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TECHNOLOGY-ENHANCED TEACHING AND LEARNING WITH NEW MEDIA

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Abstract: The authors examine pedagogical and didactic aspects of digital teaching and learning with new media during video contests or participation in online games. The challenges educators face when they deal with innovative tools are resolved using professional development, improvement of corporate culture and motivation that supports digital ways of teaching, learning, and organizational behavior. Technical, social and cultural competences can be improved if some of the educational activity is transferred into networked communities like virtual worlds.

Key words: digital learning; blended learning; online learning; educational discourse; adolescent identity development; networked community

ПРЕПОДАВАНИЕ И ОБУЧЕНИЕ С ИСПОЛЬЗОВАНИЕМ ЦИФРОВЫХ ТЕХНОЛОГИЙ И НОВЫХ МЕДИА

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Аннотация: Анализируются некоторые составляющие Концепта «Цифровое обучение» на примере использования новых медиа, участия в видео конкурсах и онлан игр. Авторами освещены педагогические и дидактические вопросы применения инновационных технологий в сфере образования. Студенты

и учителя могут развивать технические, социальные и культурные компетенции более эффективно, если обучение частично будет перенесено в сетевые сообщества, такие как виртуальные миры.

Ключевые слова: цифровое обучение; смешанное обучение; дистанционное обучение; образовательный курс; образовательные технологии; развитие личности подростка; сетевое сообщество

With omnipresent technology-enhanced teaching and learning, new tools rely on innovative pedagogical approaches. To develop competencies and skills students and faculty can work on projects which help them to express themselves, so that their voice could be heard by the larger public. Students can create new content, develop games, and make new graphics within educational institution and beyond. A good example of virtual worlds or creative platforms, which are meeting places for young people, are scratch.mit.edu with 15 million participants and whyville.net – with 7 million. We see great potential to develop academic writing, especially argumentative essay and research articles writing skills in secondary and higher education in native language and in learning modern languages. Both students and faculty have benefited from using technological tools for checking spelling and revising grammatical structures. It is feasible to take advantage of technological tools which help to improve writing strategies, the text structure and the diversity of lexis [1, pp. 34-35]. Creative writing is another area which can be developed in academia based on technological tools and, for example, within projects such as NaNoWriMo, which motivate students to write a novel and the online resources, including training videos and lectures on YouTube, contain recommendations on how we can use technology to write better and more efficiently [2, pp. 90-91].

The ongoing technological change motivates us to reassess standards and strengthen pedagogical methods to redefine and improve digital competencies of the student body, faculty, administration and other stakeholders of educational institution. Teaching methodology starts from the realization and adaptation of programs that encompass the blended and online dimensions of curriculum. We should constantly review educational informatization tools; that is, new hardware and always changing software, also aspects of digital content for the specific age and level of education. Not only technical knowledge about the computer equipment is important, but also the understanding of how didactic materials and manuals can better serve modern teaching and learning. Speaking about digital content we should focus not only on preparation of the lesson materials by the faculty but also on active participation of students in production of the content. During the creative process students and faculty can work individually or cooperate on numerous activities like writing blogs, designing sites and games. Students improve their technical skills and learn how to develop various competences and specific skills, such as writing argumentative essay in the context of preparation for international exams like TOEFL or IELTS or within larger framework of academic writing. Students have a chance to create and to demonstrate the results or products of their creative development, to improve the art of participation in the digital publics [3, pp. 3-5].

Our teachers together with students regularly participate in preparation of a video for Russian American History Video Contest (organized by PH International in partnership with the U.S. Embassy). Teams made up of three students (8-10th grades) and a teacher work on a task that is interdisciplinary as the team makes a video, for example, about originally American object, invention, or innovation but that exists in Russia and exemplifies our common culture, shared history and values. Students enjoy the creative productions and remixing content. The team discusses the choice of formats, including video, documentary, theatrical performance, computer animation, puppet cartoons, flip-books, comic book panels – and makes a group decision to follow a video format. The team members learn the skill of making a video in English with Russian subtitles, producing new media content in the form of two videos; the team consents to its future publication on other sites at the choice of the contest organizers. For students this is the first experience in the formal application process, when each team submits a link to a private video with a short introduction by the team: every member practices in making introductions in English and in summarizing the idea of the video before the final cut. The skill of writing a summary is important and presentation skills are a must for academic success and career development.

