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INCREASING THE EMOTIONAL INVOLVEMENT OF STUDENTS IN THE PROCESS OF DISTANCE LEARNING*

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Abstract

The purpose of this article is to study effective tools that affect the emotional involvement of teachers in the process of distance learning. Hence specific tasks follow - to define the essence of the concept of “involvement in learning”; consider the problem at the level of the physiology of the human body; to determine the conditions for creating an environment conducive to the emotional involvement of students, to generalize the results of an experiment conducted in 2020 with three groups of students of Kazan Federal University in order to identify factors that contribute to the creation of an engaging learning environment. The study is based on a hypothesis: the effectiveness of the online learning process will largely depend on the high emotional involvement of students in the online learning environment, which is determined, among other things, by the physiological characteristics of a person, as well as other characteristics of modern students. Research methods: study and analysis of scientific and methodological literature on the research problem, pedagogical experiment, study,

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analysis, comparison, generalization of learning outcomes, questionnaire. The authors, drawing on a number of fundamental studies, including the advantages and disadvantages of online learning, share their own experience in organizing an emotionally engaging learning environment that has helped to increase motivation and achieve high results during the Covid-19 pandemic.

Keywords: distance learning, engagement, learning environment, motivation, pandemic

1. Introduction

1.1. The context

Cardinal changes are taking place in the world society, which were caused by the spread of the viral disease Covid-19, due to which the borders between states were closed, endangering the processes of globalization, natural disasters and military clashes between states became more frequent (Ebrahimi et al., 2021; Hosseini and Khamesee, 2021; Ramezani Farani et al., 2021). In the context of the Covid-19 pandemic and the lockdown, educational institutions were forced to go to distance learning, and upon completion of it, switch to a blended learning format. The introduced lockdown forced higher school teachers to revise teaching technologies, re-evaluate all the teaching tools and methods available to the teacher, the emphasis was on new resources available in a remote format, electronic textbooks, training videos, massive online courses etc. To implement the process of distance learning, educational institutions have successfully used and are using various web-based tools and platforms: MOODLE (where electronic versions of educational programs with educational material, including records of practical assignments, presentations, tests, assessment materials), Zoom, Google, Microsoft Teams and others (Assadi et al., 2021; Faridizad et al., 2022). Conducting classes on Internet platforms makes it possible to obtain information in text, sound and visual forms and acquire knowledge for each student, regardless of the time and place where he is, because each student can view the recordings of the lessons at any time according to his capabilities and desires. Learning in a digital electronic environment raises an urgent need to develop a variety of online courses, digital electronic resources, the use of which could provide a reliable basis for distance learning, and would also allow students to study along their educational trajectory, making the learning process more flexible, tailored for each student.

It should be noted that the practice of distance learning originated long before the digital age. The invention of stenography by Isaac Pitman, mail correspondence between teachers and students at the University of London (19th century), the organization of training using postal services in America, Australia at the turn of the 20th century, the appearance of the first educational television programs created by universities, the emergence in the second half of the 20th century the first open universities in the UK, Europe and Asia eventually resulted in the emergence of online education for women in Canada (1986). Since 2010, open online resources have appeared, available to the general public, such as Coursera, Udemy, Edx and others (Effective transition, 2020).

Many researchers are engaged in scientific research of data, proving the benefits of this type of education. The cognitive characteristics of online learning have been studied in detail. It has been proven, for example, that the use of video materials, presentations, online diagrams, graphs and spreadsheets and other IT tools greatly facilitates the understanding of the presented material by students (Evgrafova et al., 2021; Mohajeri et al., 2020).

In addition, the principle of individualization of training is fully implemented - the student independently plans the passage of the educational route, determines the pace, volume of the studied, focusing on needs and personal capabilities. Of course, distance learning requires the development of certain personality traits - attention, memory, ability to plan and make decisions.

Emotional involvement of students is one of the important components of online learning success (Lashgari et al., 2022; Sokolov, 2022). During the lockdown, many of them noted the lack

of an emotionally positive atmosphere of communication with both teachers and peers, lack of motivation for learning, evaluative comments from the teacher, and the lack of clarity of practical goals in the study of a particular material. All this causes psychological alienation, passivity in the classroom, reluctance to make efforts, decreased mood and efficiency.

The problem is compounded by the characteristics of the modern age: among the many distractions and channels of communication, it becomes increasingly difficult to maintain the necessary level of engagement. In this regard, it seems that a teacher, teacher, tutor should clearly understand the importance of timely feedback between them and students, the need to use various forms of support, providing for the variability of creative tasks provided with a certain amount of actual live and relevant material, the use of game forms of educational activity.

