CHANGE MANAGEMENT WITHIN THE LEARNING ENVIRONMENT: THE ROLE OF LEADERSHIP AND INNOVATIVE MANAGEMENT

GERENCIAMENTO DE MUDANÇAS NO AMBIENTE DE APRENDIZAGEM: O PAPEL DA LIDERANÇA E DO GERENCIAMENTO INOVADOR

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ABSTRACT

The research analyzes change management within the learning environment considering effective educational leadership and progressive innovative management. The following research tasks are derived from the research aim and they deal with the analysis of the effect of leadership upon change management; the relationships between change management and innovative management; and the design of optimal model of change management within the learning environment. The combination of both qualitative and quantitative methods was used. The qualitative phase involved interviews, focus groups, and observations to collect the data on the respondents' perceptions towards the change process. The quantitative phase included surveys to gather data on specific aspects of the change process. To conduct the investigation, 119 instructors, administrators, and students in five educational institutions of Ukraine were selected. The survey was conducted between October 1, 2023 and December 12, 2023. To verify the hypotheses, ANOVA principle was applied. The outcomes demonstrated that change management is closely related to leadership and innovative management. The survey enabled to develop the optimal model of change management within the learning environment which included change vision, effective leadership style, innovative management practice, change planning, and building an organizational culture oriented towards changes. The scientific sources stress that in a long-term perspective the optimal model of change management will contribute the sustainable development of the educational institution. The results can be used to develop the education policies and curriculum as well as to train future leaders for different sectors of economy.

Keywords: Educational process, Educational environment, Motivation, Student-centered education, Active learning.

RESUMO

A pesquisa analisa a gestão de mudanças no ambiente de aprendizagem, considerando a liderança educacional eficaz e a gestão inovadora progressiva. As seguintes tarefas de pesquisa são derivadas do objetivo da pesquisa e tratam da análise do efeito da liderança sobre a gestão de mudanças; das relações entre a gestão de mudanças e a gestão inovadora; e do projeto de um modelo ideal de gestão de mudanças no ambiente de aprendizagem. Foi usada a combinação de métodos qualitativos e quantitativos. A fase qualitativa envolveu entrevistas, grupos de foco e observações para coletar os dados sobre as percepções dos entrevistados em relação ao processo de mudança. A fase quantitativa incluiu pesquisas para coletar dados sobre aspectos específicos do processo de mudança. Para conduzir a investigação, foram selecionados 119 instrutores, administradores e alunos em cinco instituições educacionais da Ucrânia. A pesquisa foi realizada entre 1º de outubro de 2023 e 12 de dezembro de 2023. Para verificar as hipóteses, foi aplicado o princípio ANOVA. Os resultados demonstraram que a gestão de mudanças está intimamente relacionada à liderança e à gestão inovadora. A pesquisa permitiu desenvolver o modelo ideal de gestão de mudanças no ambiente de aprendizagem, que incluía visão de mudanças, estilo de liderança eficaz, prática de gestão inovadora, planejamento de mudanças e construção de uma cultura organizacional orientada para mudanças. As fontes científicas enfatizam que, em uma perspectiva de longo prazo, o modelo ideal de gestão de mudanças contribuirá para o desenvolvimento sustentável da instituição educacional. Os resultados podem ser usados para desenvolver as políticas educacionais e o currículo, bem como para treinar futuros líderes para diferentes setores da economia.

Palavras-chave: Processo educacional, Ambiente educacional, Motivação, Educação centrada no aluno, Aprendizagem ativa.

Introduction

Long-term sustainability is crucial for an educational institution as it ensures its ability to fulfill its mission and provide the quality education through positive transformations (Wamsler, 2020). Sustainable practices bring financial stability, infrastructure improvement, and faculty development, enhancing the learning environment for training future experts (Holst, 2023). Sustainability often involves the systematic approach to dealing with changes to ensure its continued effectiveness (Alam, 2023). In the context of educational institutions, change management is essential for implementing sustainable practices that can help address challenges such as technology integration (Orhani, 2023), learning loss for many students due to the disruptions caused by COVID-19 pandemic (Bhinder, 2022) and further full-fledged Russian invasion (Iliichuk, 2023). Additionally, change management facilitates equity and inclusion through the creation of supportive educational process (Ainscow, 2020). When educational institutions can manage changes effectively, they can adapt to these challenges and ensure their long-term sustainability (Wamsler, 2020). This might involve introducing new teaching methods (Tsekhmister, 2009), incorporating technology into the curriculum (Yuhan, 2017), or promoting innovative organizational culture within learning environment (Torres, 2022).

Change management is a structured approach to organization of activities of individuals or teams under the conditions of rapidly evolving landscape (Ezzeddine et al., 2023). It involves various processes, strategies, and techniques to manage the people facing the change to achieve the desired outcomes (Al-Alawi et al., 2019). Change management is particularly important in contexts where change is frequent or significant, such as in educational institutions (Ezzeddine et al., 2023). According to Vlachopoulos (2021), change management is oriented towards the implementation of new practices, innovative programs, or technologies to improve teaching and learning in the classroom. Also, this includes the introduction of an outstanding and updated curriculum and adoption of new teaching strategies and

techniques that can potentially enhance the professional raining of future experts at the educational institutions (Sullanmaa et al., 2021).

