Information and Terminological Concepts of Project Actions in Higher Education Domain

Roman Krokhmalnyi[a], Halyna Krokhmalna[a], Danylo Krokhmalnyi[a] and Parviz Kazymi[b]

[a]*Ivan Franko National University of Lviv, Universutetska Street 1, Lviv, 79000, Ukraine*
[b]*Baku State University, 23 Academician Zahid Khalilov Street, Baku, 1148, Azerbaijan*

Abstract

The authors consider IT projects features related to the current processes in higher education reforms. Informational and terminological concepts of project actions, their possibilities and prospects of application with regard to educational innovations are in the focus of attention. The article presents a multi-component analysis of individual concepts while reviewing Learnopolis international project launched on the joint initiative of two higher educational institutions, i.e. Ivan Franko National University of Lviv (Ukraine) and the University of Bayreuth (Germany). The immediate implementation is carried out by the Department of Intercultural Communication and Translation and the Centre for Teacher Professional Development. The conceptual approach contributes to the creation of a certain specific model of communicative phenomenon. Through its actualization and feasible analysis, the organizers anticipate a competent attempt to answer the questions related to the development of educational processes, the requirements for the participants of the nearest future educational communication (subjectively and objectively motivated), the role of IT competencies and their active impact on these changes. The dependence of informational and terminological concepts as markers of project implementation activity is emphasized. The authors establish a logical sequence of system features of an IT-project in the educational space, topicalize individual alpha factors at the conceptual informational and terminological level as well as make conclusions as to the prospects of a particular IT-project implementation.

Keywords 1

Higher education, optimization of teaching and learning process, digital educational competencies, innovation activity, IT project management, Learnopolis project.

1. Introduction

Problem statement. The current trends in the development of human civilization pose particularly high requirements for the employment of IT projects within the educational realm. The problems of multimedia and overwhelming spreading of social communications create certain conditions, which should, at first glance, facilitate smooth integration of IT in various forms of educational projects, yet a number of new issues are put forward, which form the problem of adapting the educational environment to the new settings. The traditionally normative nature of pedagogical action collides with the other, hitherto unimplemented, principles of management, radically different from the previous industry environment. If earlier it was enough for the pedagogical community to be guided by strictly normative and approved principles for a long period of time and these principles stabilized the educational sector to a certain, almost permanent coherent state, then under the new conditions of information society origination such fundamentally oriented regularities are opposed by the rapid pace of changes in the life (often virtual) of individuals, which instantly overcome the barriers of time,

Proceedings of the 2nd International Workshop IT Project Management (ITPM 2021), February 16-18, 2021, Slavsko, Lviv region, Ukraine
EMAIL: roman.krokhmalnyy@lnu.edu.ua (Roman Krokhmalnyi); halyna.krokhmalna@lnu.edu.ua (Halyna Krokhmalna); danylo.krokhmalnyi@lnu.edu.ua (Danylo Krokhmalnyi), pkazimi@mail.ru (Parviz Kazymi)
ORCID: 0000-0001-8307-1784 (Roman Krokhmalnyi); 0000-0002-0685-1047 (Halyna Krokhmalna); 0000-0002-7167-4964 (Danylo Krokhmalnyi); 0000-0001-5577-4773 (Parviz Kazymi)

space, suddenly modifies itself and the information about itself and rushes on into the future. The requirement to change fundamental pillars of education has become the demand of the time. One of the levers in such a process is IT project management, which has proven to be a dynamic, precise and effective way of influence.

2. Recent researches and publications analysis

The issue of transformations in education and the role of project management in this process is not novel for scientific researches. There are a number of scientists who focus on its various aspects, in particular the role of project management – S. Bushuev [3] V.Bykov [4] O.Aleinikova[2], O.Polotai [11, 12], quality of education – V.Kremen [5, 6], L.Pokroeva [10], M.Romanenko [15], T.Sushchenko [17]; project management in professional competencies and the role in IT project management – Y.Teslia [18], N.Kunanets [9, 16, 20], O.Timinskii [19] to name a few. The analysis of publications indicates a systematic approach attested in the modern scientific discourse [13, 14, 21–32], but the time lag of the processes, which became the target of such studies, from the research proper[8], does not allow scientists to go beyond the prognostic forecast, so most publications contain an analysis of the current or productive past status of IT-projects.

