Distance course examination

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Abstract. The article deals with the theoretical foundations of carrying out distance course (DC) examination with the aim of creating the program for expert training. An expert is defined as a specialist who has experience in compiling distance courses, organization of distance learning as well as has and uses content tutor skills. The article also describes the basic skills that an expert should have as well as typical mistakes of the developers of distance courses are presented. On the basis of the research a DC "Expert examination of distance course" was compiled for experienced developers of distance courses and administrators of distance learning systems at different institutions. During the training, the learners analyzed the purpose of Bloom's taxonomy and its accessibility, the complexity of the text and its design, the tasks and learning activities, the quality of tests and the evaluation system, etc. The result of the course training is learner's report on the distance course examination and analysis of this work. 47 lecturers of Ukrainian educational institutions were trained and only 12 of them successfully completed the training.

Keywords: distance course, quality, examination, evaluation

1. Introduction

Quality of distance learning is determined by higher education institutions (HEI) in Ukraine. That is the examination of distance courses (DC) developed at a HEI or beyond it in accordance with the predefined rules (Regulations for conducting examination of the DC at the university) is needed [19]. For example, in some universities, two subject matter experts and a methodologist are involved in examination of distance courses. Such examination helps to maintain a certain level of DC and to carry out examination of mixed courses, when different types of activities are added to the distance course during face-to-face studies.

The expert-methodologist checks the quality assurance of distance learning through promotion of contacts between students and teachers, development of student cooperation, usage of active learning tools, quick feedback, effective use of time, high motivation and taking into account the abilities of students and ways of learning.

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Each university creates its own standard of distance course. As a rule, distance learning is usually planned weekly. The structure of a lesson includes [5] the section title, the purpose of the lesson, keywords referring to the glossary, work schedule for a week, theoretical material, methodological instructions for task performance and the tasks themselves, a forum for discussing the educational material, additional material.

By structure, distance courses can be divided into resource-course, distance course with measured result and distance course with measured competence. In the first case, this is a theoretical material, tasks and tests placed in the environment. In the second case, all objectives of the distance course tasks are classified by Bloom taxonomy, in the third case, competencies are secured by tasks with objectives which are classified by Bloom taxonomy and their performance is fixed by competencies defined in the Moodle environment.

By assignment, distance courses are divided into three levels [35]:

1. Student activities are aimed for mastering frequently repeated tasks with predetermined answers (computer-based learning), used in almost all educational establishments and corporations.
2. A teacher interacts with students, directing their learning (artificial intelligence systems), used in corporations (in part) and universities.
3. The educational process is conducted by leading scientists in specific fields using modern communication tools, author's courses and connectivist open distance courses.

Blended learning has proven to be one of the most popular modern technologies because of its flexibility and convenience of the distance course and the advantages of the traditional learning [3, 4, 15–17, 28, 34, 39].

The Sloan Consortium [42] defined blended (hybrid) courses as those that "integrate online (30%–70% of the educational process) with traditional face-to-face class activities in a planned, pedagogically valuable manner".

2. Research purpose

It should be noted that in the West there is a system of training bachelors and masters of distance learning, and further training and growth to the level of an expert is achieved through his/her practical activity.

In Ukraine, distance learning training takes place only through the system of in-service training of universities, which, as a rule, is not accredited and takes into account the needs of universities.

The purpose of the research is to determine the necessary theoretical materials for the training of distance learning expert and his/her competence, taking into account the results of the compiled distance learning course for teachers of Ukrainian universities

3. Distance course expert

Each university should have a team of experts to evaluate the quality of the developed or involved third-party distance courses (DC). The expert should have the necessary theoretical background

in distance learning theory, experience in developing a distance course and conducting a distance learning process. It should be noted that theoretical training may be different due to the fact that most universities focus on LMS technologies rather than pedagogical aspects. The expert should have a mastery of personal knowledge [13] and he should monitor the activities of content curators on e-learning [20].