The recent findings demonstrate that innovations significantly impact change management since they accelerate the pace of changes due to facilitation quick decision-making process, automation of repetitive tasks and data processing (Heilemann & Faix, 2023). Innovations also require reallocation of resources, both finances and personnel, and creation of organizational culture within the institution (Mosendz et al., 2023). Abdel-Zahra Hassan et al. (2023) state that risks associated with innovations, such as technology failures or market challenges can be effectively managed through dynamic and proactive change management processes including risk assessment and ethical leadership strategies. Furthermore, implementing innovations requires development of new skills among the participants of the educational process and highlights the importance of training and professional development oriented towards the use of innovative methods (Tsekhmister, Vizniuk, Humeniuk, Dolynnyi, & Polishchuk, 2022). It is worth mentioning that successful change management demands effective leadership because it provides the vision, direction, and motivation needed to navigate through the challenging periods (Bhinder, 2022). A strong leader communicates the need for change, creates a sense of importance around the change, and helps overcome the resistance. Effective leaders also empower their teams, encouraging innovation and creativity (Heilemann & Faix, 2023). Within the learning environment leaders work to equip the participants of the educational process with the necessary skills needed to succeed through changes. The findings show that effective leadership plans a positive change management process, leading to successful outcomes and a more resilient organization (Kaminskyy & Viesova, 2022).

Therefore, the analysis of scientific sources proves the strong influence of leadership and application of innovations upon change management at the educational institution (Sung & Kim, 2021). Also, the research in the field of change management demonstrates that effective educational leaders play a crucial role in motivating others through the periods of change ensuring that the change corresponds with the educational goals (Soleas, 2020). Moreover, the application of

innovations, such as new teaching methods, implementation of innovative technologies (Byrko et al., 2022), or improvement of curriculum frameworks (Sullanmaa et al., 2021), can impact change management by influencing the way a change is integrated into educational practices. Obviously, innovations bring new opportunities for the educational institution. Moreover, effective implementation of innovations as well as innovative management at the educational institution can create comfortable learning environment for productive work of all the participants (Hasiuk et al., 2022).

Taking this into consideration, the aim of the study is to study the clear connections between change management within the learning environment and leadership and innovations and, therefore, describe the role of effective leadership and progressive innovative management upon change management at the educational institution. The following research questions are derived from the research aim and are designed to address specific aspects of the research topic. They include:

Q_1: How does leadership affect change management within the learning environment?

Q_2: What are the relationships between change management and innovative management in the context of education?

Q_3: What is the model of effective change management which is implemented through leadership and innovative management?

Review of Literature

Change Management in Education

The concept of change has been a central theme in contemporary scientific discourse, reflecting humanity's ongoing attempt to understand the nature of existence and the world. From a historical perspective, change has been a fundamental aspect of human civilization, driving progress, evolution, and adaptation (Kuukkanen, 2020). In philosophy, change has been a topic of great interest and debate, particularly in the metaphysical and ontological context (Elechi,

2020). The pre-Socratic philosopher Heraclitus famously stated that "change is the only constant in life," emphasizing the idea of mutual impact and the interconnectedness of opposites (Vieira, 2022). In more modern times, scholars explored the concept of change in relation to human consciousness and history (McNulty, 2019). In the context of education, change is a multifaceted phenomenon that reflects the evolving nature of educational practices, policies, and systems (Gómez-Parra & Daiss, 2022). Here change refers to a variety of aspects, including pedagogical approaches, curriculum design, assessment methods, educational technologies, and organizational structures (Tsekhmister, Konovalova, & Tsekhmister, 2022). Also, change in education means the shift from traditional, teacher-centered approaches to more student-centered and interactive teaching strategies (Bergström et al., 2023). Another interpretation of change in education relates to the integration of technology in teaching and learning (Byrko et al., 2022). Technology has transformed the way education is delivered, making learning more accessible, interactive, and personalized. This change has led to the use of online learning, digital instruments, and personalized learning platforms (Klašnja-Milićević & Ivanović, 2021). A number of recent scientific works name artificial intelligence (AI) as a key change in modern education, revolutionizing the learning environment (Kamalov et al., 2023). Change management is the process of planning, implementing, and controlling changes within an organization to ensure that they are smoothly implemented, and that they deliver the expected benefits (Ezzeddine et al., 2023). The findings show that within the learning environment change management can be interpreted from organizational, pedagogical, and cultural perspectives. Organizational perspective explains change management as the achievement of educational goals d despite the change process (Chowdhury & Shil, 2022). From a pedagogical perspective, change management refers to the strategies and techniques used to introduce innovative teaching practices, technologies, and curriculum (Gómez-Parra & Daiss, 2022). Considering cultural perspective, change management in education involves addressing the beliefs, values, and standards that form the organizational culture of educational institutions (Graamans et al., 2021).

It involves creating a culture of innovation, collaboration, and continuous improvement, where change is oriented towards enhancing teaching and learning.

There are different formulas that educational institutions can adapt to effectively manage change (Figure 1).

Figure 1 – Formulas of change management in education
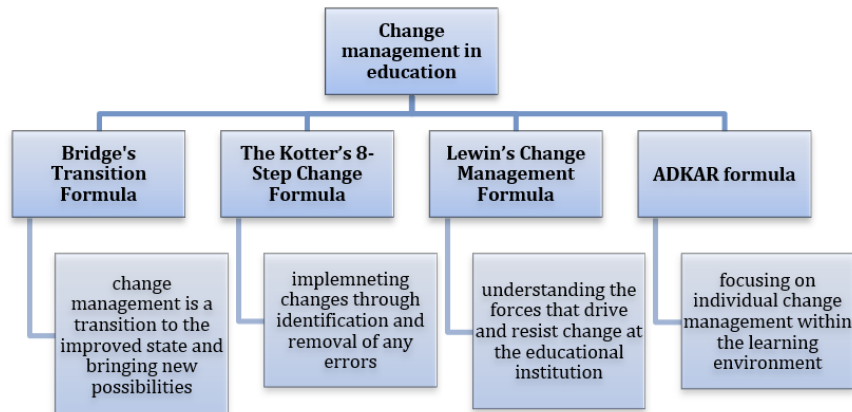
Source: authors' own development.

