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Modern Approaches to the Development of Leadership Qualities among Academic and Pedagogical Staff: The Role of Management in Education

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ABSTRACT

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The study focuses on the analysis of modern approaches to leadership development in education. The aim of the study is to evaluate the efficiency of modern approaches to the development of leadership qualities among academic and pedagogical staff and to elaborate on the optimal model applicable to the education sector. During the study, the mixed-method approach was applied. The participants were academic and pedagogical staff employed in three Ukrainian institutions of higher education. The sample consists of the experimental group (n = 43) and control group (n = 48). To verify the hypotheses, the Analysis of Variance method was used. The results showed that leadership development in education is implemented through formal training, workshops, mentoring, coaching, action learning, and peer learning. The results showed that the efficiency of the development of leadership qualities among academic and pedagogical staff depends on the selection of a relevant approach. Also, understanding the specific challenges, the educational institutions tailor leadership development initiatives to address the opportunities for enhancement of the educational process. Additionally, the analysis allows academic and pedagogical staff to improve the effectiveness of their leadership functions within the educational environment. Therefore, certain educational interventions were described: practice-oriented program, interactivity and engagement, remote learning, integration of digital technologies, identifying leadership qualities and assessment of skills gaps, development of specific qualities, and considering participants' individual needs and preferences. The research findings may be used to enhance the leadership competence of academic and pedagogical staff. Also, the findings may improve the curriculum of training of future educational managers.

In today's interconnected and rapidly evolving world, effective leadership and management are essential for guiding organizations through complex challenges and driving innovations and growth. Effective leaders inspire their team members to achieve their full potential. In the context of education, management helps create an environment that fosters excellence in teaching, learning, and overall educational outcomes (Kalogiannidis et al., 2022). It contributes to defining clear goals and objectives for the educational institution, allocating resources, and developing and implementing a curriculum (Firmansyah et al., 2023). Effective management is also responsible for assessing and evaluating the quality of education provided by the educational institution (Nazarenko et al., 2022). The concept of leadership is closely connected to management and focuses on an organization's vision, inspiring and motivating people (Bhinder, 2022). Together, leadership and management in education create a harmonious environment that supports teaching and learning, driving the institution toward its goals and fulfilling its mission (Mulawarman et al., 2022). Additionally, successful leadership has a significant impact on the establishment of a culture of innovation within an educational institution (de Jong et al., 2022).

Leadership is an essential condition for organizational effectiveness (Constantinides, 2023) and it is an integral characteristic within the complex environment of higher education since it is shaping the culture, operations, and outcomes of educational institutions (Kalogiannidis et al., 2022). Education is a fundamental component of personal and societal development as it prepares future professionals for the future (Tsekhmister et al., 2009). This mission-driven aspect of education requires leaders to focus on the long-term goals that reflect the institution's values, mission, and strategic priorities (Liao, 2022). It is worth mentioning that education, unlike many other fields where success can be measured in terms of profits or efficiency, focuses on the holistic development and learning outcomes of students (Sydorenko, 2023; Tsekhmister et al., 2022). This requires a different approach to management and leadership, emphasizing pedagogical strategies and student support. Additionally, continuous professional development is crucial in education, both for teachers and administrators (Mukan et al., 2019). Leaders and managers need to prioritize and facilitate life-long learning and pedagogical growth among educators.

Currently, the process of leadership development among academic and pedagogical staff is facing a rapidly changing landscape. This is mainly due to technological advances, such as Artificial Intelligence (AI), automation, and big data analytics, which are likely to reshape how organizations operate (Maltsev et al., 2022). Management will need to adopt new technologies and strategies to remain competitive and efficient. Then, the increasing globalization trends including economic integration, academic mobility, and international cooperation, require educational organizations to develop management strategies that can effectively navigate cultural, regulatory, and economic differences across borders (Buriak et al., 2022). Subotnik et al. (2023) state that the changes in demographics, such as an aging population and increasing diversity in the workforce, will make management develop strategies that attract, retain, and develop talent from a variety of backgrounds. In the Ukrainian context, educators are facing a number of challenges related to the displacement of students and staff, mental health issues, safety concerns, and disruptions in the functioning of educational systems, including the institution's administration and the delivery of curriculum (Sibruk et al., 2023).

The problems of formation of leadership qualities among academic and scientific staff were investigated from the perspective of psychological readiness (Eustache & Jonathan, 2023; Konari & Raftoulis, 2023) and increasing the level of emotional intelligence (Dobrovolska et al., 2021). Special attention was paid to the analysis of building parent-teacher relationships to enhance the educational process (Chikuvadze et al., 2023). The orientation of educational management towards the future is likely to be characterized by rapid change and uncertainty, requiring organizations to develop management strategies that are flexible, adaptive, and responsive to change (Maciej, 2023). Therefore, as stated in Kaminsky and Viesova (2022), the future is to transform management in an institution into more innovative construction in order to prepare for future challenges and opportunities.

Also, leadership competence was a topic of a number of researches. Thus, it is considered an essential attribute for academic and pedagogical staff (Kadri et al., 2021). The findings prove that leadership qualities such as vision, inspiration, and motivation are essential for fostering a positive learning environment and encouraging students' success (Firmansyah et al., 2023). Sydorenko (2023) emphasizes communication, teamwork, and conflict resolution as crucial qualities for effective leadership since they are responsible for effective collaboration and achieving common goals within the educational process (Sydorenko, 2023). According to Kryvoshein et al. (2022), academic and pedagogical staff are tasked with developing and implementing innovative teaching methods, curriculum enhancements, and educational programs, creativity, adaptability, and strategic thinking are essential for driving innovation and continuous improvement in the education sector (Tkachenko et al., 2023). The educational institutions' staff are responsible for managing resources such as time, materials, and technology and, accordingly, leadership qualities such as organization, resourcefulness, and financial intelligence are necessary for managing resources effectively and ensuring optimal use for students' learning (Wilson Heenan et al., 2023). Moreover, flexibility, resilience, and willingness to learn are important for adapting to change in the field of education (Andreou et al., 2023).

Therefore, a number of recent findings show the importance of leadership qualities for academic and pedagogical staff (Firmansyah et al., 2023; Kadri et al., 2021). At the same time, other findings describe the role of effective management in advancing the field of education (Constantinides, 2023; Mulawarman et al., 2022; Tymoshko et al., 2020) for the building sustainable educational process, and promoting students' success. Effective leadership in education is related to improved students' outcomes (Mala et al., 2021), creating and leading effective teams (Hall, 2002), identifying the areas for further improvement, implementing innovative practices, and driving positive changes in educational institutions (Kryvoshein et al., 2022). Therefore, the description of modern approaches to the development of leadership qualities among academic and pedagogical staff requires coverage in various aspects since it is not sufficiently represented in scientific publications. In order to uncover the problem, the research aim was formulated: to evaluate the efficiency of modern approaches to the development of leadership qualities among academic and pedagogical staff and to elaborate the optimal model of leadership development in the education sector. Given the importance of the development of leadership qualities among academic and pedagogical staff, this study seeks to explore the following research questions:

RQ1: What are leadership qualities essential for academic and pedagogical staff? And how does war affect the leadership competence of personnel working at the educational institution?

RQ2: What are the most effective approaches to the development of leadership qualities among academic and pedagogical staff?

RQ3: What components should be the optimal model of leadership development in the education sector?

Literature Review

Structure of Leadership Competence of Academic and Pedagogical Staff

In the educational context, the role of a leader is a multifaceted phenomenon and it is crucial for the success of the institutions of higher education. During the analysis of the scientific literature on the problem of leadership development in education, it was found that educational leaders set the vision and direction for the institution (Lakomski & Evers, 2022). It deals with the definition of the objectives that guide the educational process and facilitate the accomplishment of the institution's mission. Other aspects include strategic planning to identify strengths, weaknesses, opportunities, and threats for the institutions of higher education and management of routine tasks such as budgeting, staffing, or allocating facilities (Ghamrawi, 2023). The recent findings show that educational leadership includes the facilitation of the educational process through curriculum development (Mäkiharju & Hilli, 2024), instructional leadership (Mulawarman et al., 2022), and student support (Hadebe, 2023). These characteristics suggest the analysis of the works on the development of leadership qualities among academic and pedagogical staff since it may help to improve the educational process and manage the institution of higher education effectively.

