Innovative: International Multi-disciplinary Journal of Applied Technology
(ISSN 2995-486X) VOLUME 02 ISSUE 04, 2024

The Efficacy of An Integrative Approach In Organizing Independent Work of Students In Informatics Disciplines

Aminov Istam Barnoevich
Samarkand State University
Department of Artificial Intelligence, professor
istam.aminov@mail.ru

Nomozov Fozil Shukurovich
Samarkand State University
Department of Artificial Intelligence , Associate Professor
nomozovfozil5@gmail.com

Abstract:

One of the current challenges is developing students' creative and methodical skills through the use of integrative technologies in teaching Informatics courses, specifically in organizing autonomous work. This article discusses the fundamental principles of using information education to organize independent work activities for students in the field of integrative technologies, including information, the internet, and innovative technologies.

Keywords: Autonomous education, alternative employment methods, unconventional schooling, inclusive educational technologies, information, internet, and cutting-edge technologies

Introduction

Our first involuntarily movement is walking, which is any human‟s daily activity and gait plays an important role in the human movement. The synchronization of both neural and musculoskeletal systems is essential to achieve stability and balance of the body during movement. Analysis of gait

parameters The educational environment is characterized by the dissemination of information and the pursuit of efficiency. Currently, the majority of our youth have a strong desire for knowledge, and actively engage in reading, conducting research, and participating in public affairs. They also possess significant scientific and creative abilities and are motivated to acquire proficiency in the latest advancements in current information technology. Hence, the arrangement of the educational process in all educational establishments, including the autonomous efforts of students based on integrative, i.e., information and new technologies, together with their efficient utilization, stands as a paramount subject.The primary objective of structuring students' autonomous work in the teaching of Informatics using integrative technologies is to accurately articulate their foundational knowledge, skills, abilities, creative interests, and experiences.

The primary objective of managing the process of independent student work using integrative technologies is to structure the process in a manner that enables students to complete assigned tasks and acquire proficiency in scientific visualization through independent research. This approach aims to cultivate students' self-directed learning abilities, and foster an inclination towards creative problem-solving in their educational endeavors, and simultaneously. Consequently, it can be inferred that well-structured autonomous labor holds educational value as well as personal and creative importance. During the educational process, students acquire the necessary abilities to independently solve both theoretical and practical problems.

To facilitate independent work of students in the field of Informatics, the following conditions must be met:

1. Students should be adequately prepared for independent work.
2. Students should be motivated to apply the knowledge they have acquired and develop their creative skills.
3. All necessary educational and methodological materials and information should be readily available and accessible for students to use.
4. A monitoring system should be in place to regularly assess and evaluate the progress of students' independent work. Student autonomy in studying Informatics is an essential component of any educational program. When teaching informatics, students need to engage in independent work. This includes thoroughly studying theoretical materials, developing skills and competencies for independent work, continuously updating knowledge to meet the needs of the field, and mastering effective rules and methods for independent work. Today, in the field of Informatics education, students are given several opportunities to independently work with modern information and creative technology. Integrative technology tools offer the following chances for students to work independently in the teaching of Informatics:

Storing acquired data in memory for a specific duration, modifying, printing, duplicating, and transferring; Engaging in interactive learning of essential materials through multimedia content designed for specific objectives; Gaining access to diverse information sources, including remote and distributed databases, and global connectivity via the Internet; Collaborating on telecommunications initiatives, such as coordinating international electronic research and development. Integrative technologies enable pupils to autonomously engage with unfamiliar knowledge and develop the ability to discern relevant and personally meaningful facts. When teaching subjects in the field of Informatics, it is important to encourage students to work independently. This is justified because it helps them develop practical skills and qualifications for learning, fosters a perfectionist and creative

approach to using educational materials, allows them to acquire new creative knowledge, promotes interdisciplinary understanding, and enhances their ability to work with scientific literature and information resources. When teaching subjects in the field of Informatics, it is crucial to prioritize students' independent study, critical thinking, problem-solving abilities, and the development of skills for independently finding solutions. To achieve this, it is imperative to effectively guide students in all classes to:

- Fulfill the assigned tasks and actively seek out supplementary information for further study.
- Adhere to the designated deadline for task completion and cultivate a sense of responsibility to complete it at the expected standard.

The integration of traditional, innovative, and independent forms of knowledge and learning in the educational process will be crucial for enhancing students' abilities to acquire the necessary knowledge at the desired level, think critically and creatively, and view education as a means to achieve their personal goals. When teaching subjects in the field of Informatics, the primary objective is to expand students' cognitive abilities, awareness, and perspectives. This involves transforming them from passive listeners to active participants by actively incorporating advanced innovative technologies into independent student work, enhancing educational effectiveness, and analyzing and implementing these technologies. In this process, the teacher assumes the role of a manager. The process of pedagogical cooperation possesses distinct characteristics, which include:

