

Innovative Technologies: Digitalization of Education

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Abstract

This study addresses the issue of integrating cutting-edge technologies into the educational process in order to enable the development of a new digital type of educational service in schools. To that end, it establishes a framework for integrating cutting-edge technology into digital learning in classrooms. The method involves diagnosing motivational induction, created by J. Nuttin. This method aims to identify the visibility of a personal perspective within a coming day, week, month, or year, enabling one to understand motivational aspirations, goals, desires, and dreams. The study includes structuring a model of cutting-edge technologies in learning. It promotes intellectual growth, fosters cultural and aesthetic qualities, boosts self-esteem, creates a model of cultural behavior, and aids in developing creative and respectful socialization skills in the classroom. It also helps increase interest and motivation in the educational process. Therefore, the study addresses the help of innovative technologies models related to aesthetic behavior in different places and aspects of changing personal image during the interactive dressing of clothing models. These models are superimposed on photos by fitting accessories and changing hairstyles against the background to fulfill personal goals. These goals depend on the aspirations of visiting different social objects and achieving a certain social status at the theoretical and virtual levels. This paradigm for digital education allows for the recognition of one's best attributes and the development of strong self-esteem by emphasizing the possibility of achieving one's highest ambitions. This movement creates a cultural and aesthetic model of individual perception and the evolution of cultural behavior in diverse public settings, which has practical implications for the entire educational system and the well-being of society.

Keywords: *Educational system, value creation, educational landscape, Digital literacy, Teacher education, Innovative technologies in language education.*

Introduction

In modern society, substantial technical progress exists to implement itself in many areas. One of the most important is education, because an organization with a high degree of intellectual growth will offer a child with the chance for self-fulfillment in the modern world. Acquiring professional qualities encourages a person to make a career in their interest area. Therefore, the developed technologies should improve the educational process at the implementation level starting from school and contribute to more exciting and informative classes within the relevant and mandatory health-saving conditions (Adom, Emad & Adu-Agyem, 2018). Furthermore, the existing distance education involving digital technologies presents an official form of obtaining knowledge. It offers vast expertise in many subjects thanks to innovative

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developments (Adu et al., 2022; Dube et al., 2022). Other benefits include successfully supplementing the full-time educational process and allowing for a smooth transition due to children not attending full-time courses at school for a period of time. Nonattendance is due to chronic illnesses, disabilities, temporary departures, moving to a remote area from school, or other situations (Ambetsa, 2016). Hence, this distance from using digital education will enable well-being conditions at the psycho-emotional and social levels for the student to follow the current logical situation in their life. This circumstance improves student success, and the student can simultaneously continue to study according to the school curriculum remotely. After this period, they return to the atmosphere of full-time school, having the same level of knowledge as their classmates (Sekiwu, Ssempala & Naluwemba, 2020).

The technological development trends should be considered and implemented while observing health-saving conditions to expand education's quality and service. Following these trends will result in increased reputation and image around the world due to numerous opportunities. Quality education that is targeted to specific requirements and well-being at the emotional and family levels helps students maintain their life quality (Morgan, 2019). Accordingly, innovative technologies substantially contribute to specific education digitalization, improving the educational process (Baytak, 2022; Konyana & Motalenyane, 2022; Moshkalov et. al., 2018). New technologies should be used to implement the primary purposes of academic training providing individuals with high self-esteem and decent values. Concurrently, these technologies depend on the versatility of the situation, rendering it necessary to choose the most appropriate adaptive forms (Mosia & Matabane, 2022; Shava, 2022; Tshelane, 2022). This adaptation allows reproducing creative communications with others, forming a noble and worthy personality at the high social life level (Evans-Amalu & Claravall, 2021; Omodan et al., 2021). It manifests and develops cultural and aesthetic qualities, helping students fulfill their talents and bringing them to a stable motivational level of dedication in the classroom. Moreover, it reinforces their aspirations for socio-cultural and better-quality lives, which benefits society's development (Mallik, 2020).

