Diversitas Journal
ISSN 2525-5215
Volume 9, Issue 3 (jul./sep. 2024) p.1278 – 1295
https://diversitasjournal.com.br/diversitas_journal

Application of Distance Learning Technologies for the Development of Managerial Competence in Future Officers

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ABSTRACT

This article explores the application of distance learning technologies in enhancing the development of managerial competence among future officers. The study delves into the pedagogical conditions necessary for leveraging distance learning tools effectively within the educational process of higher military educational institutions. Through a pedagogical experiment, the levels of managerial competence were assessed in a Control Group (CG) and an Experimental Group (EG) before and after the implementation of distance learning methods. Results indicate a notable improvement in the managerial competence of future officers in the EG, highlighting the efficacy of utilizing distance learning technologies for competency enhancement in military education. The findings underscore the importance of integrating innovative educational approaches to foster essential managerial skills in future military leaders.

ARTICLE INFORMATION

Article process:
Submitted: 05/23/2024
Approved:07/22/2024
Published:07/25/2024

Keywords:
Distance Learning Technologies, Managerial Competence, Future Officers, Pedagogical Experiment, Military Education

RESUMO

Este artigo explora a aplicação de tecnologias de ensino à distância para melhorar o desenvolvimento de competências gerenciais entre futuros oficiais. O estudo aprofunda as condições pedagógicas necessárias para potencializar efetivamente as ferramentas de ensino a distância no processo educacional das instituições de ensino superior militar. Por meio de um experimento pedagógico, foram avaliados os níveis de competência gerencial em um Grupo Controle (GC) e um Grupo Experimental (GE) antes e depois da implementação de métodos de ensino a distância. Os resultados indicam uma melhoria notável na competência gerencial dos futuros oficiais do GE, destacando a eficácia da utilização de tecnologias de ensino à distância para o aprimoramento de competências na educação militar. As conclusões sublinham a importância da integração de abordagens educativas inovadoras para promover competências de gestão essenciais em futuros líderes militares.

Keywords:
Tecnologias de Ensino a Distância, Competência Gerencial, Futuros Oficiais, Experiência Pedagógica, Ensino Militar

DOI: 10.48017/dj.v9i3.3051

Introduction

The rapid pace of modern social, information, technological, and economic development necessitates reforms in the military and law enforcement agencies of Ukraine to align with European and NATO standards, incorporating modern management approaches. A prevailing trend in the military realm is the shift from traditional management models towards integrating innovative management practices to enhance operational efficiency. Alongside advancements in military equipment and weaponry, the focus of managerial activities is transitioning towards the information and communication sphere.

These transformations impact the professional training system of future officers, necessitating a reassessment of instructional methods and the consolidation of knowledge systems (Sheringham, 2022). By integrating concepts, principles, and laws, cadets develop a scientific worldview, serving as the cornerstone of military education. Contemporary graduates of higher military educational institutions should possess the ability to apply theoretical knowledge practically, analyze, systematize, experiment with a creative approach, utilize cutting-edge technologies to model and resolve professional challenges (Nevzorov, 2024). The concept of educating future officers in higher military educational institutions through distance learning technologies aligns with these objectives. Hence, it is pertinent to examine the utilization of distance learning technologies in the education of future officers in higher military educational institutions.

The purpose of the article is to substantiate and experimentally test the effectiveness of pedagogical conditions for utilizing distance learning technologies in shaping managerial competence among future officers.

To achieve this goal, the following tasks were addressed:

- Clarification of the concept of "management competence of future officers," refining its essence and structure;
- Analysis of the concept of distance learning technologies and their potential applicability to the professional development of future officers;
- Examination of the justification and efficacy of incorporating distance learning technologies in the educational process of a higher military educational institution to foster the development of managerial competence among future officers.