During the examination of the distance course, the most promising pedagogical innovations are studied, understood and developed. Examination becomes the organizer of innovative searches. If innovative learning is the object of expertise, then potential for development is the subject matter.

In the course of examination not only the study of a particular object is carried out, but also the reflection and support of the prospects of its further development is carried out. It should be noted that development is not only an innovative project in itself – participation in expert procedures serves as a powerful impetus for the professional development of all its participants.

The subject matter of the examination is the evaluation of the quality of the training program. Criteria – the quality standard, on the basis of which an assessment is carried out, determination or classification of something, measure of assessment. The criteria are determined in accordance with the principles and objectives of the particular examination. There are different approaches to determining the examination criteria.

There are general practice requirements for academic programs (including online courses). Such requirements generally determine the levels of minimum eligibility for certain DC elements.

Expert conclusion is a document in which the nature of the objects, the criterion base and the technology must be fully disclosed.

3.1. Distance course quality

The main activity of the expert is to determine the quality of a distance course. There is no definitive idea about the quality of training. You can talk about "good" or "bad" training courses, but experienced designers know that there are many nuances that differentiate one course from another.

They usually formulate general practical requirements for academic programs in the sphere of higher education (including online courses). Such requirements generally determine the levels of minimum eligibility for certain dimensions (for example, educational instruction, institutional context, evaluation and analysis, etc.) of institutional proposals.

The formulation of similar quality standards at the course level is difficult for at least three reasons [6]. First, there is not any authoritative body that can (or wants) to determine minimum levels of eligibility for learning in all its manifestations within a variety of approaches. Thus, there are no universal standards for course quality. Second, if such standards exist, it is difficult to create an assessment tool that can be used successively for all courses, programs. Third, if such a tool was available, it would take a long time to evaluate an individual course.

The origin of standards affects their credibility. For example, the most course standards are written by small groups of individuals with personal teaching/learning experience. Such standards are often accepted by the community without analysis and criticism and become axioms.

Almost all sets of course standards carry the imprint of instructional design (for example,

learning goals, constructivist influence, dominant technologies, etc.) and frequently exclude the experience of teachers and students.

The limitations of the standards of the courses should be considered their atomisticity. That is, the courses are considered only as a set of disparate simple parts that result in the required reporting. But it should be noted that, by their nature, atomistic approaches are quantifiable. A holistic approach, on the contrary, leads to a single, integrated picture that is difficult to quantify.

In addition to institutional efforts for promoting quality in the courses, perhaps the best use of quality standards is the self-assessment of individual teachers and the informal peer review of teaching effectiveness.

3.2. Learning effectiveness

Development of successful training requires institutional obligations with the involvement of senior executives, deans, department heads, faculty and support staff.

Learning effectiveness is the faculty's ability to influence students' success and is determined by several factors, such as how well the teachers organize the courses, know the course material, communicate clearly with the students, how often they provide timely feedback, and other criteria. In the classroom, learning effectiveness sometimes depends on the enthusiasm of the teacher. During online and blended learning courses, students need more support to succeed, as their activities require them to take responsibility for their own learning success.

Providing students with guidance and advice before beginning their studies, feedback during the course, and final feedback at the end of course can significantly improve the learning effectiveness.

For the first experience of teaching an online course, it is advisable to choose one or two strategies based on learning goals.

Writing personal goals for learning a teacher is an other practice. Creating an online teaching journal allows you to keep track of thoughts and actions over a long period of time, including personal learning goals among the first entries will help much for a good start.

3.3. Pedagogical designing

The expert's first evaluation is the level of pedagogical design, the process of creating a new object to meet the needs of a personality. The purpose of design is to initiate changes in the human artificial environment.

Traditionally pedagogical design is based on ADDIE [5]: analyzing the needs of the organization; designing the system for the needs of the organization; developing the system using the analysis of initial data; implementing the system processes; evaluating the project creation and execution.