Method

This study addresses the issue of integrating cutting-edge technologies into the educational process in order to enable the development of a new digital type of educational service in schools. To that end, it establishes a framework for integrating cutting-edge technology into digital learning in classrooms.

Research Design

The study's design is non-experimental. A mixed methodology was utilized (Mixed Methods Research, MMR; Johnson and Onwuegbuzie, 2004; Denscombe, 2008). The data was gathered using a survey and open-ended questions, allowing qualitative analysis.

Triangulation was used in the study's design, implying that both qualitative and quantitative research can be used "to be mutually corroborated" (Creswell & Clark, 2007, p. 62).

Data Collection tools

The diagnostic testing procedure devised by J. Nuttin was used to look into how perception functions in relation to one's desires and goals (Kalyani, 2020). These objectives and aspirations include imagining the ideal future over various periods, including a day, week, month, and year. They provide insight into a person's motivational goals and reveal the extent of their dreams and aspirations because they require a solid emotional foundation, securing psycho-emotional stability. Additionally, evaluating the identified aspirations will enable the creation of implementation-friendly conditions for the educational process and the assessment of value motivations. This circumstance will boost students' interest and drive to learn, which will significantly impact education by enabling them to fulfill their aspirations and play an essential role in their lives. The motivational induction test consists of 40 questions that aim to direct mental activity in the format required to make clear the target prospects developed at the level of individual desires and perceptions. It has a motivating perspective on each student's future, shifting the situation toward development and self-awareness. It also demonstrates their self-fulfillment, desired accomplishments, and self-purification components that impact their self-esteem.

The students were asked to complete 40 questions without pre-prepared keys, and the subjects presented short or complete answers in the free conversational form. While taking into account the responses, the desired aspirations are assessed from the past, present, and future perspectives in relation to social and personal fulfillment. This evaluation enables the development of some characteristics to produce more ideal conditions for implementing imaginative attitudes and objectives in their lives.

Data Analysis

We compared the results to the answers and identified the key elements and moments when analyzing the results of testing responses that made it possible to evaluate each person's interest

in imagining themselves in critical circumstances and achieving their goals. To identify and organize all common elements of the participants' responses, when calculating the overall results, we used the conventional mathematical calculation procedure and graphical representation that constituted the quantitative part of the study. Due to the study's use of triangulation, the timing was concurrent. Triangulation, as Creswell and Clark (2007) said, seeks "convergence, corroboration, and correspondence of results from the different methods" (p. 62). Although the study's analysis of the two methods was done separately, the data collection phase for both took place simultaneously. While the qualitative method involved document analysis and the quantitative approach used a survey, they were carried out simultaneously.

Participants and Procedure

Purposive sampling was used in the study since this was necessary because we needed to select participants who met specific criteria. For the pedagogical experiment, a study was conducted based on secondary schools-gymnasiums No. 8, No. 21, and No. 4. in Almaty, The Republic of Kazakhstan. The survey included 127 students of grades 6–9 aged 12–15 years. Our study was divided into three stages, the first of which involved a theoretical analysis of the literature on the application of cutting-edge technologies in digital education at schools. The purpose of the study, its research methodology, and any current issues in the field were all included in the first stage. The second stage involved testing the respondents while establishing the criteria above for utilizing cutting-edge technologies to raise the standard of instruction at the school. Given the students' prior knowledge of health savings, experimental work was carried out by reviewing the findings and drawing a conclusion. In the third stage, we systematized the results and clarified the conclusions.

Table 1

Participants

	Grades and Schools			Total
	Grade	Secondary schools-gymnasiums No		
Age	12	6	8	28
	13	7	21	32
	14	8	4	35
	15	9	4	32
Total	4	4		127

Findings and Discussion

Diagnostic testing results, detailed semantic clarification, and pedagogical observation identified aspects reflecting indicators of personal motivation for the future among schoolchildren within time boundaries. These boundaries are the coming days and distant years, indicating the schoolchildren's inner dreams and aspirations. It is essential to understand the factors causing interest in learning and application. Moreover, it is critical to provide cognitive assistance for acquiring skills necessary for their implementation in a student's future. The successful development of their personality at a high intellectual level and self-esteem and formed indicators of the cultural and aesthetic level require further creative fulfillment of their dreams and social needs at a favorable level improving the quality of personal and social life.