Among those formulas it is necessary to admit the one developed by William Bridge (Ezzeddine et al., 2023). This formula focuses on the human side of change and consists of three stages: ending (ending or loss that accompanies change), neutral zone (experiencing a period of uncertainty and confusion), and new beginning (embracing the change and developing a new identity or way of working). The Bridge's Transition Formula emphasizes the importance of managing the psychological and emotional aspects of change to facilitate successful transitions.

The Kotter's 8-Step Change Formula, is based on Kotter's observations of the common mistakes that organizations make when trying to implement change, and it outlines a series of steps to help organizations avoid these errors and achieve successful change (Miles et al., 2023; Mouazen et al., 2024). The 8 steps of formula include the following: creation a sense of urgency about the need for change; formation of a coalition to support and drive the change effort; creation of a clear vision for the change; communicate the vision for change; identification and removal of any obstacles that may hinder the change effort; creation of successes that demonstrate progress towards the vision for change; building on the change; and

anchoring the changes in the corporate culture. Lewin's Change Management Formula is a three-stage framework for managing change in organizations, including educational institutions (Moosa et al., 2023). The model is based on the idea that change involves a process of unfreezing the current state, making the change, and then refreezing the new state to make it permanent. The formula highlights the need for a systematic approach to change management, including careful planning, communication, and implementation.

ADKAR formula focuses on individual change management (Ezzeddine et al., 2023; Moosa et al., 2023). It consists of five stages: awareness of the need for change, desire to participate and support the change, knowledge of how to change, ability to implement the change, and reinforcement to sustain the change. This formula is a useful tool for effective leaders to use when planning and implementing change initiatives. When educational institutions focus on these five key elements, they can increase the probability of successful change and ensure that individuals are prepared, motivated, and supported throughout the change process. Naturally, effective change management in education should incorporate elements from various formulas to address the complexity of learning environment.

Leadership and Change Management at the Educational Institutions

Leadership in the educational context refers to the ability of individuals, such as teachers or administrators, to organize and influence others within the learning environment (Martinez & Pepito, 2024). Effective educational leadership ensures the success and well-being of students (Chen et al., 2022). Also, it enhances the overall effectiveness of the educational system (Tsekhmister et al., 2009). The findings prove that educational leaders are responsible for curriculum development (Sullanmaa et al., 2021), student engagement (Shinde & Bamber, 2023), and creation of organizational culture within the educational institution (Torres, 2022).

It is important to state that effective leadership in education positively impacts students' achievement by creating a supportive learning environment and implementing effective teaching strategies for their professional development (Tsekhmister, Vizniuk, Humeniuk, Dolynnyi, & Polishchuk, 2022). Other advantages

include encouragement of innovation and creativity in teaching, leading to the development of new and effective educational practices (Sauphayana, 2021), and effective use of resources used to support students' learning and achievement (Khan et al., 2024). Moreover, it was found that effective leaders inspire for continuous improvement, regularly assessing and polishing educational practices (Yurkofsky et al., 2020). Therefore, effective leadership is essential for creating a positive and successful learning environment that promotes both student's achievement and teachers' satisfaction.

Leadership and change management are closely interrelated at the educational institutions. Effective leadership is essential for successfully managing change in education, as leaders play a crucial role in supporting individuals and institution through the transition periods. Figure 2 shows interrelation between leadership and change management in education Firstly, leaders are responsible for setting a vision for change (Aldridge & McLure, 2023). They articulate why change is necessary, define the desired future state, and inspire others to work towards this vision. Secondly, leadership is oriented towards the creation of organizational culture within the educational institution that embraces change and innovation (Torres, 2022). Thirdly, leaders build support for introduction of innovative strategies. Fourthly, change often meets resistance to changes, and leaders play a key role in identifying and addressing sources of this resistance (Vlachopoulos, 2021). Fifthly, effective communication is essential for successful change management (Musheke & Phiri, 2021). And, sixthly, leaders are responsible for the evaluation of progress and effectiveness of change initiatives (Aldridge & McLure, 2023; Vlachopoulos, 2021). Of course, effective leadership is essential for successful change management within the learning environment.

Figure 2 – Interrelation between leadership and change management in education

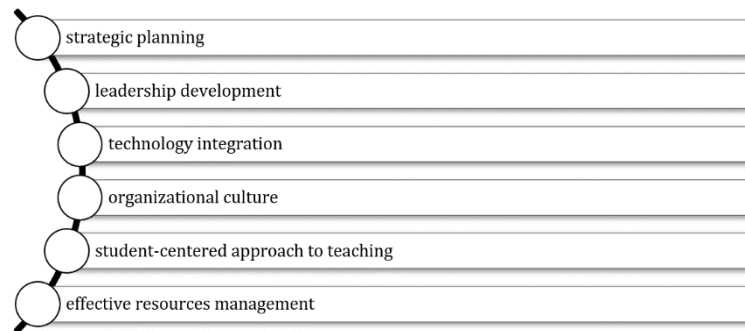
Source: authors' own development.

