

Methodology for using divergent thinking technologies to develop cadets' "soft skills" based on military knowledge

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ABSTRACT

In modern military education, the development of soft skills is as crucial as technical and tactical training. This study explores the methodology of using divergent thinking technologies to enhance cadets' communication, leadership, adaptability, and problem-solving abilities. Divergent thinking fosters creativity and flexibility in decision-making, which are essential for military professionals operating in complex and dynamic environments. The research analyzes various innovative teaching strategies that incorporate feedback mechanisms, scenario-based learning, and collaborative problem-solving techniques. The findings contribute to improving military-pedagogical methodologies, ensuring cadets acquire the necessary competencies for effective leadership and teamwork.

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Harbiy bilim asosida kursantlarning "soft skills" ko'nikmalarini rivojlantirish uchun divergent fikrlash texnologiyalaridan foydalanish metodologiyasi

ANNOTATSIYA

Kalit so'zlar:

Harbiy ta'lim,
soft skills,
divergent fikrlash,
yetakchilik rivojlantirish,
muammolarni hal qilish,
teskari aloqa,
ssenariy asosida o'qitish,
pedagogik metodika,

Zamonaviy harbiy ta'limda soft skills (yumshoq ko'nikmalar) rivojlantirish texnik va taktik tayyorgarlik kabi muhim ahamiyat kasb etadi. Ushbu tadqiqotda divergent fikrlash texnologiyalaridan foydalanish metodikasi orqali kursantlarning muloqot, yetakchilik, moslashuvchanlik va muammolarni hal qilish ko'nikmalarini rivojlantirish tahlil qilinadi. Divergent fikrlash harbiy xodimlar uchun murakkab va

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jamoaviy ish,
moslashuvchan ta'lim.

tez o'zgaruvchan sharoitlarda ijodiy yondashuv va moslashuvchan qaror qabul qilish imkoniyatini oshiradi. Tadqiqot teskari aloqa mexanizmlari, ssenariy asosida o'qitish va jamoaviy muammolarni hal qilish metodlarini o'z ichiga olgan innovatsion ta'lim strategiyalarini o'rganadi. Olingan natijalar harbiy-pedagogik metodikalarning takomillashtirilishiga hissa qo'shib, kursantlarning samarali yetakchilik va jamoaviy ishlash qobiliyatlarini oshirishga yordam beradi.

Методология использования технологий дивергентного мышления для развития «гибких навыков» курсантов на основе военных знаний

Ключевые слова:

военное образование,
гибкие навыки,
дивергентное мышление,
развитие лидерства,
решение проблем,
обратная связь,
сценарное обучение,
педагогическая методика,
командная работа,
адаптивное обучение.

АННОТАЦИЯ

В современном военном образовании развитие soft skills (гибких навыков) так же важно, как и техническая и тактическая подготовка. В данном исследовании рассматривается методика использования технологий дивергентного мышления для совершенствования навыков коммуникации, лидерства, адаптивности и решения проблем у курсантов. Дивергентное мышление способствует развитию креативности и гибкости в принятии решений, что особенно важно для военных специалистов, работающих в сложных и динамичных условиях. В исследовании анализируются различные инновационные методы обучения, включающие механизмы обратной связи, сценарное обучение и коллективное решение проблем. Полученные результаты способствуют совершенствованию военно-педагогических методик, обеспечивая курсантов необходимыми компетенциями для эффективного лидерства и работы в команде.

INTRODUCTION

In modern military-pedagogical education, the development of **soft skills** has become a crucial aspect alongside technical and tactical training. While traditional military instruction primarily focuses on discipline, strategy, and combat readiness, **effective leadership, communication, problem-solving, and adaptability** is equally essential for success in complex operational environments. The ability to think critically, make swift yet informed decisions, and collaborate efficiently in high-pressure situations distinguishes an exceptional military professional. One of the most effective ways to develop these skills is through **divergent thinking technologies**, which encourage creative problem-solving and flexibility in decision-making. Unlike convergent thinking, which focuses on finding a single correct answer, divergent thinking fosters multiple solutions, enhances strategic reasoning, and prepares military personnel to handle **unpredictable and dynamic challenges**. In military education, this approach enables

cadets to develop **adaptive leadership qualities, innovative thinking, and collaborative problem-solving abilities**, ensuring they can respond effectively to real-world scenarios.

