INFORMATION AND COMMUNICATIONS TECHNOLOGY IN DISTANCE ASSESSMENT OF LEARNING OUTCOMES IN LINGUISTICS STUDENTS

ABSTRACT: The purpose of the study is to find the optimal conditions for using digital technologies to evaluate learning outcomes and the quality of educational services. The article presents the results of an empirical study (an anonymous online survey) of the attitude of teachers and students in three Russian universities to pedagogical assessment using distance technologies. The educational environments of higher education institutions of different universities have achievements in activating the use of e-technologies and demand for their development in the pedagogical assessment of learning outcomes remains. The main problems hindering the process of introducing remote assessment of the results of teaching linguists using ICT are the lack of highly qualified personnel; insufficient level of readiness of subjects of the educational process for this form of control; difficulty in forming project groups for the development of educational tests; weak feedback and insufficient motivation among teachers and students.

KEYWORDS: Pedagogical assessment. Distance learning. Distance learning technologies. Distance testing. Digital competence.
RESUMO: O objetivo do estudo é encontrar as condições ideais para o uso de tecnologias digitais para avaliar os resultados da aprendizagem e a qualidade dos serviços educacionais. O artigo apresenta os resultados de um estudo empírico (uma pesquisa online anônima) sobre a atitude de professores e alunos de três universidades russas em relação à avaliação pedagógica usando tecnologias a distância. Os ambientes educacionais das instituições de ensino superior de diferentes universidades têm conquistas na ativação do uso de tecnologias eletrônicas e a demanda por seu desenvolvimento na avaliação pedagógica dos resultados de aprendizagem permanece. Os principais problemas que dificultam o processo de introdução da avaliação remota dos resultados do ensino de linguistas com recurso às TIC são a falta de pessoal altamente qualificado; nível insuficiente de prontidão dos sujeitos do processo educativo para essa forma de controle; dificuldade em formar grupos de projetos para o desenvolvimento de testes educacionais; feedback fraco e motivação insuficiente entre professores e alunos.


RESUMEN: El propósito del estudio es encontrar las condiciones óptimas para el uso de tecnologías digitales para evaluar los resultados de aprendizaje y la calidad de los servicios educativos. El artículo presenta los resultados de un estudio empírico (una encuesta anónima en línea) de la actitud de profesores y estudiantes en tres universidades rusas hacia la evaluación pedagógica utilizando tecnologías a distancia. Los entornos educativos de las instituciones de educación superior de las diferentes universidades tienen logros en la activación del uso de las e-tecnologías y se mantiene la demanda de su desarrollo en la evaluación pedagógica de los resultados del aprendizaje. Los principales problemas que dificultan el proceso de implantación de la evaluación a distancia de los resultados de la enseñanza de lingüístas a través de las TIC son la falta de personal altamente cualificado; insuficiente nivel de preparación de los sujetos del proceso educativo para esta forma de control; dificultad para formar grupos de proyecto para el desarrollo de pruebas educativas; retroalimentación débil y motivación insuficiente entre profesores y estudiantes.


Introduction

Currently, the results of student assessment are mainly recorded in marks reflecting the level of knowledge or skills that the applicant has mastered and concerning the desired professional knowledge and skills. Therewith, the knowledge measurement systems may differ somewhat in different institutions of higher education. At the same time, they are understandable for those who get acquainted with the evaluation results.

The opinion of Mishchenko (2014) that the need to assess the assessment methods themselves is becoming more complex and brings many challenges to the teacher is fair. As long as certain skills and knowledge needed in the workplace increases, so does the need for
their appropriate assessment. These thoughts become especially relevant during emergencies, for example, during a pandemic. Then the purpose of the assessment becomes especially significant – to measure and summarize how students have mastered the certain educational program, professional knowledge, and skills desired by the employer.

The pandemic has made adjustments to the educational process and revealed new problems in educational institutions (AL-SHOLI et al., 2021). Due to limited opportunities in the organization of the educational process in higher education institutions, training through videoconferencing services was introduced, LMS capabilities were used (ALLO, 2020; GOLUBEVA et al., 2021). At this time institutions of higher education around the world faced the problem of how to effectively carry out control measures to assess the learning outcomes of students during an emergency that arose due to the spread of a pandemic and the introduction of quarantine measures (RAPANTA et al., 2020).