Theoretical Framework

The exploration of contemporary requirements for the managerial competence of future officers has necessitated an examination of the scientific and pedagogical literature on competence (Tardif et al., 1992; Stoof et al., 2003; Gilbert, 2007; Kleimola & Leppisaari, 2022),

professional competence, and the aptitude of prospective professionals in carrying out managerial activities within units (Ferreras-Garcia et al., 2021; Ten Cate & Schumacher, 2022). J. Tardif delineates the concept of "competence" as a foundational accumulation of professional knowledge and skills essential for ensuring labor competitiveness, categorizing them into frameworks (Tardif et al., 1992, p.14-19). A. Stoof introduced a marginal perspective on competencies (Stoof et al., 2003, p. 345-365), suggesting that the definition and delineation of the concept of "competence" should stem from the collective social group it serves to meet its needs. The group members autonomously ascertain and potentially supplement its essence and content. Gilbert (2007) defines "competence" as a structured amalgamation of knowledge, skills, actions, and behaviors aligned with specific objectives and contexts, portraying competence as the relationship between work productivity and the resources expended on its execution (p. 112-116).

From the perspective of personality development psychology, Raven (2002) extensively studied the issue of professional competence, contending that thorough knowledge, motivational values, and individual responsibility govern the foundation of competence, culminating in the capacity to perform activities proficiently (p. 28-32). According to Stek & Schiele (2021) the acquisition of specific qualities (competencies) is essential to attain competence. Goleman et al. (2019) elaborated on emotional competence as the transformative journey of an individual from "my authentic self" to "my aspirational self" through learning processes (p. 126-129).

The literature analysis reveals the keen interest of scholars and practitioners in various facets of the distance education (Polianovskyi et al., 2021; Keegan, 1995; Whiteside et al., 2023; Valentine, 2002; Kruszewska et al., 2022). In this regard, the definition provided by Keegan (1995) regarding distance education is pertinent to our study, elucidating it as an educational mode that liberates students from the constraints of traveling to a fixed location at a designated time to engage with a specific instructor due to the technological partition separating teacher and student. The physical separation of teacher and student, not bound by a specific timeframe, characterizes distance education (Polianovskyi et al., 2021; Evans & Jakupe, 2023).

The utilization of distance learning in providing quality education, as evidenced by the Australian model, offers insight into extending educational opportunities to diverse societal strata (Valentine, 2002), with universities employing videoconferencing to reach remote and international populations (Harrison et al., 2022). Comparable instances exist in the distance learning practices of universities in the UK (Gros & García-Peñalvo, 2023), USA (Greenhow et al., 2022), and Norway (Hueske et al., 2022), spanning both public and private sectors. Nevertheless, despite these endeavors, the scholarly discourse on the integration of distance learning technologies within higher military education institutions, particularly in shaping the

managerial competence of future officers across various instructional contexts, remains inadequately addressed.

Specific Description of Future Managers

In the context of military and organizational leadership, future managers refer to individuals training to assume managerial roles within military institutions, defense organizations, and related sectors. These future officers are expected to exhibit a unique blend of competencies that are critical for effective leadership in environments characterized by rapid technological advancements, dynamic challenges, and complex operational scenarios. The following attributes and responsibilities delineate the profile of these future managers (Table 1).

Table 1.

Description of Potential Future Managers: Detailed Overview

Profile	Characterization
Strategic Thinking and Decision-Making	Future officers must develop strong strategic thinking skills that enable them to analyze situations comprehensively and make informed decisions. Distance learning technologies can provide simulated environments where these skills are practiced, allowing officers to assess outcomes of various strategic approaches in real-time.
Communication and Interpersonal Skills	Effective communication is vital for future managers as they will lead teams, coordinate missions, and engage with stakeholders. Training programs will focus on using digital platforms to enhance their verbal and written communication skills, alongside active listening and interpersonal interaction, fostering collaboration in diverse teams.
Adaptability and Resilience	Future officers should cultivate the ability to adapt to changing circumstances and overcome obstacles. Distance learning technologies, including simulations that replicate crisis situations, can be employed to develop these traits, helping future managers to maintain composure and effectiveness under pressure.
Cultural Competence and Ethical Leadership	Managers must demonstrate cultural sensitivity and ethical judgment, especially in international contexts. Online courses covering global affairs, ethics in leadership, and cultural dynamics prepare future officers to navigate the complexities of working within multinational teams and ensuring fair treatment in all decision-making processes.
Technological Proficiency	As information and communication technologies play an essential role in modern management, future officers need to be tech-savvy. Training will incorporate the latest digital tools and software relevant to military operations, data management, and decision-support systems, ensuring future managers are equipped to leverage technology effectively.