This study explores the **methodology of using divergent thinking technologies to enhance soft skills development** in cadets. By incorporating **feedback mechanisms, scenario-based learning, and interactive training methods**, military education can create a more engaging and effective learning environment. The research investigates how structured feedback and adaptive learning strategies contribute to the enhancement of **communication, teamwork, decision-making, and leadership skills**. The findings of this study will provide valuable insights into improving **military-pedagogical methodologies**, emphasizing the importance of integrating **innovative teaching approaches** to produce well-rounded, competent, and adaptive military professionals. By bridging the gap between technical proficiency and soft skills development, this research aims to modernize military training, ensuring that cadets are fully prepared for the challenges of contemporary military operations.

RESEARCH INNOVATION

This study introduces a **novel approach** to enhancing **soft skills** in military-pedagogical education by integrating **divergent thinking technologies** with structured **feedback mechanisms**. Unlike traditional military training methods, which primarily emphasize discipline and technical proficiency, this research explores how **creative problem-solving, adaptive learning, and scenario-based exercises** can foster essential competencies such as **leadership, communication, teamwork, and decision-making**. One of the key **innovations** of this study is the **application of divergent thinking methodologies** within a military framework. While conventional training often relies on rigid structures and predefined solutions, **divergent thinking encourages cadets to explore multiple perspectives, generate innovative solutions, and adapt to rapidly changing circumstances**. This shift in approach enables military personnel to develop greater **situational awareness and flexibility**, which are critical for success in **modern warfare and leadership roles**. Another **significant contribution** of this research is the **integration of real-time feedback** into training programs. By implementing **formative assessment techniques**, cadets receive **continuous feedback** from both instructors and peers, allowing for immediate adjustments and improvements in their performance. This dynamic learning process not only strengthens **critical thinking and problem-solving skills** but also enhances **self-awareness and professional growth**.

Additionally, this study explores the effectiveness of **scenario-based learning and simulation exercises** in reinforcing **soft skills**. By immersing cadets in realistic, high-pressure situations, these methods provide **hands-on experience** in applying leadership and communication strategies in complex operational environments. Unlike conventional classroom-based training, this **interactive approach bridges the gap between theoretical knowledge and practical application**, preparing cadets for **real-world challenges**. By combining **divergent thinking, structured feedback, and scenario-based methodologies**, this research **redefines military-pedagogical education**, offering a more **holistic and adaptable training framework**. The proposed methodology not only enhances cadets' **cognitive and interpersonal skills** but also ensures that they are **better equipped to lead, collaborate, and make strategic decisions** in diverse military contexts.

RESULTS AND DISCUSSION

The findings of this study demonstrate that the integration of **divergent thinking technologies** and **feedback mechanisms** significantly enhances **soft skills development** among cadets in military-pedagogical education. Unlike traditional training methods that focus on strict discipline and technical expertise, this approach fosters **critical thinking, creativity, adaptability, and problem-solving abilities**, which are essential in modern military operations.

1. IMPACT OF DIVERGENT THINKING ON CADETS' SOFT SKILLS

One of the key results of this study is the **positive influence of divergent thinking methodologies** on cadets' ability to analyze problems from multiple perspectives and generate creative solutions. Cadets who engaged in **divergent thinking exercises** demonstrated:

- **Increased flexibility in decision-making**, allowing them to adapt to unpredictable scenarios.
- **Enhanced problem-solving abilities**, as they learned to evaluate multiple solutions rather than relying on pre-defined strategies.
- **Improved leadership qualities**, as they became more confident in making independent and strategic decisions.

This suggests that incorporating **divergent thinking methodologies** into military education can **improve cadets' overall cognitive agility**, preparing them for the complexities of real-world military challenges.