As a positive result, the vast majority of scientific and pedagogical workers received primary experience in conducting lectures and practical classes with students (ILINA et al., 2021; VRAZHNOVA; ANASTASOV; NIKIPORETS-TAKIGAWA, 2021). However, in these conditions, the issue of pedagogical assessment (PA) of the knowledge of applicants for higher education using distance learning technologies (DLT) remains problematic. The subjects of the educational process are in search of the optimal option for monitoring learning achievements (GLEBOV et al., 2021).

Literature review

Researchers (DARLING-HAMMOND, 2006; KHARE; LAM, 2008; KIELY, 2009) unequivocally tend to believe that the existing system of PA of the 20th century is outdated and requires not only the improvement of traditional but also the widespread use of innovative approaches, including using the experience of information and communications technology (ICT).

In recent years, the issue of assessing the educational achievements of graduates of higher educational institutions (universities) has been updated. According to Eliseev (2012), modern society requires professional education to train young people who can meet the challenges of the time in the modern labor market, with a civic position, set up for self-development and lifelong learning. Therefore, the researcher actualizes the issue of objective evaluation of university graduates as an urgent problem.
Efremova (2010) focuses on the formation of the main functions of evaluating future specialists in the formation of their readiness for future professional activity, namely: controlling, training, diagnostic-corrective, stimulating-motivational, educational, prognostic.

Crisp and Ward (2008) note that assessment guides learning, and effective modernization of curricula and programs is possible only against the background of appropriate changes in the content, and sometimes forms of assessment. Dopper and Sjoer (2004) draw attention to problematic issues of diagnostic activity in universities, including the fact that the content of test tasks in the first courses should control the level of knowledge within one discipline, in the senior courses – considering the knowledge and practical base of several related disciplines, at the pre-graduation stage – to enable the student to demonstrate the integration of knowledge in the context of the profession when performing test control.

Considering the problem of pedagogical diagnostics, Black and Wiliam (2009) note that the assessment reproduces a score, that is, a digital or another symbolic form of expression and fixation of the assessment of academic performance, value judgments – a brief description of learning outcomes, their positive aspects and shortcomings, emotional attitude. Gikandi, Morrow and Davis (2011) experimentally tested the effectiveness of the application of the designed online system of pedagogical diagnostics during the professional training of future specialists.

In general, university education has made steps forward in recent years, in particular, the technology of building the latest high-tech systems for testing educational achievements is being actively discussed (BENNETT et al., 2016), based on the analysis of classifications of automated pedagogical diagnostics and computer testing systems, the requirements for pedagogical diagnostics software are determined following the didactic purpose of its application (AFANASIEV et al., 2021; CRISP; GUÀRDIA; HILLIER, 2016). Deeley (2018) developed a computer-oriented technological component for creating a reliable test to measure the level of students' academic achievements.

The analysis of the problem of PA of applicants for education in the scientific literature convincingly shows that the forms of control can be different, and they all have the right to be used, regardless of the history of their creation (ARIOVICH et al., 2019). According to Dann (2014), PA is not an exact science and requires a constant search for progressive forms and a multidimensional approach. It is emphasized in (HORST; AMES, 2018) that this is especially relevant in the conditions of modern society, in which information is rapidly multiplying, becoming obsolete, and acquiring qualitatively new outlines, and a person needs the formation of new competencies to adapt to it. The above confirms the idea (BOUD; SOLER, 2016)
regarding the innovative development of PA as an important organizational condition for the formation of the professional competence of a future teacher.

Research hypothesis: the main problems hindering the process of introducing remote assessment of the results of teaching linguists using ICT are the lack of highly qualified personnel; insufficient level of readiness of subjects of the educational process for this form of control; difficulty in forming project groups for the development of educational tests; weak feedback and insufficient motivation among teachers and students.