The experience of training the course developers points to the psychological barriers of teachers. It is difficult for them to understand that the teacher is not the main person in the educational process, learning is not the process of knowledge transfer, the distance course is not a synopsis of lectures and practical tasks posted on the network. It is especially difficult to develop a distance course in the absence of a standard.

The expert should pay attention to the fact that the distance course is a comfortable environment for the student and the teacher to organize the educational process, the teacher's face, his attitude to the student, and the student is the main person of learning. A successful distance course has a week-long format and the result is important in learning, not discipline logic and process.

3.4. Learning theories

The emergence of new social services affects the development of education and, in particular, distance learning. Psychological and pedagogical approaches to learning are revised, especially if they relate to corporate learning. Designing educational materials for distance learning includes approaches of the theories of behaviorism, cognitivism, constructivism [5]. Behaviorism strategies can be used to study facts ("what"), cognitive theory – to study processes and rules ("how"), and constructivism strategies – to answer the question "why" (a high level of thinking that provides personal understanding and learning, depending on the situation and context). Formal, non-formal, informal and social learning were also not ignored.

Consideration of types of specialist's work allows to determine the correlation of formal and non-formal learning [7]. When performing routine work, the proportion of non-formal learning is minimal and increases to types of activities that require variational (creative) tasks.

Formal learning [10] is a structured (in terms of goals and time) training that is usually provided by an educational institution and leads to certification. Formal learning is intentional, from the student's point of view.

Informal learning [10] is daily work-related, family-based or leisure-related learning that is not organized or structured (in terms of purpose, time and support). In most cases, non-formal learning is unintentional from the student's point of view and does not lead to certification.

Non-formal learning [10] is learning that is embedded in planned activities but is not explicitly intended (in terms of goals, time and support) and contains an important element of learning. Non-formal learning is intentional in terms of the learner and leads to certification.

Currently, there is a rise in non-formal learning [44], which is associated with the rapid development of e-learning, the forerunner of non-formal learning, increased innovation in business, and increased productivity. Non-formal learning, which can be monitored and measured, ensures the profitability of knowledge transfer, competence, promotes rising the organizational efficiency.

The emergence of social services and the development of learning theories presents that the combination of formal and non-formal learning makes the learning process more successful [37]. Herewith it is necessary to prognosticate a non-formal workplace learning.

Social learning [10] is the acquisition of knowledge in a social group, or the process in which people observe other people's behavior and its consequences and change their behavior accordingly.

Social learning is based on A. Bandura's social learning theory [32] and includes observation, behavior modeling, attitude and emotional response. Elements of learning include attention, fixing, active self-reproduction, motivation, characteristics of the observer. The latter includes [8] autonomy, independence, self-organization, self-government and self-control.

Numerous studies show that social learning [14] is carried out at workplace – 70%, in communication with colleagues and leaders – 20% and in the process of studying courses and books – 10%. For realization of this principle a support of the workplace learning process, the improvement of employee training skills and the creation of a supportive organizational culture are needed.

Workplace learning is facilitated by the application of new knowledge and skills in real-life situations, the allocation of new jobs within the existing role, increasing the range of responsibilities and areas of control, tasks aimed at new initiatives, small group work, the ability to carry out research and expertise.

Learning in communication with colleagues is facilitated by feedback on new approaches to the old problem, participation in formal and non-formal mentoring, encouragement to participate in discussions, expressing opinions, teamwork, and building a learning culture.

Besides the above mentioned pedagogical theories and approaches, the expert should be able to use other pedagogical theories and techniques, for example, collectivism which is connected with network education.

3.5. Goal setting in the course

The most difficult thing for teachers, especially beginners, is to determine the purpose of tasks and the course.

The purpose of learning is the behavior, knowledge, skills, and the skills that a student must demonstrate in order to be called "competent", a description of expected learning outcomes, not the learning process itself.

The purpose of learning has three components: Fulfillment (What can a student do?), Condition (Under what conditions will s(he) be able to do it?), Criteria (How well can he do it?).

A fundamental, classic concept of taxonomy for educational purposes was developed by a group of American psychologists and educators led by Bloom [2] in the early 1950's.