The school age is critical for the personal establishment and gaining inner confidence in one's attractiveness, knowledge, intelligence, and talent. It is expressed at the behavioral level in the future, manifesting an intelligent approach to solving many problems of different orders in all spheres. Maintaining inner balance and self-esteem and acquiring a deeper motivation for self-fulfillment improves the quality of one's own life within the framework of health preservation and provides a favorable attitude to the surrounding world of nature (Kalyani, 2020). The age-related interest in learning new things presents a more careful selection of the educational format of classes. It can occur within the framework of high interest of students for further intellectual development and acquiring special knowledge and skills necessary for their future personal and professional success. In this area, studying schoolchildren's interests, aspirations, and hobbies is vital for the better and more effective construction of classes. Within the framework of digital education, using innovative technologies allows for expanding the boundaries for reproducing the ideal prospects and considering the identified needs. Then, integrating these technologies into the educational process will enable realization and create a substantial potential for educational activities. The result will be the development of an intelligent, cultural personality with creative behavior toward others with early and distant prerequisites for practical self-realization. It is because necessary skills will be obtained during training. We are confident that achieving the desired result in health-saving conditions will be accomplished, forming a prosperous sphere for life due to the implementation of plans (Rakhimov et.al.,2019).

Consequently, we considered all the parameters and features above and analyzed the effective components separately. This move entirely helps form an organizational model using

innovative technologies within the framework of learning digitalization in school education. The study develops the model implementation by incorporating innovative technologies in the digital education process in practical school education. Accordingly, in several stages, we created a model to apply new technological tools in the scientific and technical educational process. These stages included establishing the initial level of attitudes in students' future lives within the framework of dreams and aspirations. This framework arouses interest in life and has personal relevance. Furthermore, introducing these indicators at the methodological level of the lesson would increase students' motivation to study because the selected testing method provided results satisfying the above parameters, clarified and deepened with pedagogical supervision and feedback from the respondents. We ran statistical analyses on the obtained data. The development and implementation of a model incorporating innovative technologies based on the criteria above for their subsequent implementation in practical school education offered a meaningful solution to intellectual development. On top of that, personality improvement depicting respectful behavior in society and a developed sense of self-esteem were observed during school education.

Our study covered 127 schoolchildren. The diagnostic testing analysis revealed that most students have substantial moral dreams within the framework of visiting cultural places and events, learning exciting and beautiful aspects of life, and acquiring a status of a cultural and intelligent person. Socially important people surrounded students with excellent and successful prospects, and opportunities existed to allow students to express themselves creatively and aesthetically for career advancement. Thanks to these expected results, students would acquire a decent standard of living with the opportunity to travel and realize their life goals within the framework of cognitive function worldwide. Hence, detailed analysis allowed for identifying the students' internal aspirations, primary points, and criteria. Students' goals, aspirations, desires, and dreams were shaped when summarizing the data. The factors included are necessary for students to live a happy life at the personal perception level. Therefore, all (100%) students noted the ability to travel, attend theatres, movies, and concerts, do easy homework, and be kind to teachers. They also followed exciting lessons at school, had more resting time and did their hobbies, ate tasty food with the opportunity to go to a cafe, and could buy necessary and beautiful things to have good health. The other critical issues were as follows: studying successfully at school (94%), taking creative courses or sports orientation (97%), attending public holidays, fairs, and festivals (93%), and having the opportunity to transform their appearance by changing their image and clothing (78%), meeting friends and visiting

them (96%), receiving a good education in the future (81%), acquiring English at a reasonable conversational level (72%), meeting a loved one and starting a family (84%), finding a decent job (94%). Several answers addressed everyday issues, such as the desire to have a separate room or not to perform household duties (Figure 1).

