Machine Friendship Learning connects students with learning resources (databases, experts/instructors, libraries) that are physically separated or even far apart but can communicate, interact or collaborate (directly/synchronously and indirectly/ asynchronously). Human-Machine Friendship Learning is a form of remote learning media that utilizes telecommunications and information technology, for example, the internet network, laptops or cellphones and the people themselves as controllers [13].

2. RESEARCH METHOD

The qualitative approach which is used as the basis of this research is phenomenological research. The problem arises in phenomenological research, is that this research actually cannot be determined from the beginning with certainty, because it follows the existing flow naturally. The main objective of this research is to describe the implementation of Human-Machine Friendship Learning which is carried out in the History Education Study Program of the FIPPS IKIP PGRI Pontianak, Indonesia as an effort to suppress the chain of COVID-19 spread in the college environment. Human-machine friendship learning desired in this study is learning using learning media that can be accessed by an internet-based service network. The research was conducted by first conducting a survey to students regarding the application of Human-Machine Friendship Learning. The survey was distributed using a google form given to students via the Whatsapp group. There were 69 subjects who answered the distributed survey. Then the survey data results are grouped into three categories containing student responses: 1) Agree with the application of Human-Machine Friendship Learning; 2) Disagree with the application of Human-Machine Friendship Learning; 3) Doubtful about the implementation of Human-Machine Friendship Learning. The nature of the research is very natural so that the researcher sees the existing problem properly and then draws an interpretation that is supported by the data obtained from the field which will be used as a conclusion.

The data collection techniques used in this study were interview, observation, and documentation techniques. Sources of data in the study consisted of the Head of the Study Program, the Secretary of the Study Program, Lecturers of History Education, and students of the History Education Study Program FIPPS IKIP PGRI Pontianak had implemented Human-Machine Friendship Learning and were grouped based on the response of the research subject. There were 69 research subjects, 23 students of class 2017, 23 students of class 2018, and 23 students of class 2019, 25 male students, and 44 female students [14]. The data was collected through telephone interviews and/or zoom cloud meetings. The points that were asked during the interview in the research were: 1) The facilities and infrastructure owned by the students to carry out the Human-Machine Friendship Learning; 2) Student responses about the effectiveness of Human-Machine Friendship Learning; 3) Application of Human-Machine Friendship Learning in breaking the chain of COVID-19 spread in tertiary institutions. Analysis of the research data was carried out using the analysis model of Miles and Huberman [15] which consists of three stages, namely data reduction, data display, and conclusion drawing and verification.

3.   RESULTS AND DISCUSSION

This research update is all indicators of Human-Machine Friendship Learning Implementation in the New-Normal era studied, which amount to three problem indicators, namely, students who already have the basic tools necessary to take part in machine-human friendship learning; Human-Machine friendship learning has very high flexibility in its application and is able to encourage students to be independent in learning and motivate students to be active and critical in learning; and Human-Machine Friendship Learning motivates the emergence of social distancing behavior and minimizes the emergence of student crowds in order to reduce the potential for COVID-19 transmission on campus. In a previous study [16] entitled "Implementation of Human-Machine Friendship Learning in the New-Normal Era" which only provided learning solutions during this pandemic was learning with the media. Online, from several obstacles related to the application of online learning during a pandemic, both obstacles in terms of supporting facilities and infrastructure to access information available by taking several indicators [17].

3.1. Implementation of human-machine friendship learning

The use of the internet in Indonesia is increasing; this is influenced by developments in information and communication technology. In the 2018 records, around 62.41% of Indonesia's population owns a cell phone and 20.05% of households have a computer at home [18]. The data mentioned above is very relevant to the results of research that has been conducted which states that although there are students who do not have laptops, almost all students can be said that on average students already have cell phones. The survey that has been conducted reports that 54 people have cellphones and laptops and 42 people have only cell phones.

