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II. ПЕРЕДОВЫЕ МЕТОДЫ ОБУЧЕНИЯ И ПРЕПОДАВАНИЯ

PROSPECTS OF AN INTEGRATED APPROACH TO LEARNING AND THE DEVELOPMENT OF THE DISTANCE EDUCATIONAL PROCESS

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Abstract: The article considers the prospects for the development of the educational process, analyzes the optimal shells of distance learning (DL) , including a complex of distance technologies used both in full-time education as an auxiliary tool. The main vector of modernization of education is the development and implementation of an effective mechanism of the open education system. The need for open education is also explained by the accelerating process of obsolescence of knowledge and the requirements of modern development of civil society. However, many issues of the development of the open education system remain not fully developed and poorly researched. The solution of these issues is just one of the main tasks of this study.

The purpose of the article: to study the direction of education in the process of its development: the fundamentalization of education through the integration of science and education; the interdisciplinarity of education; the permanence of the education process on the basis of self-development; the creative nature of learning; informatization of education; increasing the level of educational potential of the education system.

Keywords: integrated approach, training, distance education, distance learning systems, educational process.

ПЕРСПЕКТИВЫ КОМПЛЕКСНОГО ПОДХОДА К ОБУЧЕНИЮ И РАЗВИТИЮ ДИСТАНЦИОННОГО ОБРАЗОВАТЕЛЬНОГО ПРОЦЕССА

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Аннотация: В статье рассматриваются перспективы развития образовательного процесса, проводится анализ оптимальных оболочек дистанционного обучения, включающий комплекс дистанционных технологий, применяемых в традиционном обучении в качестве вспомогательного инструмента. Главным вектором модернизации образования является разработка и внедрение эффективного механизма системы открытого образования. Необходимость открытого образования также объясняется ускоряющимся процессом устаревания знаний и требованиями современного развития гражданского общества. Однако многие вопросы развития системы открытого образования остаются не до конца разработанными и слабо исследованными. Решение этих вопросов как раз является одной из основных задач данного исследования.

Цель статьи: изучение направления образования в процессе его развития: фундаментализация образования путем интеграции науки и образования; междисциплинарность образования; постоянство процесса образования на базе саморазвития; творческий характер обучения; информатизация образования; повышение уровня воспитательного потенциала системы образования.

Ключевые слова: комплексный подход, обучение, дистанционное образование, системы дистанционного обучения, образовательный процесс.

Introduction

The degree of education of a person in the modern world is the higher, the wider the scope of activity and the higher the degree of uncertainty of situations in which he can act independently, the wider the range of possible ways of activity he owns. This is what determines the modern developed education system that can provide the required level of education. We classify the parameters that the educational system of Uzbekistan should and can have: the inter disciplinarily of training is able to expand the scope of the possibility of applying the knowledge obtained as a result of education; powerful fundamental knowledge; training a person to continue to act as correctly as possible in a situation of uncertainty, the development of nonlinear thinking of the student; to educate and encourage in every possible way the student's ability to act independently, thereby provoking the student's self-development, constant self-education; the creative nature of training, aimed, in a particular case, at learning to make independent choices; training to find and filter information; to educate people who have the ability to take responsibility.

Drawing conclusions based on all the above information, it is possible to formulate much more broadly the goals to which education should be directed in the process of its development: the fundamentalization of education through the integration of science and education; the inter disciplinarily of education; the permanence of the education process based on self-development; the creative nature of learning; informatization of education; increasing the level of educational potential of the education system.

The problems and prospects for the development of education in Uzbekistan and in the world are based on the transition to advanced education and is defined as a factor associated with the innovative path of development. Already today, there is an urgent need for trained specialists, which may soon be required. The standard of general education should include new educational goals, new educational content, new teaching tools, new teaching technologies, new requirements for teacher training, new goal-setting for teachers and students.

The analysis of research on the trends in the development of learning shows that distance learning is the optimal tool for the future of the learning system, but despite the fact that distance learning has firmly entered our life, it has found practical application mostly in higher education institutions.

Distance learning allows you to organize the educational process in an individual learning trajectory, which in this case will be understood as a personally significant way of mastering the educational program, where the content and structure of the path is determined taking into account the educational needs and cognitive independence of the student. This statement determines the need for the

introduction and active use of software that allows for the integrated application of distance technologies in the general education process in order to improve the quality of knowledge acquisition and motivation of students.