Bloom's taxonomy is based on the following four principles:

1. Principle of practical orientation: taxonomy should reflect goal setting theory and be an effective tool for a practitioner.
2. Psychological principle: taxonomy should be based on the modern achievements of psychological science.
3. Logical principle: the taxonomy must be logically completed and have an inner harmony.
4. The principle of objectivity: a hierarchy of goals does not mean a hierarchy of their values.

Although Bloom's taxonomy was developed a long time ago, it still remains one of the most popular systematization of educational goals among scholars and practitioners. It is the most comprehensive and covers different areas of students' educational activities: cognitive domain (requirements for mastering the content of the subject), affective domain (emotion and value area, attitude to the investigated subject), psycho-motor domain (development of motions and neuro-muscular activities).

Systematization of educational goals in the cognitive sphere has the following levels: Knowledge; Comprehension; Application; Analysis; Synthesis; Evaluation.

Anderson et al. [1] proposed a modified Bloom's taxonomy, adding another dimension to knowledge types: factual, conceptual, procedural, and meta-cognitive. Earlier, they renamed the hierarchy of levels from nouns to verbs. They also reversed the positions of the two highest levels.

Bloom's modified taxonomy takes into account the role of the teacher and student, assesses the level of questions and test tasks and has the following levels:

1. Remembering
2. Understanding
3. Applying
4. Analysing
5. Evaluating
6. Creating

Factual, conceptual, procedural and meta-cognitive knowledge in the taxonomy can be represented by means of the measurement matrix of activity quality [12], where horizontally are demonstrated: Remembering – Understanding – Application – Analyzing – Evaluation – Creating, and vertically – Knowledge Fact-based – Conceptual – Procedural – Meta-cognition (ability to cognitive activity).

And the last thing that is very important for learning is the ability to evaluate reflection by Bloom's taxonomy [30], that is, by describing a student's reflection we can indicate what level of Bloom's taxonomy our student has achieved and what leadership qualities he or she has formed.

Many teachers, when creating their first distance course, in most cases declare their purpose, but not the student's goal. They do not always declare tasks for the goal of the distance course or there is no correlation of the level of purpose and the task according to Bloom. It is even more difficult to implement the chain: "competency–purpose–task", that is, to define activities that characterize competence, to determine the level of assimilation by Bloom's taxonomy and to go to the educational task. Frequently, the usual task is defined as problematic or situational. In most cases, this is due to a low level of pedagogical training.

The expert should pay particular attention to the analysis of the purpose for each task, its understandability and approachability for a student. Questions for theoretical material should be consistent with all levels of Bloom's taxonomy and should be placed in the educational text as an element of reflection. The quality of the distance course and the maximum student grade for the course are determined by the level of tasks by Bloom's taxonomy.

3.6. Course information block

In the organization of learning materials, attention should be paid to examples, concepts of relationships, rules and procedures regarding [5]:

- Content correctness. Not only students, but also experts (content experts) may sometimes not notice errors or inconsistencies.
- Completeness of content. It means not only the presence of all the necessary elements in the course, but also a sufficient level of methodological explanations that take into account the student's knowledge and skills.

Table 1

Bloom taxonomy levels based on reflection results.

Bloom's Taxonomy Levels	General Reflection	Student Reflection
Remembering	What did I do?	What was the task? How was it done? Did I perform on time?
Understanding	What was important about what I did? Did I achieve my goals?	Do I correctly understand the parts of the task and how they are related? And does my answer completely cover all parts of the task? Where does this fit into what we are studying?
Application	When did I do this before? Where can I use this again?	How was this task similar to other tasks? Are there any ways to adapt it to other tasks? Where can I use it (content, product or process) in my life?
Analyzing	How do I see the forms and relationships in what I have done?	Were there any strategies, skills and procedures that I used effectively in this task? What patterns do I see in my approach to work? What approaches were used – were they effective?
Evaluation	How well did I do? What happened? What do you need to improve?	Is what we are studying important? Have I done effective work and told others? What have I learned about my strengths and weaknesses? How do I develop as a student?
Creation	What should I do next? What is my plan?	How can I better use my strengths to improve the outcome? What steps do I need to take or use the resources to meet my problems? What suggestions do I have to improve my learning environment?

