



APPLICATION OF THE ROTATION MODEL FROM MIXED EDUCATION TECHNOLOGIES IN THE EDUCATIONAL PROCESS IN SCHOOLS

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ABSTRACT: - This article describes the application of blended learning technologies based on the Rotation model to increase student learning effectiveness in PIMA schools, the advantages and disadvantages of the application process.

KEYWORDS: Digital technology, blended learning, Rotation model, student, teacher, learning effectiveness.

INTRODUCTION

Virtual design of the educational process in the global education system, forms of distance learning (d-learning), digital learning technologies (Moodle, eFront, Chamilo, ILIAS, Open Elms, Sakai, Dokeos, etc.) modern programmed learning models are being implemented in the world education system. In particular, The Open University (UK), Princeton University (USA), Cyber University

(South Korea) are working systematically to implement large-scale projects to continuously improve the quality of education based on digital technologies.

THE MAIN RESULTS AND FINDINGS

Research is being carried out in world educational and research institutions to expand the modern technological knowledge

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of teachers, the development of digital technology, optical effects, 3D-training halls, virtual laboratories, distance learning based on mobile technologies, open learning resources "blended learning». At the same time, special attention is paid to scientific research on expanding the opportunities for independent learning, individualization of distance learning processes on the basis of digital technologies.

The country has created a regulatory framework for the creation of educational platforms that allow to create a single information and methodological support of disciplines based on foreign educational experience, individualization of educational processes on the basis of digital technologies, development of distance learning services, webinars, online, blended learning technologies. Further improvement of the system of continuing education of the Republic of Uzbekistan, increasing the opportunities for quality education, continuing the policy of training highly qualified personnel in accordance with the modern needs of the labor market has been identified as a priority. As a result, the pedagogical potential of improving distance learning processes on the basis of digital technologies, establishing mutually beneficial scientific and educational relations with international institutions has been developed.

Decree of the President of the Republic of Uzbekistan dated October 8, 2019 No PF-5847 "On approval of the Concept of development of the higher education system of the Republic of Uzbekistan until 2030", April 20, 2017 No PP-2909 "On measures to further develop the higher education system", 2020 This dissertation research will serve to a certain extent in the implementation of the tasks set out in the Resolution No. PP-4642 of March 17, 2006

"On measures for the widespread introduction of digital technologies in Tashkent" and other regulations related to this activity.

Research tools and methods of organizing the use of computers and digital technologies, informatization of education, the creation of a single information space, resource and hybrid, expert training systems, the use of distance learning H.N.Zayniddinov, R.G.Isyanov, D.N. Mamatov, EM Mamaradjapov,

A.H Mahmudov, S.K Tursunov, Sh.B. Bekchonova.

One of the most widely used technologies in foreign universities for the individualization of distance education is blended learning, which is a relatively new but increasingly popular form of modern education. In this form of teaching, the student learns independently, but at the same time is supported by the group and the teacher. Through the use of blended learning in group sessions, each student develops communication skills, repeats material, and prepares to explore a new topic, reflecting the positive changes that are taking place in the learning process.

Blended learning is often based on supervised assignments and is based on basic, important information, and additional materials are provided to the student online. As the student learns independently, he or she collaborates with other members of the group by participating in an online discussion. Classroom and online sessions can vary in amount of time. The effectiveness of learning in Blended Learning depends on the correct choice of tools used in the learning process. The advantage of this form of education is that the student himself determines the

speed of mastering the learning material and the intensity of the educational process.

The following European education models are integrated in mixed education: 1. Distance

learning. 2. Audience learning (face-to-face learning). 3. Online learning. 4. Lifelong learning.