Thus, we are faced with the task: to identify the most optimal shell of distance learning, including a complex of distance technologies used both in full-time training as an auxiliary tool, and in pre-school education for the purpose of the main method of obtaining knowledge.

The demand for the distance learning shell is determined by the following criteria: availability (commercial or freely distributed); a minimum set of tools for the shell of systems distance learning: functionality (the presence of a set of functions at various levels in the system, such as forums, chats, analysis of the activity of trainees, management of courses and trainees, as well as others); preservation of traditional forms of learning; monitoring of results; collaboration of students; creating questions and managing tests; creating content.

For the effective implementation of systems distance learning, it is necessary to pay attention to the following aspects: where exactly will the training take place and with what help will the training content be developed; is there enough platforms and tools for development; what functionality should these tools have; what is better, to implement everything at once or gradually; how to properly organize the project, what resources are needed and what specialists will need to be attracted; how to develop the training system; how to correctly formulate technical tasks for the provider when implementing SDS?

We will describe the main tools (the functionality of the systems distance learning). For the organization of distance learning, a number of tools are used, including: electronic courses (interactive, slide, presentations, documents, simulators, simulations of dialogues, etc.); electronic tests (both independent and "embedded in courses", training and evaluation); a variety of electronic content (norms documents, instructions); e-books; video and audio content; conducting webinars and viewing their recordings; - blogs, forums, surveys, feedback forms; elements of social networks (likes, comments, profiles); gamification elements (levels, ratings, badges, prizes); external educational resources (websites, books, courses, tests, trainings).

Depending on the functionality of the systems distance learning (the platform on which the training will be organized), you will receive your own set of tools.

With the help of these tools, you can build both online and mixed learning trajectories using distance and full-time forms of education. In the latter case, it will no longer be systems distance learning, but a learning management system. The learning management system will become a single learning platform, an aggregator of resources and a "map" along which the learning trajectory passes and where all the results of the completed training events are recorded. If you look even further

and connect personnel assessment, competence management, adaptation, goal setting, and personnel reserve management to training, then this will no longer be systems distance learning, but talent management system.

For the proper use of these tools, it is important to rely on the methodology: understanding what electronic content is and how it is developed. Only after you have this understanding, you can proceed to choosing a tool for development.

Methods

Interface for tools. Each training system can have different versions of interfaces, within which a certain set of tools is implemented. This can be a traditional training portal, a mobile portal, a mobile application (for online and offline training), non-standard interfaces (for example, chat bots). Despite this diversity, 90% of distance learning implementations in companies are limited to the traditional educational portal within the corporate network. And taking into account the requirements of a modern student for mobility and for the quality of electronic content, now the traditional portal is no longer enough to organize effective e-learning. And, at the same time, for the introduction of mobile portals and applications, it is important to understand whether such training is really suitable for the company's employees. This requires a thorough analysis of the needs and training opportunities [1,p.3-18].

The target orientation of distance learning systems can be expressed as follows: when training, the systems distance learning should implement a systematic approach from setting goals and designing a consistent controlled educational process to checking the effectiveness of training and achieving the systematic formation of knowledge, skills and abilities with specified properties in the student; while maintaining the qualification, the systems distance learning should provide control (diagnosis) of the level of training of a specialist, the formation of individual programs for restoring lost knowledge, skills and skills.

The network environment of the systems distance learning is a control modules distributed over the network, included in the following systems: control of the level of training; the trainee; the teacher; the author of training courses; a distributed database and knowledge [7,p.56-58];

The modules of the environment carry out:

1. management of the work of the systems distance learning (coordination of the functioning of all components of the systems distance learning, namely: functional systems and control modules);
2. Data exchange between systems distance learning systems and processes;
3. monitoring of the process of functioning of the systems distance learning (protocols of systems, processes);

4. monitoring of the learning process (monitoring the implementation of training plans; monitoring the implementation of training courses and training tasks, collecting statistical data on educational processes in the systems distance learning);

5. managing the functioning of a distributed database and knowledge;

Results

The functional structure of the diagnostic system (control system) is shown in Fig. 1. This system allows for input, periodic (before and after the session) and current monitoring of the level of training of a specialist, as well as creating a basic portrait of the characteristics of the trainee and tracking their dynamic variations during training. Only authorized access is provided to the control results stored in the database.