Today, there are many studies dedicated to the analysis of leadership qualities among academic and pedagogical staff. For instance, Alkrdem (2020) states that it is necessary for a leader to acknowledge an educational institution as a professional learning community where reformative perspective attempts are made. The academic and pedagogical staff are involved in identifying, formulating, and implementing the institutions' vision and mission to provide its strategic direction, ensure the efficiency of the educational process, and foster the motivation of students and employees. Considering that a university moves from a centralized decision-making structure to a more participative one, leadership competency among academic and pedagogical staff involves collaboration and the ability to interact with others within the educational environment (O'Sullivan & Mac Ruairc, 2023). Collaboration and networking contribute to the creation of a supportive and inclusive learning environment (Óskarsdóttir et al., 2020), and flexible behavior, and they also lead to the extension of learning opportunities that enhance students' engagement and learning outcomes (Hadebe, 2023). In this connection, communication skills are important to organizing a team, making decisions accurately, to identifying and addressing the problems (Alkrdem, 2020). Effective educational discourse helps leaders manage uncertainty and resistance, provide constructive feedback to team members, inspire and motivate them (Bhinder, 2023), and encourage knowledge construction within the educational process.

Leadership competence is closely related to the subject knowledge of academic and pedagogical staff (Oliveira & Saraiva, 2023). Organization of an effective educational process

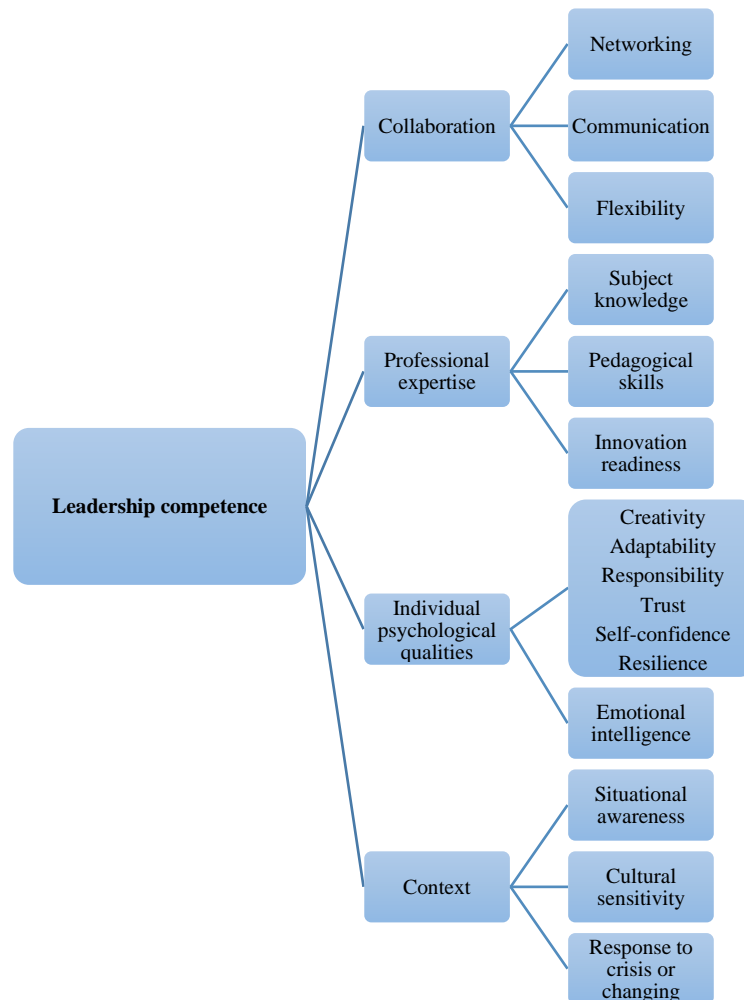
requires pedagogical skills, particularly skills in lesson planning, instructional strategies, classroom management, and assessment methods to engage students and facilitate learning (Hadebe, 2023; Tkachenko et al., 2023). Currently, educators need to be innovative and select effective approaches to teaching and learning, especially distance learning that is oriented towards the formation of the specific needs and learning styles of individual students (Bieliaieva et al., 2023) and encourages the use of technologies in education, helping students develop digital literacy skills (Borysova et al., 2023). Continuous learning and professional development are key components of leadership competence (Mukan et al., 2019), as academic and pedagogical staff need to stay knowledgeable about recent research, trends, and best practices in education.

Individual psychological qualities are integral components of leadership competence. They include a number of traits or attributes of an individual's mental composition that impact how a leader thinks, feels, and behaves within the professional environment (Romanovskiy et al., 2019). In the context of educational management, an educator must possess creativity, motivation, resilience, and self-confidence as well as social skills such as conflict resolution, decision-making, responsibility, and trust (Archana & Subathra, 2023). Academic and pedagogical staff with strong psychological readiness can effectively manage relationships and navigate complex social situations. Recent studies determine emotional intelligence in leaders refers to an ability to recognize, understand, manage, and influence emotions to enhance leadership effectiveness. According to Zurita-Ortega et al. (2020), educational leaders with high emotional intelligence are aware of their own emotions, strengths, weaknesses, and values. They have strong intrinsic motivation for professional activity and are committed to achieving the organization's goals. These academic and pedagogical staff are able to manage relationships and build networks, they also create a positive and productive educational environment.

Context refers to the specific circumstances or environment where leadership is implemented. Context plays an important role in shaping leadership activities as different situations require different leadership skills and responses. Understanding the context is essential for effective leadership as it helps academic and pedagogical staff tailor their teaching practices to meet individual students' needs. Context also includes factors such as the organization's goals and values, the characteristics of the team members, and the peculiarities of an educational environment. Effective leaders are able to assess and respond to these contextual factors through situational awareness (Collins & Collins, 2022), cultural sensitivity (Fisher, 2021), and ability to respond in crisis or changing situations (Chatzipanagiotou & Katsarou, 2023). Figure 1 shows the structure of leadership competence of academic and pedagogical staff on the basis of the literature sources analyzed.

Figure 1

The Structure of Leadership Competence of Academic and Pedagogical Staff



Crises are an inevitable aspect of modern society and it is obvious that leadership skills are changing under the pressure, uncertainty, and complexity of the situation (Kuzmina et al., 2024). Mainly, leaders must make quick and often difficult decisions in a crisis (Chatzipanagiotou & Katsarou, 2023). Also, they must establish clear, timely, and transparent communication with the team members and build effective collaboration between different teams or organizations (Bhinder, 2022). Strategic thinking is an important quality during a crisis since it is related to both short-term actions and long-term implications. Ilyas (2023) studying leadership competence during the Russia-Ukraine conflict, states that an effective leader must possess communication to negotiate and resolve conflicts, empathy, strong diplomatic skills to navigate complex political and diplomatic challenges, flexibility, a clear vision of what they want to achieve, and conflict resolution skills including include a range of abilities and strategies used to manage conflicts in a constructive manner. Taking this into consideration, the following hypothesis was formulated:

H1: *Academic and pedagogical staff must possess strong leadership qualities to manage the educational process effectively and these qualities may differ during a crisis or changing situation.*

Approaches to Development of Leadership Qualities among Academic and Pedagogical Staff

Kjellström et al. (2020) showed that leadership development is positive and desirable for all employees, contributing to the progress of an organization. According to recent findings (Shavkun & Dybchinska, 2020), the development of leadership qualities brings the success of an organization and creates strong leaders to inspire employees, foster innovations, and help a team stay competitive in a rapidly evolving environment. Leadership development in education refers to the process of preparing and supporting academic and pedagogical staff to take on leadership roles and responsibilities within the educational environment. This can include formal leadership positions such as principals or department heads as well as informal leadership roles such as teacher leaders or mentors. Additionally, every teacher performs organizational functions in the classroom and is responsible for students’ engagement (Nguyen et al., 2020).

