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INNOVATION DIFFUSION IN HIGHER EDUCATION

In the context of reforming the Armed Forces of Ukraine, there is an urgent need to review the approaches to determining the level of education and qualification of specialists for the organization of the educational process in higher institutions. Increased technological advances, coupled with new learners' needs and pandemic situation, have created new realities for higher education contexts. The research findings shed light on trends in project management in higher education. Project management for innovations has come to be viewed nowadays as a crucial tool in increasing productivity of organizations and one of the most popular and useful tools for institutions to improve internal operations, respond to opportunities, manage contemporary challenges, and achieve strategic goals. A more in depth understanding of innovation can help administrators inspire innovations, mobilize those looking to innovate, respond to forms of resistance that are likely to emerge, and oversee the innovation diffusion process. A discussion of the following topics is meant to facilitate that understanding: impetuses for innovation, characteristics of language programs that stimulate or hinder innovation, and paths to successful innovation diffusion. The article concludes suggestions that are meant to guide language program administrators in their efforts to promote successful innovation while they simultaneously juggle the multifaceted demands of their administrative position in higher education institutions. Education during the pandemic have exposed education staff to a complicated array of pressures that impact their work methods and ability to function, but have also provided education leaders with opportunities to act autonomously and initiate changes in their institutions. Due to these changes, project management has become a critical tool for institutions and therefore adaptation of this discipline in the context is a matter of the highest priority in current educational systems. More specifically, this article has both theoretical and practical contributions. It promotes knowledge and understanding of project management within the institution's contexts. Education sector specialists need to work with their existing skill sets for crisis-responsive programming but also need to develop new skills since we are all working under new conditions – specifically driven by social distancing parameters.

Key words: innovation, diffusion, online learning, project management, higher education.

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РОЗПОВСЮДЖЕННЯ ІННОВАЦІЙ У ВИЩІЙ ОСВІТІ

В умовах реформування Збройних Сил України існує нагальна потреба переглянути підходи до визначення рівня освіти та кваліфікації фахівців для організації навчально-виховного процесу в закладах вищої освіти. Зростання технологічного прогресу в поєднанні з новими потребами студентів та пандемічною ситуацією створило нові реалії для контексту вищої освіти. Результати досліджень висвітлюють тенденції управління проектами у вищій освіті. У даний час управління інноваційними проектами сприймається як важливий інструмент підвищення продуктивності організацій та один із найпопулярніших та корисних інструментів інституцій для покращення внутрішніх операцій, реагування на можливості, управління сучасними викликами та досягнення стратегічних цілей. Більш глибоке розуміння інновацій може допомогти адміністраторам надихнути на інновації, мобілізувати тих, хто прагне до інновацій, реагувати на форми опору, які можуть виникнути, та контролювати процес розповсюдження інновацій. Обговорення наступних тем має на меті сприяти такому розумінню: перешкоди для інновацій, особливості мовних програм, що стимулюють або перешкоджають інноваціям, та шляхи до успішного розповсюдження інновацій. У статті підсумовуються пропозиції, які спрямовані на те, щоб орієнтувати адміністраторів мовних програм у їхніх зусиллях щодо просування успішних інновацій, в той час як вони одночасно стикаються з багатогранними вимогами щодо своєї адміністративної посади у вищих навчальних закладах. Освіта під час пандемії піддала освітянським працівникам складний спектр тиску, який впливає на їхні методи роботи та здатність до функціонування, але також надав керівникам освітніх можливостей

самостійно діяти та ініціювати зміни у своїх установах. Завдяки цим змінам управління проектами стало критичним інструментом для закладів. Більш конкретно, ця стаття має як теоретичний, так і практичний внесок. Дослідження сприяє отриманню знань та розумінню управління проектами в контексті установи. Фахівцям освітнього сектору необхідно працювати з наявними наборами навичок у відповідь на кризи, але також потрібно розвивати нові навички, оскільки всі ми працюємо в нових умовах – особливо в умовах соціальної дистанції.

Ключові слова: *інновації, дифузія, онлайн-навчання, управління проектами, вища освіта.*

Problem setting. Higher education institutions, faced with the massification of knowledge production and the increased use of communication information technologies, have struggled to come to terms with the current changes. Organizations must undergo a process of "unlearning" in order to change habits, routines, and welcome the current pedagogy. Is this case the administrator should be a catalyst for change and innovation, demonstrating how innovation can empower program personnel, invigorate programs, and lead to improved teaching and learning. To the other hand, pandemic situation impacts education sector stakeholders living in conflict-affected contexts.

