Abstract

**Purpose:** This study was carried out to derive the implementation direction of education and training to foster individuals and units that will surely win when fighting the enemy by further leaping up the level of education and training for the army in an uncertain security environment and various threats.

**Method:** This study was conducted through literature analysis on education and training of the ROK and US military, and through interviews and discussions with education technology experts, human resource development experts, army headquarters, education command practitioners, commanders, and staff of field units, and school unit instructors.

**Results:** For the army’s education and training to take off, we need to expand the scope of education and training, and establish a philosophy and foundation for education and training based on the developed educational theory (learning science). Moreover, we need to implement four directions: developing educational human resources, establishing a scientific learning system, creating a learning-based environment, and optimizing unit and individual learning.

**Conclusion:** The four implementation directions for the leap forward in army education and training are the development of educational human resources, the establishment of a scientific learning system, the creation of a learning-based environment, and optimizing unit and individual learning.

**Keywords** Learning Science, Core Competencies, Development of Educational Human Resources, Establishment of the Scientific Learning System, Creation of Learning-Based Environment

1. **Introduction**

Since its foundation, the Korean military has been applying a founding unit and exhibition-type education and training system that mainly imitates the U.S. military, and has been trying to develop an education and training system consistent with the Korean situation since the U.S. military took over training rights in the late 1960s. Since the Army has maintained tension with the enemy for nearly 70 years since the ceasefire, it has always been asked to foster combatants who can fight and win the enemy through strong education and training under the banner of
"Fight Tonight" and maintain their readiness for battle at all times. For this reason, it is also true that all commanders and executives have been striving to realize the operation of units where education and training are the top priority[1]. However, while always feeling the responsibility and burden for education and training, the results of education and training were judged as the number and time of training or administrative-oriented rather than as an improvement in combat power. Considering the rapidly changing security situation and existing enemy threats, it is no longer possible to wait and see the Army's education and training take place formally outside of its essence. At this point when the Army wants to achieve innovation with all its might, all members of our Army need to look back and reflect on the reality of education and training.

Looking at education and training domain, in the operational domain(unit training), the Army first conducted founding unit-type training in the field of unit training but judged that it was limited to maintaining a balanced combat readiness throughout the year, and in 1978 "mission-oriented training" was conducted. After that, in 2004, 'battle mission-oriented training' was applied to preferentially train essential training tasks that affect combat missions. Such a system change mainly refers to the training system of foreign forces, showing that there was a lack of research on the training concept suitable for our situation. Next, in the field of school education, the Army has stably conducted Combined Arms Exercise since the establishment of the Education Command(1981). However, the educational system and control method were frequently changed, and the issue of the connection between school education and field training was constantly raised. Lastly, in the self-development domain, the prevailing perception was that the self-development field should be conducted under individual responsibility compared to the organizational development of training and school education. However, in recent years, as the importance of elite executives has been emphasized, the role of commanders or managers in preparing self-development conditions has been emphasized <Figure1>[2][3].

Figure 1. Three domains of education and training.

As discussed above, the Army stipulated that unit training, school education, and self-development should be classified as the main areas of education and training and maintained a complementary relationship, but these three areas did not develop interconnectivity under a systematic concept. Most of the army members invest a lot of time and effort repeatedly experiencing three areas of education and training during their military service, and if the connection between the three areas is insufficient, the effectiveness of education and training will be lower than that of investment time and effort. To improve this phenomenon, it is necessary to integrate three areas of education and training under the philosophy of education and training and the keynote[4].

Meanwhile, since World War II, the U.S. military, which greatly influences us, has developed education and training in connection with the military, industry, academia, and research institutes in private universities. In addition, education and training based on research (theory) are
thoroughly conducted, such as introducing pedagogy theory to field manuals and using it for actual education and training, as well as developing and using it in an optimized form reflecting the specificity of the military[5]. The Korean military has also been continuously promoting the development of education and training, but efforts to incorporate the pedagogy theory of society into the military were relatively insufficient. This raises the need to incorporate scientifically studied pedagogy theory into military education and training.

To fundamentally overcome the limitations of army education and training, this study was conducted through literature analysis, interviews, and discussions with educational technology experts, human resource development experts, Army headquarters, education command practitioners, and field unit instructors. The research results can be summarized as educational human resource development, scientific learning system construction, learning-based environment creation, and unit and personal learning optimization, and the details are described below <Table 1>.

Table 1. Summary of the development direction for innovative transformation.

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2. Educational Human Resource Development

The talent model pursued by the Army is the "Character, Competence, and Commitment." Here, "Character" means character and being, "Competence" means professional knowledge and ability, and "Commitment" means an honorable and noble service posture to the state[6]. In common, all members of the Army are constantly participating in education and training to develop individual competencies. In this respect, all members of the Army can be said to be educational and human resources carrying out a common task of education and training. In any organization, the competence of the organization's human resources is a decisive factor that determines the success or failure of the organization. The level (competence) of army education and human resources will determine the level of education and training in the army, which will soon affect the combat capabilities of the entire army. Accordingly, the Army should make every effort to equip and utilize all necessary human and material resources so that all educational human resources in the Army are more mature.
2.1. Competency development of all members

The situation on the battlefield is so severe that it can be called a "continuation of uncertainty" that it is difficult to predict\[7\]. Therefore, on the battlefield, soldiers encounter various problem situations that they have not experienced before, and it is almost impossible to solve these problem situations in a simple knowledge or formal way. Therefore, soldiers should be able to accurately understand problem situations and devise creative solutions based on their capabilities such as critical thinking, creative thinking, and adaptability. In addition, education necessary for military members today, where various technologies and weapon systems are emerging, should not be a way to increase the amount of knowledge, but to creatively utilize knowledge to solve problems and develop the ability to respond immediately to new situations\[8\][9].