Leadership development in education focuses on developing the knowledge, skills, and attributes needed to lead the educational process effectively. Within the educational institution leadership may be instructional (promoting effective teaching practices, supporting teachers’ development) (Bieliaieva et al., 2023; Hadebe, 2023; Tkachenko et al., 2023); organizational (leading the educational organization or department through strategic planning, budgeting, personnel management, and creating a positive professional culture) (Kalogiannidis et al., 2022; Nazarenko et al., 2022); collaborative (building relationships, facilitating meetings, and resolving conflicts) (O’Sullivan & Mac Ruairc, 2023; Óskarsdóttir et al., 2020).

Leadership development in education is implemented through many approaches, including formal training (Flaig et al., 2020), workshops (Willgerodt et al., 2020), mentoring (Blake-Beard et al., 2021), coaching (Baron & Boies, 2023; Halliwell et al., 2023), action learning (Willocks, 2023), and peer learning (Hulteen et al., 2023). Figure 2 characterizes the approaches to the development of leadership qualities among academic and pedagogical staff.

Figure 2

Modern Approaches to Development of Leadership Qualities among Academic and Pedagogical Staff

Formal training	Workshops	Mentoring	Coaching	Action learning	Peer learning
structured curriculum different teaching methods practical experience formal assessment	interactive sessions facilitated by experts engagement through different educational activities	supportive educational activity can be formal or informal collaboration between mentor and course participants	one-on-one learning development of specific leadership skills involves self-directed learning practical application of knowledge	work in a small group development of action plan facilitation of continuous learning cultivating specific leadership skills	mutual training knowledge exchange immediate application of new knowledge and skills active engagement in the educational process

Formal training for leadership development in education is designed to prepare academic and pedagogical staff for leadership roles within the educational environment. These programs usually focus on the development of essential skills needed to organize the

educational process effectively (Flaig et al., 2020). Formal training is characterized by a structured curriculum and the use of different instructional methods, including lectures, seminars, case studies, group discussions, and simulations (Kjellström et al., 2020). Many training programs include opportunities for the participants to gain practical experience in a real-life environment (Abdulla et al., 2023). Also, formal training applies the assessment tools to measure participants' progress and learning outcomes. Currently, formal training is designed as a distant course resulting in reaching a wider audience and providing flexible learning opportunities (Bieliaieva et al., 2023).

Workshops are interactive sessions designed to enhance knowledge and skills (Stoller, 2020). These approaches are often focused on specific topics and allow participants to engage with the content through discussions, case studies, and group exercises (Willgerodt et al., 2020). According to Letuma et al. (2023), workshops contribute significantly to the ongoing professional development of academic and pedagogical staff by keeping them updated on current trends, best practices, and research in educational leadership.

The recent findings describe mentoring as a supportive and collaborative relationship between a more experienced educator (the mentor) and a less experienced educator (the trainee) to develop the trainee's leadership skills (Blake-Beard et al., 2021). Mentoring can be organized by educational institutions or as informal arrangements. During mentoring activities, academic and pedagogical staff learn through observation and interaction. Since this activity is considered to be an effective tool for developing future leaders in education (Irby et al., 2022), mentors help build trainees' confidence in their abilities as leaders. Moreover, Swaminathan and Reed (2020) insist that other benefits for trainees include promotions and psychosocial outcomes of leadership competence and self-efficacy.

Peláez Zuberbuhler et al. (2020) found that coaching for leadership development involves a one-on-one relationship between a coach and a trainee to support their professional development. Coaching is typically goal-oriented and tailored to the individual needs of a trainee (Halliwell et al., 2023). It was found that this approach focuses on developing specific leadership skills among academic and pedagogical staff including communication skills, decision-making skills, conflict resolution skills, or emotional intelligence (Lofthouse, 2019). It is worth mentioning that coaching emphasizes the importance of self-directed learning and experiential learning as well as reflection and practical application of knowledge (Baron & Boies, 2023). Besides, leaders as coaches have been identified as crucial in developing employees due to the high cost of external coaching and the need to transform conventional professional environments into innovative ones (Peláez Zuberbuhler et al., 2020).

Other approaches to the development of leadership qualities among academic and pedagogical staff deal with action learning a small group of educators who work on real-life challenges within the educational process (Perusso et al., 2021). Such activity is oriented towards the development of action plans considering the specifications of the existing educational environment and strategies for its further improvement. The findings show that action learning is an iterative process that facilitates continuous learning (Willocks, 2023). Action learning is particularly effective for leadership development in education because it allows educators to overcome real-life challenges, develop problem-solving skills, build collaboration and communication skills, and gain a deeper understanding of their leadership styles.

Peer learning involves educators working together in a supportive and collaborative environment to learn from each other's experiences (Murphy et al., 2021). This approach recognizes that academic and pedagogical staff have valuable knowledge that can benefit their peers and that learning can be enhanced through peer interactions. Peer learning can increase engagement and motivation, as individuals are actively involved in their own learning process (Hulteen et al., 2023). Besides, peer learning is advantageous because it allows academic and pedagogical staff to apply new knowledge and skills immediately in their roles, leading to more effective leadership practices. In a more advanced form, peer learning can be personalized to educators' individual needs and interests focusing on the areas that are most relevant to their development (Mötteli et al., 2023).

The selection of an approach to the development of leadership qualities among academic and pedagogical staff varies depending on the context and goals of the educational institution. Analyzing the modern approaches, we constructed the following hypothesis:

H2: *The level of leadership qualities among academic and pedagogical staff depends on the implementation of relevant approaches to their development.*

The Construction of an Optimal Model of Leadership Development in the Education Sector

Studying the approaches to leadership development, it was found that the selection of the relevant approach and further elaboration on training programs must meet certain criteria. Firstly, great attention must be paid to the establishment of educational objectives and assessment of the current level of leadership qualities among academic and pedagogical staff (Kjellström et al., 2020; Letuma et al., 2023). To be effective the program should be integrated into the institution's culture and correspond with its values and practices (Leso et al., 2023). Some findings show that an approach chosen must be flexible and adjust its content or teaching methods to address new challenges or opportunities (Baron & Boies, 2023). Besides, the training must tailor its approach to meet the specific needs of different participants, maximizing their leadership development (Mötteli et al., 2023). The educational environment is constantly changing with new digital technologies and innovative teaching methods emerging (Maltsev et al., 2022). A flexible program incorporates these trends into the curriculum to provide the formation of essential knowledge and skills among academic and pedagogical staff.

In the context of the development of leadership qualities, sustainability refers to the possibility of remaining effective over the long term (Boeske, 2023; Liao, 2022). A sustainable approach produces long-term positive outcomes for academic and pedagogical staff as well as for the whole educational institution. Such an approach is constantly improving based on feedback (Boeske, 2023), evaluation (Zhang et al., 2023), and changes in the educational environment (Gómez-Parra et al., 2022). According to Marei et al. (2021), feedback mechanisms include self-assessment, peer assessment or comprehensive assessment which gather feedback from multiple sources and provide a complete view of an educator's performance.