The aim of the article. This article offers guidance to instructors, institutional leaders, and officials on addressing the crisis. What preparations should institutions make in the short time available and how do they address students' needs by level and field of study? The study also explores and maps trends in project management and learning technologies in higher education and identifies how these innovations are affecting teaching and learning practices in higher education settings, particularly for the Ukrainian Armed Forces education system. The central purpose of military education is to lead to action with a larger objective [of] seek[ing] increased global stability and security, unfettered by doctrine but informed by a shared ethical framework (Barrett, A. J., & Green, D. E., 2008: 11). Although military education may have a unique purpose, it also responds to typical trends in education and must consider learning technologies and approaches in moving forward.

Theoretical background. Project Management for Education aims to help build indispensable bridges between project management and education, to support the evolving transformation of education to equip students with the essential skills to tackle our world's "glocal" (global and local) problems, and to empower all learners to successfully manage their personal, social, and life challenges.

The call for changes and necessity to respond to changes has a critical impact on the functionality of the organization (Barrett, A. J., & Green, D. E., 2008: 12).

Administrators seeking greater efficiency and productivity are paying more attention to management innovation as a major tool for implementing and achieving the strategic goals and objectives of the organization. Administrators in higher education, who provide the service of education to their students, are examples of university staff that are now using project management.

In the field of higher education, project management has its own unique set of challenges, including shared governance, a focus on collaboration, and the need to share information transparently and limited time.

Project management involves using techniques, knowledge, and skills to help a team achieve the goals of the project. This involves meeting or exceeding expectations of the stakeholders involved. A number of demands must be balanced in order to manage a project. These demands include the expectations of stakeholders, quality of the outcome, time and scope of the project, cost, and other constraints that may be necessary.

Project management can be conceptualized as consisting of nine areas of knowledge, which include cost, time, scope, integration, human resources, quality, procurement, communications, and risk. In order for the project to run smoothly, deliver a quality product, and remain on budget, all these areas of knowledge must be considered and applied appropriately. Using the concepts of project management properly helps the project manager remain within appropriate scope limits while efficiently using resources (Rogers, E. M., 2003: 71).

According to Rogers (1995), innovation decisions are driven by innovation characteristics that motivate the user into adopting or rejecting the innovation. The six innovation characteristics are relative advantage, compatibility, ease of use, complexity, trialability, and visibility. Relative advantage is the degree to which an innovation is perceived as better than the current idea it supersedes. Ease of use is the degree to which an innovation is perceived as difficult to understand and use. Compatibility is the degree to which an innovation is congruent with the existing values, expectations, and needs of the adopter. Complexity is the extent that the innovation is difficult to use. Visibility is the extent that innovation is visible to 8 others. Trialability is the degree to which an innovation may be experimented with during a limited time.

The life cycle of a fad, according to Birnbaum, R., can be broken down into stages. The first stage

is the creation. During this phase, the organization identifies a problem that needs to be solved. The present methods of operation are deemed inadequate, and a new technique is advocated. The new technique is frequently presented in an oversimplified manner with unrealistic expectations of success. The next phase in the life cycle of a fad is narrative evolution. During this stage, information on the successful use of the new technique is distributed in the organization. There is a lack of information provided on the costs or limitations of the technique. Information is spread throughout the organization with claims of widespread use among similar organizations. Some of this information may be passed as stories in magazines, newspapers, and other forms of mass media. The third stage in the life cycle of a fad is the time lag. During this phase, the new technique has been applied, but independent analyses and reactions to it have yet to be reported. This is often a time when continued stories of success are spread throughout an organization. However, stories of limitations in the new technique may begin to arise. Many times, scholars who are not associated with the technique may begin to spread information that was previously not made available. The next stage in a fad's life cycle is the narrative devolution. During this phase, the narrative of creation is questioned by skeptics. The initial enthusiasm created by the initial reports decreases as stories regarding failure become available. The information available from outside scholars points to limitations in the technique. There are reports of dissatisfaction among organizations that have used the technique. The new technique experiences a decrease in its acceptance. The last stage in the life cycle of a fad is the resolution of dissonance. During this last phase, individuals who were early adopters of the new technique feel a need to account for its failure. This is done in an attempt to protect their social status. Rationalizations are often used to explain the limitations of the new technique and can involve blaming its failure on a lack of resources, leadership, or proper implementation (Birnbaum, R., 2000: 8).

