

## **PRINCIPLES BASED ON THE DEVELOPMENT OF STUDENTS' COMPETENCE IN DESIGNING MOBILE APPLICATIONS**

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**Abstract.** This article analyzes the pedagogical principles that are used in the process of developing the competence of students of higher education institutions regarding the design of mobile applications.

**Keywords:** mobile applications, design, competence, programming, pedagogical principles, technological literacy, educational process.

Today, the importance of digital technologies in the continuous education system is growing. Developing students' competence in programming and designing mobile applications is one of the important tasks of modern education. In this process, it is important to implement methodological approaches based on the pedagogical principles of effective learning.

Currently, universities use programming languages, visual programming tools, information and educational environments and electronic educational resources located in them to develop students' competence in the field of mobile application design [1].

In this regard, that is, the principles used in the process of teaching subjects in the continuous education system, the principles of creating information-educational environments for teaching subjects in the field of informatics in higher education institutions, general secondary education Research on the principles of creating electronic educational resources from subjects in schools was carried out by scientists such as M.H. Stone, A.F. Healy, C.B. Anchukov, L.G. Nartova, S.M. Okulov, U.M. Mirsanov, S.Q. Tursunov, U.B. Bakhodirova, B.A. Janzakov.

Based on the analysis of the works of the above-mentioned scientists and our scientific research, it can be said that the development of the competence of students of higher educational institutions in the design of mobile applications is based on the following principles [2-7]:

1. The principle of project-based learning. This principle ensures that students work on real projects during the development of mobile applications. Through project-based learning, students acquire practical skills, develop their independent work and problem-solving skills.
2. The principle of formation of practical skills. Teaching students to develop mobile applications through practical tasks along with theoretical knowledge is the basis of

this principle. In this process, students will experience developing applications for various mobile platforms.

3. The principle of individualization. Each student's abilities, interests, and learning speed must be taken into account. Through an individualized approach, each student will have the opportunity to learn within their abilities, which will increase the effectiveness of education.

3. The principle of creative thinking and innovative solutions. The main goal of this principle is to direct students to creative thinking and finding new technological solutions in the process of designing mobile applications. Students learn to innovate, create software, and make it user-friendly.

4. The principle of teamwork. In the process of developing mobile applications, students should learn to work in a team. Through group activities, students develop the skills of learning from each other, solving problems together, and providing mutual support.

Relying on these principles in the development of students' competence in designing mobile applications creates the following opportunities: the educational process is brought closer to practice, which prepares students for professional activity; students develop a sense of responsibility and the ability to make independent decisions; students' critical thinking skills and problem-solving skills develop through projects; the ability to offer innovative and creative solutions increases; each student is approached according to his abilities, interests and opportunities; through an innovative approach, students are taught to use modern trends and technologies; the ability to work in a team develops, which is of great importance in professional activity.

The underlying principles are effective pedagogical tools for developing students' competence in mobile application design. Project-based and practical skills-building approaches increase students' technological literacy, develop creative thinking, and prepare them for a technological environment. The results of the study showed that the educational processes based on these principles significantly increase the level of mastery and technological knowledge of students.

### **FOYDALANILGAN ADABIYOTLAR**

1. Jamoliddinovich T. F. PROBLEMS OF TEACHING SCHOOL CHILDREN AND STUDENTS THE DEVELOPMENT OF MOBILE APPLICATIONS //INTERNATIONAL CONFERENCE ON INTERDISCIPLINARY SCIENCE. – 2024. – Т. 1. – №. 3. – С. 38-40.
2. Анчуков С.В. Методологические принципы многоуровневой подготовки художника-педагога // Автореферат диссертации на соискание ученой степени доктора педагогических наук. – Санкт-Петербург, 2006. – 45 с.
3. Нартова Л.Г. Интегративные принципы построения системы преподавания геометрических дисциплин во ВТУЗе // Автореферат диссертации на соискание ученой степени доктора педагогических наук. – Москва, 2001. – 45 с.
4. Окулов С.М. Развитие интеллекта школьника как принцип организации синергетической среды обучения информатике // Автореферат диссертации на соискание ученой степени доктора педагогических наук. – Киров, 2004. – 45 с.
5. Healy A.F., Schneider V. I., Bourne L. E. Empirically valid principles of training //Training Cognition. – 2012. – С. 13-39.
6. Stone M.H. et al. Training principles: Evaluation of modes and methods of resistance training //Strength & Conditioning Journal. – 2000. – Т. 22. – №. 3. – С. 65.
7. Huffman W. B., Hahn S. Cognitive principles in mobile learning applications //Psychology. – 2015. – Т. 6. – №. 4. – С. 456-463.