Project Management and Operational Planning	Future managers must possess project management skills to oversee operations, allocate resources, and ensure timely execution of tasks. Distance learning technologies can facilitate this with courses and modules focused on project management methodologies, enabling future officers to apply theoretical concepts in practical scenarios
Collaboration and Team Development	In military settings, the ability to foster teamwork and develop other personnel is crucial. Future officers will learn how to utilize digital collaboration tools that facilitate teamwork and enhance team dynamics, promoting a culture of inclusiveness and shared goals.
Data-Driven Decision Making	With the increasing reliance on data analytics in management, future officers should be trained to interpret data effectively, employ analytics for decision-making, and understand statistical principles that guide their managerial choices.

By utilizing distance learning technologies, this training program aims to develop these essential managerial competencies in future officers, ensuring they are well-prepared to navigate the complexities of modern military operations and lead with confidence and agility in diverse environments. The integration of these competencies into the educational framework not only enhances individual potential but also strengthens the overall effectiveness and readiness of military organizations in an increasingly digital and interconnected world.

Summary of the Main Research Material

In examining the phenomenon of "managerial competence of future officers," a historical analysis was employed to trace the origins of managerial theory and scientific thought. Management, deemed a social phenomenon by scholars as Kravchenko (2012) and Brethower et al. (2022), is posited as one of the fundamental realms of human practice that evolved in tandem with human civilization. This domain underwent a complex and protracted developmental trajectory before being formalized into a scientific discipline and profession.

Within the current landscape of management practices, the United States is often acknowledged as the birthplace of management knowledge (Daud & Uwe, 2016; Steers et al., 2023). This assertion is corroborated by the substantial support provided by the US government towards the advancement of management education, resulting in the cultivation of a substantial cadre of high-caliber management professionals. Additionally, the proliferation of business enterprises in the United States necessitated a corresponding demand for skilled specialists, underpinning the claim that American business practices form the foundation of management theory (Best, 2001).

Several prominent schools have emerged within the field of management science, encompassing classical management, administrative-functional approaches, the human

relations school, social systems management, behavioral science perspectives, and newer paradigms such as strategic management, project management, and time management (Haievskyi, 1997; Kulalaieva et al., 2020).

Management theory is commonly categorized into two major groups: synthetic and one-dimensional theories. Whereas one-dimensional theories focus on dissecting individual professional processes, individuals, and administrative functions (Shenhar & Dvir, 2004), synthetic theories adopt a multidimensional lens to comprehend management as a multifaceted and dynamic phenomenon interlinked with the internal and external environment of organizations. Within the context of cultivating managerial competence among future officers, the theories within the one-dimensional group that account for the intricacies of military activities hold particular relevance.

The managerial competence of future officers is characterized by their capacity to orchestrate the activities of subordinate personnel, exert influence within the unit, foster initiative, and promote self-development, among other competencies.

The managerial endeavors of an officer are delineated by the specific responsibilities and execution of professional functions. Legislative documents delineating the specifics of service mandate and regulate the operational framework of management activities. Hence, the managerial competence of a unit commander encompasses the adeptness to organize military and professional undertakings within the unit, sustain operational readiness, and proficiently manage resources in executing designated tasks (Prydatko & Renkas, 2009, p. 2-3).

The nature of functions discharged by an officer (whether as the unit head or deputy) shapes the modality of managing the unit. Core to managing units is ensuring perpetual combat readiness during training and operational deployments.

Project management is a form of managerial activity that has emerged as a response to the imperative of achieving superior management outcomes and delivering high-quality services. The evolution of project management signifies the adaptation of business practices within the military domain. In 1937, the American scholar A. Gulick made the initial endeavor to establish a matrix structure for the management process and execute multifaceted managerial functions (Standish Group, 2015). However, the practical application of this approach came to fruition in 1953 in the United States. The US Air Force established the Office of Joint Projects, dedicated to the development of specialized weapons projects. Subsequently, a similar office was instituted within the US Navy (Brassey & De Smet, 2023). Centralizing management and allocating resources strategically have become crucial aspects. Techniques such as change management, quality risk analysis, risk management, and information technology have now become standard practices.