In year 2019 we make a video about American Literature while in year 2018 we made a video on another

er suggested theme (something which affected our relations), and our video was about the first sputnik which intensified cooperation in space between the USSR and the USA, the scientific interchange that still goes on. The research stage is conducted for writing the scripts for the videos (including the introductory video for two minutes with participation of all the team members and the video for five minutes). We start with a brainstorming session to discover something from America in our community which is owned by friends, relatives, in local museums, and educational institutions. For this purpose we use online searches to have a short-list of physical objects, inventions, and innovations (technological, cultural, linguistic) existing in Russia. Then, we make a video (which could also have been a cartoon, animation, filming a comic book story, or artistic creation according to the description of rules). The team has to be concrete and detailed; the scripts are argumentative and the whole project is like a research work and presentation. Also, we are asked to make the video original with possible inclusion of open source video and pictures. The students edit the video and we upload it on YouTube (as an option another video hosting site could be used) which is a handy skill to know in the digital era when YouTube plays a great role as a social media or a way to share video content, the video is uploaded as unlisted to include the link to the video in the application form. The submission of the application, registration and logging in requires the possession of Facebook, VK, or Google+ accounts; using social media is critical nowadays for success in many trades of life and teenagers enjoy using the applications. The motivation to participate is boosted by the incentive to send the winners to the United States with visits to Washington, D.C., San Francisco, and Alaska. In 2018 our team members (we formed two teams at our school) received participation certificates from the Embassy which is a great proof of our involvement in an international competition.

The video contest has an educational function of creative production which includes writing scripts and planning the design process. The production makes it possible to empower young girls and boys, some of them coming from underprivileged communities; this is a chance for the voices of youth to be heard, maybe for the first time in their lives, and for certain cultural value to be transmitted to the publics [4; 5, pp. 5-9].

The open competition nature of the contest is supported by the fact that contest videos are judged by a panel of history experts, English teachers, American Studies professors and US specialists on the basis of the following criteria: research into the subject, depth of knowledge about the subject, creativity of the presentation, English language skills of the entire team. Apart from improving multiple skills and competences working on the preparation of video clips and submission of the application form, the team has a chance to win traveling to the United States of America in July-August, which is by itself a fantastic opportunity to further improve skills and expand worldview both online and offline. Thus, students and teacher have a chance to build competencies, not only technical but also social and cultural.

The enthusiasm associated with this project is stimulated by the fact that participants share the video with interest-based audience and expect to receive feedback. The quality of work will vary; however, even basic input will have a positive effect on the team and the individual who contributes. The aspect of motivation is important to encourage student participation in activities to develop skills of sharing feedback, analyzing work and contributing to the success of the community. Online space unites local people into a community of friends. Working in small groups on a project with in-class presentations as well as presentations outside educational institution (in the form of online conference, competitions, open access publication in co-authorship, or online participation in related forums and discussions of different type) helps interact with the publics and support community development. The leadership and social skills improve so both the group and the individual benefit from online, blended and in-class activities.

Another important aspect when we deal with digital education is the cheating culture or sharing information with other participants. Students and other interested individuals create cheat sites or forums for re-posting keys to exercises and writing their answers to assignments. Educational and learning community may show compassion to such forms of cheating as it maybe part of learning culture or just a form of participation. The definition of cheating can be not so clear and is redefined by individual stakeholders of educational discourse to offer opportunities for students to participate in projects which have personal and social value and to develop an audience, turning students into contributors.

Children should learn programming, participate in making videogames and participate in virtual worlds to improve their interdisciplinary academic skills. Students and faculty can produce digital content in online

environments; such activities defend rights, create learning opportunities, and promote educational best practice in various contexts, including in the situation of bullying, harassment, or crime in the neighborhood. The community development component supports the training of participatory competencies, for example, students learn to differentiate media genres, to use media means, to request membership to the community, to negotiate what content to share and to modify content.

Professional development can compensate for the fact that often students are better in using modern technologies. Modern management should focus on rebranding and improving corporate culture to motivate personnel to constantly develop digital content and to improve their teaching competences through expert evaluation and briefings on the emerging electronic educational resources to use for lesson planning and digital instruction across curriculum. The image of school management and its attitude to new media is critical; administration should provide a system of incentives for faculty which succeeds in implementation of new technology and creates opportunities for students to participate in the digital publics, to discover new digital content and its application, to explore cultural identity using digital media production in cooperation with each other. The improvement of digital methods includes both distance and blended instruction along with setting the innovative goals and objectives, development of digital content, formulating new methods of teaching and learning. The development of the teacher's digital competences will have positive consequences on the quality of the student's education; especially, if based on the principles of cooperation, partnership and feedback between school and family, teachers, and parents.