- Functionality. It is considered according to the interrelationships between the individual topics within the course and the subjects within the syllabus.
- Content consistency and coherence. The sequence of definitions, concepts, procedures and content coherence must be taken into account.
- Volume of content. Volume is one of the significant factors of learning load. In the case of distance courses where external control is limited, the amount of material has an impact on the time required to complete the tasks and ensure student motivation.

Content arrangement can be done by different approaches:

- structure logic (scientific logic of content);
- chronology (subjects are related to history, action – with procedures);
- concentric circles (each new topic includes the previous one as the base one);
- the spiral sequence (each new topic breaks the already learned knowledge, but at an even deeper level);
- sequence of reasons (the chain: cause – effect);
- feedback chain (starting from the result, back to input information);
- highlighting the problem (all elements are organized around the problem solved by a student);

- focus on the project (all elements are part of the relevant part of the project and cluster together);
- emphasizing the student's learning features (the items are organized according to student learning styles).

3.7. Adapting learning information

The content structure includes the following elements: basic positions and concepts; known methods of action; new concepts, patterns and modes of action; psychological analysis of the content in order to identify possible and appropriate problem situations.

Requirements for text design [5]:

1. Compliance with learning goals and objectives.
2. Compliance with the learning styles of the used text tools: alternative, flexibility, mobility, proof, clearness.
3. The semantic completeness of a certain block of text.
4. Structure of blocks of text.
5. Activity and interactivity.
6. Style of language organization (internal dialogue, author's discussion and reasoning, open questions, attempts to create an algorithm of information processing using a number of keywords, etc.).
7. Means to ensure the interest and content of the content (historical information, interesting messages, experience, etc.).
8. Schemes of individual blocks of text and defining relationships.

The logical structure of an educational material is a model that reveals a system of relationships between the logical elements of this material [38].

When the elements of the whole are not simply united mechanically and not simply connected, but interconnected in such a way that they mutually affect each other, and this influence is quite significant, it makes sense to say that the elements of the system form a structure. Thus, structure is a way of stable communication, elements mutual influence of such holistic systems.

Structures are global and local. Currently, most attention is paid to global structures – the logic of curriculum design. The local structures, unfortunately, remain out of the teachers' attention, which depends on the availability and degree of perception of the educational material.

Any part of the educational material, any explanation, reasoning, solution of the cognitive task (in the broad sense) is characterized by a certain logical structure. This logical structure depends primarily on the following factors [5]:

- which concepts and judgments are used to conclude one or another regularity for justification (which has not necessarily to be strictly logical) of a given or another position, and
- which connections and relationships between these concepts and judgments are established or revealed in the process of consideration (reasoning, justification, decision).

The number of different ways of structuring (constructing) educational material is unlimited. There can be no question about experimental verification of teaching methods.

The transition from one version of educational material teaching to another through structures is rightly interpreted as a translation from one "language" to another. When translating, we first of all seem to expose the idea in order to "dress" it in completely new means of external expression. Separating thought in its purest form is nothing more than a logical analysis of the translated content.

In addition, "non-linguistic" information is always involved in the learning process, which is not directly present in the text, but depends on the student's experience, and thus the logical structure of the educational material becomes an important communicative characteristic of the latter.

The excessive information in education, that is, all information given more than the minimum necessary for understanding (repetition, communication of the same information in a new form – meaningful synonymy), is determined not only by fluctuations in attention and imperfect memory of students, but also by the urgent need to find with the help of information recoding such a form of communication that would respond to the peculiarities of students' thinking.

The problem of educational material accessibility is, in fact, a problem of communicativeness of educational material, its possible transcoding.