1.2. Theoretical framework

For many foreign universities, the relevance of research on student engagement has become obvious since the late 1990s - early 2000s. This is evidenced by the growth of empirical research on student engagement, as well as the emergence of such large-scale projects as the "National Survey of Student Engagement". (NSSE) and "Student Experience in Research Universities" (SERU). In the late 1990s student engagement came to be at the forefront of discussions concerning the American higher education system, and then the British (Magolda and Astin, 1993). This concept was introduced by Professor of the University of California, Alexander Astin and is understood as "the amount of time and energy spent by students to acquire academic experience". Thus, the study of student engagement belongs to a relatively new direction in the field of higher education, its formation was significantly influenced by such researchers as Pace (1984), Jalili et al., (2014), Pascarella and Terenzini (1976), Bozorgkhou and Panbehch (2017). Thus, Astin (1984) noted that there is a difference between the two concepts of "student involvement" and "motivation", saying that the behavioral aspect plays an important role in the concept of student involvement: "It is not so important what a person thinks or feels like what he or she does, how he behaves, this is what defines and represents involvement ". He also answers that to answer the question "How to motivate students?" harder than solving the question "How do you get students involved?"

In the Russian sociology of education, this concept appeared in the mid-2010s, and developed in the works of Maloshonok (2016 and 2018). In the last two years, with the introduction of distance learning, the number of studies devoted to finding effective tools to increase engagement has increased significantly. For example, a comparative analysis of the readiness for online learning of various categories of students (sub-degree, undergraduate, postgraduate) was carried out, based on the results of which it was concluded that there is the relationship between the level of involvement and the gender type of a student, as well as the level of education of students and their receptivity and readiness to learn online (Sabbagh et al., 2021). A recent study by Hernández-Sellés, et al., (2019) focuses on, for example, computer-supported collaborative learning, which is designed to facilitate and improve the online learning process, and emotional support linked to intragroup work "reveals itself as a fundamental pillar in collaborative learning". Kiuru and Popova (2018) in his article proves that "the modern digitalized environment significantly changes the factors of university students' involvement in the learning process. In the course of his research, a correlation was established between education technologies and student engagement. The solution to the problem of low student involvement in the learning process, according to the authors, can be the active inclusion in the educational process of digital content presented on open educational resources.

2. Methodology

In the preparation and conduct of the pedagogical research, the following methods were used: study of scientific literature, analysis of psychological and pedagogical literature on the topic of involvement in distance learning (in the form of online), observation and analysis of pedagogical experience associated with an attempt to create an engaging learning environment. The diagnostics of students in both technical and humanitarian specialties was carried out: the factors of motivation in the activities of students, their needs and interests were studied. Studying the language training of bachelors, we relied on the results of performing diagnostic tests to determine the level of formation of language and linguistic competence. Testing, questionnaires, practical assignments, study of the results of students' activities in traditional and distance learning, comparison of data on the research problem were carried out.

Investigating the language training of bachelors, we relied on the results of performing diagnostic tests to determine the level of formation of language and linguistic competence. Testing, questionnaires, practical assignments, study of the results of students' activities in traditional and distance learning, comparison of data on the research problem were carried out. The results of the study were obtained by a selection of 58 students of the Naberezhnye Chelny Institute of Kazan Federal University, of whom 26 study in technical areas of training and 32 in linguistic ones.

3. Results

3.1. Advantages and disadvantages of online learning environment

It is noteworthy that a number of researchers of various aspects of online learning note both its advantages and highlight a number of disadvantages. Among the advantages is the reduction of the load on the teacher, who has the technical and didactic capabilities for conducting distance learning. However, an analysis of the experience of introducing distance learning technologies (DLT) in Russian universities proved low communication or inoperative feedback from teachers: "Students (representatives of the network generation) are used to receiving instant answers - they are annoyed by deferred comments" (Dorozhkin, and Shcherbin, 2016). For a university - reducing the financial costs of training due to a decrease in classroom hours, forming students' readiness for independent work, developing their information competence, enriching the content of subjects through the implementation of an interdisciplinary dialogue of different disciplines, combining the presentation of theoretical material with the clarity and accessibility of its presentation, providing effective feedback, giving the learning process a personality-oriented character by shifting emphasis from teaching to learning, the possibility of choosing an individual educational trajectory, removing stress-forming factors. However, as mentioned, there are certain problems as well. Thus, the urgent need for a reassessment of the socio-philosophical foundations of education has not been satisfied: "Only with the help of philosophical laws and categories can e-learning be evaluated not as a means, tool or technology, but as a new philosophy of modern knowledge transfer and communication (virtual communication environment)" (Stetsenko and Zankova, 2014). In addition, "The development of MOOCs (Massive Open Online Courses) is viewed all over the world as a strategy in the struggle for human capital, and the main income in it comes from trading not in certificates, but in information about listeners (Smolin, 2014).