Important internal needs, goals, and aspirations of schoolchildren

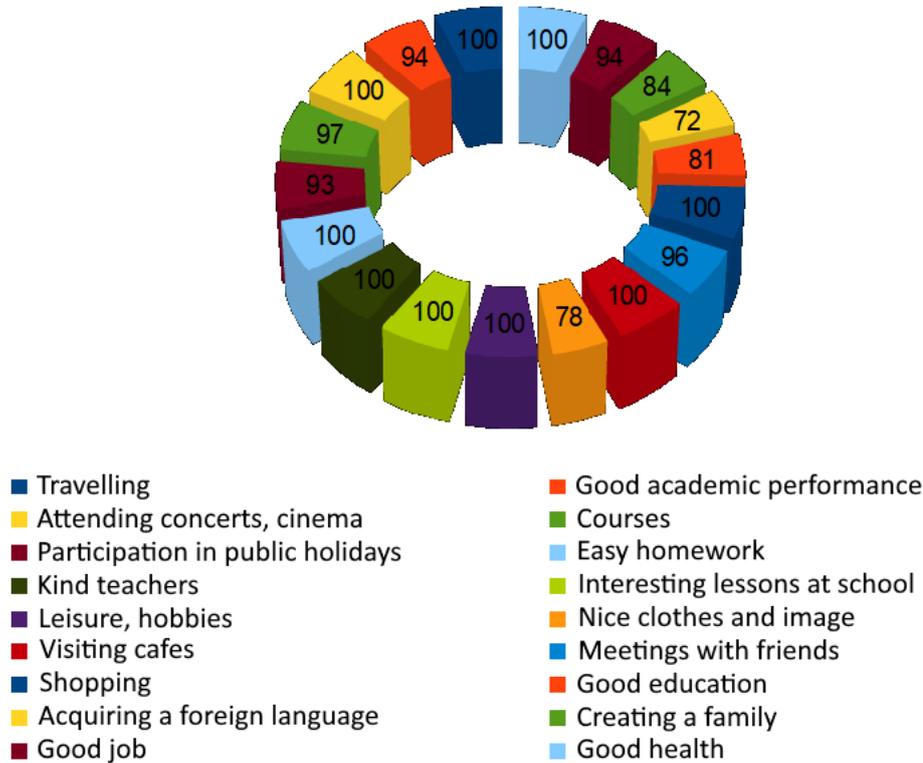


Figure 1.
Distribution of Students by Levels of Personal Aspirations and the Presence of Life Goals After the Analysis

The data analysis presented that most students have clear and appropriate goals and desires, demonstrating the health of personality on the emotional level. Concurrently, these goals provide the typical level of intellectual development and, at this stage, require specific conditions for implementation. They also deliver the necessary skills to help understand how to implement the desired successful requirements for the further development of schoolchildren. To that end, the primary indices demonstrate the dreams at a high social interaction level implying reasonable communication assumptions. However, they also require processing at the learning ability level to depict and maintain in the desired areas given a respectful, constructive behavior to express cultural and positive background of interaction with others. This interaction is assessed within the framework of etiquette, intelligent behavior to create the image in the cultural boundaries of social behavior, and self-fulfillment of the

internal potential of a decent person with respectful treatment. This image is based on communication skills and behavioral reactions in various situations associated with the appearance of unforeseen circumstances during collective events or visits to places with other traditions. The travel will lead to the development of the student at a decent cultural and aesthetic level, and they will be able to express themselves with an intelligent and well-mannered manifestation of their behaviors and rhetoric emotional reactions. All these parameters will positively affect society and create vital achievements for successful social and personal life.