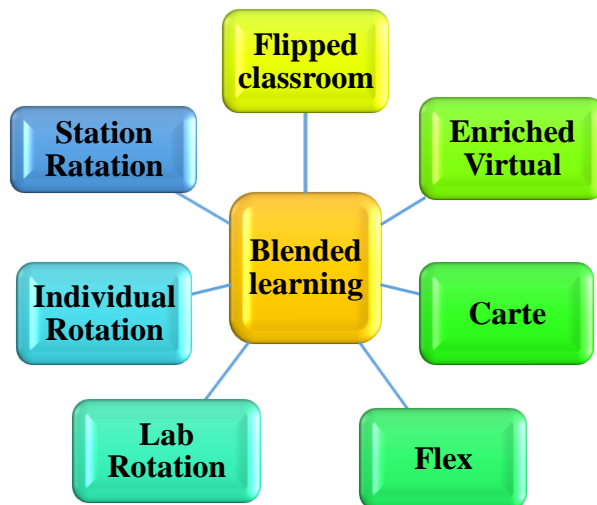


Figure 1. Blended learning technology models.

The Rotation Model

The rotation model is one of the most common models in blended learning. In the book *Blended: Using Disruptive Innovation to Improve Schools*, authors Michael B. Horn and Heather Staker describe the rotation model in the following way:

The model that classroom teachers in particular gravitate toward first is the Rotation Model. This category includes any course or subject in which students rotate—either on a fixed schedule or at the teacher’s discretion—among learning modalities, at least one of which is online learning. Often students rotate among online learning, small-group instruction, and pencil-and-paper assignments at their desks. Or they may rotate between online learning and some type of whole-class discussion or project. The key is that the clock or the teacher announces that the time has arrived to rotate, and everyone shifts to their next assigned activity in the course.

The idea of rotating among stations is certainly not new to education. In fact, teachers have rotated groups of students among centers for decades, predominantly at the elementary school level. The new element is that online learning is now part of the cycle. [1]

Station Rotation

In station rotation, students rotate through modalities within a classroom or a set of classrooms.

In part, students learn using software or other online-based coursework on classroom computers. Students can do a variety of activities, including but not limited to previewing, completing, or reviewing skill lessons, reading stories, or taking computer-administered assessments. Through these kinds of tech-based activities, students have opportunities to work independently and privately, free from concerns about how they will perform in front of their peers.

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For the offline part of their learning, students receive direct instruction from a teacher, followed up by a variety of activities, which could include modeled and independent

reading, workbook pages or other pencil-and-paper tasks, one-on-one tutoring, small-group work, projects, games, flash cards—the list of possibilities is nearly endless. [2]



Figure 2. Station Rotation Model.

What kind of pedagogical tasks can be solved by the rotation of stations:

- increasing learning motivation
- improving learning outcomes
- help lagging behind (unsuccessful) students
- development of successful students (preparation for olympiads and expansion of ideas about the subject area)

Division into groups

You can divide into groups according to different principles, for example:

Readiness for the lesson, which can be determined using an entrance test at the beginning of the lesson or an online survey completed at home;

Successful completion of homework or tests;

The presence of gaps in the assimilation of previous topics;

Interest in the topic of the lesson (requires a survey).

What do teacher and student do at different stations

The goal of a teacher work station is to provide each student with effective feedback. The feedback from the teacher has the maximum impact on the quality of education, therefore, improving the quality of feedback and increasing the time of contact between the teacher and the student has a positive effect on academic performance. At the station of work with the teacher, the teacher has the opportunity to take into account the characteristics of the group of children with whom he works, as well as their individual characteristics by dividing into groups and reducing the number of children in the group. For example, if you are working with a group of underachievers, you could focus more on a topic they didn't understand, give each student feedback on that topic, and suggest an individual plan for working on the difficult material. [3]

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The purpose of the online work station is to give every child the opportunity to develop independent work skills, personal responsibility, develop self-regulation and learn how to learn. At the online work station, students can get acquainted with new material, test their knowledge and practice their skills. The amount of resources in the system should be redundant and varied enough to provide students with sufficient exposure to the topic. The student gets access to the materials of not only one lesson, but the whole topic in order to enable everyone to go at their own pace.

