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A METHOD FOR ORGANIZING LECTURE SESSIONS IN BIOLOGICAL SCIENCES BASED ON INFORMATION TECHNOLOGIES

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Abstract. This paper analyzes the issues of conducting lecture sessions in biological sciences at higher education institutions. It also presents a framework for integrating modern digital educational tools, the Flipped Classroom and vitagenic learning technologies, and such teaching methods as brainstorming, the term chain and the video riddle in conducting classes in biological sciences at higher education institutions.

Keywords: digital educational tool, Flipped Classroom, vitagenic learning, framework, information and educational environments.

In higher education institutions, lecture sessions play an important role in the effective organization of practical and laboratory classes, in shaping students' worldview, in equipping them with theoretical knowledge, and in helping them master the topics they are expected to acquire through independent learning activities [1–5]. Therefore, lecture sessions should be organized on the basis of integrating their organizational stages with the teaching tools and pedagogical technologies applied in them [6]. This, in turn, requires improving the theoretical and didactic aspects of lecture sessions and further increasing their weight in the educational process [2, 3]. To this end, it is first necessary to analyze the research of scholars in the field.

Based on a study of the research by the above-mentioned scholars, a framework for organizing lecture sessions in biological sciences at higher education institutions using digital educational tools was developed (see Figure 1).

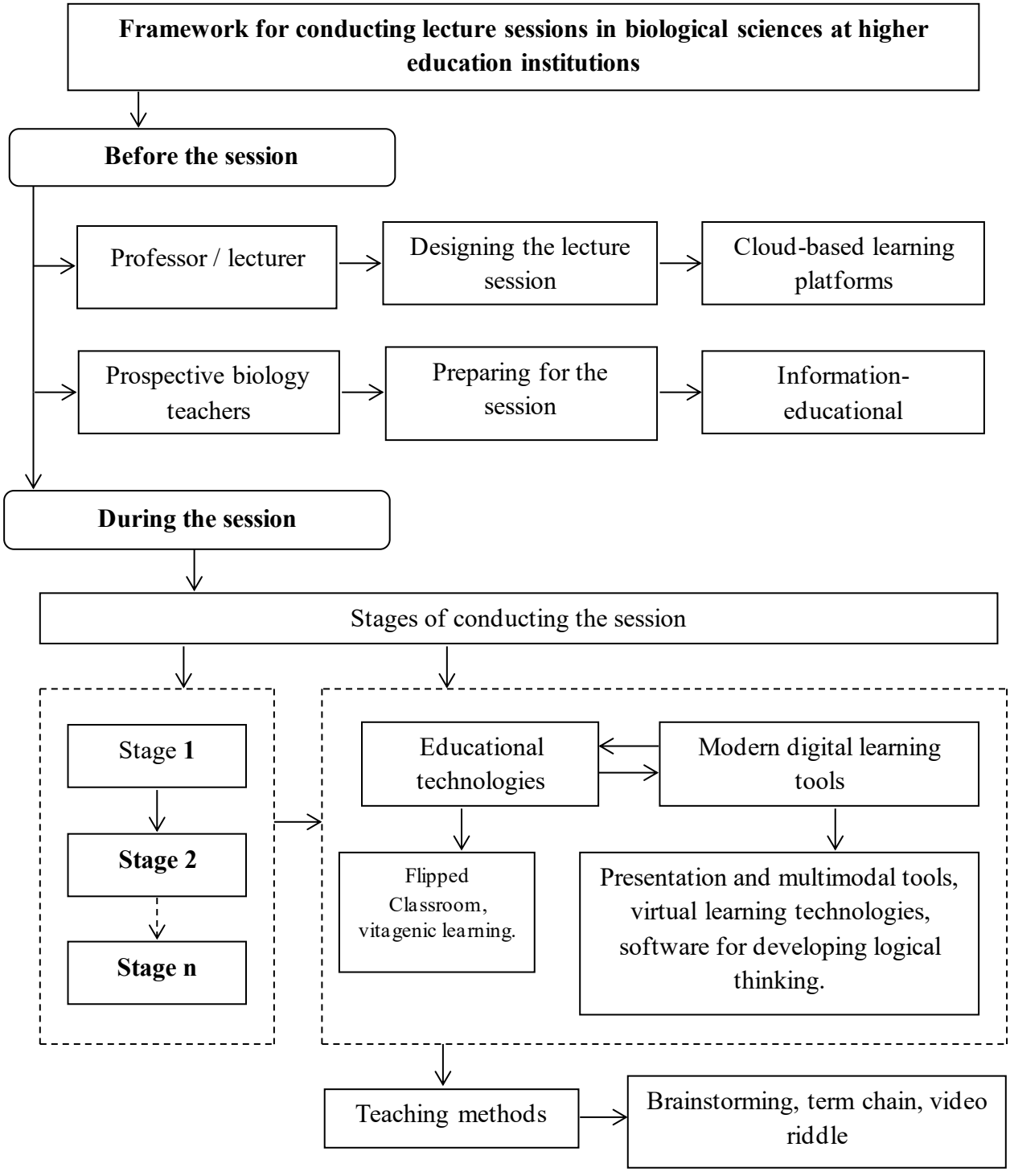


Figure 1. Framework for organizing lecture sessions

Based on this framework, pedagogical experimental work on conducting practical classes in biological sciences was carried out at higher education institutions.

Thus, under the present conditions of the digitalization of education, it is necessary to introduce modern approaches to improving the effectiveness of teaching biological sciences at higher education institutions. Accordingly, within the scope of this study, the framework developed for conducting lecture sessions in biological sciences at higher education institutions (modern digital educational tools, the Flipped Classroom and vitagenic learning technologies, and the brainstorming, term chain and video riddle teaching methods) was found to be effective. Therefore, the proposed framework is recommended for conducting lecture sessions in biological sciences at higher education institutions. Its application yields the following outcomes: it fosters students' culture of independent learning; it makes it possible to organize sessions on the basis of modern technologies; it enables sessions to be conducted on the basis of students' life experience; it develops logical, algorithmic and creative thinking; and it enhances students' creative abilities in using digital educational tools.

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