Objective: To perform a multicomponent analysis of selected concepts as exemplified by the international project Learnopolis, created on the joint initiative of two higher educational institutions, namely the Ivan Franko National University of Lviv (Ukraine) and the University of Bayreuth (Germany), while the direct implementation is carried out by the Department of Intercultural Communication and Translation and the Professional Development Centre, to establish the dependence of information and terminological concepts as tokens of project implementation activity and to determine the possibility of logical sequence of system features and prospects for the implementation of a particular IT project in the educational space.

3. Presentation of the background information

In the summary of the Learnopolis IT project following concepts can be distinguished: international cooperation (the IT project was created jointly by scientists of the University of Bayreuth and the Ivan Franko National University of Lviv), the declaration of support for digital learning, practical concepts ("steps") ("creating appropriate frameworks and tools, adapted to the needs of universities and users").

The Learnopolis project is structured in the context of conceptual processes, i.e. "implementation of digital technologies", "internationalization" and "innovation", which are presented in "three basic modules".

As a result of the analysis of terminological units, let us consider several concepts within the framework of the proposed IT project. We are interested in informational and terminological concepts and their possible varieties.

The material for our study includes the IT-project's official resource (https://learnopolis.net). Within the declared trend of introduction of digital technologies in the educational process, let us consider the first concept containing terminological features associated with digital technologies.

The dominant terminological units [7], which are highlighted within the 1st module of the IT project are "laboratory", "digital technologies", "curriculum", and "didactic materials". They contain a relevant combination of concepts related to the learning environment and digital competence. Such terminological "portrait" of the phenomenon in question gives grounds for hypotheses about its dual nature. This is presented in the following Figure 1.

Goals and anticipated outputs (module 1)	Innovation and cooperation laboratory Learnopolis.net
	Concept of implementation and use of digital technologies (LNU)
	Two structured programs, i.e. curriculum program and professional development program
	Open access didactic materials

Figure 1: terminological "portrait" of the phenomenon

Let us consider the diagram of frequency of the usage of corresponding terminological units in Figure 2, which argues that the conceptosphere linked to digital technologies (24) and digital tools (39) is more understandable and definite for IT project organizers as compared to the concepts that have an obviously certain unpredictable form. At the same time, it is worth noting that these terminological units (digital learning resources – 4 or digital transformation – 2) in the educational IT project should prevail in the frequency. Particularly indicative in this field is the frequency of the use of terminological units "digital" university (2). Actualization of this terminological unit indicates the purpose of transformations suggested by the IT-project. All of the above testifies to a notionally unformed conceptual category at the level of implementation of the examined phenomenon. However, we can assume that the IT-project is of a highly applied nature, related specifically to practical steps, so it has a relatively low level of frequency of usage of terminological units marked by strategic character regarding the information educational environment.

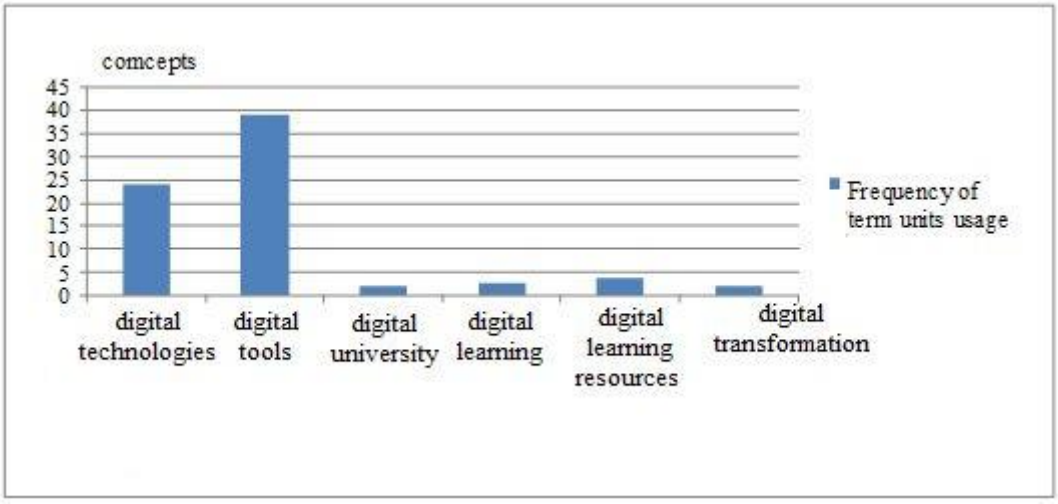

Figure 2: the diagram of frequency of the usage of corresponding terminological units

Certain terminological units (such as digital transformation) indicate the achievement of a conceptual goal of the IT project, which the authors unintentionally actualize within the web resource. So, the prevalence of tactical group terminological units allows us to identify a high level of practical implementation of the IT project. The authors are aware of the way to achieve the result consciously refraining from the implementation of global concepts, which at this stage of the IT-project implementation have not been achieved yet, or in general are unpredictable and uncertain (digital university – it is obvious that a complete transformation of a university in the digital format cannot be the goal of a single IT-project (Figure 3)).