Some of the students can master the proposed educational content quite deeply in a couple of lessons and devote the rest of the time to deepening and working on the Olympiad problems, while someone needs to spend all the time on basic tasks.

Students should have access to an LMS containing learning materials on a new topic, online tasks and simulators with automatic verification, as well as various additional learning materials, educational games, etc. At the online work station, students receive feedback from a computer. Although there is a list of required tasks, students have the opportunity to choose their path in the online environment. Someone prefers to start acquaintance with a new topic with new material, while someone immediately turns to additional resources or tries his hand at completing assignments.

The list of tasks required to complete or the principles for their selection is mandatory in order to form the required skills. It can be a general route for everyone — watch a video, answer questions to it, practice skills on a simulator, pass a control test, or it can be an individual route for each student, designed taking into account his needs and interests. It

is optimal at the beginning of the topic to inform students about the skills that should be formed by the end of the study of this topic, the assessment criteria, and also offer a set of tasks for training each skill, taking into account the level of complexity on which the student can work (for example: complete one task of the difficulty level or three tasks of difficulty level).

What activities should be transferred to the online station. [4]

Fast diagnostic testing, fast cuts. These can be various mini-tests that reduce the burden on the teacher and allow you not to check a huge number of leaflets and notebooks in order to use these results in the next lesson.

Control and independent work

Repetition of the studied material (with the help of videos, tests and interactive exercises)

Skill training (performing interactive exercises)

Learning new material (video or interactive exercises with mini tests)

Preparation for the Olympics

The purpose of the project work station is to provide an opportunity to apply knowledge and skills in new, practical situations, develop communicative competencies and receive feedback from classmates. Studies show that feedback from other students is one of the factors influencing the growth of students' subject knowledge. In addition, adolescents in secondary school shift their focus from the teacher to their peers. Therefore, in grades 5–9, project work and feedback become the main drivers of student development. Students are invited to break into groups of 2–3–4 people, depending on the task, some tasks can be completed by the whole group

(7–10 people). At the station of design work, various forms of application of knowledge and skills are possible:

- + Group practice-oriented tasks;
- + Small studies;
- + Quests;
- + Board games on the topic being studied;
- + Mini-competitions, etc.

Building a Culture of Blended Learning

In order for the class to start working successfully in blended learning, it takes time and additional actions on the part of the teacher to form the learning culture of the class. When children come to the first grade, the teacher teaches them for a long time about the rules of working in the classroom, how to work with a book, interacting with classmates, etc. In blended learning, additional rules for working in the classroom appear (and sometimes completely different), independent work skills are formed in the online environment; much attention is paid to the formation of group work skills and mutual assistance. All these skills will be useful to students in adulthood. [5]

Requirements

Technical requirements for implementation: the presence in the class of electronic devices (either with Internet access or networked) at the rate of one device for three children when implementing work at three stations (one device for two children at two stations, one device for four children at four stations). The use of computers or tablets at home is not expected.

Teacher requirements: ability to work with small groups, ability to implement a differentiated approach, willingness to use formative assessment, ability to work with LMS, willingness to be a tutor and facilitator,

ability to shape the learning culture of the class.

Model Features

Pros: gives the teacher the opportunity to implement differentiation, work with a small group at any given time, use interactive forms of work in the lesson, organize regular group work.

Cons: if there is no ready-made LMS with educational materials for the subject, the teacher must prepare materials for lesson in LMS.

Age of students: from 1 to 8-9 grades.

Complexity of implementation: can be implemented by one teacher for their subject. [6]

CONCLUSION

All this makes the use of blended learning models in education relevant. Blended learning in practice, not in words, implements the principle of differentiation and individualization of the educational process. Our pedagogical task is to understand and realize the essence of these processes, to put into practice the mechanisms offered by technology, to actively develop and try our own. The implementation of blended learning models in practice at the university will make it possible to individualize the educational process, reduce students' anxiety and increase motivation for learning.

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