SWOT matrix analysis of the enhancing the effectiveness of education in the context of digitalization

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Abstract: The article discusses the opportunities and threats of distance education in order to form the full scale competencies of the students. Based on the results of the study, the reasoning of the application of the most effective rational techniques, teaching methods based on digital technologies in the offline learning mode is given.

1. Introduction
The mobilization transition to online learning made it necessary to develop the most viable options for the methodology of mastering the programs of various courses, and at the same time to quickly analyze the efficiency of teachers, students and the technical capabilities of distance learning.

Closing the loopholes of the hard onslaught of unresolved problems of the organizational, methodological and psychological chaos of the education, practicing teachers defended the system of education unprepared for changes, once again proving the creative approach and professional level of solving the problem, allowing to sorting the wheat from the chaff and leaving behind numerous bureaucratic instructions.

2. Methods and Materials
A special thing about the SWOT analysis is the possibility of a detailed study of the directions of the increasing of the effectiveness of education in two positions at the same time, using a four-course matrix form of data presentation. [1] Each course analyzes binary combinations of the interaction of internal states and external factors in order to determine the principal directions of strengthening the positive development trends and overcoming the weaknesses of online education in terms of increasing the level of its effectiveness and using its capabilities to improve education as a whole.

Evaluation of the potential for simultaneous consideration of the influence of two groups of factors, such as "Strengths" and "External opportunities", reveals the most future-oriented strategic programs for transforming distance education, which can complement the opportunities of offline education and increase the effectiveness of traditional education.

The strong positions of the established practice of online education should help reduce external threats (restrictions) by improving the methodological and practical advantages of teaching based on digital technologies.

The weaknesses of online education and external threats of potential adjustments of educational policy should be the subject of productive methods development and technologies of education in general.
3. Results and Discussion
The table 1 represents the SWOT matrix analysis which justifies the directions of effectiveness increasing of the education, taking into account the results of the practice of distance education in the disciplines referring to the economic block, which are able to significantly use the resources of ZOOM and MOODLE technologies to expand the possibilities of traditional forms of education.

Table 1. SWOT matrix analysis of the directions for increasing the effectiveness of education justification in the context of digitalization.

| External opportunities                                                                 | External threats                                                                 |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| - access to a variety of sources of information                                        | - changing the policy of general education                                      |
| - opportunity to study with the best lecturers in specialties and various courses of disciplines | - restructuring the entire education system which means rethinking of the goals, methods and learning outcomes based on digital technologies |
| - mobility of information assimilation                                                  | - impossibility to personalize the teaching methods                             |
| - use of digital technologies for receiving and information processing                 | - loss of students' socialization skills                                         |

Strong points
- Realization of the need to choose directions and forms of education by the students
- Independence and responsibility strengthening for learning outcomes (increasing motivation to learning)
- The possibility of a comprehensive assessment of the training of students on the basis of the totality of completed tasks
- Opportunity to study with the best lecturers in specialties and various courses of disciplines

Weak points
- unpreparedness of the university system for online education
- absence of methodological

1. Teacher role changing by going from didactics to leadership
2. Individualization of the options for assignments
3. Strengthening the role of presentations in lectures
4. Application of software products for information processing

1. Combination of the advantages of ZOOM and MOODLE technologies
2. Formation of training programs at the choice of the student
3. Preparation of projects based on the study of several disciplines
4. Development of test tasks by students for self-identification of the level of mastering the discipline
provisions for the content and forms of organization of the distance learning system
- unification of teaching methods
- decreasing of the creative approach in the accumulation of knowledge
- difficulties in developing teamwork skills

lectures and practical classes in the structure of the learning process
sections of the courses

3. Possibilities to personalize the tasks
4. Making up of practical tasks in the form of projects (cases)

The strengths of online education have the prospect to strengthen their positions in the context of using the opportunities of digital technologies for obtaining and processing information, including wide access to various sources of information through the Internet. As an additional and mobile approach to the latest achievements of modern scientific thought in the specific fields of activity, there is an opportunity to study with the best lecturers in specialties and various courses of disciplines through distance learning.

The combination of students’ strengthening of understanding of their independence and responsibility for training outcomes and choices to use the various sources of access to methodological products while studying specific sections of the studied disciplines, requires a change in the role of the teacher. The required competencies of a modern teacher there should become the competences of a project manager, which will allow moving away from the unification of teaching methods and ensuring the individual character of task options with the involvement of information processing software products.

The transition from didactic teaching methods to the strengthening of the role of the research system approach of knowledge development will help to overcome the weaknesses of traditional education, which have been revealed by the practice of online learning.

First of all, it makes sense to pay attention to the development of methods for studying materials based on a systematic approach and changing the share of lectures and practical classes in the organizational structure of the learning process.

The technical capabilities of digitalization make it possible to combine the advantages of ZOOM and MOODLE technologies [2], which can complement student and teacher communications. It is advisable to use online learning technologies on the ZOOM platform for repeated materials that during classroom training with live contact with a teacher, awakened interest in a deeper independent study of individual sections of the theory and practice of the studied discipline. The independent study of the studied disciplines is facilitated by MOODLE technologies, the elements and resources of which allow the teacher to present materials of lectures and practical classes with varying degrees of differentiation, providing each presentation of the material with methodological instructions using hyperlinks to any Internet resource or the “Lan” library system.

Opportunities for the wide access to various sources of information should be aimed at systematizing of the independent study of the theoretical foundations of the studied courses, providing the "Assignment" element in the mode of forming bibliographic reviews on the topics of the course.

For a quick evaluation of the assimilation of the studied materials, it is advisable to accompany each element of the course with a testing according to the local list of concepts of each topic. The evaluation tool "Test" can be used as an element of the "Assignment" for the development of test tasks by the students themselves to identify the level of mastering the discipline.

Taking into account the habit of visual presentation and formation of images on the Internet of modern audiences, the role of presentations in lectures in the mode of traditional and distance education should be strengthened.
The identified weaknesses of distance learning, such as a decrease in a creative approach to the accumulation of knowledge, the demand for averaged decision-making algorithms and the difficulty of developing teamwork skills, oblige teachers to strengthen the practical component of studying the subject of the course based on the preparation of projects that include sections of related disciplines. At the same time, it makes sense to form the project assignment as a complex of sections that include questions from related disciplines. The implementation of projects or cases can be carried out by groups of students, developing teamwork skills and using a variety of techniques of elements of scientific research.

A matrix (multidimensional) representation of the directions for the development of teaching methods and the formulation of specific tasks to achieve them should contribute to increasing the effectiveness of education in general, using the pros and cons of distance education, considering its possibilities as technical (digital) and organizational support of traditional education.

4. Conclusion
The crisis option of switching to a remote learning system helps to understand and analyze the opportunities and limitations of online education and to highlight the most acceptable and productive ways and methods of information transferring that are capable of bearing mature fruits, such as the formation of knowledge and skills in accordance with the tasks of higher education.

The teacher must determine the effectiveness of the types and methods of distance learning to increase the effectiveness of traditional education and develop his or her professional competence.

Acknowledgments
The confusion of the concepts of "Distance learning" and "Digital technologies" leads to the need to clarify the identification of the strengths and weaknesses of the practice of distance education and evaluate the real technical possibilities of using tools that can perform the assigned tasks within the framework of the developed algorithm based on digital technologies to improve education as a whole [3-7]. The transformations in the teaching procedures will continue, therefore, it is necessary to seriously, having benefits from the experience of the studied tests, evaluate the first chaotic results of activities based on the SWOT analysis methodology of online education and suggest directions to improving traditional education.

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