Thereupon, the trend and parameters for implementing research conditions in developing a model using innovative digital education technologies were identified and based on a detailed analysis of the results. The primary components of the model development process depended on essential indicators of the educational process, covering the development of interests, aspirations, and goals. Given educational activities, the model would increase interest and motivation to study at school and induce more cognitive interest in the subject's learning process. It would manifest an impact in the lesson for the necessary cultural and aesthetic development delivering increased self-esteem and strengthening mental and intellectual activity if a successful expression of interest in the study existed (Black et al.,2017). The selected assessment factors provided resource capabilities and predisposition to education, self-study, and self-cognition to acquire value motivation and form a stable socially developed attitude on many occasions. Any person in the modern world must connect with the trend of world hospitality and participation in social life. They should manifest themselves on an intelligent, culturally respectful background with highly developed cognition levels and acquire behavioral reactions demonstrated in emotional responses. This act would be accepted in a social-cultural society according to acknowledged etiquette rules, presenting a person's upbringing and education level. Accordingly, incorporating digitalization into education would improve the school's image and value in society and boost its ranking in educational institutions worldwide. The higher-ranked school would produce highly cultured and educated young people helping them acquire the culture of etiquette and intelligent behavior (Yildiz & Kilic Cakmak, 2021).

Consequently, given the above parameters, we developed an organizational model applying innovative technologies in the educational process at the school. We aimed to study interactive play situations associated with aesthetic behavior in various cultural and public places and countries. We considered the changing aspects of the individual image for an interactive

dressing superimposed on photos of models' clothes with the possibility of fitting accessories and changing hairstyles. This modification was applied to the make-up of female students, raising self-esteem and awareness of the appearance in the image. It would also improve the sense of self, increasing self-confidence and the image conciliatory knowledge factor. It also considered social society and public places with a specific designation, and proper learning behavior, creating the conditions for acquiring practical skills for successful implementation in life. This move included adapting to different situations and improving confidence and self-esteem, contributing to inner dignity. This inner dignity manifested itself on the valid-emotional level in the future, positively impacting its occurrence and development. What was strengthened in the practical part of the lesson was using forms of employment, including theoretical and virtual cognitive-practical experiences. These experiences led to the introduction of education digital technology innovative procedures based on the motivational-value, cognitive-communicative, cultural and aesthetic criteria concerning the preservation of the educational process.

As a result, after testing the implemented system's implementation at the control stage of the study, a survey was conducted on its influence on essential indicators related to personality development and attitude to the educational process. It confirmed the functional efficiency of the developed innovative technologies model in teaching at school to improve academic, cognitive, cultural, communicative, and motivational achievements (Figure 2).

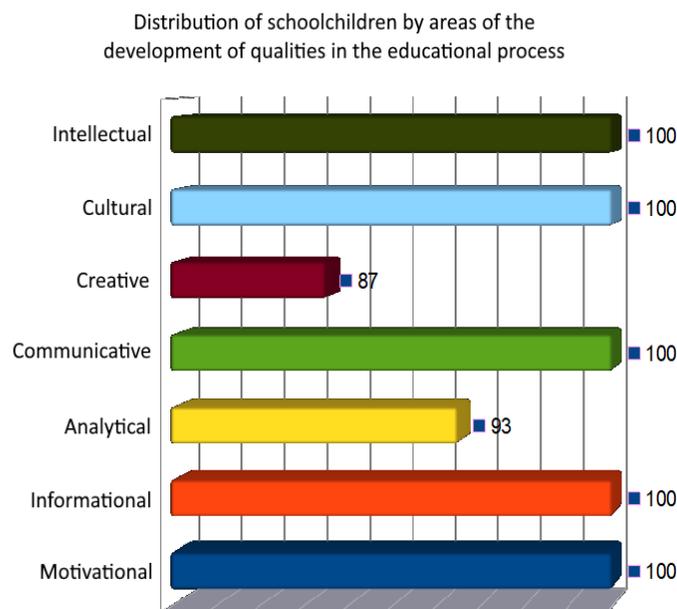


Figure 2.
Distribution of Schoolchildren According to the Formed Levels of Psychological and

Pedagogical Aspects at the Final Stage of the Study

Based on the data obtained, the authors can refer to the success of the created organizational model of introducing new technologies with a high level of interactivity into the educational process at the school level. The model depicted the successful implementation of all the above tasks and the development of the above parameters; it allowed for increasing interest in learning at school. It also addressed the motivation of the presence and schoolchildren's active behavior in the classroom within the specified lesson framework. We confirmed the model by the data obtained concerning these formats of the educational organization's regular activities, as illustrated in Figure 3.