A variable approach to learning situations is needed to make the most effective use of each listener's basic vocabulary (semantic space). Educational information as a semantic invariant of the learning process is the internal meaning of the learning situation. In this regard, a content structure is defined that influences the structure of the learning method. At the same time, the procedural aspect of educational activity is of great importance.

The structure of each stage of the learning process should be considered at three levels:

1) didactic,
2) logical and psychological as well as
3) methodical.

The didactic structure is based on the need to update the acquired knowledge (creation of information space for perception of the educational topic related to the dissemination of existing basic vocabulary or explanatory thesaurus); tools for generating new knowledge (direction of search, technology tools), new skills (forms of multilevel activity).

The methodical structure is a form of support and maintenance of the learning system functioning, so it consists of exercises, explanations, cognitive tasks, as well as students' self-completion of tasks of different levels of difficulty with comments.

These two structures are linked to each other, as well as to the goals of the learning process, by an internal logical and psychological structure that is intended to provide information perception and its awareness in the first stage. Then, by means of comparison, analogies, explanations, problematic dialogue, understanding and comprehension, as well as generalization and creation of the system are formed.

When designing an organizational structure to study a particular topic, the teacher should predict:

- regularities of the learning activity process and its logic;

- regularities of the process of assimilation of new knowledge as subjective value and pledge of personal activity;
- regularities of independent cognitive activity;
- types of possible joint activities of the teacher and the student as subjects of the learning process.

The standard course must be included by the distance course

- Biography of teachers.
- Preface to the course.
- Detailed course description.
- Terms and definitions.
- Course policy page.
- Copyright page.
- Weekly activity goal.
- Contact page.

One of the most active means of influencing the perception of information are illustrations that connect figurative thinking. These illustrations have different functions:

1. Decorative for preventing monotony of information.
2. Entertaining (cartoon).
3. Expressive for conveying emotions and feelings.
4. Decisive. Not only for expressing emotions but also for persuading, changing point of view.
5. Descriptive for conveying the necessary concepts that cannot always be expressed in words.
6. Explanatory. Illustrations can show how objects work or how they are used.
7. Simplistic. A simplified version of reality that makes it more accessible to perception:
8. Calculated (graphs, histograms, etc.) for comparison of sizes, data.
9. I will make it. Tasks setting.

3.8. Student's activity in the course

One of the main tasks of the teacher is the organization of the educational process through communication and cooperation. Communication by B. D. Parygin is a purposeful rationally designed, information exchange between individuals that performs social, social and psychological as well as individual and psychological functions [5].

Social communication functions are information sharing for collaboration; transfer of knowledge, experience, ways of action; assessment of human activity; formation of behavior norms.

Social and psychological functions of communication are communicative self-expression, self-realization; knowing each other's people; formation and development of interpersonal relationships.

The individual and psychological functions of communication are the formation of consciousness; support of normal activity of consciousness; maintaining emotional equilibrium and working capacity.

As known, any communication in distance learning covers five steps: access and motivation, socialization (messaging, cultural and social environment learning), information sharing, constructing knowledge and development. The teacher at each step performs an appropriate role and the success of communication in the group depends on his/her activity.

There are different methods of communication: reading and answering, debates ("for", "against"), conference, discussion of ideas, open forum, master class and others. For example, an open forum starts with a moderator's letter with an overview and statement of the problem, discussion, interim conclusions, discussion and final conclusions.

Discussion moderator (teacher or student) performs pedagogical, social and technical roles.

Recently forgotten chat plays the main role in distance learning as a control of the quality of mastering knowledge, development of creative component of thinking; general (final) control of knowledge; brain storm.

Chat requires serious preparation for developing a chat scenario, which includes brief information about the topic, a list of questions to listeners on the topic, activities for the formation of cognitive operations and the ability to ask questions, etc.

Distance learning necessarily involves collaborative learning, which is a model of using small groups of students in real or virtual class, where the learning tasks are structured in such a way that all team members are interconnected and interdependent, while being quite independent in mastering the material and solving problems.