The fact is stated that not all students have a sufficient level of computer literacy and abilities for self-study, self-discipline, planning and self-control. Analysis of the latest scientific and methodological literature, that is, publications of the last decade, makes it possible to identify and systematize the difficulties of implementing e-learning, among which the main place is occupied by significant psychological changes in the student, up to the loss of the desire to learn, irreversible changes in the psychology of information perception, the collapse of educational systems due to the

increase in the communication gap between the teacher and the student, finally, the possibility of weakening national identity (Fig. 1). Obviously, it is important to take into account the negative aspects of e-learning, it is important to be aware of them in order to timely compensate and neutralize the negative effects (Dorozhkin and Shcherbin, 2016).

3.2. Types and aspects of involvement

In general, engagement is studied at different levels: organization (school or university); school / university life (extracurricular activities, circles, electives); environment (relationships with peers, teachers); learning process. Different types of engagement work at each level. The most mentioned and used in the research were: emotional (affective); behavioral; cognitive; academic (Fig. 2).

Let us consider three aspects of engagement:

Cognitive aspect

Students are actively working with their learning strategy, choosing ways to master new information. They take the initiative to integrate new knowledge into their own context.

Emotional aspect

Students feel their involvement in what is happening within the program (as opposed to the state of alienation of educational work, when everything related to learning is perceived as alien, needed by someone else, but not the student himself), and experience emotional comfort and satisfaction.

Behavioral aspect

Students complete assignments, take part in classes, and are active in discussions.

All three aspects work together. For example, a student can diligently complete all tasks and participate in all stages of the training course, but without emotional involvement and active work with the material, the result will be only formal.

What does engagement depend on?

Of course, from relevance. The better the student understands what problems the training will personally help him to solve, the more motivated he will learn. So, motivation is the impulse that allows you to maintain a state of involvement. In order to understand how to work with motivation throughout the entire learning path, it is important to consider what is happening from the physiological point of view of the student, that is, what in him at any given moment triggers the process of involvement on an emotional level?

According to Learning Involvement: Smart Approaches to Motivation (<https://sberuniversity.ru/edutech-club/events/2900/>), a practicing consultant in the fields of gamification and game technology, our emotional and physical state depends on neurotransmitters - chemicals through which impulses are transmitted between nerve cells. Each neurotransmitter launches a known set of functions that determine our behavior. There are 5 key neurotransmitters that affect our motivation: dopamine - motivates us to achieve. It works when we receive feedback, a reward for any action. The more often listeners take part, the more often they get the result. The teacher's task is to activate dopamine by dividing content and large tasks into small pieces, giving feedback for each piece.

Serotonin motivates to earn respect. Works when listeners are made clear that they are worthy of respect for their results, that others appreciate their efforts. How to activate? Show benefits and celebrate successes.

Oxytocin motivates to build social bonds. The teacher can activate it, creating conditions for the personal exchange of students' experience with each other, for uniting into communities, informal communication. This is especially true in distance learning. For this, there are forums, chats, blogs on many online platforms, where various topics related to mastering the material are discussed. Vlasova (2018) exploring the determinants of Internet addiction, emphasizes that

communication is one of the important components of social processes in the life of an individual, which means that it can be considered an important condition for involvement.

Endorphin creates a feeling of emotional uplift, an overall comfortable state. It medically helps to ignore physical pain, but it works in a similar way in teaching: when we, for example, use humor, there is a feeling of lightness and comfort, even if the participants are doing difficult tasks or are tired. Experts call for activating endorphins through the use of humor, thereby creating situations for informal emotional communication.

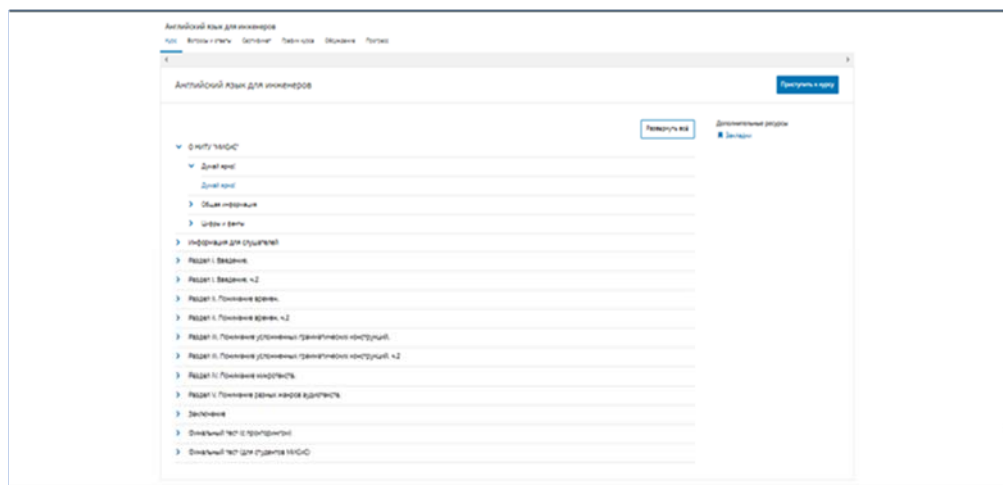


Fig.1. An example of dividing the content of an online course English for engineers from https://courses.openedu.ru/courses/course-v1:misis+ENG+fall_2020/course