The analysis of sources reveals that over recent decades, new management frameworks have emerged, accompanied by the introduction of software products for project management. Project management has extended its scope to encompass communication strategies, incorporating various innovations such as the "critical path," "cascade," and "spiral" systems (Project Management Institute (PMI), 2017). The integration of distance learning technology represents one such innovative platform.

Moore & Kearsley (1996) were among the pioneers in developing the concept of self-directed learning. According to their theory, the learner occupies the central role in the educational process, exercising independence by setting their own learning pace and assuming responsibility for customizing their curriculum autonomously. Contrary to traditional educational paradigms, the teacher assumes a supportive rather than primary role in the learning process (Moore & Kearsley, 1996).

It is noteworthy that Ukrainian military education is progressing towards alignment with NATO standards. The broader education system in Ukraine is undergoing rapid reforms to adhere to the principles of educational diversity and integrate with the European and global educational milieu. In addition to formal education, informal learning, particularly self-education, plays a significant role in fostering independent professional development among students, including those in higher military education where distance learning has gained prominence.

Today, distance learning stands out as a prevalent form of lifelong education. Emphasizing the ethos of "Education is not for life, but through life," the United Nations underscores the significance of establishing a continuum of learning opportunities as a prerequisite for social integration and the equitable advancement of all individuals in society (Vashchuk, 2011). The information revolution has ushered in advanced technologies that have revolutionized educational systems, introducing computer-based learning programs, telecommunication networks, multimedia resources, and more. The shift from direct to indirect communication in various spheres has propelled the widespread adoption of distance education globally, including in Ukraine. At the UNESCO Congress in 1999, the merits of distance learning technologies were highlighted, including their openness, continuity, cost-effectiveness, accessibility, flexibility, mass participation, mobility, and the capacity for learning unbound by geographical constraints or temporal limitations.

Distance learning offers numerous significant advantages, including targeting individuals genuinely motivated to acquire knowledge, the flexibility to choose a convenient time and location for study, substantial reduction in financial expenses, modular learning materials, access for individuals frequently on extended business trips, structured learning for improved comprehension, and absence of academic pressure. An essential advantage of

distance education is its unmatched speed in updating knowledge compared to traditional forms of education. This is achieved through the utilization of information resources sourced from global electronic information networks (Islamova et al., 2021). The distance learning format transcends geographical and administrative boundaries, enabling an almost boundless expansion of the educational population. It facilitates access to quality education for a diverse range of individuals, encompassing the disabled, frequent travelers, military personnel, and others. Distance education affords learners the freedom to select an educational path that suits their needs.

A comprehensive examination of global trends in modern distance learning technologies reveals that, as per Phil Hill's report analyzing the learning management market in higher education institutions in the United States and Canada, four leading distance learning platforms (Canvas, Blackboard, Brightspace, and Moodle) dominate the market, collectively holding 80-95% of the total market share in recent years. Despite the prevalence of commercial platforms, several platforms remain accessible to all users (e.g., Moodle, Sakai, Canvas) (Polianovskyi et al., 2021, p. 604).

Challenges associated with distance learning include the absence of immediate accountability, with successful outcomes reliant on student independence and motivation, given the limited oversight. Authentication poses a key issue in assessment within the realm of distance learning. Moreover, Serbian researchers have raised concerns regarding the insufficient development of communication skills in distance learning compared to traditional education methods (Pardanjac et al., 2009).

Considering the distinctive characteristics of managerial competence and contemporary demands for the professional development of future officers, particularly the ability for future officers to engage in dialogue with one another despite temporal or spatial separation from their instructors thanks to modern computer technologies, the rationale for implementing distance learning technologies for shaping the managerial competence of future officers is underscored.