The use of smartphones and laptops in Human-Machine Friendship Learning can improve student learning outcomes, stated that there are many advantages of using information and communication technology in the implementation of Human-Machine Friendship Learning, including that it is not bound by space and time. Many studies have been conducted that examine the use of technological tools such as cellphones and laptops in learning. The sophistication of cell phones and laptops in accessing the internet to help facilitate students in following the Human-Machine Friendship Learning process [19], [6], [20], [21]. The implementation of Human-Machine Friendship Learning by using zoom cloud meetings has the advantage of being able to interact directly between students and lecturers as well as teaching materials, but it has disadvantages, namely wasteful internet quota and less effective if the user is more than 20 students when using the basic series zoom meeting [22].

The challenge of Human-Machine Friendship Learning is the availability of internet services. Some students access the internet using cellular services, and a small proportion use Wi-Fi services. When the Human-Machine Friendship Learning policy was implemented in the History Education Study Program of FIPPS IKIP PGRI Pontianak, students returned to their hometowns. They experience cellular signal difficulties when in their respective areas; even if there is a signal they get is very weak. This is a challenge in itself in the application of Human-Machine Friendship Learning in the History Education Study Program of FIPPS IKIP PGRI Pontianak. Human-Machine Friendship Learning has weaknesses when internet services are weak, and students who heard the explanation from the lecturer did not really understand.

Furthermore, another obstacle faced is the constraint in financing Human-Machine Friendship Learning. Students revealed that to take part in Human-Machine Friendship Learning, they had to pay quite a fortune to buy internet data quota. According to them, learning in the form of video conferencing has consumed a lot of data quota, while online discussions via instant messaging applications do not require much quota. On average, students spend IDR 100,000 to IDR 200,000 per week, depending on the cellular provider used. The use of Human-Machine Friendship Learning using video conferencing is quite expensive [22].

Although the use of technology tools can support Human-Machine Friendship Learning, there is a negative impact that needs attention and anticipation, namely the excessive use of technology tools. They admit that in addition to learning, students also use technology tools for social media and watching YouTube. Social media has entered the realm of early adult life [23]. Students access social media for self-expression, build networks of friends and opinions [24]. Regrettably, many people are addicted to technology tools due to excessive use [17]. It is necessary to worry about the inclusion of misleading and inattentive information during learning due to playing social media [25]. In addition, students who are addicted to technological tools have academic and social problems [26]. Students who have gadget addiction have emotional and behavioral problems.

3.2. Effectiveness of human-machine friendship learning

Human-Machine Friendship Learning which is carried out at the History Education Study Program of the FIPPS IKIP PGRI Pontianak in an effort to break the chain of COVID-19 spread using learning applications that can be accessed via the internet network. Overall, students are satisfied with flexible learning. With Human-Machine Friendship Learning, students are not constrained by time and place where they can attend lectures from their homes or from anywhere. With the use of Human-Machine Friendship Learning, lecturers can give lectures through virtual classes and students can access them anywhere and anytime, not bound by space and time that must be determined. This condition allows students to freely choose which courses to take and which assignments to do first. Research by Sun, *et al.* [27] informs that the flexibility of time, learning methods, and place in Human-Machine Friendship Learning affects student satisfaction with learning.

It was found that the unique research results from this study were that students felt more comfortable expressing ideas and questions in Human-Machine Friendship Learning. Taking part in learning from homemade them is less likely to feel the psychological pressure from the peers that they usually experience when taking face-to-face learning. The absence of the lecturer in person or physically is also causes students to feel comfortable in expressing ideas. The absence of physical barriers as well as space and time boundaries causes students to be more comfortable in communicating [27]. Furthermore, online learning eliminates the feeling of clumsiness which in turn makes students dare to express questions and express ideas freely.