Within the learning environment, leaders often adopt various styles that are particularly effective in facilitating change and supporting the growth and development of students. These styles include transformational, instructional, facilitative, distributed, and adaptive leadership (Moosa et al., 2023; Mouazen et al., 2024; Saleem et al., 2022). To describe the effective change management within the learning environment, it is necessary to analyze leadership styles in details. For example, transformational leaders work to motivate students and instructors to achieve their full potential. Instructional leadership focuses on increasing the quality of teaching practices within the classroom. The findings devoted to facilitative leadership show that it helps create a supportive and inclusive learning environment where everyone feels valued. At the same time, distributed leadership involves sharing leadership responsibilities among multiple individuals within the learning environment. Using this style encourages collaboration, innovation, and shared decision-making which leads to effective and sustainable change. And adaptive leaders are able to respond effectively to changing circumstances and dynamic learning environment. As a rule, they are flexible, open-minded, and willing to experiment with innovative teaching technologies. These leadership styles oriented towards change management within the learning environment facilitate a positive learning environment and create a more effective educational system.

Exploring Change Management and Innovations within the Learning Environment

Interpreting innovations within the learning environment involves introduction of the sense of new practices, technologies, or approaches that have the potential to improve teaching (Simanskiene et al., 2024). A number of recent findings describe innovations based on the pedagogical approach that examines the instructional methods, strategies, and techniques used to facilitate teaching practices (Bouranta & Psomas, 2024). Technological approach focuses on the role of technology in driving educational innovation (Stecuła & Wolniak, 2022). It considers how technological advancements, such as digital tools, online platforms, and educational software, are used to enhance the educational process. Some works identify psychological approach that understands how individuals perceive, experience, and respond to change (Hasiuk et al., 2022). It examines the psychological processes, such as cognition, emotion, motivation, and behavior, that influence how individuals adapt to change within the learning environment.

In the scientific literature innovative management refers to the application of innovative approaches, strategies, and practices to improve the management and administration of educational institutions (Wojtaszek et al, 2023). It involves developing and implementing strategic plans that correspond with the mission and goals of the educational institution (Soleas, 2020); strong leadership development (Mincu, 2022); technology integration to enhance teaching, learning, and administrative processes; fostering an organizational culture of continuous improvement within the educational institution (Orhani, 2023); implementation of student-centered approach to teaching (Bergström et al., 2023); and effective resources management (Mosendz et al., 2023). It was found that innovative management in education is proactive and creative addressing the challenges and opportunities facing the educational institutions (Li et al., 2022). Figure 3 shows the components of innovative management in education.

Figure 3 – Structure of innovative management in education

Source: authors' own development.

Actually, from the theoretical point of view, innovative management has a significant impact on change management within the learning environment. Since innovative management often involves introducing new ideas, approaches, and technologies, it drives change at the educational institution (Wojtaszek et al, 2023). Also, innovative management creates an organizational culture that values creativity, experimentation, and continuous improvement (Torres, 2022). This makes it easier to implement changes within the learning environment. Some scholars admit that innovative management practices lead to improvements in efficiency of the educational process. Change-based teaching enhances students' professional development and achieves the educational goals more rapidly.

Therefore, outlining the connections between change management and leadership and innovations contributes to development of optimal model of change management within the learning environment. At the same time, description of the role of effective leadership and the impact of progressive innovative management upon change management at the educational institution can help organize the educational process oriented towards enhancement of students' professional development and formation their readiness to flexible and changeable landscape. But what is the model of effective change management which is implemented through leadership and innovative management at the educational institution? What advantages does it have? What is the algorithm for its implementation within the learning environment?

Development of Hypotheses Framework

Considering the recent findings in the field of change management, the connections between effective leadership and change management were established (Musheke & Phiri, 2021; Vlachopoulos, 2021). Besides it was found that the choice of appropriate keadership style affects change management at the organization (Moosa et al., 2023; Mouazen et al., 2024; Saleem et al., 2022). This resulted in formulation of the first hypothesis:

H₁: Effective educational leadership improves change management within the learning environment.

Also, the relationship between innovative management and change management was revealed (Sung & Kim, 2021; Wojtaszek et al, 2023). Since innovations introduce new practices, technologies, or approaches that have the potential to enhance the educational process, innovative management often involves implementing change management strategies to successfully maintain innovative practices at the educational institution (Alshammari & Thomran, 2023). From this point of view, the second hypothesis was stated:

H₂: Progressive innovative management enhances the use of change management strategies at the educational institution.

On the basis of change management formulas (Ezzeddine et al., 2023; Miles et al., 2023; Mouazen et al., 2024; Moosa et al., 2023), it was uncovered that positive development of educational institution requires the introduction of optimal model of change management recognizing the multiple specifications of the learning environment and the needs of the participants of the educational process. Further, the third hypothesis was presented:

H₃: The implementation of optimal model of change management within the learning environment contributes to the sustainable development of educational institution through the change process.

Analysing the hypotheses abovementioned, the following framework was developed (Figure 4).

Figure 4 – Development of hypotheses framework related to change management

Source: authors' own development.

Method

Design

To outline the clear connections between change management and leadership and innovative management requires the combination of both qualitative and quantitative methods. The qualitative phase involved interviews, focus groups, and observations to collect in-depth data on the perceptions and attitudes of respondents (such as instructors, administrators, and students) towards the change process. This phase also included curriculum analysis to understand the context and background of the change initiative within the learning environment.

The quantitative phase included surveys administered to a larger sample to gather data on specific aspects of the change process, such as its impact effective educational leadership and the introduction of progressive innovative management at the educational institution. This phase analyzed the existing quantitative data, such as students' achievement scores to assess their learning outcomes through the change process.

The findings from both the qualitative and quantitative phases were integrated to provide a comprehensive understanding of the change management process in education and to answer the research questions and hypotheses. This integration helps compare and contrast the findings and developing their holistic interpretation.