Research objectives

To carry out an analysis of theoretical achievements concerning the state of development of the problem of student assessment, to investigate the forms of application of digital technologies in the assessment of students' knowledge.

To formulate and substantiate the general concept of an empirical study of the problems of evaluating the results of educational activities of linguistics students, to determine the list of components and factors on which the level of the distance form of assessment depends.

To organize a survey of teachers and students and survey subjects of the educational process.

To summarize the materials of the survey of teachers and students of three educational institutions of higher education, to carry out a comparative analysis and interpretation of the results, and to put forward proposals for improving this process.

The article consists of an introduction, a literature review, methods, results, discussion, and conclusion.

Methods

Research model

To study this problem, we surveyed in June 2020 (surveys via e-mail, mobile messengers, questions in chats during conferences in real-time) of subjects of the educational process: teachers and students of linguistics of the Northern Trans-Ural State Agricultural University (NTUSAU), Surgut State University (SSU), and Peoples' Friendship University of Russia (RUDN).
Methods

The methods of theoretical analysis of scientific sources devoted to the study of the possibility of using ICT in the implementation of the control and verification functions of the teacher and the ability of students to report on the acquisition of program knowledge and skills were used during the research.

The paper also uses the method of the empirical study of the state of affairs regarding control measures of the educational process – an anonymous online survey.

During the survey, the following questions were clarified among the subjects of the educational process: psychological and pedagogical readiness to use DLT in the PA of current and final learning outcomes; knowledge of digital educational content; technical accessibility; motivation to use DLT in learning and obtaining modern knowledge; the level of self-assessment of their knowledge, skills and acquired professional competencies; the effectiveness and fairness of the results of control measures used at the present stage; clarification of the need for additional training; the ability to determine the abilities of students and the rating of training.

The survey sample consisted of 243 linguist students and 32 teachers of professional disciplines engaged in their training. The task was to evaluate one's attitude to the question on a scale from 1 to 12 points (1-4 low, 5-8 medium, 9-12 high).

Mathematical processing of research results

Mathematical and statistical methods of processing the study results included recalculation of the number of survey participants who assessed the level of PA using remote technologies, as a percentage of the university sample.

Results

Table 1 shows the results of a survey of the attitude of teachers and students to PA using DLT.

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Table 1 – The results of the survey of the attitude of teachers and students to PA using distance technologies, %
2. The level of familiarization with the possibilities of using DLT in PA

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3. The level of psychological readiness to use DLT in PA current and final learning outcomes

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4. The level of understanding of the significance of distance testing of students

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5. The level of proficiency in the preparation of the test bank

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6. The level of need for the introduction of additional training

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7. The level of technical support for teaching (training)

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8. The level of motivation to use DLT in teaching or studying

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9. The level of assessment of one's digital competence

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10. The level of efficiency and objectivity of the PA results using DLT

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11. The level of assessment of the possibility of determining the real abilities of students using DLT

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Source: Prepared by the authors

It can be seen from line 4 that 75% of SSU teachers and 68% of NTUSAU students had the highest level of understanding of the significance of distance testing of students. At the same time, teachers' and students' understanding of the importance of distance testing of students is not at a low level.
As we can see from line 7, the technical support of teaching or learning is mainly at an average and high level. This indicator is the best in RUDN – 67% of teachers and 55% of students have a high level of technical support for teaching (training).

The results of the self-analysis on point 8 showed that the teachers of NTUSAU and SSU do not have a high level of motivation to use DLT in teaching or learning. This may be explained by a low level of experience in the use of remote technologies and a lack of methodological support.

Analysis of the survey on self-assessment of digital competence of teachers showed that 40% of RUDN teachers have a high level of digital competence, while 29% of NTUSAU teachers noted a low level. 9% of NTUSAU students and 7% of RUDN students rated the level of their digital competence as low.

As can be seen from row 10 of the table, 67% of RUDN teachers highly appreciate the level of effectiveness and objectivity of the results of PA using DLT.