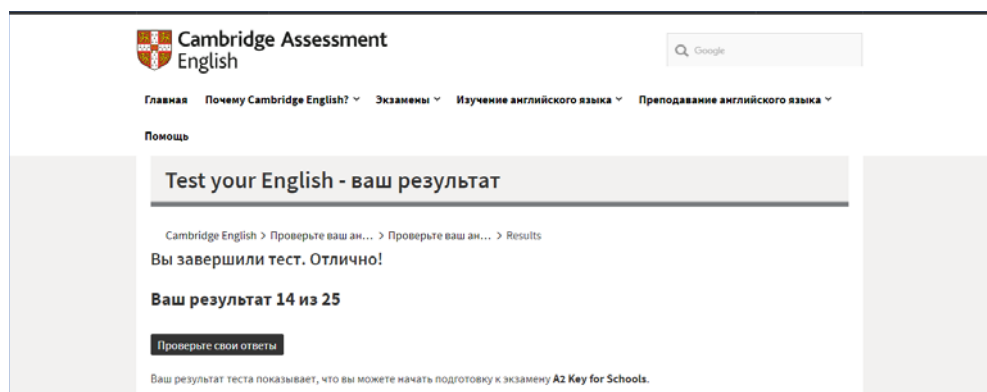


Fig. 2. An example of demonstrating the test result in English

Cortisol motivates people to look for a way out of potentially dangerous situations. For example, if a student has a deadline. The way out is to set difficult tasks, deadlines, conditions with limited resources. But it is important to strike a balance: if a person is under stress for a long time, this leads to fatigue and loss of interest. In training, it is better to alternate difficult and simple tasks, hard work with relaxation. So, when designing educational solutions, you need to understand what exactly certain mechanics affect, what neurotransmitters they trigger (Fig. 3).

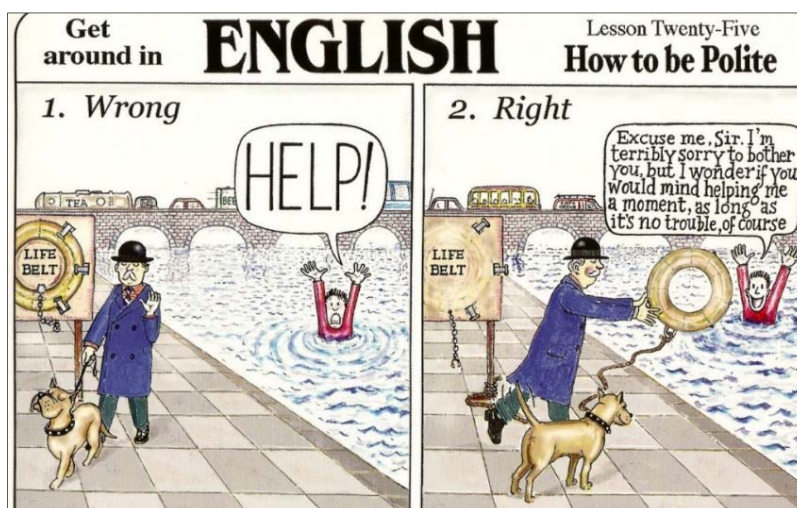


Fig. 3. An example of the use of humor in the content of an online resource

3.3. Experience in creating an inclusive learning environment

A motivated learner does not mean involved. Engagement requires an environment that is conducive to activity - not only educational, but also social. Therefore, it is important to consider internal and external factors (Vlasova, 2018). In the process of creating a digital educational resource in the context of distance learning, it is necessary to remember about such a phenomenon as the emotional tone of sensations, consisting of vital influences that can reflect both positive and negative factors of the external environment. Summarizing what has been said, we came to the conclusion that it is necessary to implement purposeful work on organization of favorable and elimination of negative impacts of the information environment.

Factors influencing a supportive learning environment:

1. Absence of both organizational and technical barriers to training. For example, if training involves conducting webinars, online meetings with a teacher, the trainees should have access to high-speed Internet, free time, installed programs or necessary applications on mobile devices. (Teams, Zoom, Skype)

2. Psychologically safe, friendly atmosphere. Students must be sure that they will not feel embarrassed about mistakes, difficulties in understanding the material, or expressing their opinions.

3. Positive reinforcement both at individual stages of training and after its completion.

To make students feel that others appreciate their efforts, tools for recognizing educational achievements are needed (ratings, a board of honor or even personal praise from a teacher, assessment or point-rating tables). For the most successful, we decided to reward with interesting gifts - links to a funny English-language video, presentation, animation, or individual interaction with a tutor about creative projects.

4. The ability to interact with other participants in the training. Intra-group communication is an important form of activity in foreign language classes. First, it builds a sense of belonging to the community, which is itself a tool of engagement. Second, by working in groups or discussing assignments, participants in the training motivate each other to overcome difficulties and complete what they started (Fig. 4).