Goals and anticipated outputs (module 2)	4 projects with 8 profile trainers-consultants
	Development of a curriculum entitled "Applied Informatics" (LNU)
	Open Access brochures and an online German-Ukrainian magazine; an electronic library of country studies
	Professional advancement in digital technologies and the promotion of interdisciplinary German-Ukrainian cooperation

Figure 3: The stated goals and anticipated outputs

The stated goals and anticipated outputs include attributes of both concepts and allow tracing a clear systematic approach of the project's authors to planning and organizing of their activity. (It is important that an international scientific and educational communication are integrated into the training and information context: "We jointly develop basic courses, test the use of digital technologies in various disciplines and strive to exploit the incredible innovative potential of our regions. Structures thus created, the intensification of knowledge exchange and the establishment of human relations will simultaneously intensify further German-Ukrainian cooperation" [1]).

The introductory module actualizes the test concept ("creation, structuring and implementation of advisory and service proposals in the field of digital learning in an international context at the Ivan Franko National University of Lviv and the University of Bayreuth" https://learnopolis.net), which enables the creation of individual offers within the project. Terminological units are placed in accordance with the information purpose.

The project involves defining some status (Figure 4) regarding actions in the project framework for the "driving forces" of such a unique "digital" university: we are talking about "service IT centres, libraries, centres for implementation of digital technologies, information and innovation, international offices, as well as educational proposals in order to improve the quality of teaching" [1]).

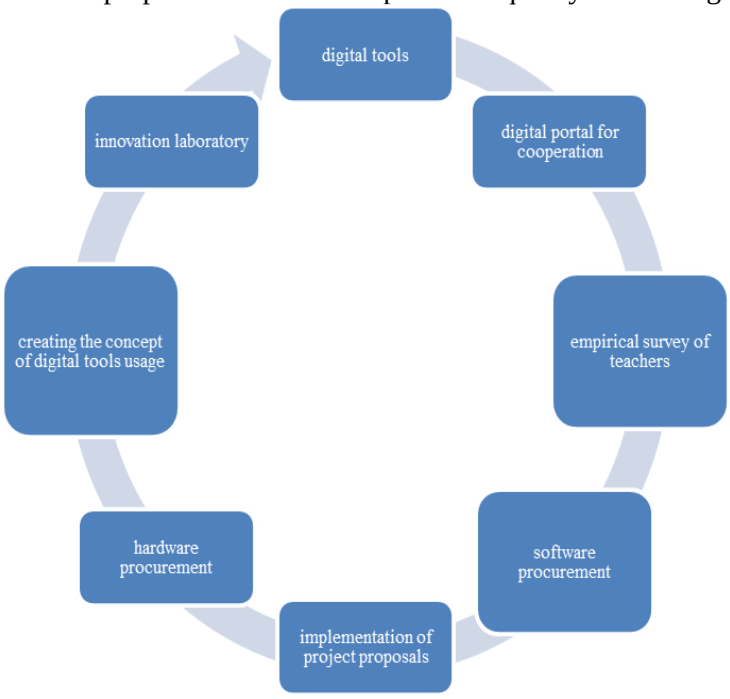

Figure 4 : status regarding actions in the project framework

The project involves studying of distinctive features at higher education institutions, respectively, in Lviv and Bayreuth. The authors note the difference of these components "not only in terms of human and financial resources," but also assume the presence of functional peculiarities in the "organizational structure, mode of operation, specific goals, and offerings". The organization of mutual visits seems logical, the purpose of which, according to the authors, is to "find common solutions" (demonstration and reflection are essential for an accurate and clear understanding of the differences). The form of such communications is "bilateral week-long working visits of delegations, whose members are representatives of key structural units".