Participants

To conduct the investigation, the population in five educational institution of Ukraine was selected and they included instructors, administrators, and students. The sample consisted of 119 respondents (Table 1). 53 participants (44,5 %) were instructors. As they play a key role in implementing and adapting to change in education, their perspectives on the change management, including the challenges they face and the support they receive, were crucial for understanding the impact of change management strategies and creating the basis for sustainable development of the educational institution. Administrators, such as heads of departments, deans of the faculties, made up 18 individuals (15 %), are responsible for overseeing and leading the change initiatives within the learning environment. Their experience into the planning, implementation, and evaluation of change efforts are essential for assessing the effectiveness of change management practices at the educational institution. And 48 students (40,5 %) were selected because they are directly impacted by changes in education, such as the introduction of a new curriculum or the implementation of innovative teaching methods in the classroom. Students' feedback was valuable to analyze their learning experiences and outcomes when changes are implemented within the learning environment. It is necessary to admit that involving a diverse range of participants in surveys related to change management within the learning environment, we were able to gain a comprehensive understanding of the complexities of changes at the educational institution and develop strategies for effective change management.

Table 1 – Participants' description

Participants	Quantity
Institution 1	
Instructors	9
Administrators	3
Students	10
Institution 2	
Instructors	10
Administrators	5
Students	8
Institution 3	
Instructors	11
Administrators	2
Students	11
Institution 4	
Instructors	12
Administrators	5
Students	6
Institution 5	
Instructors	11
Administrators	3
Students	13

Source: authors' own development.

Instruments

The survey was conducted between October 1, 2023 and December 12, 2023. On average, it lasted 40 minutes. All the respondents were explained about the survey procedures and they provided they informed consent on participation. To collect data, the questionnaire consisting of five sections was used.

The first section concerned demographic information (gender, age, educational role, years of experience in education). The second section was related

to the analysis of effectiveness of change management practices at the educational institution. Also, the participants were asked to describe the most significant challenges they faced during the process of changes. The section contained open-ended questions and was aimed to understand the individuals' perceptions of the concept of change management within the learning environment.

Section 3 was devoted to assessment of the role of effective educational leadership in the process of changes. Section 4 was oriented towards the study of the impact of progressive innovative management upon change management within the learning environment. And the fifth section enabled us to study the structure of optimal model of change management and its contribution to sustainable development of the educational establishment.

To verify the hypotheses, ANOVA (Analysis of Variance) principle was applied. It enabled us to compare the variances reflecting the outcomes of change management within the learning environment. They included educational leadership, innovative management, and effectiveness of optimal model of change management. It was stated that if the p-value (probability value) is below 0.05, the hypothesis is rejected. And on the contrary, if the p-value is over 0.05, the hypothesis is accepted. The latter means that change management practices have an important impact on the outcomes measured by the dependent variable.

All the research instruments were developed in accordance with the research objective, hypotheses framework, and research design.

Data Analysis and Results

Impact of Leadership upon Change Management within the Learning Environment

While studying the impact of leadership upon change management within the learning culture it was found that effective educational leadership leads to introduction of vision of change, contributes to the formation of organizational culture, supports innovative strategies, and manages resistance to change among the participants of the educational process. At the same time, successful leaders

form the landscape favourable for positive communication and establishes understanding between instructors, administrators, and students. Moreover, effective educational leadership helps evaluate the process of changes and select the most efficient practices for change management within the learning process.

Figure 5 – Participant's perceptions towards the impact of effective educational leadership upon change management
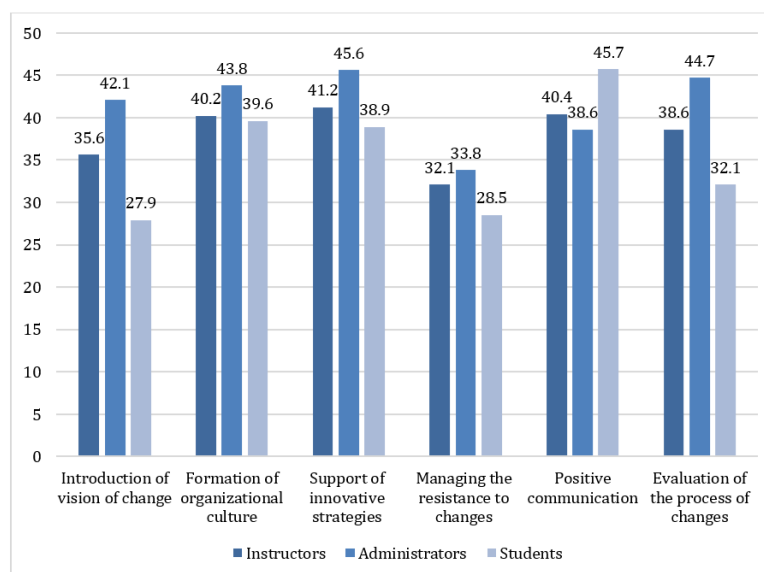
Source: authors' own development.

The special attention must be paid towards the comparison the responses of different focus groups. Thus, instructors indicated that support of innovative strategies (41,2 %), establishment of positive communication (40,4 %), and formation of an organizational culture at the educational institution (40,2 %) are the most important effects. Administrators consider support of innovative strategies (45,6 %), evaluation of the process of changes (44,7 %), and formation of an organizational culture (43.8 %). In students' views, establishment of positive communication within the educational process (45,7 %), formation of an organizational culture (39,6 %), support of innovative strategies (38,9 %) bring the most significant effect while implementing change management. Figure 5 presents the analysis of participants' perceptions towards the impact of effective educational leadership upon change management within the learning environment.