Special attention must be paid to the analysis of variable criteria that may affect the educational process. It was found that leadership qualities are developed in response to

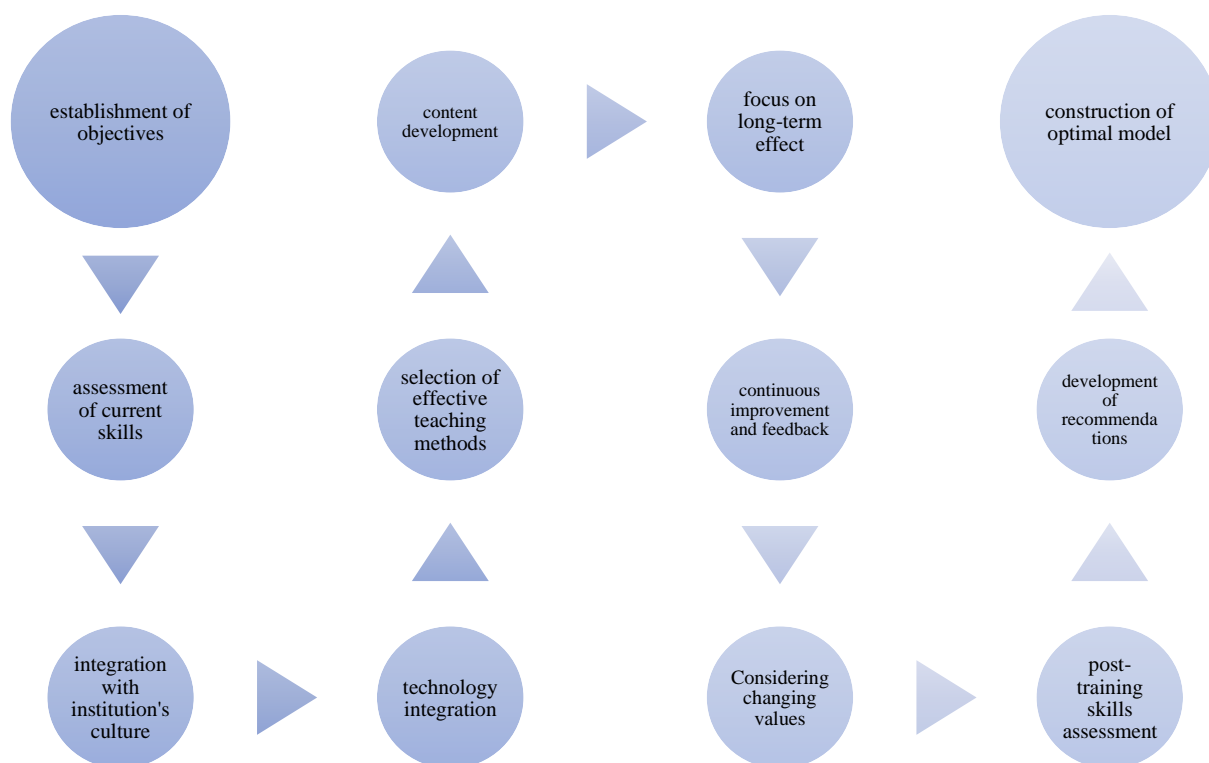
variables within the field (Brauckmann et al., 2023). Some works state that there is a growing emphasis on equity and inclusion in education, which has influenced leadership (Opoku, 2023). Leaders are expected to promote diversity, equity, and inclusion within their institutions of higher education and address disparities in educational outcomes. Collaboration has become increasingly important (O’Sullivan & Mac Ruairc, 2023; Óskarsdóttir et al., 2020) because leaders continuously collaborate with instructors, administration staff, students, parents, and community representatives to achieve common goals and improve educational outcomes. Other variables refer to adaptability and innovation (de Jong et al., 2022), ethics of leadership (Amir et al., 2023), and orientation toward continuous improvement (Mukan et al., 2019). Definitely, considering these variables will improve leadership development among academic and pedagogical staff and make the optimal model more adequate. Figure 3 generalizes the requirements for the construction of an optimal model for leadership development among academic and pedagogical staff.

Accordingly, the optimal model of leadership development is oriented towards the maximization of leadership competence among academic and pedagogical staff and provides a variety of developmental opportunities through the introduction of different approaches to the development of leadership qualities. Thus, the following hypothesis was presented:

H3: *The use of an optimal model of leadership development, which is constructed considering the criteria and requirements of effective training programs, leads to the increase of leadership qualities among academic and pedagogical staff.*

Figure 3

Requirements for Construction of Optimal Model of Leadership Development



Method

Design

The investigation presented in this article was carried out among academic and pedagogical staff from three different institutions of higher education. Of the three participating institutions one is a national-level university providing a wide range of educational programs and conducting a large number of research studies or projects in various fields, one is a state-level university training future experts in traditional specialties, and one is a higher humanitarian and pedagogical institute focused on training students living in the particular region.

To test complex theoretical models that involve multiple variables and relationships simultaneously Structural Equation Modeling (SEM) was used. The researchers were able to modify their concepts and approaches to the development of leadership qualities among academic and pedagogical staff based on the data found during the literature review. At the same time, to verify the hypotheses and answer the research question the mixed-method approach was applied. It combined a set of qualitative and quantitative research techniques to provide a more comprehensive understanding of the research problem than either approach alone. While studying the modern approaches to the development of leadership qualities among academic and pedagogical staff, a mixed-method approach contributed to integrating the findings from the qualitative and quantitative components and involved comparing and contrasting the findings. Also, it suggested identifying effective leadership development patterns and allowing multiple perspectives on the construction of an optimal model for the development of leadership qualities among academic and pedagogical staff.

Participants

The participants were academic and pedagogical staff employed in three institutions of higher education in Ukraine. The sample consists of two groups: the experimental group (EG) comprised 43 individuals and the control group (CG) – 48 individuals. The sample size was sufficient enough to provide meaningful results. The selection criteria for both groups included: (1) possession of expertise related to the topic of leadership development in the educational context; (2) data on gender, age, educational background, position, and professional experience to represent the diversity; and (3) availability and accessibility for the research. Based on the ethical guidelines adopted for the educational surveys the personal participants' information was protected as it was stored securely. Also, the researchers ensured that individual respondents couldn't be identified in any reports or publications. All the academic and pedagogical staff participated in the survey voluntarily.

The participants' gender, positions occupied, and functions performed were analyzed to establish an efficient educational process. The main attention was paid to the analysis of leadership functions performed by the participants. The questionnaire showed that all academic and pedagogical staff performed leadership functions including instructional design (43 in EG and 47 in CG); resources management (17 in EG and 20 in CG), curriculum development (42 in EG and 45 in CG), research facilitation and supervision of students' scientific projects (36 in EG and 26 in CG), assessment and evaluation of educators' competencies as well as students' learning outcomes (43 in EG and 48 in CG), mentoring and advising (31 in EG and 36 in CG), cooperation with external stakeholders (11 in EG and 7 in

CG), organization of professional development (9 in EG and 11 in CG), participation in accreditation process (13 in EG and 12 in CG), leading department meetings (6 and EG and 5 in CG). [Table 1](#) shows the survey participants' descriptions.

Table 1

Survey Participants' Description

Descriptors	Quantity	
	Experimental Group (n = 43)	Control Group (n = 48)
Gender		
Male	16	19
Female	27	29
Position		
Lecturer	7	12
Senior lecturer	11	15
Associate professor	14	17
Professor	5	2
Head of department	4	1
Dean	2	1
Leadership functions performed		
Instructional design	43	47
Resources management	17	20
Curriculum development	42	45
Research facilitation	36	26
Assessment and evaluation	43	48
Mentoring and advising	31	36
Cooperation with external stakeholders	11	7
Organization of professional	9	11
Development		
Participation in accreditation process	13	12
Leading department meeting	6	5

Instruments

The survey was conducted between August 30 and October 17, 2023, through a closed-ended questionnaire which took around 25-30 minutes. The questionnaire was administered as face-to-face interviews, paper-based surveys, and online surveys. All the academic and pedagogical staff participating in the research were explained the survey procedures in detail. They were provided with clear instructions on how to complete the questionnaire. This included information on how to answer different types of questions (e.g., multiple-choice, open-ended) and how to return the completed questionnaire. Informed consent was obtained from the participants which is an essential ethical principle in the experimental research, ensuring that individuals are treated with respect and autonomy.