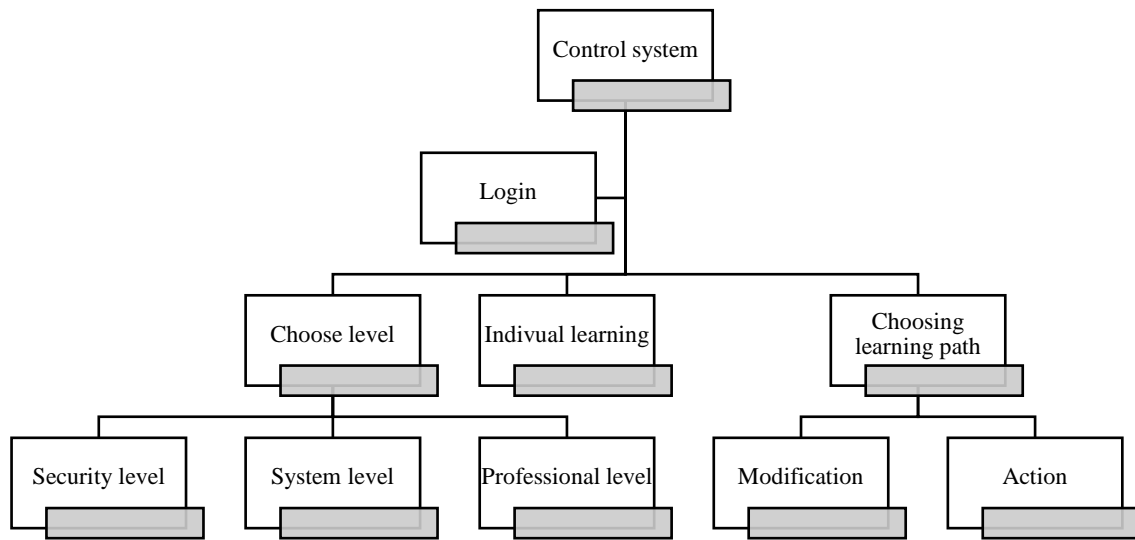


Fig.1. Diagram of the functional structure of the diagnostic system

The functional structure of the training system is shown in Fig. 2. After registration, he is offered a series of control tasks. Control of the level of training can be of three types:

- primary, when at the first entrance of this student to the , all knowledge and skills are monitored according to the full scheme for this category of trainees;
- periodic - at the beginning and at the end of each training session [2, p.78-81];
- the current is carried out in order to check the assimilation of the material during the study of the training course.