There are many collaborative learning options [25], such as: Student Team Learning, "open work saw, machine saw" (Jigsaw); learning under the motto "Learning Together" and the research work of students in groups.

There are mini-small groups – 3 people, small groups – 3–5 people, maximum small group 12–16 people.

The basic elements of group activity are: positive interdependence, personal responsibility, personal interaction (face to face), social skills, group processing of results.

Emotional types of cooperation are distinguished in relation to process and results, expression of evaluations and personal thought, and cognitive - creation of an atmosphere of creative search and evaluation of information, display of intelligence and horizon.

The principles of cooperation are trust, belief in his/her capabilities and partner's ones, the right to have his/her own opinion and doubts about the correctness of his/her actions and partner's ones, voluntary exchange of thoughts, efforts, information, common sole purpose, sources of information, single result and form of encouragement.

Teacher should monitor in teams: communication and participation, decision making, conflicts, leadership, goals and roles, norms of collective life, moral climate, individual behavior.

3.9. Evaluation, rating

Evaluation is a classification, attribution of an object to one of the classes, based on the values of the set of indicators and the established criterion.

In a distance course there are evaluated: academic achievements, student and tutor performance, learning performance, program quality, and course quality.

Algorithms for calculating a student's assessment should be open, configured for communication, and accessible to a student.

A teacher should determine how he will evaluate the quality of the completed operations, the timing of the completion, the student's self-assessment, the final test, assign weight to the evaluation of operations.

Rating is an evaluation system where the total number of points on a topic is determined depending on the importance of the topic in comparison with others and consists of mandatory (independent and course works, problem solving, etc.) and additional points (promotion of students in performing creative tasks, timely completion of teaching and control tasks, active participation in practical and seminar classes, etc.).

It is impossible to make an assessment that meets all needs at the same time. Often, an approximate estimate is quite effective, but accurate one is almost unattainable.

3.10. Motivation

Motivation is a set of persistent motives, promptings that determine the content, orientation and nature of an individual's activity, his/her behavior. Motivation depends on the needs of the person, which can be defined by Maslow [23] from simple to higher: physiological ones, security, love, belonging to something, respect, cognition, aesthetic ones and self-actualization.

There are distinguished external and internal motivations, but the second one is stronger. Intrinsic motivation is comfort, purpose, presence of an example, principle, condition, motivation for the future, social relations, level of education.

Heckhausen and Heckhausen [11] are stated that the prompting to action is motivation, the motive remains effective only for achieving the goal of "individual – environment", motivation consists of different processes, activity is motivated, but it is not necessarily motivation. The number of motives depends on the relationship "individual – environment". Motives are stable relationships of individual development. People differ in the strength and nature of motives. Behavior is motivated by a high motive that achieves the goal. Arm someone with motives that he did not have before. To "catch" someone with his motives and to provide an opportunity for their realization. To inspire behaviors that are of subjective importance (importance), to inspire, to stimulate.

Motivation is usually an external one based on strategies of coercion, luring, "seduction", "vision" (vision for division).

The tools of motivation may be (by Sprenger [40]) a gingerbread (something nice, attractive), a whip (something that should be avoided), law (some established norms, rules, standards in the activity), expert opinion (an expression of an authoritative personality), emotions (influence on emotions, both positive and negative).

Motivation in distance learning is the creation of a comfortable learning environment (areas of immediate development) that has all the conditions for the learning activities of the target audience.

3.11. Social services

Cloud computing (e.g., by Software as a Service (SaaS) model) is the execution of programs hosted on external servers [22]. Now their use is becoming a very popular in educational practice [26, 27, 36, 43].

The best software products [9] that can be used in the learning process are Twitter [29] (the 1st place), Google Docs [41] (the 3rd place), blogging programs [33] (the 14th place) and webinars [24] (the 45th place) and others.

