

SOME ISSUES OF THE USE OF MOBILE TECHNOLOGIES IN THE EDUCATIONAL PROCESS OF ACADEMIC LYCEUMS**Tursunov S.,***Head of the department of Informatics and methods of its teaching,
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In the article, the author revealed some issues of achieving the effectiveness of the use of mobile technologies in the educational process of academic lyceums.

Keywords: digital technologies, digital educational technologies, mobile technologies, media, efficiency, block construction, mobile application.

Modernization of the education system has become one of the most important tasks of the socio-economic policy of our country. Therefore, improving the quality of education at all levels remains an urgent problem in the country. In this regard, fundamental reforms were carried out during the years of independence and also various methods were used to enlarge the quality in each of its periods. As an example, in recent decades the widespread use of information and communication technologies in the education of secondary schools, academic lyceums and higher educational institutions has led to a qualitative change in the effectiveness of education. Accordingly, information and communication technologies have shown a positive impact on the effective organization, management and improvement of educational efficiency. Undoubtedly, these results were closely related to the development of computer and Internet technologies in society. In fact, such developments continue continuously, and their basis lies in the emergence and large-scale implementation of new technologies. Today, this update has become more modern, and now there is a device that is always with the student day and night as well as closer and faster than a computer, which are called smartphones. Although these mobile phones are small in size, they can easily replace personal computers due to their functional possibilities. The main advantage is that they are available to the majority of students and are always with them. Along with the rapid penetration of both mobile technology and new forms of digital technologies led to increase the effectiveness of education, reduced production costs as well as improved product quality. The use of digital technologies such as cloud technologies, big data, virtual reality systems and other similar types in education gives an opportunity to increase educational and managerial efficiency and even make managerial decisions. They can be divided into types according to their different characteristics. In addition, today there are many technologies that can be used in education.

According to N.P. Petrova, digital technologies are considered one of the main approaches can be used not only in education, but also in economic transformation.

This involves redistributing the place of technologies and processes in order to improve the information-educational environment [1].

Also, digital technologies, social networks and instant messengers have changed social values and led to the network identification of a person. As a result, the foundation has been laid for the beginning of a new type in which students independently determine their educational direction. They are encouraged for personal development and self-determination, combining work with study.

Digital technologies are a modern form of activity in which a large set of digital data and the process of processing them serve as the main factor in production and management.

This requires the users to choose the one that is the most effective in achieving their goal. More precisely, we all know that different subjects require the use of various tools and technologies to enhance the effectiveness of learning, which in turn requires different approaches to improve the effectiveness of teaching each subject. That is, since the content of each topic is different, this requires to select the technologies which suitable for its optimal presentation. Additionally, age characteristics also play an important role. In other words, students of academic lyceums or higher educational institutions, of course, demand a different approach compared to schoolchildren. Students of academic lyceums widely use social networks and their various services for searching and storing information using their mobile phones.

Students of educational institutions actively use social network possibilities to communicate, search and store information for educational purposes. With the development of these services, in educational system appeared the subjects related to teaching the use of social networks. The use of mobile and network technologies in educational process actively developed and implemented due to their high practical significance. Therefore, the development of not only technical tools, but also software, especially pedagogical software, has become increasingly important. However, there are still many aspects that are not fully learned in this field yet, which require expert scientists to improve it taking into account local conditions and opportunities.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) guidelines state: "In a world where communication and information dependency is growing, mobile devices are no longer a passing phenomenon. As the power and functionality of mobile devices are continuing to grow, they can be extensively used as educational tools" [3;42].

A great example of this is the problems that the educational system has faced, especially during the pandemic.

In particular, almost all educational institutions conducted classes using the capabilities of the ZOOM platform, although educational content delivered through learning and content management systems, we faced restrictions in using various pedagogical software tools to organize self-study. This is due to the fact that a large number of distance learning students used mobile phones. More precisely, the problem was related to the fact that mobile phones did not support pedagogical software tools that had been developed for computers over many years.