Digital tools thanks to portable devices and the potential of affordable mobile Internet have opened up alternative communication channels to develop competencies and to improve internationalization practices [6, pp. 159-161; 7, p. 26; 8, p. 200]. The introduction of blended technology can provide motivational setting for building up skills along with traditional ways. Of course it takes time to experiment and apply new technology for both students and teachers; however, if all the participants demonstrate regular efforts in the direction of digitalization of education the positive shift is guaranteed towards better digital content, creative participation (contribution and creating new content), and networking. In comparison to earlier stages of education, the high school and higher education enjoy more freedom in choice of technological tools. At primary secondary education (that is, grades one through four), kids have some introduction into digital content under guidance which train basic practical skills without much digital group activity. In high school technological tools are of more importance because distance and blended learning is key to admission to a good college or to preparation for leaving exams.

At middle school level (that is, fifth through ninth grade of Russian secondary school), in comparison to high school, the digital content should be somewhat different and take into account the transition between elementary and high school. At the beginning of middle school interactive lesson are used to train basic skill similar to elementary school. While the two final grades of middle school may include other components of digital content depending on the individual trajectory of students with gradual introduction of advanced material and innovative tools. The flexibility at this level should be realized in terms of introduction of various technological tools because motivated students would only benefit from more challenging tasks and alternative ways to communicate and learn. Consequently, students together with the teacher will be ready for stress-free transition to high school or final years of secondary education and build competencies of self-study and independent work. Digital learning and teaching should be equivalent and even better than traditional ways taking into consideration the type of educational institution, for example, vocational or college preparatory secondary education, undergraduate, or graduate studies. The features of specific types of education should affect the planning in application of digital tools.

Speaking about internationalization of education in Russia, the programs and requirements don't always correspond to curricula expectations in other countries. Digital technology, including distance learning and teaching can bridge the gap and help students who want to achieve more and study abroad to take up courses online and to take advantage of global mentorship programs to enroll smoothly into other educational institutions, to transfer, or to participate in an exchange. The possibility to participate in international online education projects helps to overcome inconsistency in local education or lack of certain standards or opportunity in the current institution. Motivated high school students can take up online or blended college-level course which

can later count for an undergraduate course. Such experience guarantees successful transition from high school life to college and empowers teenagers to achieve more and to explore more opportunities, not to be restricted by the education their home institution creates for them or the limitations and boundaries imposed by their culture or community .

Thus, all stakeholders of secondary and higher education can benefit from the technologies which enable online and blended instruction across disciplines. Cooperation is necessary for ongoing adaption of digital technology to raise the quality of education. Digital technology promotes crossdisciplinary methodology in teaching a specific subject and relies on the use of available devices with Internet technology, gaming aspect, and community-driven projects. Technology is part of modern management, curriculum development, creative work and research conducted in class and during extracurricular activities. Digital teaching and learning requires constant research, development of related models of education linked to certain levels of education and age as well as to a subject area. In the changing technological landscape we need to look for and accept new technological tools, applications and digital content. Teenagers become technically, socially and culturally competent in this process; the critical thinking skills also evolve in the creative practice of adolescent identity development in the setting of the participatory culture. Ethical and technical aspects of creative practice open up new frontiers for researchers and educators who can affect the change in our communities. Digital learning becomes an obligatory component of the planning of the educational, creative and research activities in the classroom and in the form of extracurricular activities—with writing across curriculum considered a critical practice. The multifaceted phenomenon requires further crossdisciplinary analysis of digital learning models.

References

1. Strobl C. et al. Digital support for academic writing: A review of technologies and pedagogies // *Computers & Education*. – 2019. – Т. 131. – С. 33-48.
2. Penkov B.V. et al. Digital Teaching and Learning Across Curriculum // *World Science: Problems and Innovations*. – 2018. – С. 89-91.
3. Kafai Y. B., Fields D. A., Searle K. A. Understanding Media Literacy and DIY Creativity in Youth Digital Productions // *The International Encyclopedia of Media Literacy*. – 2019. – С. 1-10. <https://doi.org/10.1002/9781118978238.ieml0058>
4. Penkov B.V. et al. Thematic Markers in the Teenage Discourse // *Научные достижения и открытия 2019*. – 2019. – С. 80-85.
5. Heinze C. Jugend und/im Film: Jugendfilme // *Handbuch Filmsoziologie*. – 2019. – С. 1-26.
6. Hartong S. The Transformation of State Monitoring Systems in Germany and the US: Relating the Datafication and Digitalization of Education to the Global Education Industry // *Researching the Global Education Industry*. – Palgrave Macmillan, Cham, 2019. – С. 157-180.
7. Вайндорф-Сысоева М. Е., Субочева М. Л. "Цифровое образование" как системообразующая категория: подходы к определению // *Вестник Московского государственного областного университета*. Серия: Педагогика. – 2018. – №. 3. – С. 25-36.
8. Penkov B.V. et al. Corporate culture and its impact on the promotion of digital teaching and learning // *Актуальные вопросы права, экономики и управления*. – 2018. – С. 199-201.

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