To analyze the current level of leadership competence of academic and pedagogical staff, self-assessment and peer assessment were applied. They were oriented towards the evaluation of leadership qualities in four blocks: collaboration, professional expertise, presence of individual psychological qualities, and context awareness. After completing the leadership development training program, a post-training skills assessment was conducted. The results were used to range the approaches to the development of leadership skills among academic and pedagogical staff according to their effectiveness.

The analysis of challenges of leadership development was conducted through closed-ended questionnaires, face-to-face interviews, and classroom observations. The outcomes contributed to the selection of criteria for an optimal model of the development of leadership qualities among academic and pedagogical staff and its construction.

To verify the hypotheses, ANOVA or the Analysis of Variance method was used. It is a statistical test used to analyze the differences among EG and CG group means in a sample. The F statistic data was calculated by comparing EG and CG variances. If the calculated F value is greater than the critical value, the hypothesis was rejected and the conclusion was made that there are significant differences among the group means. If the calculated F value is not greater than the critical value, the hypothesis is accepted. All the instruments were correlated with the aim of the research, research questions, sample, hypotheses, and research design.

Data Analysis and Results

Leadership Qualities among Academic and Pedagogical Staff under Normal Conditions and During Crisis

The self-assessment and peer assessment showed that leadership qualities needed to manage the educational process effectively under normal conditions include four blocks: collaboration (teamwork, communication skills and using professional discourse properly, flexibility); professional expertise (pedagogical skills, subject knowledge, and innovation readiness); individual psychological qualities (creativity, adaptability, responsibility, trust, self-confidence, resilience, and emotional intelligence); context (situational awareness, cultural sensitivity, and response to crisis or changing situation). At the same time, the findings demonstrated that leadership during a crisis or changing situation includes the following: collaboration (teamwork, effective communication, negotiation skills, flexibility, integrity); professional expertise (pedagogical skills, subject knowledge, innovativeness, strategic thinking, ability to identify and mobilize the resources); individual psychological qualities (adaptability, responsibility, resilience, decision-making, empathy, calmness under pressure); context (cultural sensitivity and response to crisis or changing situation). Table 2 and 3 show the leadership qualities among academic and pedagogical staff under normal conditions and during the crisis.

Table 2

Leadership Qualities among Academic and Pedagogical Staff under Normal Conditions (According to Participants' Responses)

Leadership qualities	Self-assessment		Peer assessment	
	EG (%)	CG (%)	EG (%)	CG (%)
Collaboration				
Teamwork	88.1	89.4	80.5	84.5
Communication skills	78.9	86.5	75.4	81.2
Flexibility	71.2	78.6	69.5	70.6
Professional expertise				
Pedagogical skills	69.5	70.1	65.4	63.4
Subject knowledge	89.3	90.6	87.6	88.6
Innovation readiness	70.4	75.4	73.2	72.7
Individual psychological qualities				
Creativity	54.6	53.4	52.4	55.8
Adaptability	51.2	53.2	50.9	53.7
Responsibility	50.9	53.1	54.3	52.2
Trust	63.2	59.8	61.8	60.4
Self-confidence	57.6	60.3	63.4	61.2
Resilience	54.1	57.4	55.4	56.7
Emotional intelligence	47.3	32.1	50.1	42.8
Context				
Situational awareness	49.8	50.2	55.6	53.6
Cultural sensitivity	37.2	44.6	40.9	39.9
Response to crisis or changing situation	58.1	61.2	59.8	57.3

Table 3

Leadership Qualities among Academic and Pedagogical Staff During Crisis (According to Participants' Responses)

Leadership qualities	Self-assessment		Peer assessment	
	EG (%)	CG (%)	EG (%)	CG (%)
Collaboration				
Teamwork	86.5	87.4	83.4	88.5
Effective communication	88.7	83.5	76.5	80.3
Negotiation skills	54.3	56.7	52.0	54.8
Flexibility	67.5	69.3	70.5	68.2
Integrity	45.3	51.2	48.3	53.1
Respect to human rights	43.2	50.6	45.5	47.6
Professional expertise				
Pedagogical skills	63.2	65.4	47.8	55.7
Subject knowledge	89.7	90.2	85.4	83.2
Innovativeness	60.4	65.1	56.3	67.4
Strategic thinking	56.7	62.3	66.3	72.1
Identification and mobilization of resources	45.3	48.9	52.9	60.3
Individual psychological qualities				
Adaptability	76.5	77.5	69.9	71.6
Responsibility	67.8	66.4	56.7	63.2
Resilience	73.1	75.1	70.5	72.1
Decision-making	77.8	78.5	80.4	79.6
Empathy	54.3	56.7	63.0	61.2
Calmness under pressure	55.2	60.2	61.3	59.8
Context				
Situational awareness	76.4	77.1	75.4	76.3
Response to crisis or changing situation	80.3	82.3	74.2	79.8

Efficiency of Approaches to Development of Leadership Qualities among Academic and Pedagogical Staff

All the leadership qualities were assessed before and after training according to the five criteria where: 5 = high level of formed leadership quality. an individual knows its potential and is able to apply it properly within the educational process; 4 = average level of leadership quality and a person uses it properly in most cases. sometimes minor errors occur; 3 = sufficient level of leadership quality when a person is familiar with its theoretical background but faces certain mistakes applying it during professional activity; 2 = low level of leadership quality and an individual cannot use it correctly and efficiently. In such circumstances, leadership sustainability is not achieved and the group cannot reach successful outcomes. Sometimes sporadic achievements may happen; 1 = insufficient level of leadership quality that shows a person cannot carry out professional activities and the educational environment may work incorrectly.

Table 4 shows the changes in the assessment of leadership qualities among academic and pedagogical staff after training. The results demonstrate that the most significant increase concerns communication skills (+2.5 % in self-assessment and + 2.9 % in peer assessment). pedagogical skills (+2.7 % and +2.6 % respectively). decision-making skills (2.7 % and 3.2 %). situational awareness (2.2 % and 2.4 %). and ability to respond to crisis or changing situation (2.5 % and 2.9 %). At the same time. the lowest impact was experienced towards integrity (.1 % and .3 %). subject knowledge (.4 % and .7 %). and identification and mobilization of resources during the crisis (.2 % and .6 %).

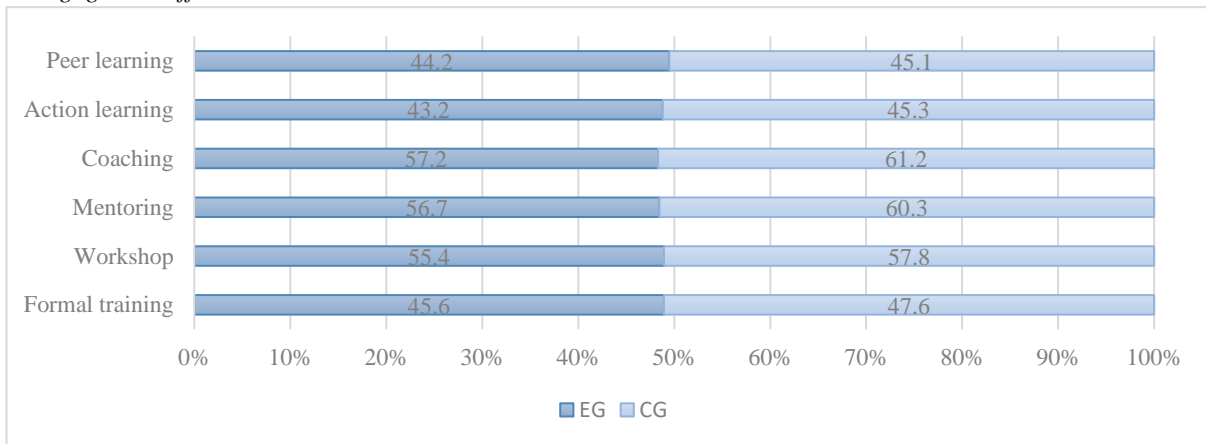
Table 4*Changes in Assessment of Leadership Qualities after Training (in Comparison with CG)*