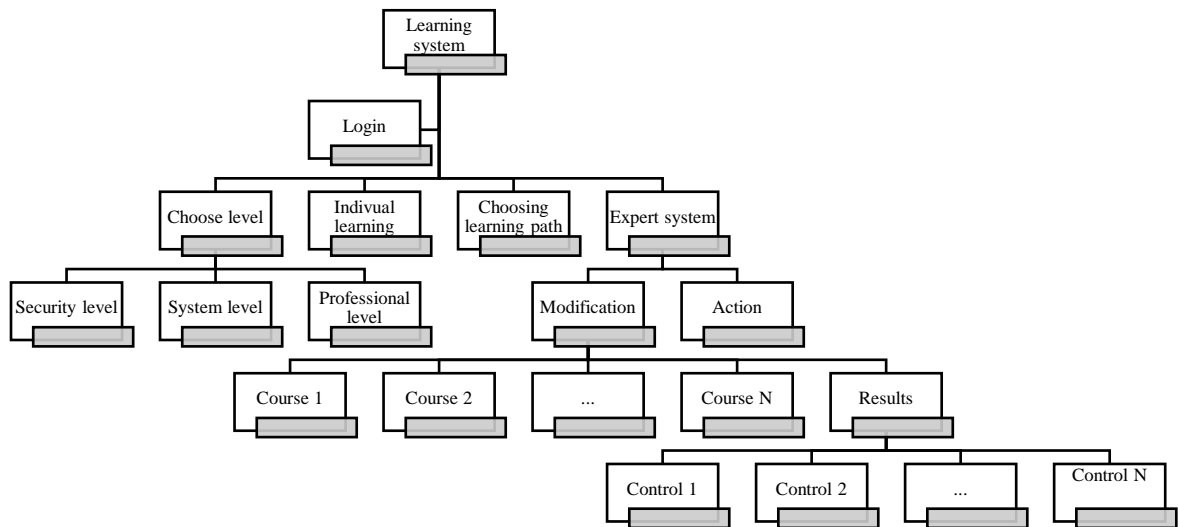


Fig. 2. Scheme of the functional structure of the training system

Figure 3 shows the functional structure of the teacher's system. After registration, the teacher is asked to choose the mode of work, i.e. planning the educational process or monitoring the progress of the training of his group of trainees. When planning, the teacher creates and records individual and group plans for the session, training courses and control classes in the database. During training, he has the opportunity to monitor the work of the entire group or an individual listener, analyze and evaluate the results of training students with the help, adjust the database, training plans [3, p.13-15].

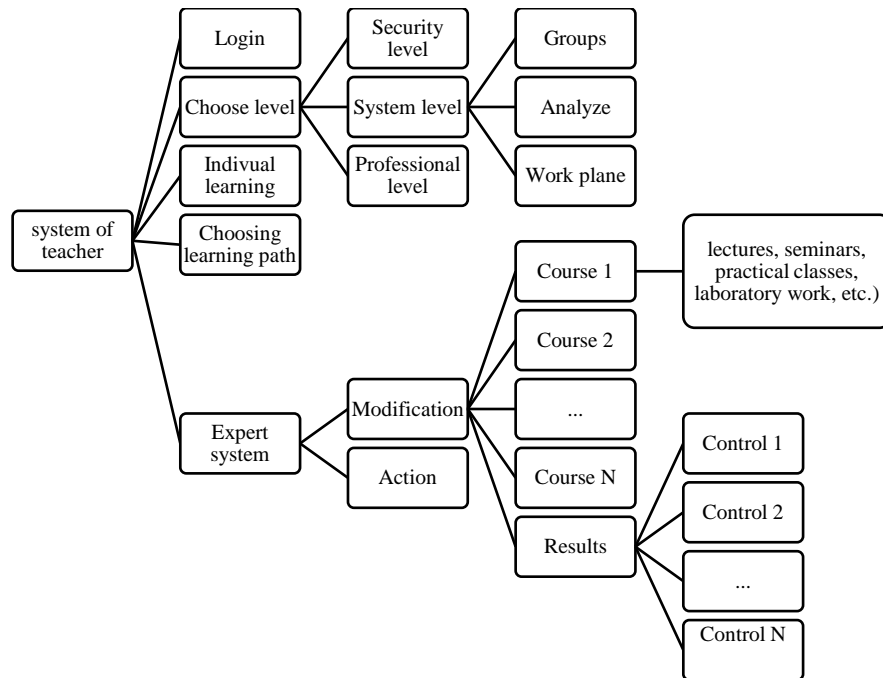


Fig. 3. Diagram of the functional structure of the teacher's system

Discussion

The author's system provides the developer of training courses with the opportunity: to create courses; to divide them into various types of lectures, seminars, practical classes, laboratory work, etc.) to set algorithms for presenting educational material to students, in the form of various options with criteria for switching (choosing) options; to set control points for monitoring the progress of training and knowledge control; to form algorithms and procedures for monitoring the assimilation of educational material.

One of the most important means of distance learning courses is the ability to create integrated in the distance learning system and means of monitoring the educational process. They automatically collect the information set by the author of the distance learning system about the process of studying the material, recording the actions of the student in the protocol. In addition, the author is given the opportunity to conduct an explicit control of mastering the material, forming control tasks. The monitoring protocol is available to the assigned teacher for this course through the Teacher's System.

The complex of automated courses and distance learning system covering all the necessary training topics, includes: computer simulator systems (full-scale and functional); situational (game) modeling systems; multimedia electronic textbooks; interactive automated (computer) training systems; modeling (simulation) systems, etc.

