Development of Direct and Asynchronous Online Learning Models to Improve Student Learning Outcomes During Study From Home the COVID-19 Pandemic

Bachar Syaiful Bachri\textsuperscript{1,2}, Andi Mariono\textsuperscript{3}, Fajar Arianto\textsuperscript{3}
\textsuperscript{1,2}Universitas Negeri Surabaya, Surabaya, Indonesia

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ABSTRACT
The development of learning needs is increasing as the demand for competency improvement is not only oriented to mastery of the material but also to more complex competencies, namely holistic knowledge, attitudes and skills. At this time, the world is being hit by a pandemic due to COVID-19 which hinders direct interaction in learning as usual. So that learning requires the use of communication and information technology (ICT) through learning in the network (online). Through this research, it will be studied to determine the right formula in the selection and use of the synchronous and asynchronous models. This research was conducted using a development research approach with the ADDIE model, conducted at the Educational Technology Study Program, Faculty of Education, State University of Surabaya in the period May - November 2021. The acquisition of learning outcomes in synchronous learning is better than asynchronous. The results of the analysis can be concluded that there is a difference in learning outcomes between two models, synchronous and asynchronous.

INTRODUCTION
The development of learning needs is increasing as the demand for competency improvement is not only oriented to mastery of the material but also to more complex competencies, namely holistic knowledge, attitudes and skills. On the one hand, the development of science and technology can also facilitate increasingly diverse learning needs by providing a variety of learning resources needed, so that learning becomes much more meaningful (Christin, 2019; Montiel et al., 2020; Rapanta et al., 2020; Shaharuddin et al., 2022). These developments appear in the development of information technology that can be used for online learning or also known as online learning (Almaiah et al., 2020; Doherty et al., 2018; Fauzi et al., 2020; Palvia et al., 2018). Coincidently, currently the world globally including Indonesia is being hit by a pandemic due to COVID-19 which is prone to spread through human contact. Therefore, learning is impacted by conducting face-to-face learning that utilizes information technology (ICT) (Abidah et al., 2020; Khalifa et al., 2021). The learning process is known as learning from home so that the learning process is carried out online by utilizing ICT.

On the one hand, the implementation of online learning above has solved one problem, namely reducing the risk of the spread of COVID-19. However, it turns out that there are still a number of problems, both regarding the learning process and the expected learning outcomes (Alten et al., 2019; Churiah & Sakdiyyah, 2020; Diadjeng, 2021; Korkmaz et al., 2020). In online learning, direct and indirect systems are known as synchronous and asynchronous based on the quadrant of learning settings.