Conceptually, the Inter-University communication is confirmed within the project by a number of reviews and reports. In particular, the opinion of German colleagues contains a series of visionary considerations regarding the project (Julia Walz: "In Lviv, as in Bayreuth, I still see an urgent need to promote the idea of open access for scientists and to convince scientists to publish their work so that later scientific achievements do not remain only in the universities, but become available to all those interested. Therefore, we could jointly engage in educational activities, for example, organize an information campaign by distributing online brochures." Wiltrud Tusso's response: "Since both university libraries are affiliated with national structures in their organization and activities, I think there should be an exchange of experiences related to library problems having an international scope. These are, for example, issues of open access, open science, and other allied topics such as Creative Commons licenses" (Figure 5).

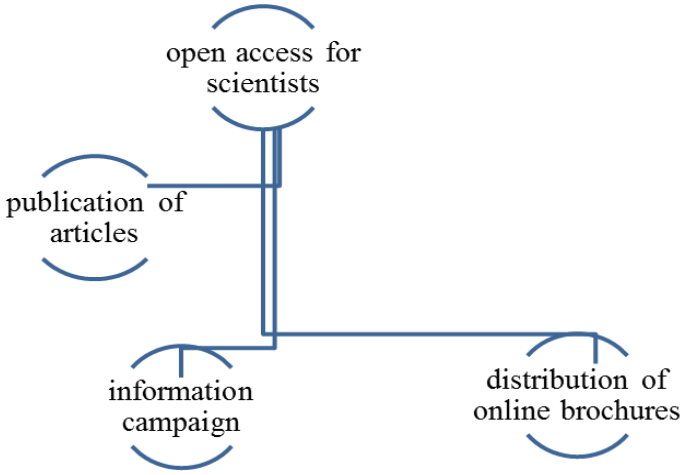

Figure 5: The correlation of the concepts in the framework of feedback on the cited opinions of colleagues is illustrated

It is vital for to design and implement the strategy of using digital methods and tools in the educational process in Lviv based on the model of Bayreuth University. The IT-project authors analyse goals, identify priorities and ways of communication, features of the training course content, issues of sharing experience in the framework of digital learning. Concepts related to understanding of the difference between the digital learning process and offline teaching activities in the university classroom are considered in the analysis of digital resources. Emphasis is placed on good planning, which "happens the same way and is decisive for the success of learning". The learning goal is thus defined by asking questions like "What must students know upon completion of a course or its part?" or "How can I make sure that these goals are met?" or "How can I make sure that these goals are met?" In establishing the "Resources" category, an instructor, according to the IT project authors, should create a systematic answers to the following questions: "What materials are available and how can I use them?", "What procedure can I use?" or "How much time do I have?" The importance of short learning units for online work is highlighted (https://learnopolis.net)(Figure 6).

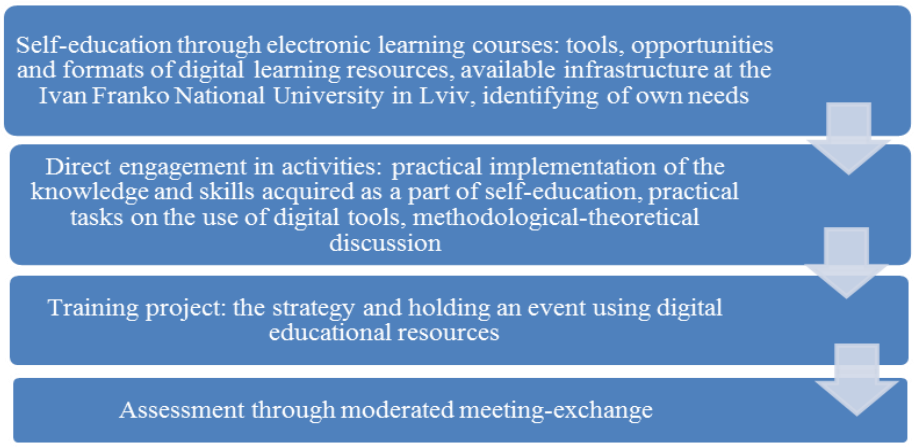

Figure 6: The project envisages four stages of development of Ukrainian-German cooperation

The assessment of the information concept of the indicated module related to the international communication indicates several terminological dominants (it goes about such terminological units as "self-education", "digital learning resources", "knowledge implementation", "digital tools", "learning project", "metrological-theoretical discussion", etc.) that implement the information concept of the project (Figure 7).