Human-Machine Friendship Learning also has the advantage of being able to encourage flexible learning meaning that it is self-regulated. The use of online applications can increase student learning independence [4]. Kwon [26] stated that Human-Machine Friendship Learning is more student-centered which causes students to be able to bring responsibility, discipline and independence in learning (autonomous learning). Online learning really requires students to prepare their own learning materials and tools, evaluate, organize, and at the same time maintain motivation in meaningful learning. According to Arzayeva [28] and Gikas [6], Human-Machine Friendship Learning can increase the interest of students.

Human-Machine Friendship Learning has several challenges, the location of students and lecturers who are far and apart when delivering lecture material causes lecturers to not be able to directly supervise student activities in the learning process. There is no full guarantee that students actually listen to the lecturer in explaining the material [29]. The author also explained in their research that students fantasized more in online lectures than in direct lectures. Therefore it is recommended that Human-Machine Friendship Learning be carried out in a short time, meaning it is short and straightforward, because the application of online learning if it is more than one hour will have an impact on students who will have difficulty maintaining maximum learning concentration [30].

The research also resulted in recommendations that many students had difficulty understanding course material with an internet-based learning system. Teaching materials are usually delivered in the form of power points or files in the form of pdf which are difficult to understand and sometimes students are lazy to read [31]. They assumed that the content of the material and assignments are inadequate because it requires direct explanation from the lecturers. According to Garrison [32] and Zhang [33] classes where the lecturers often attend and provide explanations provide better learning than classes where the lecturer rarely enters the class and provides explanations.

3.3. Human-machine friendship learning breaks the chain of COVID-19 spread in higher education

The COVID-19 outbreak is a type of outbreak that has a very high and rapid spread. This epidemic attacks human immune and respiratory systems [34]. Prevention of this outbreak is done by avoiding direct interaction of an infected person with people who are at risk of being exposed to this coronavirus [35]. Adjusting distance and physical contact that has the opportunity to spread the virus is called social distancing [17]. Many efforts have been made to suppress the COVID-19 chain from spreading in the campus environment; the History Education Study Program of the FIPPS IKIP PGRI Pontianak applies the rules of Human-Machine Friendship Learning. Lectures are conducted using the internet, making it easier for lecturers and students to interact online. Lecturers can make teaching materials that can be accessed by students anywhere and anytime. According to Bell, *et al.* [17] Human-Machine Friendship Learning allows interaction via the web even though they are in far and different places [28]. The existence of lecturers and students who are in different places during learning eliminates physical contact and is able to encourage social distancing behavior. According to Stein [36] doing social distancing as a good solution to prevent the spread of COVID-19.

The implementation of Human-Machine Friendship Learning enables students and lecturers to deliver material from their respective homes without having to meet. Students can attend lectures, access lecture materials and send reports, absences and assignments given by lecturers without having to meet

physically on campus. This action can reduce the appearance of crowds by maintaining a distance on campus as happened in face-to-face lectures in the previous year [37]. The study also recommends that maintaining distance in a learning system like this one can prevent the transmission of COVID-19. In remote areas and do not have good internet access, the implementation of Human-Machine Friendship Learning shows a different trend. In dealing with this condition, students who live in areas with weak internet signals will look for certain areas such as hills and sub-districts to be accessible by internet access.

4. CONCLUSION

The results showed that the problem of Human-Machine Friendship Learning broke the chain of COVID-19 Spread in College Students had challenges and obstacles, especially in the provision of facilities and infrastructure to carry out Human-Machine Friendship Learning. Human-Machine Friendship Learning is effective in dealing with learning that allows lecturers and students to interact in virtual classes that can be accessed anywhere and anytime. Human-Machine Friendship Learning can make students learn independently and increase their motivation. However, there are weaknesses in student Human-Machine Friendship Learning that are not properly supervised during the Human-Machine Friendship Learning. The problem of weak internet signal and financing of high internet data quota is a challenge in Human-Machine Friendship Learning. However, Human-Machine Friendship Learning can reduce the impact of COVID-19 transmission on campus.

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