There are many solutions to the problem, particularly, Joraev Vohid Tojimamatovich states [2], that the improvement of creating mobile applications for educational purposes is today's an urgent issue and suggested the MIT App Inventor environment as the best tool. *We have redesigned the following workflow, improving the workflow of creating pedagogical software tools in the MIT App Inventor block design environment:*

1. Create a new project in the MIT App Inventor environment. To do this, you will first be asked to name your newly created project when you first log in to the <https://appinventor.mit.edu> platform. If there is a need to create a new project, the **Start new project** command is given from the **Projects** menu. If you want to work on an old project, then the name of the necessary project is selected from the list of projects.

2. Create an application interface in the **"Designer" Mode**. In this case, the screen size is selected from the list depending on the device for which the project is intended. The list consists of 3 items:

- Phone size (505, 320) - creating an application for mobile phones;
- Tablet size (675 480) – make a tablet version;
- Monitor size (1024 768) - the size that allows you to create a model of monitors.

After the size is selected, it is filled with the necessary components. In the platform components are divided into several groups. For example, **User Interface** group elements are: Button, CheckBox, DatePicker, Image, Label, ListPicker, ListView, Notifier, Password Text Box, Slider, Spinner, Switch, TextBox, TimePicker, WebView; The **Media** group elements are: Camcorder, Camera, ImagePicker, Player, Sound, Sound Recorder, Speech Recognizer, TextToSpeech, Translator, Video Player. There are the instructions that we need to know to install each component. You can view them by clicking the (?) symbol on each component.

3. To place the button, drag the **Button** instance from the user **Interface** palette to the center of the mobile device screen while holding down the left mouse button.

After the button is placed, its properties can be changed. For example, Back ground Color - change the color of the button, Font Bold - thicken the text, Font Italic - bend, Font Size - change the text size, Font Type face - change the font, Height - the height of the button, Width - the size of the button width, Image - set the image as a background for the button, Text - the text for the button name.

4. To create a new screen Click the **"Add Screen"** button in the menu.

5. Switch to **Blocks mode** and select Button 1 inside the screen 1 (1st screen) on the **Blocks** window

6. Take **Open another screen** block from the list of **Control Blocks** and place it inside the previous block.

7. Place in it a block named **Text string** from the **Text Block**.

8. To do this, open **Screen1** in the menu list and select the 2nd screen (Screen2) from it.

9. In the 3rd screen (Screen 3), place the Video-Player component from the Media palette. If you choose VideoPlayer, you are required to do the followings:

A media component capable of playing video. When the application starts, the VideoPlayer screen is displayed as a rectangle. If the user clicks on the rectangle, there will be controls to play/pause, fast forward and rewind the video.

An application can also control actions by using the Start, Pause, and Seek methods. Video files can be in 3GPP (.3gp) or MPEG-4 (.mp4) formats. For more information about allowed formats, see Media Formats Supported by Android. App Inventor for Android supports video files only smaller than 1MB and limits the total app size to 5MB. If your media files are very large, you may experience errors while preparing or installing your application, so you should reduce the number of media files or their sizes. Many video editing software, such as Windows Movie Maker and Apple iMovie, help reduce the size of videos by trimming or re-encoding the video to a more compact format. You can also set the media source to a URL that points to the streaming video, but the URL must point to the video file itself, not the program that plays the video.

10. In the 4th Screen (Screen 4), set the **Image** component from the **User Interface** palette. It is there required component for placing images, the specified image, and other aspects of the appearance of the image can be specified in the **Designer** mode or in the **Blocks Editor**. As the video, the uploaded image has many editable features. For example, AlternateText, Clickable, Height, Width, Picture, RotationAngle, ScalePictureToFeatures are among them.

11. From the Build section of the main menu of the platform, we give the AndroidApp command (allows you to save it to your computer in .apk format).

12. This file can be used after it is copied and installed on a mobile device.

In this way, the creation of educational mobile applications covers a large audience of schoolchildren, students and students of various educational institutions. Providing students with the necessary knowledge and instructions will have a good impact on the effective organization of their self-study.

Because, mobile devices are always with the student, regardless of where he is (at home, in transport, on the street, in waiting areas and other places) and represent educational content in text, image, audio and video formats, and also provides interactivity that offers functional opportunities to communicate with students. The main thing is that the student has interest and desire to study.

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