Let us present one of the logical schemes revealed through the analysis of the IT project in the light of actualized terminological units. As one can see, IT-project is manifested in the relationship of digital means as the main conceptual idea, bears the project action, implements its purpose along with the understanding of deep processes of information society, features of modern digital communication in order to promote digital international cooperation for the advancement of digital education as the main phenomenon. Note that all notions in this scheme have a practical interrelated focus on achieving the goal actualized by the project.

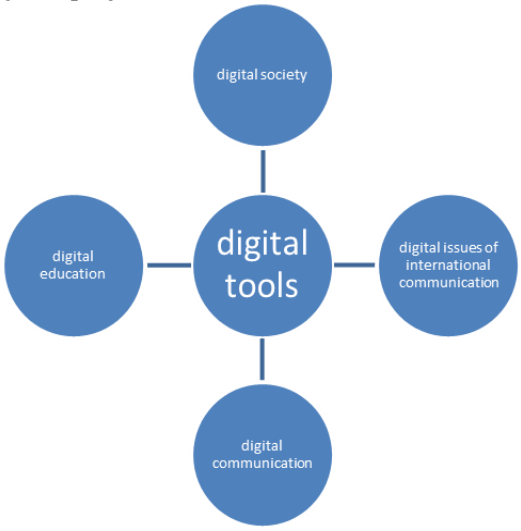

Figure 7: terminological dominants

Since the task of the third module "Innovation Potential of the Region" stipulates measures to activate and create a network of regional innovation potential, it is quite logical that the IT project authors take tactical steps on identification and activation of innovation potential and existing competences in the field of international learning process using digital technologies in the regional environment of universities. Third stage terminology units-dominants reflect the processes of collecting and analysing ideas, they are aimed at analysing how such competencies can be used and developed for future mutually beneficial projects.

As part of the implementation of project actions, the goals and expected results of module 3, presented in Figure 8, contain the expression of synthetic intentions of the authors, represented by a number of concepts ("open database of competencies", "expert speeches", "German-Ukrainian

exchange program", "future project ideas"), which become a logical objective of the previous stages and an attempt to outline the future implementation possibilities of the not yet written project actions.

Goals and anticipated outputs (module 2)	Creating an open database of competencies
	Expert speeches in the open access
	German-Ukrainian exchange program in the field of using of digital technologies
	Expansion and strengthening of existing networks, identification of future needs, explicit ideas for future projects

Figure 8: implementation of project actions

Let us consider the concept schemes that are reflected in all three modules, and present the logic of project actions in order to create an open database of competencies (Figure 9).

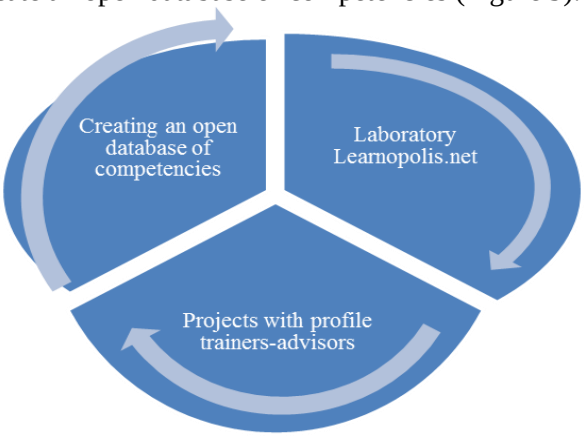

Figure 9: the logic of project actions

Figure 10 offers a scheme of project activities related to the creation of components of the learning environment phenomena within all three modules of the IT project:

Figure 10: offers a scheme of project activities

Figure 11 suggests a logical framework for integrating processes of the educational environment and international cooperation in connection with the project:

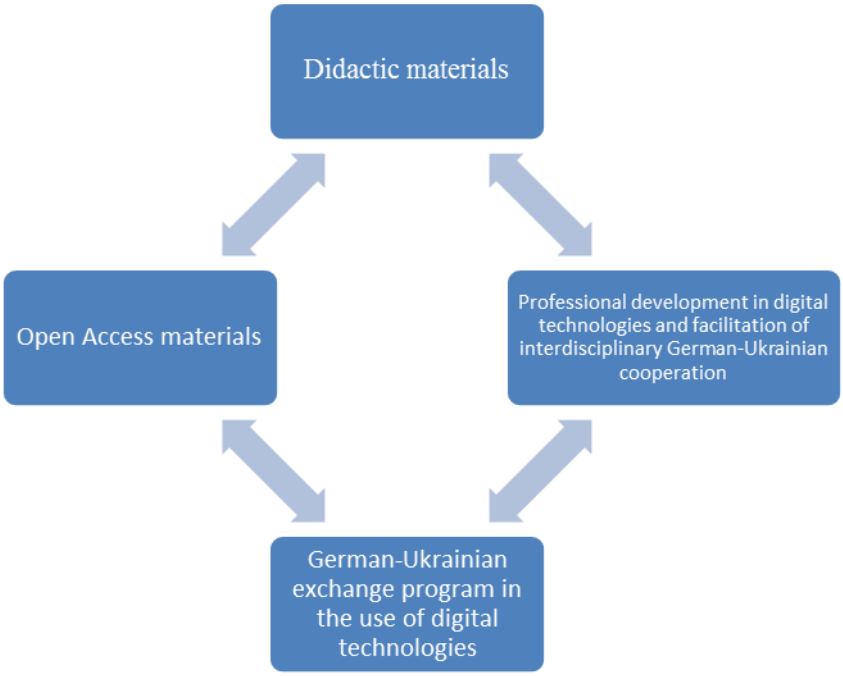

Figure 11: a logical framework for integrating processes

Let us focus especially on the concept of obtaining feedback from the participants of the IT project implementation. Since the active-phase project is taken into account at the stage of its implementation, let us use several considerations of participants about the peculiarities of the use of digital tools. Among the responses we highlight terminological units (Figure 12), which provide the basis for drawing a conclusion about the trends characteristic of this project.

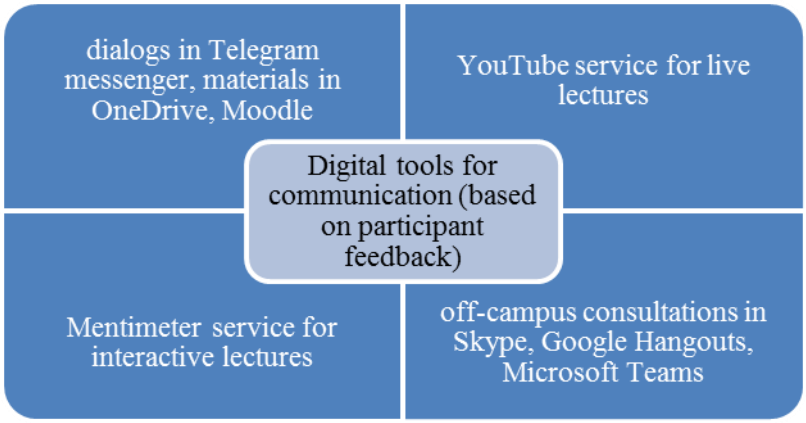

Figure 12: peculiarities of the use of digital tools

As their challenge the project participants note the reduction in the number of tools for communicating with students, since this leads to obvious problematic issues. In particular, when describing problems, the most frequently used complex terminological units are "number of tools", "quality of video lectures recording", "inappropriate behaviour during video lectures", "methodology for effective checking and providing feedback", "quality of checking and feedback", "stress level".

All of the above points to the prospect of deploying the chosen analysis to the Learnopolis IT project as a model of project action in the context of modern processes of higher education reform with the use of international scientific and educational communication. The combination of components of terminological and informational concept analysis in the study of project action phenomena afford grounds for specific, targeted and systemic conclusions.

4. Conclusions

Following the analysis of individual concepts of the Learnopolis international project and based on the established logical sequence of system features of the IT project in the educational setting, there is a good reason to assert the obvious influence of the IT project on the formation of the educational environment. This is confirmed by the individual dominants at the conceptual informational and terminological level containing the goals, objectives, and development opportunities planned by the authors of the IT project.

The study of individual terminological and informational features of the IT project makes it possible to affirm that the research object is characterized by a highly applied nature of implementation, associated directly with practical steps, so we observe the low frequency of usage of terminological units of strategic nature relevant to the information educational environment at large, while individual observations of project participants become not only a means of introspection, but also an opportunity for synchronous reforming for the qualitative result.

We believe that perspectives of the Learnopolis IT project pave the way for the acquisition of new digital competencies, the formation of a sustainable professional approach to a particular learning goal in a particular academic community, and the implementation of future joint IT projects at the qualitative level of scientific and educational inter-university communication.

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