Leadership qualities	Self-assessment (%)					Peer assessment (%)				
	5	4	3	2	1	5	4	3	2	1
Collaboration										
Teamwork	+2.2	+2.5	+0.3	-0.4	-3.1	+2.6	+2.8	+0.1	-1.2	-2.9
Communication skills	+2.5	+3.0	+0.2	-0.8	-3.4	+2.9	+3.1	+0.4	-1.1	-3.5
Flexibility	+1.1	+1.8	+1.7	-1.0	-2.6	+1.7	+2.0	+0.2	-1.2	-1.3
Negotiation skills	+0.8	+1.2	+1.3	-1.1	-2.3	+1.1	+1.5	0.0	-0.8	-0.9
Integrity	+0.1	+0.9	0.0	-0.8	-1.0	+0.3	+0.7	0.0	-0.9	-0.6
Respect to human rights	+1.1	+1.5	+1.4	0.0	-0.7	+1.2	+1.7	-0.1	-1.1	-1.4
Professional expertise										
Pedagogical skills	+2.7	+3.0	+0.9	-0.7	-2.1	+2.6	+3.5	-0.6	-0.2	-1.5
Subject knowledge	+0.4	+1.1	+0.1	-0.2	-1.2	+0.7	+0.5	-0.5	0.0	-0.7
Innovation readiness	+0.5	+0.8	0.0	-0.1	-0.9	+0.8	+1.1	-0.2	0.0	-0.8
Strategic thinking	+0.6	+1.2	+0.3	-0.8	-1.0	+1.1	+1.4	-0.1	-0.1	-1.1
Identification and mobilization of resources	+0.2	+0.4	+0.1	-0.1	-0.5	+0.6	+0.9	0.0	+0.2	-0.2
Individual psychological qualities										
Creativity	+1.1	+1.9	+0.5	-1.8	-2.3	+1.4	+2.3	-0.1	-2.2	-2.8
Adaptability	+2.3	+2.8	+0.6	-1.7	-1.8	+2.8	+3.0	-0.3	-2.5	-3.2
Responsibility	+2.2	+2.9	+0.4	-1.8	-3.1	+2.9	+3.1	-0.7	-0.8	-2.2
Trust	+1.0	+1.8	+0.8	-1.2	-0.9	+1.5	+1.9	-0.1	-1.2	-2.1
Self-confidence	+1.3	+2.0	+0.7	-1.3	-0.9	+1.1	+1.7	0.0	-1.4	-1.8
Resilience	+2.1	+2.6	+1.0	-2.1	-2.1	+2.7	+2.9	0.0	-1.9	-3.1
Decision-making	+2.7	+3.1	+1.2	-3.0	-3.4	+3.2	+3.0	-0.1	-2.3	-3.0
Emotional intelligence	+2.1	+2.9	+1.1	-2.0	-2.8	+2.8	+2.9	-0.2	-1.9	-2.3
Calmness	+1.2	+2.1	+0.8	-1.1	-1.5	+1.6	+2.1	0.0	-1.1	-1.6
Context										
Situational awareness	+2.2	+3.2	+0.4	-0.3	-0.7	+2.4	+3.1	+0.1	-0.6	-1.5
Cultural sensitivity	+2.4	+3.6	+0.5	0.0	-2.8	+2.8	+3.2	-0.3	-0.4	-2.0
Response to crisis or changing situation	+2.5	+3.1	+1.1	+0.1	-3.2	+2.9	+3.1	-0.9	0.0	-1.9

To study the effectiveness of approaches to the development of leadership qualities among academic and pedagogical staff close-ended questionnaires were conducted and also the cumulative changes in the assessment of leadership qualities after training were considered. The findings show that coaching (57.2 % for EG and 61.2 % for CG), mentoring (56.7 % and 60.3 % respectively), and workshop (55.4 % and 57.8 %) are considered the most effective by the survey participants. Academic and pedagogical staff (46.6 % for EG and 47.6 % for CG) regard formal training as an approach that affects the development of leadership qualities positively. At the same time, peer learning and action learning are considered to be effective because they require specific preliminary experience among academic and pedagogical staff. Figure 4 shows positive attitudes toward the approaches to the development of leadership qualities. Further, it is necessary to evaluate the challenges emerging while constructing the optimal model of leadership development in the education sector.

Figure 4

Positive Attitudes towards the Approaches to Development of Leadership Qualities among Academic and Pedagogical Staff

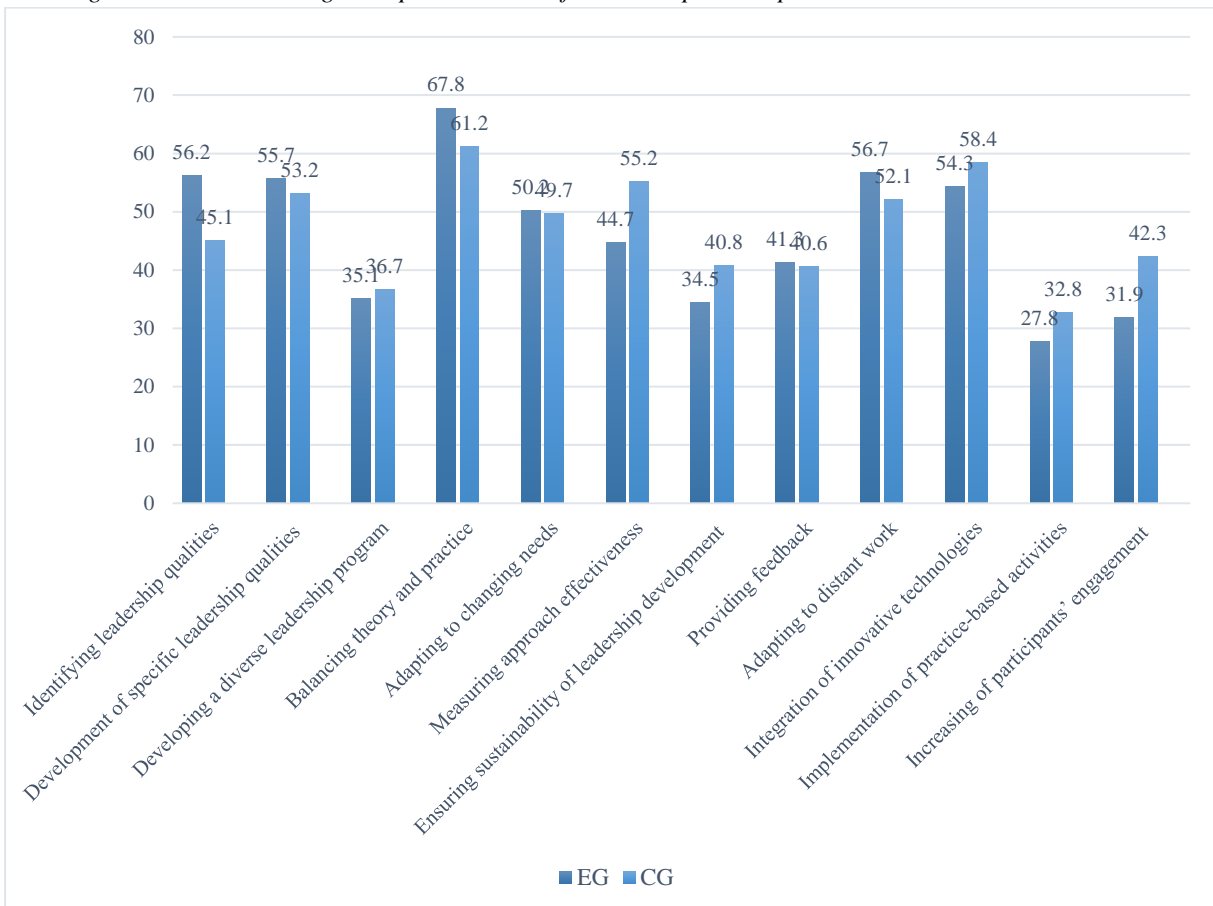


The Evaluation of Challenges while Constructing the Optimal Model of Leadership Development in the Education Sector

Figure 5 demonstrates the qualitative representation of challenges while constructing the optimal model for the development of leadership qualities among academic and pedagogical staff. The data is based on the results of the closed-ended questionnaire, face-to-face interview, and classroom observations.