Also, considering the fact that leadership style is an important factor for change management, we investigated the participants attitudes towards their efficiency. Thus, instructors, administrators, and students were asked on the most efficient leadership style oriented towards implementation of change management practices. According to their responses, five leadership styles were selected: adaptive, distributed, facilitated, instructional, and transformational. It was found that two leadership styles are the most effective one when changes need managing – adaptive and facilitative. 30,9 % of students, 33,1 % of administrators, and 30,2 % of instructors prefer adaptive leadership during the process of changes. At the same time, 27,3 % of students, 34,2 % of administrators, and 29,6 % of instructors prefer using facilitative leadership. Figure 6 shows the attitudes towards leadership styles.

Figure 6 – Participant's attitudes towards leadership styles

Source: authors' own development.

Table 2 demonstrates the advantages and disadvantages of the most efficient leadership styles (facilitative and adaptive) that are found to contribute to change management significantly.

Table 2 – Advantages and disadvantages of the most efficient leadership styles

Advantages	Disadvantages
Facilitative leadership	
inspiration and motivation of the participants of the educational process	resistance to change among the participants of the educational process
providing a clear vision for the future	dependency on a leader
creation of a supportive learning environment	neglecting practical details of the learning environment
implementing flexible strategies able to navigate complex and dynamic environments	raising ethical concerns, particularly if the leader's vision is poorly understood
promoting an organisational culture	not suitable for all situations
Adaptive leadership	
suited for navigating complex and uncertain environments	complexity and time-consuming
applying innovative teaching technologies	
encouraging innovation and creative problem-solving	limiting the development of independent problem-solving skills among the participants of the educational process
addressing conflict resolution	
building resilience among the participants of the educational process	establishing structured or directive approach to change management
promoting engagement of the participants of the educational process	

Source: authors' own development.

Further it is necessary to analyse the relationship between change management and innovative management.

Relationships between Change Management and Innovative Management in the Context of Education

Innovative management creates the conditions for the implementation of certain change management practices. They include six significant components that transform innovative management into progressive one. The first one deals with leadership development and formation of necessary skills for effective educational leaders (decision-making, problem solving, communication, cultural competence, ethics, collaboration, and readiness for innovations). Then the respondents distinguished technology integration (gamification, project-based technology, interactive methods, m-learning, technology based virtual reality, case study, peer learning) and organizational culture combining values, norms, rituals, standards, and behaviours that characterize an institution.

Then, student-centered approach was described as an important component of innovative management. It deals with the approach that focuses on the needs, interests, and learning styles of individual students. Usually, it includes personalized learning, adaptive learning, cooperation activities, problem-based learning, or flipped classroom. Other components are related to effective resources management and strategic planning oriented towards the introduction of innovations within the learning environment. Figure 7 describes the components of progressive innovative management according to the survey participants.

The data on connections between change management and effective educational leadership and progressive innovative management contributes to the creation of optimal model of change management within the learning environment.

Figure 7 – Components of progressive innovative management according to the survey participants

Source: authors' own development.
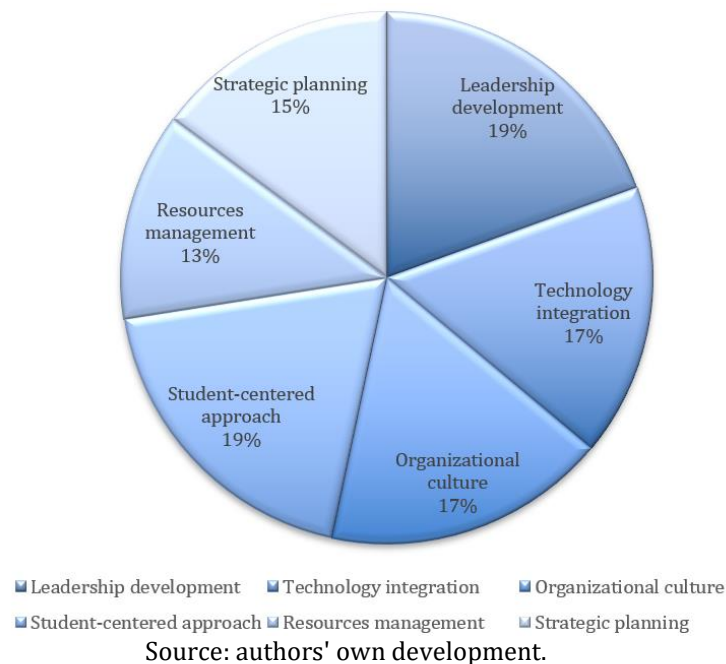
Creation of Optimal Model of Change Management within the Learning Environment

The findings showed that the optimal model of change management provides a structured framework for implementing effective and sustainable change within the learning environment. The educational leaders are responsible for achievement of institutional goals, development of sufficient leadership strategies, and implementation of change management practices. In the context of education, the model was found to create the learning environment that fosters innovation, collaboration, and continuous improvement of the participants of the educational process. Table 3 shows the structure of optimal model of change management according to the participants' perceptions.

Table 3 – The structure of optimal model of change management

Component	Participants' perceptions (%)		
	Instructors	Administrators	Students
Change vision	31,1	32,4	28,1
Effective leadership style	34,7	32,5	30,7
Innovative management practice	43,2	45,6	32,4
Change planning and its implementation	39,8	44,2	33,8
Building an organizational culture oriented towards changes	42,9	45,6	31.5

Source: authors' own development.

Thus, the optimal model of change management includes establishment of change vision, selection of effective leadership style, selection of innovative management practice, change planning and its implementation within the learning environment, and building an organizational culture oriented towards changes. Comparing the responses, it was found that instructors, administrators, and students have similar attitudes towards the components of optimal model of change management. For example, change vision is important for 31,1 % of instructors, 32,4 % of administrators, and 28,1% of students. Effective leadership style was considered as a significant factor for 34,7 % of instructors, 32,5 % of administrators, and 30,7 % of students. At the same time, 43,2 % of instructors, 45,6 % of administrators, and 32,4 % of students admitted the importance of using

appropriate innovative management practice. Change planning and approaches to its implementation were selected by 39,8 % of instructors, 44,2 % of administrators, and 33,8 % of students. And building an organizational culture oriented towards changes was considered as necessary component for 42,9 % of instructors, 45,6 % of administrators, and 31,5 % of students.