Fullan M. states that the innovation diffusion process (see Figure 1) involves successive cycles that require long-term involvement, commitment, and support. Although introduced here in a linear fashion, the process itself is seldom linear. The first phase-often referred to as the initiation, mobilization, planning, or diagnostic phase-involves the presentation and consideration of an innovative idea. At this stage, even when innovations are grounded in strong academic theory and sound practical considerations, they rarely take hold simply on account of their own

merits. This might explain why the same innovation can be strongly accepted in some language programs and vigorously criticized in others. This phase requires (a) needs analyses, (b) the determination of a need for improvement, (c) an evaluation of the proposed innovation in light of the needs analyses, (d) the decision to proceed, (e) the gathering of support, (f) and assessment of available and required resources, and, finally, (g) plans for implementation, including the building of a sense of ownership among those who are likely to be involved. It is during this early stage when administrators proposing top-down innovations need to build acceptance among faculty because top-down reforms require grassroots understanding and support (Fullan M, 2007: 93). Similarly, teachers who propose bottom-up innovations need to secure the support of administrators and colleagues. Whether top-down or bottom-up, proposals for innovations require clarity so that goals, means of implementation, and terminology are unambiguously understood by stakeholders.

The implementation phase, the second part of the process, involves attempts to translate innovative ideas into practice. Relevant factors at this initial-use stage include teacher's attitude, teachers support, and teachers understanding of the innovation at philosophical and practical levels. Parallels surely exist for staff, students, parents, and other stakeholders. It should come as no surprise that when teachers have favorable attitudes toward an innovation, they are likely to be supportive. Conversely, if teachers are reticent about the innovation, they are likely to resist implementation. But positive attitudes are not enough to ensure successful implementation. Teachers need support, in the form of professional training, structural support, and incentives; without such forms of support, teachers may become disillusioned and reject the innovation, thereby undermining implementation efforts. Equally important is the teachers understanding of the principles underlying the innovation and their practical applications. Without this understanding, misconceptions may translate into mismatched applications.

Multiple factors interact to facilitate or inhibit innovation diffusion, including the language program itself, its home institution, external variables, and innovation-related variables (see Figure 2). Worthy of further exploration here are the innovation-related variables that can play a critical role in the process.

Innovations have attributes that can lead to either positive or negative perceptions, thereby influencing their adoption. One of the most often cited set of properties attributed to innovations,

proposed by Rogers and Shoemaker (1971) and later refined by Rogers (2003) (Rogers, E. M., Shoemaker, F.F., 1971: 31), is listed and defined in Table 2. Three of the five attributes – relative advantage, observability, and trialability – typically influence the adoption of an innovation in a positive manner. In the case of relative advantage, innovations that are perceived to be better that the ideas they supersede are more likely to be adopted than innovations that are perceived to be no different than current practices or only slight improvements over past practices. The greater the perceived advantage, the greater the likelihood of adoption.

Similarly, innovations that are clearly visible (i.e., observable), such as new software or improved hiring policies, are more likely to be adopted than less visible innovations, such as a new philosophical approach to classroom observations. In a similar way, innovations that can be piloted (e.g., a buddy reading program) are more likely to gain the support of potential adopters than innovations that cannot be piloted.

Innovation I

Online learning

Online learning is interchangeable with distance learning Online or distance learning is defined as a technological separation of teacher and learner that frees the student from the necessity of traveling to a fixed place and time to meet educational needs (Keegan, 1995: 27). Keegan's definition consolidates defining elements identified by Wedemeyer, Holmberg
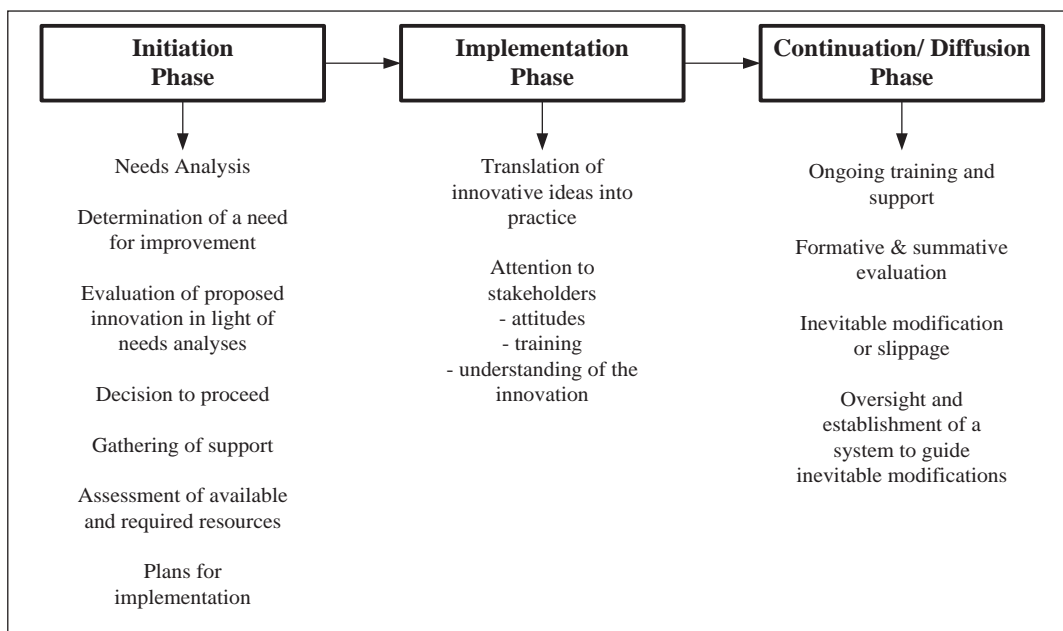