Figure 5

Challenges while Constructing the Optimal Model of Leadership Development in the Education Sector



The findings demonstrate that the challenges include identifying leadership qualities, development of specific leadership qualities such as resilience, adaptability, responsibility, communication skills, and creativity, etc., developing a diverse leadership program, balancing theory and practice, adapting to changing needs, measuring approach effectiveness, ensuring the sustainability of leadership development, providing effective feedback, adapting to distant work, integration of innovative technologies, implementation of practice-based activities during training, increasing of participants' engagement and maximization of their interactivity. The research findings enabled us to verify the hypotheses testing and decide whether they should be accepted or rejected.

Using SEM, which is a statistical technique used to analyze the relationships between multiple variables, it was possible to analyze the links between the management of institutions of higher education and the development of leadership qualities among academic and pedagogical staff. The results showed that effective management practices can positively influence the development of leadership qualities among academic and pedagogical staff, contributing to the success of the institution of higher education. They are referred to leadership development programs, establishment of a supportive organizational culture at the institution, role modeling, in particular the opportunities for mentorship, regular feedback, promotion of collaboration and teamwork between academic and pedagogical staff, encouraging a culture of continuous learning. SEM enabled us to test the hypotheses and develop strategies to enhance the leadership qualities among academic and pedagogical staff. In the long perspective, it may benefit the institution of higher education as a whole.

Testing of Hypotheses

ANOVA formula generated an F-value for the first hypothesis .2, for the second .41, and .28 for the third one. Using a one-factor ANOVA statistical model, three hypotheses of the research were verified. Table 5 shows the summary of hypotheses verification.

Table 5

Hypotheses Verification

Hypothesis	Meaning	F	Decision
H1	> 1.00	.2	Accepted
H2	> 1.00	.41	Accepted
H3	> 1.00	.28	Accepted

The survey results show that the implementation of effective leadership approaches within leadership development leads to the enhancement of the educational process. At the same time, the selection of a relevant approach to the development of leadership qualities among academic and pedagogical staff requires a comprehensive analysis of interventions to counteract the existing challenges.

Discussion

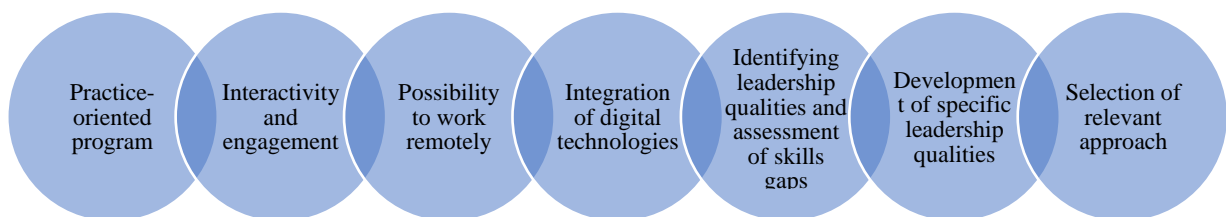
The survey showed that the efficiency of the development of leadership qualities among academic and pedagogical staff depends on the selection of a relevant approach. The implementation of educational interventions to counteract the existing challenges contributes to identifying the gaps in current leadership development programs or practices, highlighting areas for improvement (Montero-Mesa et al., 2023). Also, understanding the specific challenges, the educational institutions tailor leadership development initiatives to address the

opportunities for enhancement of the educational process (Huang, 2023). Additionally, the analysis allows academic and pedagogical staff to improve the effectiveness of their leadership functions within the educational environment. Importantly, the analysis of challenges is very important during crises or changing situations when leaders must make rapid decisions and organize effective teamwork. In the Ukrainian context, during the full-scale war, effective leaders proved the importance of their roles within the educational process (Kuzmina et al., 2024).

The participants' responses enabled them to outline the educational interventions to counteract the existing challenges (Figure 6). They include the following: practice-oriented program, interactivity and engagement, possibility to work remotely, integration of digital technologies, identifying leadership qualities and assessment of skills gaps, development of specific leadership qualities, selection of relevant approach depending on individual participants' needs and preferences.

Figure 6

Educational Interventions to Counteract the Existing Challenges



Firstly, practice-oriented program is focused on real-life activities and skill development, rather than just theoretical knowledge. According to respondents' answers, during a practice-oriented program learners have the opportunity to apply theoretical knowledge to real-life situations, gaining valuable experience and developing practical skills. Besides, it was found that these programs often incorporate case studies, simulation-based technologies, and interactive sessions that help participants develop practical leadership skills significantly. The recent findings practice-oriented programs integrate with participants' work responsibilities (Zeichner, 2023), allowing them to apply their learning directly to their roles within the educational environment. Accordingly, the survey outcomes prove that practice-based training is designed to be relevant to the specific context or field, ensuring that learners will develop necessary skills that are directly applicable to leadership functions.

Secondly, interactivity and engagement are found to be key components of effective leadership development programs since they are oriented towards creation of a dynamic educational environment that enhances the learning experience and facilitates skill development (Yu et al., 2022). The respondents' responses coincide with this fact and insist that an effective approach usually suggests using group activities and projects that require collaboration. According to Montero-Mesa et al. (2023), interactive tools and technologies, such as online forums, virtual reality simulations, and gamification are used to enhance the engagement and interactivity of academic and pedagogical staff. Therefore, the survey showed that both interactivity and engagement foster a deeper understanding of leadership

principles and encourage academic and pedagogical staff to explore different perspectives and solutions.

Thirdly, remote working mode has become increasingly common in many industries, including leadership development (Baxter & Hainey, 2023). The recent findings prove that remote learning offers more flexibility options (Bieliaieva et al., 2023) because educators can complete coursework at their own pace and on their own schedule. At the same time, the survey showed that leadership development programs can be conducted virtually, using video conferencing and online collaboration tools to deliver workshops, training sessions, and formal training to remote participants. The respondents answered that team-building activities can be adapted for remote teams, using virtual team-building exercises, games, and challenges to foster collaboration among academic and pedagogical staff learning remotely. It was found that remote work allows the creation of more flexible schedules and makes learning accessible. The academic and pedagogical staff admit that these qualities are very useful since they can plan their learning activities at their own pace. Despite some challenges such as technology barriers, learning effectiveness, and objectivity of assessment, remote work mode enhances the educational process and positively affects the formation of leadership qualities among academic and pedagogical staff.

Fourthly, the integration of digital technologies in leadership development has transformed the educational process significantly (Maltsev et al., 2022). Mainly, digital platforms offer various multimedia content, quizzes, and assessments and, therefore, reinforce learning and measure progress. Currently, according to respondents' answers, AI, Virtual Reality, and Augmented Reality are used extensively providing immersive learning experiences and contributing to the formation of practical skills in a realistic virtual environment. Other digital technologies include mobile apps, social media and online communities, gamification, and data analytics. Additionally, the participants admitted that video conferencing enabled real-time interactions between facilitators and trainees. Therefore, the integration of digital technologies increases the efficiency of leadership development among academic and pedagogical staff and helps form long-term leadership skills.