When choosing a distance learning system, it is important to determine not only the functionality (a set of tools) and the interface (the method of training and the presentation of content), but also the features of the implementation process itself. To do this, you will need to answer the following questions [4,5]:

- where will the SDS be located (a cloud solution or a corporate network with its own servers),

- are we implementing only distance learning system? (this is only a tool for e-learning or for the entire educational process or for talent management and development),

- adapting are we adapting to the system or are we customizing the system for ourselves? (will you finalize and do you understand what your technical task for revision will include, do you have a resource for independent support and revision of the system),

- what do we know about the system supplier and about further technical support? (Do they have real examples of implementations, have they worked with companies with similar requests, what feedback about the technical support of the project).

E-learning tools for online learning

Moodle. Moodle offers the user various toolbars, the ability to track the progress of students and multimedia support. The system makes it possible to create courses adapted to mobile phones, and is quite friendly to the integration of add-ons from third-party developers.

For those who want to earn money on their courses, Moodle has integration with the PayPal payment system, which makes the process of placing orders and paying simple and understandable. Another important advantage of Moodle is the user community. Unlike many other free SDS, here you can almost instantly get answers to most of your questions by contacting the online technical support database.

In addition, the service offers a number of ready-made templates that you can use to save time and not create a course from scratch. Perhaps at first Moodle will seem complicated and incomprehensible to you, but if you are looking for a program that gives the user the maximum amount of freedom, then do not be lazy and spend a little time studying the Moodle interface.

ATutor. This distance learning system has many useful functions: from email notifications to file storage. One of the most striking advantages of ATutor is its customer orientation and easy and intuitive interface, which makes this system an ideal tool for those who are just starting to explore the world of e-learning.

Atutor also offers the user a number of pre-installed themes that allow you to speed up the process of creating a course. And it is impossible not to mention

various assessment tools, file backup, statistics management and the ability to integrate surveys.

Eliademy. For teachers and curators of training, this system is completely free, a small fee is charged from users if they want to take advantage of the premium account.

Eliademy offers catalogs of e-learning courses, assessment tools and even a mobile application for Android for those teachers who seek to develop mobile courses and are aimed at people who prefer to study "on the run". E-learning coordinators can easily download courses and send invitations to students to their email addresses.

Forma LMS. From the analysis of the general level of knowledge to detailed statistics and reporting, Forma LMS boasts a fairly extensive set of available functions.

The service also has various certificates, competent management support, as well as a wide range of tools for managing a virtual classroom, including various calendars and event managers.

This system is ideal for corporate training programs and offers access to an active online community where you can find a lot of useful tips on how to get the most out of this service.

Dokeos. If you are looking for a distance learning system with ready-made course elements, then Dokeos, which is provided free of charge for groups of up to five users, is for you.

This system offers a lot of ready-made templates and e-learning courses and, of course, author's tools with which you can minimize the time spent on creating your course.

On their website, the developers offer the user a lot of useful information, including step-by-step video instructions for creating their own courses. The intuitive interface makes Dokeos an excellent option for beginners in the field of e-learning and for those who do not want to spend time studying instructions for a long time.

ILIAS. This distance learning system can be called the first open system that meets such standards of distance learning systems as SCORM 1.2 and SCORM 2004.

This flexible universal system meets all the basic requirements necessary for successful sales of author's courses.

It should be noted that ILIAS is one of the few distance learning systems that can be used as a full-fledged e-learning platform, thanks to the ability to communicate within the team and transfer and store all documents. The system is absolutely free for all organizations engaged in e-learning, regardless of the number of users.

If you have hundreds, or even thousands, of people studying, this system will help you significantly reduce your expenses, since many other SDS assign a fee depending on the number of users.

Opigno. The opportunities provided by the Opigno system can't but please. Certificates, class schedules, forums, author's e-learning tools, a rating system and video galleries are just a few of the impressive list of functions available to the user.

This distance learning system is written in Drupal, a popular content management system. This gives you the ability to manage study programs, track student progress, and integrate e-commerce using just one tool.

Opigno also offers the user online surveys, the ability to send instant messages and chat, which makes it possible to quickly provide and receive feedback and effective cooperation.

OLAT. Assessment tools for e-learning, social integration and the student's home page are just a few of the many advantages of OLAT.

In this system, you will also find a schedule, email notifications, the ability to add bookmarks, file storage and certificates.

Using OLAT, you can easily and quickly add new users to the system, as well as develop comprehensive e-learning courses. Another interesting feature is the ability to check compatibility with browsers. By clicking just a few buttons, you can make sure that the training material is displayed correctly in all browsers. OLAT is ideal for multi-platform e-learning courses designed for various devices.

