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Innovative Technologies in Education and Their Application in the Educational Process

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ABSTRACT: The article discusses ways of increasing students' engagement, motivation and participation in higher education using "Network Boomerang" technology, as an example of pre-service IT teacher training.

KEYWORDS: education reforms, innovative teaching, active learning, network boomerang, e-learning, computer-assisted learning, smart technology

The implementation of UNESCO 's digital technologies in the education system is creating a new interactive environment in which teachers are required not only to manage these technical devices , but also to have some" simple skills " like searching and selecting information,flexibility, team working skills as well as creative thinking.

The integration of information technologies among society accelerated the development of science and all fields of our life. At the same time, it created new information resources that increase the human's creative potential.

The process of integrating information technologies to education is taking the leading role .Innovations in science are considered to play a significant role in its further development.

Moreover the integration of information technology to our society can hasten scientific technologies and be a solution to most problems that we are facing in our daily lives [1]

The purpose of the study:

To enhance the system of training students being instructed professional training for innovative working environment.

Scientific news of this study includes the following:

During the implementation of information technologies in the education it intends to improve the methodology of creating scientific- pedagogical and teaching- methodological programs and teach to use them effectively to the students training forinnovative working via the module of "The Network Boomerang " and " Educational Technologies " program.

Identifying the content, form, methods and means of innovative training program by adding new themes to different subjects in " The Network Boomerang " Module according to socio- psychological qualities of students.

Creating assessment system of students ' innovative readiness.

It comes up with science-based suggestions and theories about how to organize the professional training.

XXI century is defined as the era of development of technique and technologies.In this century more and more attention is being paid to the implementation of information technologies in education than ever before.

First of all let's identify the meaning of the terms of "Innovation", "Innovative acting" and "Pedagogical Innovations".

Research by B.M. Polanski states that the term" innovation" was first suggested by Shumpeter andgiven a definition to the "Innovational process" for the first time.

In dictionaries Innovation is defined as the following:

Innovation comes from English and means news, a new idea or method. Innovations are quite complex so researchers have different approaches to understanding its meaning.

D.V.Chernilevski explains it in his book called "Teaching technology at high school" as:

Innovation(introduction of something new) is creating new scientific- pedagogical techniques, acquiring them and putting them into practice.

B.Lazareva says that innovation should be defined not as a change but the necessity that should be implemented in the education system which is likely to lead to its improvements. Innovation is a materialistic idea that is a way of increasing efficiency of any education system.

According to the description of pedagogical scientific N.Jumaniyazova , the aim of the innovation is to get great results in return to all the money spent and effort put on it. Differently from other news occurring naturally,innovation makes up the system of manageable and controllable changes. Every news related to education cannot however be an



innovation. That's why difference between "novation" and "innovation" should be better understood. This difference is based on the form, meaning and the amount of the reformation. If the activity lasts for a short period of time and cannot be characterized as a whole system, and intends to change a few elements in a particular direction, then this can be referred to novation. If the activity is being carried out based on a conceptual approach and if it results in the development or principal transition of a certain system, this correlates to innovation. [Jumaniyazova, 19 b.].

A special program has been created to test the outcomes from the studies. The aim of experiment- testing, arranged duties, experiment- testing stages and fields have been set up in this program. While selecting the fields of experiment, current pedagogic state, its technical and information supplements have been investigated. The experiment- testing process is conducted in three stages: emphasizing (2016- 2017), forming (2017-2018), completing (2018-2019) stages. TUIT (Tashkent university of information technologies) it is branch in Karshi and Fergana have been chosen as the areas of experiment. Totally, 177 students participated in experiment- testing process, 89 of whom are from TUIT, 48 students from its subsidiary in Karshi and 40 students are from TUIT' s branch in Fergana. On emphasizing stage of testing the content of the State Education Standards of educational field of " 5350400- professional education of Information communication technologies", the curriculum of subjects, tasks based on practical and laboratory experiments of both general and specific subjects, literatures, educational manuals, the role and usage of innovative pedagogical techniques and the necessities of its improvements have been studied, several methods such as talk, testing, observing the students' learning process assessing their basic knowledge from general and specific subjects.

Each student has access to the digital resources, and studying these resources both individually and in groups, they answer questions and participate in discussions, while the teachers can evaluate them based on their participation.

At the second stage, students will be explained the following guidelines / recommendations:

- ✓ Studying the assignments carefully;
- ✓ Completing the task (remembering);
- ✓ Allowing up to 10-15 minutes' of preparation time, depending on the volume of the text,

The teacher should monitor each student through a local network or the online monitoring system.

The number of learners of pedagogical staff who took part in the experimental and control groups are given in the Table I.

After carried out experimental tests, we came to the following conclusions:

1. An experimental testing program has been worked out to train students for innovative activities in the process of integration of information technologies in the education according to the theme, aim and duties of the experiment.

2. During the experimental work a set of methods selected and created according to the aim, duty of the investigation and the program of the experiment.

3. "Observing method" helped the directly understanding of the target pedagogical process and incidents by the researcher. "Talk method" helped to come into contact with the focused students involved in the program. Tests were used to assess the theoretical knowledge and other features of students, while a set of independent and individual tasks helped to check the students' readiness for innovative activities according to given norms.

3. According to the comparative analysis of the results of higher education institutions, the following can be pointed out:

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