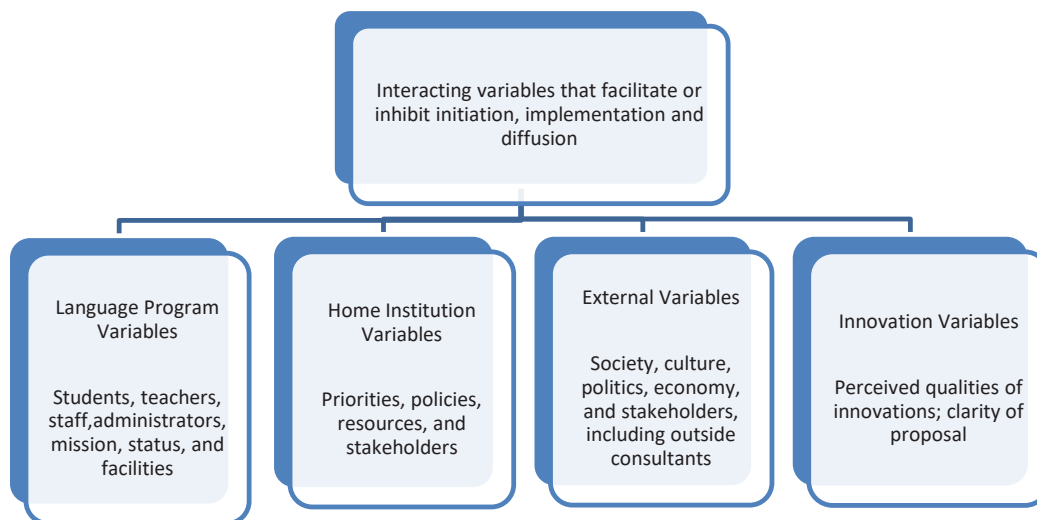**Figure 1. Innovation diffusion process**

Figure 2. Factors that interact to facilitate or inhibit the innovation diffusion process

and Peters, widely known as founders of distance education (Black, L. M., 2007: 3). Keegan's six elements of distance learning are «separation of teacher and student, influence of an educational organization, use of technical media, two-way communication, possibility of occasional seminars, and participation in the most industrialized form of education» (Keegan, 1995: 7). Distance education has changed with the introduction of online learning, made possible by the advances in technology such as laptops and cell phones. The perceptions of communication methods described and experienced by the adult learners in my study will reflect Keegan's definition of distance education elements.

The use of technology and a push for constructivist pedagogies are new trends for distance education (Garrison, R., 2000: 13). Computer-mediated communication (CMC) tools and project management (Heiberger, G., & Harper, R., 2008: 17) enhance learning as they help students and instructors develop a sense of community through collaborative and interactive efforts.

In distance learning the sixth generation featured an advanced interactive environment. Social software, rich media, and other interactive technologies are commonly used and the possibility of interactions among students and between faculty and students are dramatically increased. The Horizon Report (NMC, 2007) indicates that six areas will have significant impact on college and university campuses within the next five years: a) user-created content; b) social networking; c) mobile phone; d) virtual worlds; e) the new scholarship and emerging form of publication, and f) massively multiplayer educational gaming. The Horizon Report also noted: «These challenges and trends reflect the changing nature of the way we seek, classify, and perceive information, all crucial activities in teaching, learning, and creative expression» (13).

UNESCO offers the list of educational applications, platforms and resources aim to help education leaders and staffs facilitate student learning and provide social care and interaction during periods of school closure. This list includes:
- resources to provide psychosocial support;
- digital learning management systems;
- systems built for use on basic mobile phones;
- systems with strong offline functionality;
- Massive Open Online Course (MOOC) Platforms;
- self-directed learning content;
- mobile reading applications;
- collaboration platforms that support live-video communication;
- tools for teachers to create of digital learning content;
- external repositories of distance learning solutions (12).