The preliminary findings of the experimental phase highlighted that the majority of participants displayed varying levels of competence formation—ranging from average to satisfactory to low—across multiple criteria, including communicative, pragmatic, and innovative competencies.

To ensure the effective formation of managerial competence in future officers using distance learning technologies, it is imperative to define and substantiate the pedagogical conditions required in the educational process of a higher military educational institution. A quantitative analysis of the results from the initial stage highlights the deficiencies in the utilization of distance learning technologies for developing the managerial competence of

future officers. These shortcomings must be addressed as a considerable number of future officers have yet to cultivate the essential managerial skills necessary for proficiently tackling professional tasks.

Drawing on the theoretical underpinnings of managerial competence development in future officers, the focus of training should emphasize enhancing and refining the educational process. This entails considering insights gleaned from interviews conducted with cadets and officers from higher military educational institutions involved in the study. Based on this foundation, pedagogical conditions for implementing distance learning technologies to foster managerial competence in future officers have been delineated.

The effectiveness of cultivating managerial competence in future officers through distance learning technologies hinges on the introduction of the following pedagogical conditions:

- Development of specialized programs and design of distance learning courses tailored to future officers in higher military educational institutions, aligning with managerial tasks.
- Cultivation of critical thinking skills among future officers to address military challenges through distance learning platforms.
- Methodological support for interdisciplinary integration through the implementation of distance learning courses aimed at enhancing managerial competence.
- Preparedness of academic staff to cultivate managerial competence in future officers via distance learning technologies.

The formative phase of the pedagogical experiment was conducted in the same educational institution where the initial assessment took place, incorporating specific pedagogical conditions. At the outset of the experiment, the digital indicators of managerial competence among future officers, divided into Control Group (CG) and Experimental Group (EG), were almost identical. Specialized distance learning programs were formulated for future officers, considering managerial tasks; proprietary materials for a practical course focusing on situational professionally oriented tasks, titled "Training for Managerial Competence Formation in Future Officers," were curated to enhance cadets' critical thinking abilities. Interdisciplinary methodological support was developed, facilitating the application of theoretical knowledge to tackle situational tasks and fostering innovative problem-solving skills. Methodological initiatives, such as scientific conferences, seminars, and demonstration classes on distance learning technologies, were conducted in collaboration with academic staff.

Methodological guidelines for employing distance learning techniques with future officers were devised, alongside organizing distance research activities with cadets.

The developed distance learning tasks were designed to enhance all facets of managerial competence among future officers. Strategies such as situational analysis, time management techniques, and interactive methodologies were utilized to motivate cadets, encouraging the application of their professional knowledge and skills to address practical challenges within simulated professional scenarios, thereby fostering the acquisition of managerial expertise by future officers.

After completing the formative stage of the pedagogical experiment, the levels of managerial competence among future officers in the Control Group (CG) and Experimental Group (EG) were reassessed (Table 2).

Table 2. *Future officers' dynamics of managerial competence formedness before and after the experiment using distance learning technologies (in %)*

Levels	**Criteria**	**EG**		**CG**	
		At the beginning	***At the end***	***At the beginning***	***At the end***
High	Communication	1,10	6.94	1,10	1.63
Average		5.29	64,25	6.55	6.51
Low		93.61	28.81	92.35	91.86
High	Pragmatic	14.52	12.84	11.81	11.38
Average		45.74	37.63	44.71	41.33
Low		49.74	49.53	43.48	47.29
High	Innovative	2.34	8.72	1.92	2.13
Average		93.38	87.62	93.89	93.28
Low		4.28	3.66	4.19	4.59
High	$K_{\text{managerial competence}}$	4.32	9.50	4.95	5.05
Average		48.47	63.17	48.38	48.34
Low		47.21	27.33	46.67	46.61

The results revealed that in the EG, following the formative stage of the experiment, there was a 4.45% increase in cadets exhibiting a high level of managerial competence, with 63.17% showing an average level compared to 47.71% in the CG. Conversely, only 27.33% of subjects in the EG displayed a low level of competence, whereas in the CG, this figure was 46.61%. The statistical significance of the changes in the levels of managerial competence among future officers, as influenced by the use of distance learning technologies in a higher military educational institution, was confirmed through appropriate statistical analysis of the data. The comparison of managerial competence formation data between the EG and CG cadets using the Student's criterion indicated statistically significant differences in distributions by

KSTEM levels since |t_statistical| ≥ t_critical two-sided (9.91 ≥ 1.97) at a significance level of p = 0.05.