Mirapolis Corporate University. (Electronic Corporate University). A solution for managing key business processes in the field of personnel training, developing a corporate educational electronic environment, managing the process of forming, reviewing and monitoring the implementation of personal development plans for employees, creating a customer or partner training center on the basis of a corporate university and turning it into a revenue center.

Mirapolis LMS. A comprehensive solution for automating the management of training, evaluation and development of personnel, building knowledge management systems [3,8].

SDO iSpring Online. The iSpring Learn online learning platform is used by both private business coaches and large companies with a developed network of branches: Alfa-Capital, Lamoda, PwC, RTRS, Unilever. A simple and convenient LMS for organizing training and personnel evaluation Allows you to implement distance learning in a company or educational institution in the shortest possible time.

This is an Internet service, which means that you do not need to download the program, install it on the server, configure it. To get started, it is enough to register

on the website, download training materials and assign employees. One person can manage the SDO.

Flora LMS is a new platform specially designed for creating, hosting and selling your courses on the Internet. The system provides the ability to quickly create or download a course, set up an online showcase, add educational content to the store in a couple of mouse clicks and start selling today. By default, courses are displayed in a stylish digital showcase, which can be customized according to the needs of customers and businesses. To attract more customers from organic traffic, your showcase is perfectly optimized and indexed by search engines such as Google or Yandex.

With Flora LMS, you will not have any technical problems. The intuitive user interface makes the platform very easy to use for both platform administrators and students.

All courses are placed on a digital showcase. Each of them also has its own separate page where you can provide detailed information about the course, such as the training program, description and user reviews. On the showcase, you can sell courses individually or divide them into categories so that it is easier for the client to find relevant content.

Teachbase. The Russian development of the Teachbase distance learning system has been recognized by more than a dozen companies. The service is ideal for solving corporate training tasks, but it is also quite applicable for private trainers. Teachbase is a system with remote access, which means that you do not need to install it on your computer, maintain and configure it. To create a course (or complete it), you will need Internet access and a computer or mobile device.

Conclusions

What should the distance learning system of the future be like? Distance learning systems will also have to change to meet the needs of a new, more integrated approach to employee training and development.

Integration into workflows. The distance learning system will have to fit seamlessly into the work processes of employees, so that they can, if necessary, receive timely, targeted assistance right at the workplace and thereby increase their KPI.

Distance learning system should be not one platform, but several perfectly integrated tools that provide an individual user experience to an employee.

It is necessary to base the distance learning system on an intuitive interface, which with tight integration with workflows can be achieved through a carefully thought-out user-oriented interface, it should be so intuitive that students do not even notice the learning process and knowledge testing [9,11].

In addition, the developers of the distance learning system need to pay special attention to the design of the learning experience (learning experience design). Experts note that SDS built around the student's experience, rather than around the content, have a better chance of survival.

Convenient search. Another important criterion for the quality of distance learning system in the future, experts called the search function — after all, the results of their work will depend on how quickly employees will be able to find the necessary information in the training system. The amount of content is constantly growing, and as distance learning system will go beyond the courses and transform into learning ecosystems, it will become even more difficult to search for information.

Fascinating content for full immersion in learning: VR, chatbots. Together with distance learning systems, the educational materials themselves will change. Boring instructions and presentations no longer work. Training is not only a mental, but also an emotional process, so it is very important to create educational content that will involve employees in the learning process. In the field of e-learning, there are more and more unusual, interactive educational materials. Another trend in training that is actively gaining popularity is chatbots. Chatbots have long been used in marketing, sales, social networks, CRM systems, but more recently they have been used in the field of eLearning.

Training should be tightly integrated into work processes and directly related to key performance indicators [12].

Distance learning systems will continue to be used by educational institutions and companies, but not only for formal training and testing of knowledge, but as a tool for supporting employees in the workplace.

The training content will become more diverse and exciting — after all, it is already obvious to most companies that the effectiveness of training directly depends on the degree of employee involvement.

The question remains: how can a pedagogical designer understand which ideas should be implemented today, and which ones should just be looked at for now? Which of the existing approaches to work to keep, and what to get rid of? In the next article, we will share a selection of skills that, according to DevLearn experts, a pedagogical designer of the future should have.

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