Fig. 4. Example of blogging the rapid steps learning site

To do this, Microsoft Teams offers the ability to create chat rooms that can be visited by an educator or mentor who can schedule an online meeting. On the MOODLE platform, an open source online learning platform, Kazan (Volga Region) Federal University actively places copyright original electronic and digital resources created by the efforts of teachers «Distance education of Kazan University» on <https://edu.kpfu.ru/>. Within the framework of a particular course, teachers, together with students, discuss issues regarding mastering the material in a joint chat, give recommendations, etc.

5. The connection of educational content with real practical problems with regards to future academic and professional activities. I would like to share the experience of involving students of non-linguistic fields of study in the search for reliable information about scholarship programs abroad, such as, for example, the German Academic Exchange Service <https://www.daad.ru> and Erasmus <http://erasmusplusinrussia.ru/> etc. which they have the opportunity to participate in and win grants to study abroad. The teacher's task is to help with advice, correct, clarify information on filling out the necessary documents for submitting applications in German (Fig. 5).

In the conditions of lockdown, the aforementioned fund organizations were also forced to restructure their work and go online. Communicating with students from different countries and attending classes of foreign teachers, our students practice and improve their language skills, receive language certificates.

Inviting by the teacher during distance learning to online meetings of those students who were participants in scholarship programs has a motivating power. These students prepare presentations about the universities in which they had internships, about the cities they visited, talk about their impressions, which, undoubtedly, is a strong potential for involvement in online learning. Some of them return with the aim of further improving their German language and enrolling in a master's degree abroad.

6. Introduction to the educational process of active methods: situational forms of work, projects, conferences, organization of online thematic evenings. A positive experience was the viewing of educational films by Jojo sucht das Glück or Ticket nach Berlin from (Fig. 6).

The 18 serial film in German is presented in a fascinating format, affects all spheres of everyday life, including regional material: acquaintance with the culture of the host country, popular sports, sights of Germany, weather, orientation in a new place, situations of everyday communication.

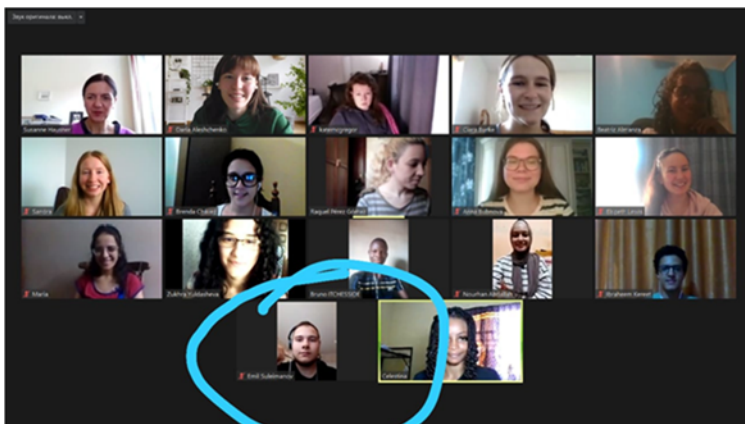


Fig. 5. Suleimanov Emil, student of the legal direction of training (NCHI KFU) in the process of studying on the scholarship program at the Technical University of Munich on-line.

Fig. 6. An example of online training tasks after watching the educational film «Ticket nach Berlin»

Through the materials of the site <https://www.goethe.de/de/spr/ueb/tbn.html> after watching the film, students have the opportunity to work on a glossary, perform training exercises, create their own interviews, act out dialogues, and at the same time expand their regional knowledge on the basis of short, but fascinating and informative texts containing rich factual material. This resource allows students to exchange opinions, forms a willingness to resolve problem situations, resolve disputes. At the end of the lesson, conclusions are drawn, as a result of which they form

conscious strong knowledge. The teacher, or facilitator, only manages the learning process, communication, while the learning process itself is accompanied by increased interest, the knowledge gained is distinguished by its depth and effectiveness.

It should be emphasized that the materials provided for teaching foreign languages on-line, undoubtedly, should arouse interest and be relevant. In this regard, news and other English-language sites have proven themselves well in the practice of teaching English. Specifically Breaking News English English Lessons: <https://breakingnewsenglish.com/> offering 3,158 Free English News Lessons in 7 Levels. Modern content, current vocabulary, leveling the presentation of texts, a variety of exercises for practicing vocabulary, grammar, listening and speaking skills, interactive tasks. On each page of a certain level, a general list of articles is presented; you can select material by headings (using Shift + F3, a selection is made by keywords) (Fig. 7).