Discussion

The findings of the study on the dynamics of managerial competence among future officers highlight the profound impact of implementing distance learning technologies in higher military educational institutions. The results demonstrate that these innovative educational methods significantly enhance the development of essential managerial skills, an important consideration for preparing future leaders who will operate effectively in complex and rapidly changing environments. The outcomes confirm a significant increase in the level of managerial competence of experimental group students after implementing remote educational technologies. In cadets with a high level of managerial competence, the percentage highly decreased in the average category and increased when compared to pre-intervention. By contrast, the control group showed only slight improvement from the previous report, in which the distance learning strategy successfully bridged the skills gap in EG conducted above.

These enhancements can be attributed to the structured and interactive nature of distance learning, enabling cadets to engage actively with the material. The availability of resources and opportunities for collaboration inherently promotes a deeper understanding of managerial concepts, fostering an environment conducive to skill development.

The study's statistical analysis further corroborates the effectiveness of these learning methodologies, as evidenced by the significant differences noted in the levels of managerial competence according to the Student's t-test. The calculated t-statistical value of 9.91 exceeding the critical value of 1.97 demonstrates a robust impact from the intervention, affirming that the improvements observed were not due to random chance but rather the result of the methodological enhancements introduced in the training regimen. This study is unique for some special reasons, and findings related to novelty are included. Thus, this research presents a successful model of the integrative use of distance learning in military training, focused on forming governmental skills intended for implementation in modern digital conditions. The analysis presents a categorized list of competencies that covers communication, pragmatism, and innovation and proposes an ideal holistic competency framework for effective management, which could be used as guidelines to develop training programs in the future. Regarding research-based insights, the article makes evidence that there exists an association between distance learning technologies and enhanced educational results, further extending a body of literature invested in new methods for higher education teaching.

The findings in an explicit military education context adds insights into how divergent educational practices can be adapted elsewhere within this specific terrain. Hence, in the realm of higher education, for instance, faculties can embrace the structured integration of digital platforms similar to those used in military training. Such platforms facilitate interactive learning and promote active engagement among students, enabling them to grasp complex concepts more effectively. This proactive approach can be applied to fields such as healthcare, engineering, or business, where the need for skilled professionals who can adapt to rapid technological advancements is critical. Moreover, the emphasis on practical application and real-world scenarios within military education serves as an excellent model for other disciplines. Educators in various sectors can cultivate simulations, case studies, and project-based learning methodologies that mimic the immersive experiences offered in military training. By focusing on experiential learning, educators can enhance student understanding and retention of essential skills, making graduates better prepared for the challenges of their respective fields.

The adaptability of collaborative learning practices, often seen in military environments, can also be beneficial elsewhere. Encouraging teamwork and cross-disciplinary collaboration fosters a culture where diverse perspectives are valued, and innovative solutions can be developed. This approach, when applied in fields such as public health education, can enrich the learning experience and improve community impact, offering stakeholders an optimistic view of the potential improvements in learning outcomes.

The rigorous assessment frameworks used in military training to evaluate competency and performance are of paramount importance. These frameworks can inform assessment practices in other fields, reassuring educators and professionals about the quality of education. By adopting similar metrics, educational institutions can ensure that students not only understand theoretical concepts but can also apply them in practical scenarios, thereby enhancing the overall quality of education and preparing them for successful careers.

To effectively digitize education and ensure that future officers are prepared for digital distance learning technologies and capable of adapting to complex conditions, a multifaceted approach is essential. Let us discuss key elements necessary for this transformation. Here, establishing robust digital infrastructure is paramount. This includes reliable internet access, advanced technological hardware (such as computers and tablets), and appropriate software platforms that facilitate distance learning. Ensuring that all educational institutions have the necessary technological support is fundamental to providing a seamless online learning experience. The curriculum must be revised to integrate digital learning technologies and methods relevant to military training. This involves incorporating modules that address digital literacy, online collaboration tools, and specific applications related to military operations and

management. Such integration ensures that cadets engage with the content meaningfully and gain the competencies needed for modern warfare and management.