Innovation II

Hybrid (blended) Course

Blended courses are defined as having between thirty and eighty percent of the course content delivered online (Allen, I. E., & Seaman. J., 2003: 16). In this study, hybrid or blended courses refer to courses in which students complete their learning in a combination of traditional and distance class sessions. Students attend regularly scheduled classes and also meet online in a virtual classroom (Singh, R., J., 2012: 7).

Parts of the research in this study revolved around the model of the innovation decision process, as stated by Rogers (Rogers, E. M., 2003: 56). The innovation-decision process is the procedure that a decision maker goes through starting at the knowledge of the innovation, going into the formation of an attitude toward such innovation, getting to a decision to either agree to take or discard the innovation, going into the deployment of the new technology, and lastly going into the confirmation of the decision made. These make the five stages in an innovation-decision process.

Knowledge. In this stage, an innovator or decision maker is made aware of the existence of the new idea or technology. Within the knowledge stage, there is a sense of awareness first, then a level of how-to follow-ups that shows how the innovation would work, and finally a principles' knowledge might be needed to ensure proper use of a new idea.

Persuasion. In this stage, the innovator or decision maker takes either an encouraging or unfavorable posture toward the innovation. In this stage, the beliefs and ideas toward the innovation develop.

Decision. This stage happens, hopefully, after a trial period of the new idea or technology. The innovator or decision maker has a chance to further review, revise, and engage in activities that provide an enhance understanding of the new technology or innovation and the way it would impact their organizations either positively or negatively. In this stage, a decision then is made to adopt or discard the new innovation, idea, or technology.

Implementation. Once accepted, in this stage, the innovation or technology is fully deployed. Up to this point, the decision for a new innovation or technology has been theoretical, and, in this stage, action is actually taken. Issues with implementation might occur, and, at times, it happens because the individuals in charge of implementation might

not have been involved in the knowledge, persuasion, and decision process. It is important to involve the leaders of the implementation team in the entire process to help smooth out the implementation process. Another way to avoid major issues is to implement in smaller segments and not an entire organization all at once.

Confirmation. At times, the decision to adopt or discard a new idea or technology is not final. After a period of time following accepting and attempting to implement a new innovation or technology, an assessment can be made to see just how efficient the innovation is. A time frame should be set during the process to come back and evaluate the progress and then decide to either continue with the implementation (i.e., reinforcement of the innovation) or discontinue the implementation and seek another alternative. In the same manner, after a period of time, an innovation that was rejected can be looked at again for possible implementation. This could happen if another organization adopted the new innovation or technology and are having positive results.

Diffusion of innovation states that as a general process, innovation diffusion, is not constrained by the type of innovation, and it is the procedure utilized to make sure a new innovation is disseminated to widespread applications to all fields that foster innovations. Rogers (2003) stated that there are four core fundamentals in the process of diffusion: (a) the innovation, (b) the many different ways or forms utilized to diffuse the innovation, (c) time, and (d) the social system. The end results of diffusion are adoption, implementation, and institutionalization. In the framework of diffusion of innovation, there are five different groups of adopters: (a) innovators, (b) early adopters, (c) early majority, (d) late majority, and (e) laggards. According to Rogers, innovation diffusion is a process comprised of five steps that include knowledge, decision, persuasion, implementation, and confirmation (Rogers, E. M., 2003: 56).

Adopter Categories: *Innovator:* The salient value of the innovator is venturesomeness, due to a desire for the rash, the daring, and the risky. *Early adopter*: The early adopter is the embodiment of successful, discrete use of new ideas. *Early majority adopter*: The early majority may deliberate for some time before completely adopting a new idea. *Late majority adopter*: Innovations are approached with a skeptical and cautious air, and the late majority do not adopt until most others in their system have already done so. *Laggard*: Laggards tend to be suspicious of innovations and of change agents. Their innovation-decision process is relatively lengthy, with adoption and use lagging far behind awareness-knowledge of a new idea (Rogers, E. M., 2003: 71).

Conclusions. Online learning and hybrid models of course delivery are regular features in the contemporary higher educational landscape, along with a corresponding proliferation of tools to enhance Instructional Technology and Distance Education. Project management for innovations has come to be viewed nowadays as a crucial tool in increasing productivity of organizations and one of the most popular and useful tools for institutions to improve internal operations, respond to opportunities, manage contemporary challenges, and achieve strategic goals. And language program administrators should view management of innovation as one of their most important leadership roles.

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