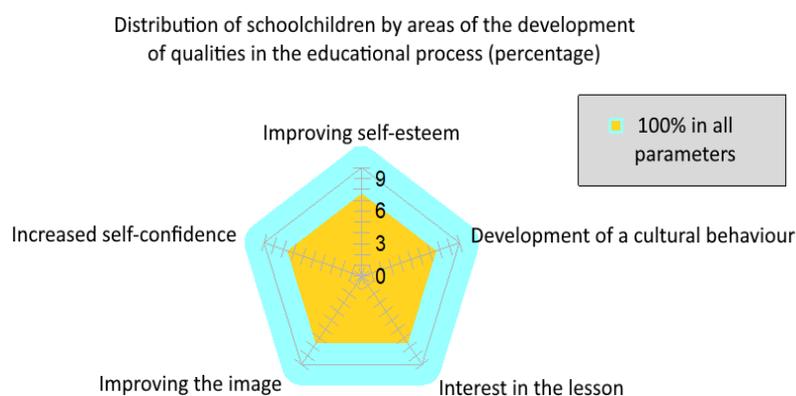


Figure 3.

Distribution of Schoolchildren According to the Formed Parameters Within the Framework of the Application of the Developed Model at the Final Stage of the Study

Analyzing the research results suggested that the developed model of the innovative digital education technologies' application considerably improves the effectiveness of the educational process with successful personal achievements in internal aspirations and goals. The study was validated because the questionnaire's characteristics, parameters, and the developed criteria were comparable. The level of innovative technologies' development at the present stage of education makes it possible to create conditions for successfully conducting classes at a high level with effective pedagogical methods. Moreover, it presents knowledge in the created conditions close to the optimum factual situations manifested in students' behavior in the classroom. These behaviors agree with the formed model of the skills manifestation and behavioral and emotional reactions with increased self-esteem and intellectual, cultural, and aesthetic development (Choi et.al.,2019). The developed model is oriented to the trends of the modern world, where international-level communications are prioritized to behave within the framework of many cultural and aesthetic social behaviors, manifesting a creative and

respectful level of communication. It dictates the need to create conditions for learning within school education predominantly because these parameters were determined based on the schoolchildren's motivations. This direction increases its value as the primary and necessary self-realization and self-perception as worthy members of society at a high intellectual level of development, applied in all spheres of their lives (Maruthavanan, 2020). Therefore, the developed model has a socio-cultural value and contributes to developing students' high self-esteem and a sense of self-worth as future full-fledged members of society. It presents high dedication at the operational self-manifestation level and participation in public and social life's creative and cultural levels (Baikulova et.al.,2017). Teaching these skills using the newly developed digital education technologies and considering compliance with the health-saving standards during educational activities will create optimum conditions. These circumstances will provide comfortable conditions at the emotional, technical, and aesthetic levels, emphasizing the educational process's high achievements and raising educational organizations' prestige (Widayati et al., 2020).

The considered unique model covers the development of cultural and aesthetic parameters' knowledge and the knowledge acquisition necessary in this field. It distinctly presents data being interested in the teaching knowledge itself and allows all students to participate in classes actively and manifest themselves in various forms. Furthermore, the students may perform in presented situations with possible correction by the teacher, forming deeper foundations of etiquette behavior and manifestations of emotional reactions. As a result, this situation develops a worthy cultural personality with advanced intelligence and cognitive accents from various social elements of the life principles' manifestation (Iqbal, 2016). This form of presenting knowledge makes it possible to see the value motivations inherent in the student, helping a highly qualified teacher intelligently correct each student on the path of acquiring universal and cultural values. Each lesson includes different formats for obtaining information about the competent behavior of an intelligent and educated person by creating an active approach and a favorable external image of a highly cultured person with an appropriate appearance. It depends on being in a particular area and sphere of social importance, equipping students with the cognitive, theoretical, and virtual levels, and considering using innovative technologies. This action fulfills students' deep aspirations and dreams identified during the study. It is comparable with the developed form of training in digital education at school in the form under consideration (Harsismanto et.al.,2021).