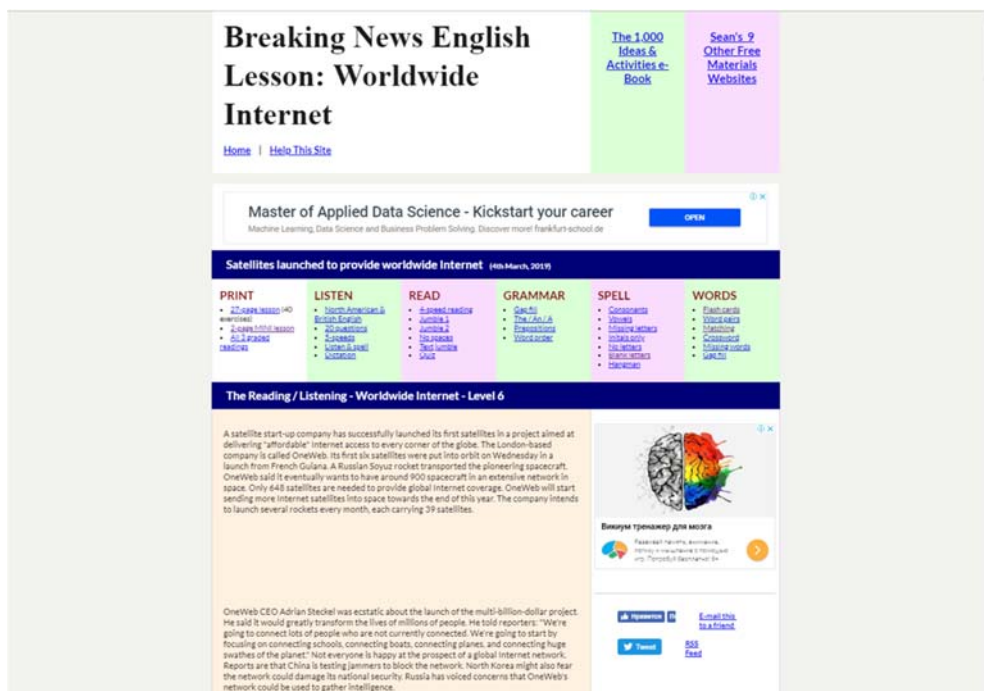


Fig. 7. Breaking news English lessons learning site example

If it is not possible to work in front of the monitor, then for many articles an option has been prepared in the form of a 2-page MINI lesson in pdf format (which can be printed on 2 pages on 1 sheet as a handout during off-line training for groups), moreover, there is the ability to enable presentation mode (Fig. 8).

3.4. Evaluating the effectiveness of teaching methods to create an inclusive learning environment

Electronic testing of students of non-linguistic and linguistic areas of training in a distance format showed that the applied pedagogical practices have proven to be successful: of them 37% of students - technical areas and 44% - linguistic students positively assessed the importance of the information space of the university for the development of information and communication culture of students, respectively 47 % and 39% noted the positive contribution of the applied online

technologies to the process of their professional development, 32% of students in technical fields and 36% of the humanities appreciated the importance of electronic resources in the development of research skills. Data are given in percentages (Table 1).

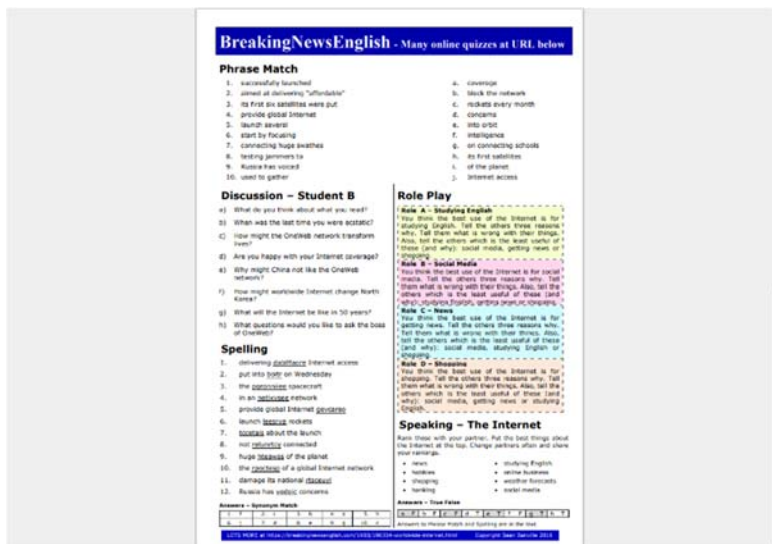


Fig. 8. An example of a lesson from the website Breaking News English Lessons in mini format

Table 1. Results of questioning students in various areas of training on the effectiveness of the use of online technologies in teaching foreign languages

	<i>Students of technical areas of training (%)</i>	<i>Students of humanitarian areas of training (%)</i>
1. Noted the effectiveness of the applied forms of distance learning	37	44
2. The electronic educational process helps to understand the importance of learning a foreign language for future professional activities.	42	33
3. Electronic information and educational environment contributes to the understanding of the goals of teaching a foreign language	39	27
4. Electronic development of educational programs contributes to:		
- the formation of educational and professional attitudes	46	39
- mastering the methods of scientific research in the information sphere	44	36
- increasing the need for self-actualization and self-realization	28	32
- implementation of a creative approach to translate your ideas	38	45

We are confident that the timely provision of information about scholarship programs by a teacher of a foreign language (in particular, German) helped students to clearly understand that

learning a language will not only expand the range of research, but also professional activities. Experimental work on targeted preparation for participation in the grant program was carried out with a group of students in technical areas of the Naberezhnye Chelny Institute (branch) of the Kazan Federal University.

