

Chapter 9

Digitalization of Education in a School on the Basis of Microsoft Teams Platform: Effectiveness of Synchronous and Asynchronous Learning

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ABSTRACT

Educational institutions need a transformation in the methods and tools of organizing education. It is caused by technological evolution and external challenges, such as pandemics or wars. Effective organization of synchronous and asynchronous learning at school based on the Microsoft Teams platform is key to a successful transition to a distance (blended) format. The chapter presents modern approaches and methods of using Microsoft Teams to organize the learning process in synchronous and asynchronous modes. Models for the organization of synchronous and asynchronous interaction in schools are proposed. Criteria and indicators for evaluating the Microsoft Teams environment as a tool for synchronous and asynchronous interaction in modern conditions have been developed: functionality, reliability, effectiveness, interaction, availability, security and privacy, technical support, and assistance. The results of an experimental study evaluating the effectiveness of using Microsoft Teams for synchronous and asynchronous training are presented.

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THE DIGITAL EDUCATIONAL ENVIRONMENT ON THE MICROSOFT TEAMS-BASED PLATFORM

The onset of the pandemic has affected all spheres of life in the world, including education. Educational institutions have switched to distance and hybrid learning formats, and various activities have been conducted in synchronous and asynchronous modes using tools such as Zoom, Microsoft Teams, Skype, and Google Meet. Institutions were forced to switch from traditional face-to-face learning in the classroom to virtual learning using appropriate services and environments.

In today's environment, digital platforms of technology companies have become the main widespread option for organizing synchronous and asynchronous interaction between participants in the educational process during various types of learning activities, creating and delivering various types of content after the outbreak of the pandemic and the outbreak of war in Ukraine. During distance and hybrid learning, the teacher needs to conduct online classes in synchronous mode, according to the approved schedule, organize various types of learning activities using appropriate tools for video conferencing, etc. Microsoft Teams is a tool that allows you to schedule a meeting, conduct online classes, and provide access to various types of learning content. Gartner has recognized Microsoft Teams as a leader in unified communications as a service (UCaaS) and real-time meeting solutions (Herskowitz, 2021). This service offers a shared workspace for participants in the educational process, where they can schedule a meeting, establish communication and interaction, as well as collaborate on various types of educational content, and participate in various types of learning activities.

To support e-learning, a teacher needs to create an appropriate environment for the study group or flow of learners. Microsoft Teams has expanded the possibilities of distance learning, storing research data of teachers and learners, as well as providing access to the placement and use of various types of digital educational content.

Many researchers publish the results of their studies on the effectiveness of the use of Microsoft Teams in the educational process in such aspects:

- interaction and learning environment with using Microsoft Teams increases the motivation of learners to participate in online learning, as a result, it is easier for them to perceive educational material presented by a teacher (Rojabi, 2020);

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