

## SECTION 20.

### PEDAGOGY AND EDUCATION

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## MOBILE APPLICATIONS AS A MULTIMODAL TOOL FOR TEACHING FOREIGN LANGUAGES TO IT STUDENTS

A necessary condition for the creation of a modern competitive specialist is their high-quality professional training in a holistic educational environment based on the wide use of information technologies, which requires the modernization of targets and the development of content-technological and methodical aspects of the educational and cognitive process. Ukraine has declared a move towards digitalization, which necessitates a stronger focus on digital literacy among professionals in various economic and societal sectors.

Higher education is meeting the growing demand for IT education quality and efficiency. The objective is to produce future specialists who can thrive in a digital environment, analyze, design, create, and utilize IT products, implement professional IT services, collaborate with mobile services, distributed databases, and specialized cloud technologies. It is evident that there is a discrepancy between the increasing expectations regarding the digital competence of future specialists and the level of their IT training, which remains insufficient.

Despite the fact that the new standards of higher education and corresponding educational programs declare the need for a novel approach, the content remains largely theoretical and devoid of contemporary practical and professional orientation.

A person-oriented approach is a significant aspect of the formation and development of the student's individual professional qualities. This approach contributes to the development of the principles of humanization of the education process. It prioritizes creative learning over reproductive learning, recognizes the student's personal background, develops independent cognitive activity, and the ability to communicate. A step-by-step introduction and clear criteria facilitate the alignment of changes with the desired outcome.

The concept of learner-content interaction, learner-instructor interaction, and learner-learner interaction, as elaborated by Moore [1] and developed by Hillman [2] in the learner-interface interaction framework, is employed to construct optimal instructional design strategies.

A mobile application can be employed as an additional means of creating a knowledge system that relies on the cognitive level of learners. It is of great importance that developers pay close attention to the coordination of different levels of interaction and the utilization of diverse modalities.

The mobile app design provides a more personalized experience. It enables students to interact in a manner that aligns with their individual needs and preferences. This encompasses a range of multimodal interactions, including voice commands, touchscreen gestures, hand gestures,

motion sensors, image recognition, and more.

The program, which offers a variety of interaction options can expand the learner base, assist them in managing their time more effectively, and provide users with greater spatial independence. This results in an enhancement of student loyalty. It is expected that as soon as users start using different forms of interaction with the program, the multimodal system will recognize their preferences and customize its functionality to meet their needs. One of the key advantages of multimodal interface is that, compared to single-modal system, communication is more natural and fluent.

The naturalness of the interaction fosters a positive emotional environment, stimulates intrinsic motivation, and helps to overcome situations of procrastination when performing routine exercises. The functionality of modern applications permits the enrichment of multiple-choice, matching, drag-and-drop, and other exercises with, for example, auditory, visual and tactile effects, which increase efficiency and reduce the time required to master the training material. It becomes possible to offer more information in the same amount of time. Creative repetition techniques with playful elements stimulate assimilation and transform the learning process into an enjoyable activity. Additionally, creating a variety of contexts for the application of the learned material promotes the formation of stable and long-lasting cognitive connections. This allows the use of knowledge in a variety of situations beyond the immediate situation.

The use of apps can expand the scope of testing and the methods for assessing students' knowledge. Multimodal options facilitate a more natural use of language resources [3]. The combination of formal control and innovative approaches can be effectively implemented by expanding the range of interaction with the application, connecting the use of different modalities, promoting the increase of channels of information flow, and providing impetus for further development of critical thinking.

The development of social networks and the active participation of modern students in the consumption and production of content provide them with the opportunity to engage in interactive communication [4]. The incorporation of such activities into the learning process is a natural and habitual occurrence for the learner. A judicious selection of tasks facilitates the formation of inter-conceptual connections and the creative interpretation of information.

The implementation of contemporary methodologies for interaction with students specializing in information technology enables instructors to cultivate and reinforce communication, as well as enhancing the credibility and authority of their expertise.

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