Discussion

The analysis of the results of monitoring the educational process subjects’ opinions indicates that teachers and students are cautious about organizing semester control using e-technologies in all three universities. The reasons are as follows: insufficient level of psychological readiness, imperfection of technical equipment, and low digital competence. Even though students, due to their age, are more active in the use of digital content, there are applicants for higher education with low computer literacy. Teachers have a desire to use DLT in testing but are practically not ready to perform a preparatory function, that is, to professionally prepare control tests.

A positive aspect of the test type of control with the help of e-technologies is that the same requirements are imposed on all students. This helps them avoid excessive worries (after all, everyone is worried that they won't get too difficult questions), makes it possible to use time more effectively, and encourages self-control. However, as the researchers note (KHARE; LAM, 2008), testing is better used to identify knowledge of facts. Other control methods are more effective to determine the ability to creatively use the acquired knowledge.

At the present stage of training future linguists, test tasks that require a creative response and the ability to synthesize the knowledge gained and apply it to solving practical problems are highly appreciated. Therefore, the preparation of educational tests should be a team: teachers, employers, and students. This will contribute to the proper quality of writing
assignments that would require students to demonstrate creative skills and learning outcomes provided by the discipline program and could not be completed by copying answers from other sources.

The number of test tasks should cover the full scope of the course of an academic discipline, and if it is a comprehensive exam, then several academic disciplines. The complexity of the test tasks should be divided into simple, medium, and complex.

If it is technically possible to organize examination control, students can be given the right to start taking the exam at their chosen time in a certain interval (for example, five people between 10 and 11 o'clock) (ELISEEV, 2012). The maximum duration of the exam from the moment it starts should be the same for all students. If the exam assignment contains creative questions, the maximum duration of the exam can be increased. We must always remember that pedagogical control should help the student to know themselves, to believe in their strength, to give the opportunity to creatively implement the acquired knowledge and skills.

We support the fair opinion (CRISP; WARD, 2008) that it is not necessary to overestimate the role of educational testing with the help of digital technologies, because no technique or the most advanced program can so objectively and fairly evaluate the student's learning outcomes as a teacher. The internal state of the personality, its experiences, emotions, logic of thinking, and the knowledge base, skills, and abilities of the applicant can be comprehensively perceived, understood, and evaluated only live. Testing, the use of digital technologies in the PA of students has the right to use it, but in some cases, for example, in emergencies when there are no other possibilities. When using it, high professional competence is required.

In addition, in the process of preparing and conducting testing, education managers need to create an atmosphere of proper motivation for educational activities of both applicants for higher education and scientific and pedagogical workers (DANN, 2014). This will contribute to the formation of the competence of critical pedagogical thinking. At the level of higher educational institutions and departments where future linguists are trained, it is necessary to train competent specialists in expert work to develop educational tests, conduct a perfect testing procedure, and objectively interpret the results.
Conclusion

The experience of organizing PA of linguistics students in three Russian universities in conditions of limited opportunities for offline communication was studied during the empirical study.

The educational environments of higher education institutions of different universities have their achievements in activating the use of e-technologies and there remains a demand for their development in the PA of learning outcomes. However, the attitude of the subjects of the educational process to the use of distance technologies in PA differs significantly. Research and teaching staff of the three universities are more restrained and cautious, applicants for higher education – on the contrary, expect innovative approaches, have a positive attitude to the use of control methods using e-technologies.

An analysis of the assessment status in the pedagogical education system indicates a lack of experience in the effective application of pedagogical measurement and evaluation methods, especially test ones. The study results confirmed the hypothesis that the main problems hindering the implementation process of the remote assessment of learning outcomes language students using ICT are the lack of qualified personnel; lack of readiness of educational process subjects to this form of control; the complexity in the formation of project teams for the development of educational tests; lack of feedback, and lack of motivation among teachers and students.

Further research will be aimed at studying the innovative experience of creating pedagogical conditions for the formation of diagnostic competencies among participants in the educational process of higher education institutions, the development of modern didactic tools, and forms of using ICT in pedagogical diagnostics.

REFERENCES


How to reference this article


Submitted: 20/12/2021
Required revisions: 28/01/2022
Approved: 17/02/2022
Published: 30/03/2022