Consequently, the theory and practice of knowledge at the current level are combined in technical, innovative developments, methodological and subject materials, interactive technologies, creative and respectful discussions, and master classes. It uses various means necessary to create an environment and acquire skills within a given lesson topic. Moreover, it involves multiple games from plot-role-playing to intellectual and cognitive, with a training and evaluation character having a system of incentives and securing a positive emotional, health-saving background creating conditions for the development of increased interest in mental activity and motivation. Then, students can stay at school to study many more exciting topics in the declared field and form (Abdigapbarova et.al.,2016). The internal aspirations, dreams, and goals of schoolchildren covered during the study will create innovative technologies within the developed model using many topics in the identified area. It will contribute to the versatile development of schoolchildren with an increase in their intellectual development and help them acquire the art of communication in a favorable educational atmosphere. It will happen with literate and cultural behavioral reactions at a high mental and analytical level (Ezati et.al., 2018).

The model under consideration develops intelligence and creative potential, which is critical for the age category of schoolchildren for the personal development of their talents and the identification of individual predispositions. Moreover, this form of training makes it possible to educate the etiquette of communication of non-verbal and speech forms required for an active and cultural, prosperous social life. It will also contribute to better assimilation of humanitarian subjects based on school education in the future, activates independent activity, and contribute to the development of interest in self-education and reading with particular relevance as a task prerequisite for solving at the present education stage (Sawant & Sankpal, 2021). The proposed model will also create conditions for learning to form thoughts, express them competently, and establish and maintain a conversation with an interlocutor at a high cultural level in various life situations (Johnson & Onwuegbuzie, 2004). All will teach students to think, analyze, learn, and determine the general connections of life and, at the same time, deepen their knowledge about life in the world in all its interesting and beautiful manifestations. It will help the development of moral values and mental activity and acquire much necessary knowledge to acquire as successful and cultured individuals (Denscombe,2008). This knowledge in the lesson uses virtual technologies and interactive models to change one's image, research, and understand various factors that influence the image. A model of spending one's ideal day or month by visiting the theatre, cinema, restaurant, and step-by-step virtual travel

will teach them the basic concepts and criteria necessary for a prosperous life. It will indirectly impact their self-perceptions with an increase in self-esteem and form a high intellectual, cultural, and aesthetic personality (Creswell & Clark, 2007). Hence, the developed model of introducing innovative digital education technologies within the school educational process has proved effective and can be used in school education, considerably improving the quality.

Conclusion

Scientific and technical developments in digital education using innovative technologies can considerably improve the educational environment by introducing many parameters and opportunities for building an interesting and productive lesson. Therefore, the developed model of organizing educational activities using new technologies with many possibilities enables a sphere within which essential knowledge for students will be presented. This presentation means the development of students' personalities with high intelligence and cultural and aesthetic qualities, contributing to developing creative and respectful socialization skills within the educational process at school lessons. The developed model permits studying the necessary and relevant information using innovative technologies in playing situations related to aesthetic behavior in different places. It includes aspects of changing personal image when interactively changing clothes superimposed on photos with the possibility of fitting accessories and changing hairstyles against the background of personal goals based on the target dreams.

Furthermore, the aspirations of schoolchildren to visit different cultural objects and places of social importance will increase their self-determination of social status and self-esteem. It will also deepen their understanding of behavior at the social level with an intelligent and cultural approach to solving various situations.

Accordingly, students will learn how to form their thoughts, converse on different topics, acquire communication skills, and understand the importance of creating the image of the cultural person. Additionally, they will maintain a good reputation, develop the skills of self-control, attention, and perseverance, and learn to analyze the cause of disputes and conflict. Therefore, they will choose a peaceful level of conversation, acquire the skills of friendly intercourse with the people around them and realize the importance of a person's moral values. To that end, the model develops the student's value-semantic, emotional-volitional, motivational, intellectual, and aesthetic characteristics. Our results will be helpful for school teachers, methodologists, and other workers in education and can also be applied in practical education to improve effectiveness and quality.

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