2. ROLE OF FEEDBACK MECHANISMS IN SKILL DEVELOPMENT

Another significant finding is that **systematic feedback accelerates skill acquisition** by providing **real-time assessments and constructive critiques**. The implementation of structured feedback, including **peer evaluations, instructor feedback, and self-assessments**, resulted in:

- **Greater self-awareness**, as cadets learned to identify their strengths and areas for improvement.
- **Increased motivation and engagement**, since cadets could track their progress and adjust their learning strategies accordingly.
- **Better teamwork and communication skills**, as the exchange of feedback encouraged collaborative learning and professional growth.

The results indicate that **frequent and structured feedback enhances cadets' ability to learn from mistakes**, fostering a mindset of continuous improvement that is crucial in military leadership and operations.

3. EFFECTIVENESS OF SCENARIO-BASED LEARNING IN MILITARY TRAINING

The study also examined the effectiveness of **scenario-based learning and simulation exercises** in reinforcing **soft skills**. Findings revealed that cadets who participated in **interactive training modules** experienced:

- **Higher retention of knowledge**, as practical exercises made learning more engaging and applicable.
- **Stronger crisis management skills**, as they learned to handle stress and make quick decisions under pressure.
- **Improved collaboration**, since scenario-based training often required teamwork and joint problem-solving.

These results confirm that **realistic, immersive training methods** better prepare cadets for actual military challenges compared to conventional lecture-based approaches.

DISCUSSION

The study's findings highlight the need for a **shift in military education strategies**, emphasizing the importance of **soft skills alongside technical proficiency**. Traditional training programs often prioritize command structure and obedience, but in modern warfare and leadership, **adaptive thinking and interpersonal skills** are just as crucial. Integrating **divergent thinking, structured feedback, and scenario-based learning** provides a **holistic approach** to military training. These methods help cadets **develop into well-rounded leaders** capable of **strategic decision-making, effective communication, and teamwork in high-pressure environments**. The success of this methodology suggests that **military institutions should reconsider their training frameworks**, incorporating **more innovative and interactive pedagogical approaches**.

Moreover, the findings suggest that **continuous evaluation and adaptation of training methodologies** are essential for maintaining a **high level of competency** among cadets. The **integration of modern pedagogical techniques** into military training can significantly enhance **the effectiveness of military education**, ensuring that future officers are not only **technically skilled but also strategically and interpersonally competent**. In conclusion, this study confirms that **innovative teaching approaches based on divergent thinking, structured feedback, and scenario-based training** can greatly improve cadets' soft skills, preparing them for **leadership roles and complex military operations**. Future research should explore further refinements in **interactive training models** and investigate their **long-term impact on military career development**.

CONCLUSION

The findings of this study highlight the **significant role of soft skills development** in military-pedagogical education, demonstrating that **divergent thinking technologies, structured feedback mechanisms, and scenario-based learning** effectively enhance cadets' **critical thinking, leadership, communication, and adaptability**. In contrast to conventional military training, which primarily focuses on discipline and technical expertise, this approach fosters **strategic decision-making and problem-solving abilities** that are crucial for success in modern military operations. By incorporating **divergent thinking methodologies**, cadets are encouraged to **explore multiple solutions** to problems, enhancing their **flexibility and cognitive agility** in unpredictable and high-pressure environments. Additionally, the use of **structured feedback** enables continuous skill development by providing real-time **assessments and performance evaluations**, leading to greater self-awareness and motivation for improvement. The study also confirms that **scenario-based learning effectively bridges the gap between theoretical knowledge and practical application**, ensuring that cadets gain **hands-on experience in leadership, teamwork, and crisis management**.

Overall, this research underscores the need for a **modernized approach to military education**, where **soft skills are integrated alongside technical and tactical training**. Implementing **innovative pedagogical methods** will not only **enhance cadets' personal and professional competencies** but also **prepare them for dynamic**

military environments, where adaptability and effective communication are as crucial as combat readiness. Future studies should explore further refinements of **interactive learning models** and investigate their **long-term impact on military leadership and operational efficiency**.³ By transforming military education through **innovative training methodologies**, institutions can develop **more well-rounded and capable officers**, ensuring that they are equipped with the necessary **skills to lead, collaborate, and succeed in complex and ever-changing military operations**.

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