The organization of online classes in a synchronous format was carried out, among other things, with the use of authentic textbooks of the "Optimal" series of the "Langenscheidt" publishing house, which correspond to the levels of the European standard. The educational material included microtexts with problematic tasks, dialogues, polylogues and was distributed in modules.

At the end of the book, there is a final test for the student, which confirms the knowledge gained in terms of German language proficiency. Distance learning based on these textbooks made it possible to increase the attendance of online foreign language classes on Microsoft Teams and Skype platforms (up to 98%); The success rate of test work has increased (81%); five students participated in the scholarship programs of the German Academic Exchange Service for summer university courses (three students won); 1 student won a grant in the Erasmus program. These results confirm that the attitude towards online German classes has changed for the better and the motivation for learning a foreign language has increased.

An interdisciplinary approach during distance learning was manifested in the organization of preparation of students for speeches in German and English with presentations of their research papers on the profile of the specialty. Students practice in the preparation of short theses on the topic of master's theses using the academic language. Joint online discussion with several teachers (specialized disciplines, English and German) on the preparation of scientific articles for publication in foreign journals, options for oral presentation of their works for participation in international online conferences served, among other things, as a factor that increases not only responsibility, but and involvement in online learning.

Ultimately, there is a wide range of different engagement techniques that can be used to create an engaging online environment, overcome obstacles without losing interest. One thing is clear, ultimately the goal of involvement is not the level of involvement, but the effectiveness of training, its effectiveness [4]. If a student readily uses our educational solution (an online course, an integrated digital resource, etc.) and this leads to the achievement of the goal set at the beginning of the training, has certain results, then motivation, involvement, including emotional, was provided for high level. Understanding the ultimate goal allows you to correctly assess the result of using involving tools.

4. Concluding remarks

Taking into account the tight deadlines in which it was necessary to carry out a massive and obligatory transition to distance learning, and the increased workload on teachers and instructors, it would be inhumane to expect an impeccable conduct of classes in a new format for themselves. Of course not. Full-fledged distance learning requires not only Internet access, technical and software equipment and basic digital competencies of the participants in the process. It becomes precisely "teaching" only under the condition of careful planning and design of the educational process, materials and assignments, the sequence of their study and implementation. In emergency conditions, this is simply impossible to do. Many researchers note that what is happening now in many educational institutions in our country (Russian Education) and around the world is not distance learning, but the transfer of elements of face-to-face studies to an online environment.

To successfully manage the process of distance education, we analyzed the relationship between students' personal characteristics and the development of motivation in students in the process of e-learning. To the question: "Does the educational process in the format of distance learning help to understand the importance of learning a foreign language for future professional activities?" 42% of the respondents in the technical areas of training answered in the affirmative,

among the students of the humanitarian areas of training are lower - 33%; - striving for professional self-improvement.

The modern educational process is seen not as passive assimilation of knowledge, but active research, the level of involvement is an indicator of the student's activity, his enthusiasm, curiosity and the acquisition of new knowledge. An involved listener is an active participant in the educational process. He sets aside time for learning, adheres to deadlines, shows impressive results, participates in discussions and knowledge for practice.

The conducted research allows us to conclude that although in distance learning there are still contradictions between the colossal opportunities provided by the systems. Undoubtedly, the aspiration of teachers, scientists, designers in the field of education, researchers is already yielding results. Our proposed practical tools using information and communication technologies correlate the influence of external factors of learning for a student with his internal capabilities, cognitive interests.