The findings contributed to the hypotheses verification and we were able to decide whether they are accepted or rejected.

Hypotheses Verification

On the basis of ANOVA principles p-value for the first hypothesis means 0.025, for the second one – 0,017, and 0,039 for the third hypothesis. Table 4 shows the hypotheses verification according to the one-factor ANOVA principles.

Table 4 – Hypotheses verification

Hypothesis	Interpretation	p-value	Decision
H_1: Effective educational leadership improves change management within the learning environment.	below 0,05	0,025	Accepted
H_2: Progressive innovative management enhances the use of change management strategies at the educational institution.	below 0,05	0,017	Accepted
H_3: The implementation of optimal model of change management within the learning environment contributes to the sustainable development of educational institution through the change process.	below 0,05	0,039	Accepted

Source: authors' own development.

The results demonstrate the clear connections between change management and effective educational leadership and progressive innovative management. Therefore, it is important to declare that the implementation successful change

management within the learning environment requires considering the role of leadership and introduction of innovative management practices.

Discussion

The given investigation demonstrated that change management is essential in education as it enables educational institutions to adapt to rapidly evolving learning environment and to enhance the quality of education (Tsekhmister, Konovalova, & Tsekhmister, 2022). The findings showed that effective change management ensures that changes are implemented smoothly, minimizing disruptions and resistance, while maximizing the benefits of change (Ezzeddine et al., 2023).

At the same time, the theoretical analysis of the problem proved that change management is closely related to leadership (Sauphayana, 2021) and innovative management (Wojtaszek et al, 2023). It was found that effective educational leaders set the vision and direction for change within the educational institution (Martinez & Pepito, 2024). Additionally, innovative management practices provide the framework and strategies for implementing change in a way that maximizes its impact and promotes sustainability of the education system (Li et al., 2022; Mincu, 2022). The survey results supported this idea and revealed that effective educational leadership leads to introduction of vision of change, forms an organizational culture, supports innovative strategies, manages resistance to change, builds positive communication, and helps evaluate the process of changes.

Also, the findings demonstrated that educational leaders often adopt various styles oriented towards change management within the learning environment. These styles include transformational, instructional, facilitative, distributed, and adaptive leadership (Moosa et al., 2023; Mouazen et al., 2024; Saleem et al., 2022). Instructors, administrators, and students were asked on the most efficient leadership style and it was concluded that adaptive and facilitative leadership are the most effective in the process of changes.

In the context of innovative management, the respondents admitted that it included several components. They were the following: leadership development, technology integration, formation of an organizational culture, using student-centered approach, resources management, and strategic planning. The survey outcomes showed that these components enhance change management within the learning process and contribute to the sustainable development of the educational institution.

The literature review on change management in education revealed that there are different formulas that educational institutions can adapt to effectively manage change. They concern the Bridge's Transition Formula Among (Ezzeddine et al., 2023), the Kotter's 8-Step Change Formula (Miles et al., 2023; Mouazen et al., 2024). the Lewin's Change Management Formula (Moosa et al., 2023), and ADKAR formula (Ezzeddine et al., 2023; Moosa et al., 2023).

During the research we investigated the formulas that can be applicable for the learning environment. The survey enabled us to develop the optimal model of change management within the learning environment which included change vision, effective leadership style, innovative management practice, change planning and its implementation, and building an organizational culture oriented towards changes. The scientific sources stress that in a long-term perspective the optimal model of change management will contribute the sustainable development of the educational institution. Figure 8 presents the structure of optimal model of change management within learning component.

Figure 8 – Optimal model of change management within learning process
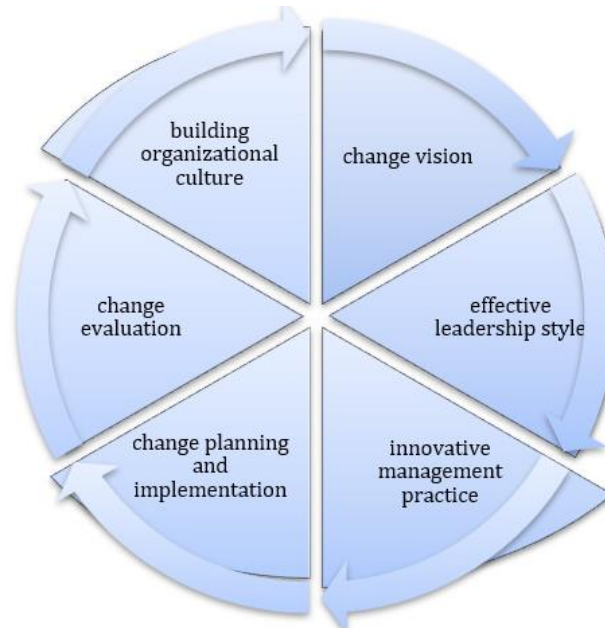
Source: authors' own development.

Change vision refers to a clear and compelling picture of the desired future state of the educational institution (Mouazen et al., 2024). It inspires and motivates the participants of the educational process to implement change and work towards a common educational goal. Change vision in education articulates why change is necessary and how it will benefit instructors, administrators, and students (Aldridge & McLure, 2023). We found that clear and strong change vision provides direction, sets priorities, and helps enhance the learning environment through innovations.