Fifthly, identifying leadership qualities and assessment of skills gaps involves the analysis of the strengths of academic and pedagogical staff and the areas for further improvement. Leadership qualities are assessed using various assessment tools, such as personality assessments, emotional intelligence assessments, and leadership competence assessments (Borysova et al., 2023; Letuma et al., 2023). The analysis of skills gaps involves comparing an individual's current skills with the skills and competences required for their current or future leadership roles. According to the survey outcomes, leadership qualities include self-awareness, effective communication, decision-making, adaptability, empathy, and innovation. By identifying leadership qualities and assessing skills gaps, academic and pedagogical staff can develop targeted development plans to enhance their leadership skills and become more effective in their roles.

Sixthly, the development of specific leadership qualities involves focusing on the skills and attributes that are essential for effective leadership within the educational process. It was found that academic and pedagogical staff require effective communication, a high level of emotional intelligence, decision-making, adaptability, resilience, strategic thinking, and

collaboration. The academic and pedagogical staff pay special attention to the development of leadership qualities necessary during a crisis or in a changing situation.

Seventhly, participants' individual needs and preferences must be considered to understand the specific leadership challenges and educational needs of each participant. It was found that tailoring leadership development programs to meet the specific needs and preferences of participants enhances the educational process, increases motivation, and makes leadership development sustainable procedure leading to long-term effects. Besides, according to Mötteli et al. (2023), when participants' individual needs and preferences are considered, it is possible to elaborate individual learning paths for academic and pedagogical staff and value the diversity of participants. The participants agree that academic and pedagogical staff must work with mentors or coaches to create personalized learning plans that outline their learning goals, objectives, and strategies for achieving them. Of course, these plans must take into account the educators' current skills, knowledge, and experience, as well as their career aspirations and potential areas for improvement.

This suggests the development of the practical implication of the research results for, senior instructors, educational administrators, and policy-makers on the development of leadership qualities among academic and pedagogical staff. They refer to the following:

- 1) Establishment of leadership development and professional development program focusing on developing specific leadership competencies identified as essential for the improvement of students' educational outcomes and effective management of the educational process;
- 2) Design of initiatives for the improvement of institutions of higher education integrated with annual plans to enhance leadership competencies and improve institution performance;
- 3) Develop the relevant educational policy at the local, regional, and national levels. Policymakers are obliged to use research findings to develop policies that support the development of effective educational leaders and promote positive educational processes;
- 4) Selection and evaluation of leaders among academic and pedagogical staff that includes identification of candidates with the qualities necessary for effective leadership and to evaluate the effectiveness of current leaders;
- 5) Establishment of organizational culture at the institution of higher education to create a positive and supportive environment that fosters collaboration, innovation, and continuous improvement.

Therefore, the study has practical implications for improving educational practice, enhancing institution performance, and promoting a positive educational process. When the results of this research are used, senior instructors, educational administrators, and policy-makers can work together to create a more effective and supportive educational environment at the institution of higher education.

Conclusion

Leadership is defined as an essential condition for organizational effectiveness and it is an integral characteristic within the complex environment of higher education since it shapes the culture, operations, and outcomes of educational institutions. At the same time, the process of leadership development among academic and pedagogical staff is facing a rapidly changing landscape. Management will need to adopt new technologies and strategies to remain competitive and efficient. Therefore, leadership competence is considered an essential attribute for academic and pedagogical staff. The findings prove that leadership qualities such

as vision, inspiration, and motivation are essential for fostering a positive learning environment and encouraging students' success. Leadership competence is defined as a combination of specific knowledge, skills, and abilities required to perform effectively in a leadership position. Leadership competence involves communication, teamwork, and conflict-resolution skills. Moreover, academic and pedagogical staff are tasked with developing and implementing innovative teaching methods, curriculum enhancements, and educational programs. The recent findings show the importance of leadership qualities for academic and pedagogical staff and the role of effective management in advancing the field of education for building sustainable educational processes and promoting students' success.

During the research, it was found that the leadership competence of academic and pedagogical staff consists of four blocks. They are the following: collaboration (teamwork, communication skills and using professional discourse properly, flexibility); professional expertise (pedagogical skills, subject knowledge, and innovation readiness); individual psychological qualities (creativity, adaptability, responsibility, trust, self-confidence, resilience, and emotional intelligence); context (situational awareness, cultural sensitivity, and response to crisis or changing situation). At the same time, the findings demonstrated that leadership during a crisis or changing situation must include the following qualities: collaboration (teamwork, effective communication, negotiation skills, flexibility, integrity); professional expertise (pedagogical skills, subject knowledge, innovativeness, strategic thinking, and ability to identify and mobilize the existing resources); individual psychological qualities (adaptability, responsibility, resilience, decision-making, empathy, calmness under pressure); context (cultural sensitivity and response to crisis or changing situation).

Leadership development is positive and desirable for all employees, contributing to the progress of an organization. According to recent findings, the development of leadership qualities leads to the success of an organization and strong leaders inspire employees, foster innovations, and help a team stay competitive in a rapidly evolving environment. Leadership development in education refers to the process of preparing and supporting academic and pedagogical staff to take on leadership roles and responsibilities within the educational environment. It was found that within the educational institution, leadership may be instructional (promoting effective teaching practices, supporting teachers' development); organizational (leading the educational organization or department through strategic planning, budgeting, personnel management, and creating a positive professional culture); and collaborative (building relationships, facilitating meetings, and resolving conflicts). Leadership development in education is implemented by means of many approaches, including formal training, workshops, mentoring, coaching, action learning, and peer learning.

The survey showed that the efficiency of the development of leadership qualities among academic and pedagogical staff depends on the selection of a relevant approach. The implementation of educational interventions to counteract the existing challenges contributes to identifying the gaps in current leadership development programs or practices, highlighting areas for improvement. The participants' responses enabled us to outline the educational interventions to counteract the existing challenges. They include the following: practice-oriented program, interactivity and engagement, possibility to work remotely, integration of digital technologies, identifying leadership qualities and assessment of skills gaps,

development of specific leadership qualities, selection of relevant approach depending on individual participants' needs and preferences.

The research findings may be used at educational institutions to enhance the leadership competence of academic and pedagogical staff. Also, the findings may improve the curriculum of training future educational managers and advanced training for instructors teaching managerial subjects.

Simultaneously, the research concerns certain limitations. Firstly, they deal with the fact that leadership in education is complex and involves a wide range of skills, behaviors, and contexts. This complexity makes the study challenging when it is required to measure the effectiveness of leadership development programs. Secondly, assessing leadership qualities among academic and pedagogical staff can be subjective since the understanding of leadership effectiveness varies among team members, students, and external stakeholders.

Further research in the field of the development of leadership qualities among academic and pedagogical staff can focus on several key areas to deepen the understanding of the problem. Mainly, it is necessary to study the long-term effect of the development of leadership qualities among academic and pedagogical staff to identify the factors that contribute to effective organizational management of the institution of higher education. Also, it is necessary to conduct comparative studies in the field to analyze different approaches to leadership development and to determine which are most effective in enhancing leadership qualities among academic and pedagogical staff. This can include comparing different training programs, mentoring approaches, or leadership models. Besides, considering the role of technology and digitalization in education, it is required to examine how innovative technologies can be used to enhance the development of leadership qualities among academic and pedagogical staff. Such research must include using online platforms for training and professional development, as well as incorporating technology into leadership practices at the institution of higher education.

Declarations

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Disclosure Statement

No potential conflict of interest was reported by the authors.

Ethics Approval

The research was conducted in accordance with the ethical guidelines adopted for the educational surveys and designed to ensure that the researchers respected the rights and well-being of all the participants, developed the integrity of the research process, and maintained the credibility of the research findings. The personal participants' information was protected as it was stored securely and showed that individual respondents couldn't be identified in any reports or publications.

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