- The requirement for students to actively engage in their learning, think critically, and demonstrate creativity and initiative.
- The maintenance of students' sustained interest in scientific subjects throughout the educational process.
- The consistent organization of collaborative activities between teachers and students. When teaching subjects in the field of Informatics, including innovative technologies such as interactive tools like "Stair by stair," "fish skeleton," "Venn diagram," "discussion," "mental attack," and others, seems to be beneficial in organizing autonomous work for students[3]. For instance, the technology called "Stair by stair". This technique fosters independent and collaborative thinking among students, focusing on a subject that is essential to be transmitted. It also enhances their ability to retain gained knowledge, synthesize gathered ideas, and articulate them through various forms of expression such as writing, painting, and drawing. This technology facilitates collaborative learning among students, hence expanding the scope of the subject's instruction. The Venn diagram technology is a method used in Informatics lessons to facilitate the formation of opinions on the issue being studied. It allows students to express their opinions freely while considering the material they have learned. Additionally, the teacher can analyze all students' performance during the session. Using the "fish skeleton" Technology, students develop the skills of independent, broad, creative, and critical thinking. This technology is exemplified by a fish model illustration, in which pupils attempt to fully uncover the challenge presented. A fish skeleton is sketched on Watman paper, with a problem printed on the upper section that requires a solution. Below, you will find methods to resolve the issue.

Keys style and technology is a sophisticated method of structuring autonomous student work within the educational system. Keys is an educational technology that encompasses a set of effective approaches and instruments designed to achieve educational objectives, anticipate real-life problem scenarios, and ensure successful academic outcomes. In the context of Technology, students are provided with educational and practical resources in the form of "Keys" or portfolios. The

aforementioned materials will be stored on a CD or any other form of information media. Students engage in independent study of theoretical information and voice their opinions on practical problem-solving. Utilizing multimedia, including virtual images, of didactic materials in multidisciplinary communication through Information and Communication Technologies offers a valuable chance to effectively fulfill educational objectives. The primary emphasis in material preparation should be on the nature of the specialty and its potential application in the actual tasks of the performer. In this context, a network of interdisciplinary connections arises when there is a succession of universal-universal (universal) - specific (professional) interactions, resulting in the emergence of systemic didactic materials. However, effectively utilizing the generated material is significantly more intricate. Thus, it is feasible to concentrate on the interconnection between Universal-Universal and cambium-natural disciplines, and thereafter establish a complex multidisciplinary network based on these relationships.

Today, the establishment of an informative educational setting presents novel prospects for facilitating students' self-directed learning. Based on empirical evidence, it is established that the following can be demonstrated in the forms of The organization of independent work in an informational educational environment involves various tasks such as conducting information search and processing. This includes writing an abstract generalization, posting a review on a website related to the topic, analyzing and evaluating abstracts on a specific subject found on the internet, as well as creating one's version of a lecture plan or a fragment of it.

- ✓ Creating a bibliographic list; organizing a portion of practical instruction; composing a notification on the subject;
- ✓ Preparing a discussion on internet communication: to review a past or upcoming event; engaging in a delayed teleconference with the teacher and other learners to debate the topic.
- ✓ Developing a webpage: uploading pre-written abstracts and reviews into the site;

Individually and in small groups, the task involves developing topical web pages and constructing online quests related to the issue, which will then be uploaded onto the website. It is essential to ensure that students acquire autonomous knowledge through an informative and innovative strategy by providing a specific level of their own outcome or impact. To accomplish this, each educational technology employed in the teaching process can facilitate a collaborative activity between a teacher and a student, leading to a guaranteed outcome. Through this educational process, students are encouraged to think independently, engage in creative work, conduct research and analysis, and draw their own conclusions. They are also able to evaluate themselves and collaborate with their peers. Meanwhile, the teacher can create opportunities and provide suitable conditions for learning. Therefore, the utilization of web quests in education enables us to cultivate student engagement, promote seamless integration of the educational process, facilitate individualized learning, and foster the acquisition of information retrieval abilities and critical thinking. Creating a comprehensive system to provide methodological support for the information educational environment is crucial for ensuring the efficacy of autonomous work in an organization. When teaching subjects in the field of Informatics, organizing independent work using integrative technologies allows students to acquire knowledge on their own, engage in creative activities, develop an interest and motivation for creative work, independently find solutions to problems, and express their own thoughts.

References:

1. Беляева А**.** Управление самостоятельной работой студентов / Высшее образование в России, № 6, 2003
2. Демеусов А. Особенности планирования, организации и контроля внеаудиторной самостоятельной работы студентов.//Высшая школа Казахстана,2004. - С.52-54.
3. Корсак М.М., Сурдо А.П. Инновационная система информационного обеспечения образовательной деятельности ВУЗа. // Педагогические науки. - 2014. - №2. - С.43-46.
4. Sadikova F.M. Organization of independent learning of students in the theory and practice of education // European Journal of Research and Reflection in Educational Science.– Great Britain, 2020. – №4.– P. 147-150. (13.00.00, № 3).
5. Aminov I., Kadirov T. Use of information education in improving competence of information teachers information technologies. Academia Open, By Universitas Muhammadiyah Sidoarjo, Vol 1 No 2 (2019): December, Education.
6. I.B.Aminov, J.Mannopov. The effectiveness of the distance learning system using cognitive technologies. Proceedings of International Scientific-Practical Conference on “Cognitive researchin education”. Organized by Samarkand regional center for retraining andadvanced training of public education staff, Uzbekistan. 15th April 2021. In Association with Novateur Publication India's. Journal impact factor: 7.223. Page No.: 29-31.