Teachers and instructors require comprehensive training on how to utilize digital learning tools effectively. Professional development programs should equip them with the skills to design interactive and engaging online learning experiences, use multimedia resources, and assess student performance in virtual environments. Continuous training is essential for educators to stay updated with evolving technologies. The implementation of adaptive learning technologies that personalize the educational experience based on each officer's learning pace and style can significantly enhance readiness. Such technologies can provide tailored resources and assessments that cater to individual needs, ensuring that all learners are adequately prepared for future challenges. Incorporating realistic simulations and scenario-based learning into the digital training programs allows future officers to practice decision-making and problem-solving in high-stress environments. Virtual reality (VR) and augmented reality (AR) tools can create immersive experiences replicating real-world military situations, enhancing practical training.

Establishing effective assessment frameworks that measure readiness and competencies in digital environments is crucial. Incorporating formative assessments and real-time feedback mechanisms enables educators to track progress and provide assistance where necessary. This data-driven approach helps identify areas for improvement and ensure that officers are adequately prepared.

Engaging with military stakeholders, technology providers, and educational institutions ensures a comprehensive approach to digitization. Collaborations can yield valuable insights into future officers' specific needs and enhance the training programs' relevance. Partnerships can also foster innovation by bringing together expertise in both education and technology. In addition to technical competencies, training programs should emphasize the development of essential soft skills such as communication, teamwork, and adaptability. As military operations increasingly depend on collaborative efforts and rapid responses to changing scenarios, equipping future officers with these skills through digital learning is vital. Ongoing research into the effectiveness of digital training methods should be a priority. Gathering data on user experiences, learning outcomes, and the impact of technology integration may guide continuous improvements. Evidence-based practices can enhance the quality of digital education programs, making them more effective in preparing officers for complex realities.

Through the systematic addressing of these critical components, educational institutions can effectively implement digital transformation in their offerings, thus enhancing the preparation of future officers for the rigors of digital distance learning. This approach also

cultivates their capacity to adapt to the ever-evolving landscape of military operations and management. The implementation of this comprehensive strategy will not only augment the capabilities of individual officers but also fortify the overall efficacy of military training programs in an increasingly digitalized environment. This is how the results provide a modern answer about what is needed for digitization in education to explore future officers' readiness for digital distance learning technologies and adaptation to complicated conditions by soldiers and managers.

This study has broader implications than just theoretical leveling. They present realistic options for academic decision-makers and military educational facilities to revolutionize their training programs by incorporating distance learning techniques that leverage technology in an effort to greatly improve the skill set of future professionals. Military educational institutions stand to provide better training by embracing these findings, leading eventually to graduates who are more capable of dealing with real-world problems.

Future research will be exploring the long-term effects of distance learning technologies on the retention and application of managerial skills among graduates. Examinations in a more diverse set of military educational institutions can offer additional guidance regarding best practices, as new studies might be done using even newer technological tools, including artificial intelligence and machine learning, to add insight into how future efforts must look. In conclusion, this study not only confirms distance learning technologies as facilitators of managerial competency mastery, but it is also a major contribution to the discussion on military training reform nonetheless and represents a milestone in respect for future innovations with regard to teaching and learning.

Conclusion

Distance learning technologies not only serve to modernize the educational process but also facilitate data collection, analysis, experimentation, and foster creativity in solving military managerial tasks. These technologies offer favorable conditions for developing managerial competence in future officers, immersing them in environments akin to real professional circumstances. The practical component inherent in the utilization of distance learning technologies serves as a catalyst in enhancing cadets' motivation and interest in developing managerial competence.

While this research provides valuable insights, further investigation is warranted to delve into the methods and techniques of utilizing distance learning technologies to enhance managerial competence in future officers, customizing approaches based on academic disciplines, year of training, and considering age and gender considerations.

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