Effective leadership style. The survey uncovered that adaptive and facilitative leadership styles offer several advantages in change management within the learning environment (Saleem et al., 2022). For examples, adaptive leadership emphasizes the ability to respond effectively to changing circumstances, making the educational change manageable. And facilitative leadership focuses on empowering all the participants of the educational process to contribute to transformations and maximize their benefits. This style promotes collaboration, open communication, and shared decision-making within the learning environment. We found that both adaptive and facilitative leadership styles promote a dynamic change process,

fostering innovations and positive outcomes for students' professional development.

Innovative management practices involve the strategic use of innovative pedagogical technologies to enhance teaching and learning processes (Khan et al., 2024; Stecuła & Wolniak, 2022). Project-based learning (Li & Kitili, 2023) and problem-based learning (Carrió Llach & Llerena Bastida, 2023) are examples of innovative pedagogical approaches that focus on student-centered, active learning. Virtual reality, simulation, and interactive activities are innovative technologies that can enhance learning by providing immersive and engaging learning experiences among students. They are also oriented towards effective change management since they transform the learning environment considering the existing pedagogical technologies (Simanskiene et al., 2024). Besides, innovative initiatives can transform teaching and learning, making it more engaging and effective. They increase students' motivation to learning as well.

Change planning and its implementation within the learning environment involves several key elements to ensure its success. It deals with effective communication (Musheke & Phiri, 2021), conflict resolution strategies to address any disagreements or resistance (Kilag et al., 2024), innovative initiatives, such as new teaching methods or technologies, particularly extensive implementation of personalized learning approaches (Bergström et al., 2023; Hadebe, 2023). We found that integration of these elements into change management facilitates the creation of the supportive and engaging learning environment that promotes positive students' outcomes.

Building an organizational culture oriented towards changes requires the introduction of effective communication between the participants of the educational process (Bhinder, 2022; Musheke & Phiri, 2021), facilitation of collaboration and teamwork (Martín-Hernández et al., 2021), promotion of continuous learning and improvement with a focus on adapting to new technologies and pedagogical approaches (Tsekhmister, Vizniuk, Humeniuk, Dolynnyi, & Polishchuk, 2022). Besides, flexibility and adaptability are also crucial for an organizational culture since the learning environment is constantly evolving (Yang et al., 2023). In this

context organizational culture of the educational institution has great potentials for establishment of flexible education through pedagogical and technological innovations.

Conclusion

Change management is a structured approach to organization of activities of individuals or teams under the conditions of rapidly evolving landscape. It involves various processes, strategies, and techniques to manage the people facing the change to achieve the desired outcomes. Within the learning environment change management is interpreted from organizational, pedagogical, and cultural perspectives. Organizational perspective explains change management as the achievement of educational goals despite the change process. From a pedagogical perspective, change management refers to the strategies and techniques used to introduce innovative teaching practices, technologies, and curriculum. Considering cultural perspective, change management in education involves addressing the beliefs, values, and standards that form the organizational culture of educational institutions.

Besides, we distinguished certain formulas that educational institutions can adapt to effectively manage change. They concern the Bridge's Transition Formula Among, the Kotter's 8-Step Change Formula, the Lewin's Change Management Formula, and ADKAR formula. We came to the conclusion that effective change management in education should incorporate elements from various formulas to address the complexity of learning environment.

It was found that leadership in the educational context refers to the ability of individuals, such as teachers or administrators, to organize and influence others within the learning environment. Leadership and change management are closely interrelated at the educational institutions through vision, organizational culture, support of innovative strategies, managing resistance to changes, communication, and evaluation. Also, within the learning environment, leaders often adopt various styles that are particularly effective in facilitating change and supporting the growth

and development of students. These styles include transformational, instructional, facilitative, distributed, and adaptive leadership.

Innovations within the learning environment relate to new practices, technologies, or approaches that have the potential to improve teaching. The recent findings describe innovations based on the pedagogical, technological, cultural, and psychological approaches. Innovative management refers to the application of innovative approaches, strategies, and practices to improve the management and administration of educational institutions. It involves developing and implementing strategic plans; strong leadership development; technology integration; fostering an organizational culture; implementation of student-centered approach to teaching; and effective resources management. It was found that innovative management in education is proactive and creative addressing the challenges and opportunities facing the educational institutions.

The optimal model of change management provides a structured framework for implementing effective and sustainable change within the learning environment. In the context of education, the model was found to create the learning environment that fosters innovation, collaboration, and continuous improvement of the participants of the educational process. On the basis of literature review and survey results we found that the optimal model of change management includes establishment of change vision, selection of effective leadership style, selection of innovative management practice, change planning and its implementation within the learning environment, and building an organizational culture oriented towards changes. In a long-term perspective the optimal model of change management will contribute the sustainable development of the educational institution.

The results can be used to develop the education policies that support effective change processes in the educational institutions, particularly institution of higher educations since they prepare future experts for different industries. Understanding how change management impacts the curriculum can help instructors and administrators design appropriate curricula oriented towards formation of professional competencies necessary under modern conditions. Besides, the findings can be applied to enhance formation of leadership skills and

create an organizational culture oriented towards changes and innovations within the learning environment.

At the same time, the topic of change management within the learning environment has several limitations that researchers and practitioners should be aware of. Firstly, conducting the study posed several methodological challenges, such as access to participants and the complexity of the education system. Secondly, the investigation did not present a long-term effect of change management within the learning environment that is especially important when the education system develops dynamically under a number of challenges such as the COVID-19 pandemic or full-scaled Russian aggression. Despite these limitations, the research helped understand how to manage the changes at the educational institutions.

Declarations

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Conflict of Interest

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Ethics Approval

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