The blogosphere promotes openness, it is a space for discussion, information exchange and communication with each other. A teacher blog [45] is a critical analysis of recent publications, views on some issues, reflections. In the future, information can be transformed into reports at conferences, articles, classes for students. They can be seen by students, work colleagues. Writing such blogs makes you to read other researchers' blogs.

A qualitative distance learning process necessarily involves asynchronous (mail, forum) communication and synchronous one (chat, Skype). Since 2009, a new webinar communication tool has been actively distributed. Webinar (web + seminar = webinar) is a group work on the Internet using modern video, flash and chat communication tools.

Webinars can be used for delivering feedback lectures; thematic seminars; defending the work performed; group work, conducting surveys; demonstration of computer work; trainings.

Tips on how to prepare and conduct a webinar for your students, see [18].

Cloud computing tools allow a student to form a personal learning environment (PLE), a term that appeared several years ago in Western literature related to the practical application of e-learning 2.0 [21, 31].

The minimum composition of the personal learning environment, according to the points of view of Western colleagues, should include Twitter, blog, RSS reader, DIIGO, Wiki.

PLE is not only a comfortable environment for different types of activity, but also a means of creating a personal learning network, a network where we can interact not only with our colleagues, such as members of a community or mailing list, but also with their partners in a collaborative activity. This significantly broadens our circle of communication, allows us to receive much more professional information.

The choice of tools for PLE is purely personal, depending on the author's goals. But if the PLE is more varied then students have more learning opportunities. Therefore, it is recommended to develop PLE constantly taking into account new social services capabilities that are becoming easier to use.

This contributes to the development of PLE participants in the educational process and the achievement of their own goals.

4. Results

On the basis of the considered material, a distance learning program "Distance Learning Examination" was created for the system of professional development of teachers, which proceeds six weeks (108 hours):

1. Distance course expert.

2. Distance course quality.
3. Project analysis. Goal setting in the course.
4. Course information block.
5. Student activity in the course, evaluation, rating.
6. Motivation. Social Services. Conclusions.

47 teachers enrolled in the open distance course, 37 teachers worked in the course, and 12 teachers fully completed the course program.

At the beginning of the course, students were offered a questionnaire that demonstrated the students' experience in developing a distance course and conducting a distance learning process.

The questionnaire was answered by 26 trainees who studied in distance courses of the Research Laboratory of Distance Learning. But, unfortunately, the answers to the questions were not of the highest standard. Not all trainees were familiar with Bloom's taxonomy and did not use pedagogical theories in their teaching practice. Not all of them use a system approach in designing courses and educational materials.

In the first stage, the students identified the requirements for the distance course expert, drew up an examination plan and a list of quality criteria for the distance course, developed a system for evaluating a distance course.

Each listener had to choose a distance course for their tutor examination or to offer their own ones. All practical activity of the trainee in the course was related to the evaluation of the various components of the course. Namely, to evaluate the main components of the distance course as the requirements of the technical task are taken into account.

During the learning, the students compared the methods of pedagogical design (ADDIE, Agile, SAM), conducted an analysis of the target audience of the selected distance course, the purpose of Bloom's taxonomy for every week and its approachability, conducted a general analysis of the information (suitability to the purpose and tasks, redundancy, ease of use). They analyzed the complexity of the text, its design, connection with the graphic material, the quality of the graphics. The tasks, discussions and other activities on diversity, usefulness, etc., tests, evaluation system, availability of rating were analyzed. At the end of the course, students prepared an expert opinion of the course and made a self-assessment of their activity in the course.

5. Conclusions

In the process of training the future experts by means of the compiled open distance course it was revealed that teachers have different levels of theoretical and practical training in distance learning. It creates certain problems in the development of distance course standards at the university and certification of distance courses. To improve the distance training course, it is necessary to review the content of the distance course and identify competencies, that was done in this work, and to strengthen the practical training. In addition, it is necessary to make the course closed and establish the rules of enrollment in the distance course, for example, passing the entrance questionnaire and submitting a cover letter.

The research material will be used to create an improved distance course for training experts in the above mentioned sphere.

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