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References

- Ashwin P., Mcvitty D., (2015), *The Meanings of Student Engagement: Implications for Policies and Practices*, In: *The European Higher Education Area*, Curaj A., Matei L., Pricopie R., Salmi J., Scott P. (Eds.), Springer, Cham, https://doi.org/10.1007/978-3-319-20877-0_23
- Assadi A., Najaf H., Nazemizadeh M., (2021), Size-dependent static bending of anisotropic rectangular nanoplates with cubic crystal structures, *Micro and Nano Letters*, **16**, 350-358.
- Astin A., (1984), Student involvement: a developmental theory for higher education, *Journal of College Student Development*, **25**, 297-308.
- Bozorgkhou H., Panbehch R., (2017), The impact of knowledge management on organizational competitiveness (Case: Saman Insurance Firm), *International Review Special Issues*, **2**, 23-41.
- Dorozhkin E.M., Shcherbin M.D., (2016), Psychological and pedagogical problems of using e-learning, *Journal of Scientific Dialogue*, **5**, 199-213.
- Ebrahimi N., Adelian S., Shakerian S., Afshinpour M., Chaleshtori S.R., Rostami N., Aref A.R., (2022), Crosstalk between ferroptosis and the epithelial-mesenchymal transition: Implications for inflammation and cancer therapy, *Cytokine and Growth Factor Reviews*, **64**, 33-45.
- Evgrafova O.G., Salimzanova D.A., Gilfanova G.T., Bagateeva A.O., (2021), Practical implementation of the case-study method in the practice of teaching business English, *Journal of Global Scientific Potential*, **1**, 62-66.
- Faridizad R., Alavi A., Golshiri P., Alavi Shoushtari S.M.H., Lall M.D., Neshat S., (2022), Factors associated with anogenital warts and gonorrhoea infection: a cross-sectional study, *Journal of Health Sciences and Surveillance System*, **10**, 113-118.
- Hernández-Sellés N., Muñoz-Carril P.C., González-Sanmamed M., (2019), Computer-supported collaborative learning: An analysis of the relationship between interaction, emotional support and online collaborative tools, *Computers and Education*, **138**, 1-12.
- Hosseini S., Khamesee M.B., (2021), Modeling and simulation and imaging of blood flow in the human body, *Nveo-Natural Volatiles and Essential oils Journal*, **8**, 13235-13244.
- Jalili H.R., Hoseinzade Dalir A., Farsadzadeh D., (2014), Investigating effect of inlet shape on the flow pattern and vortex generation around inlet of intake using numerical model, *Water and Soil Science*, **24**, 29-40.
- Kiuru K.V., Popova E.E., (2018), The problem of student involvement in the process of learning in the conditions of online education, *Journal of Problems of Modern Pedagogical Education*, **59**, 380-384.
- Lashgari A., Hosseinzadeh H., Khalilzadeh M., Milani B., Ahmadisharaf A., Rashidi S., (2022), Transportation energy demand forecasting in Taiwan based on metaheuristic algorithms, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, **44**, 2782-2800.
- Magolda M., Astin A., (1993), What matters in college? Four critical years revisited, *The Journal of Higher Education*, **22**, <http://doi.org/10.2307/1176821>

- Maloshonok N., (2018), National differences in student engagement: comparison of the US, Chinese, and Russian highly selective universities, Submitted for publication.
- Maloshonok N.G., (2016), How the perception of the academic honesty of the university environment is interconnected with student involvement: the possibilities of conceptualization and empirical study. *Journal of Education Issues*, **1**, 35-60, <https://cyberleninka.ru/>
- Mohajeri M., Bianconi V., Ávila-Rodríguez M.F., Barreto G.E., Jamialahmadi T., Pirro M., Sahebkar A., (2020), Curcumin: a phytochemical modulator of estrogens and androgens in tumors of the reproductive system, *Pharmacological Research*, **156**, 104765, <https://doi.org/10.1016/j.phrs.2020.104765>
- Pace R., (1984), Measuring the Quality of College Student Experiences. An Account of the Development and Use of the College Student Experience Questionnaire, Report of Higher Education Research Institute Graduate School of Education University of California, Los Angeles, On line at: <https://eric.ed.gov/?id=ED255099>
- Pascarella E.T., Terenzini P.T., (1976), Informal interaction with faculty and freshman ratings of the academic and non-academic experience of college, *Journal of Educational Research*, **70**, 35-41.
- Ramezani Farani M., Azarian M., Heydari S.H.H., Abdolvahabi Z., Mohammadi Abgarmi Z., Moradi A., Rabiee N., (2022), Folic acid-adorned curcumin-loaded iron oxide nanoparticles for cervical cancer, *ACS Applied Bio Materials*, **5**, 1305-1318.
- Sabbagh P., Pourmohamad R., Elveny M., Beheshti M., Davarpanah A., Metwally A.S.M., Mohammed A.S., (2021), Evaluation and classification risks of implementing blockchain in the drug supply chain with a new hybrid sorting method. *Sustainability*, **13**, 11466, <https://doi.org/10.3390/su132011466>
- Smolin O.N., (2014), E-learning: Russian educational policy and foreign experience, *Journal of Human Capital*, **12**, 7-13.
- Sokolov G.A., (2022), Features of psychoemotional states of a student in distance learning, *Acta Scientific Neurology*, **5**, 11-14.
- Stetsenko I.A., Zankova E.Yu., (2014), E-learning as a system pedagogical category, *Electronic Scientific-Practical Journal of Culture and Education*, **1**, 89-95.
- Vlasova N.V., (2018), *Psychological Determinants of Internet Addiction*, Collection of Scientific Articles and Materials of The International Conference "Digital Society as a Cultural and Historical Context of Human Development", Moscow State University of Psychology and Education (Ed). Russia, 67-71.