As a result of education and training, the Army should focus not on knowledgeable learners (individuals + units), but training learners with the competencies necessary for mission performance. Learning is a continuous process performed through school education, unit training, and self-development in the army. Knowledge, skills, and attitudes internalized through learning finally appear in the form of observable and measurable 'competencies' Capabilities.

Members with competencies\(^1\) will be able to actively cope with uncertain situations, form effective teamwork with their surrounding comrades, and solve various battlefield problems\[4\]. The competencies of individuals and units must be systematically managed in the competency management system. In other words, the degree of acquisition of competency and competency required according to the position, mission, and characteristics of each individual, team, and echelon on the system is clearly calculated, so individuals must be able to check their degree of competency acquisition. As a result, the commander should be able to clearly check the level of competence of each individual, echelon, and entire unit. Through these functions, individuals and units will clearly understand what to train to acquire or maintain the required competencies. In addition, the competency management system presents clearly not only acquired competencies but also lost(forgotten) competencies, so individuals and units should be able to identify what needs to be retrained\[10\].

2.2. Performing as an instructor as a learning facilitator

What is the role of instructors in learner-centered education and training pursued by the Army? If the role of instructors in educator-centered education was an instructor who conveys knowledge, the role of instructors in learner-centered education can be said to be a facilitator. Facilitators require much more complex and high-quality abilities as well as lectures. First, facilitators should be able to elicit the active participation of learners in classes(training). Instructors should be able to study how to induce active participation of learners and use various teaching and learning methods in combination as needed. Second, facilitators should strive to implement individualized learning. To implement individualized learning, instructors should identify the characteristics of learners' level, interest, and needs, prepare educational content optimized for them, and apply teaching methods. Third, facilitators should be able to induce learners to learn interestingly by studying learning motivation induction theory and applying it to classes (training). Fourth, facilitators should actively provide scaffolding\(^2\) between educators

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\(^1\) The nine core competencies pursued by the Army are self-directedness, adaptability, composite fitness, digital literacy, communication, collaboration, critical thinking, creative thinking, and Problem-solving. Each competency is in a relationship that affects each other organically rather than independently.

\(^2\) Scaffolding originally means "a facility that temporarily installs equipment and materials at a construction site," and pedagogically means "the teacher does not immediately give an answer when a learner faces difficulties in solving a problem, but provides help or hints to help the learner overcome the difficulties on his or her own".
and learners in class, and between learners and learners. Several studies have revealed that learners who have experienced problem solving through scaffolding can effectively overcome similar problem situations when given[4][11].

2.3. Spreads the perception that leaders are educators

As an educator, all leaders of the Army are responsible for encouraging their subordinates' learning motivation, providing optimal learning conditions, and providing timely teaching, coaching, and mentoring. In addition, the leader should always show the example of learning, inducing subordinates (department members) to participate in learning naturally[6]. In particular, the head of the school unit or the commander of the field unit should have pedagogical knowledge and perspective to check and guide the educational content expertise and teaching methods of instructors for each subject.

In addition, all members of the Army should recognize the entire military service as a "one long curriculum" and maintain an attitude of learning at all times for maturity and self-development in individual tasks. Learning takes place even in standardized situations such as education and training at school units or camps (formal learning), working hours, a spare time during work hours, and after work hours (informal learning). To achieve effective learning, it is desirable that there are always educators who can provide appropriate teaching, coaching, and mentoring to learners. In formal learning conducted in the army, the instructor in charge exists as an educator, but in informal learning, the leader must play the role. Here, "leader" means a person who plays the role of a commander or department head (team leader) among executives.

2.4. Education expert management

Private educational institutions (universities, research institutes, etc.) and companies have established education and training departments such as teaching and learning centers and talent development centers to foster academically outstanding talents and organizational performance (profit). The reason why society’s education theory continues to develop is that educational outcomes become visible. In other words, the achievements of education appear and compare with academic achievements, entry (employment) rates, and operating gains. As an example of an advanced military, the U.S. military first established a cooperative system with private universities and opened a military research center to accumulate expertise for the development of education and training based on thorough research (theory). Since then, a behavioral and social science research institute has been established in the military to develop military education and training based on research and theory[5].

On the other hand, in our military, the results of education and training are weak in terms of visibility into victory or loss in battle or productivity (benefits), so, indeed, education and training areas are not noticeable and development has been slow. Under these conditions, the military needs to actively accept the advanced theory developed in the private sector and apply it creatively. The Army should select and train educational experts and use them as civil-military compatible talents to incorporate the developed theories of society into the military, as well as develop various theories into forms optimized for military needs(branch, mission, etc.). The Army should develop the Army’s education and training scientifically and systematically by selecting or training education experts with long-term plans and placing them in various education-related policy departments, institutions, school units, and field units.

3. Establishing a Scientific Learning System

3.1. Application of learning science

The Army needs a more scientific approach to education and training. First of all, education
and training should be systematically developed by applying various teaching and learning methods, teaching system design, evaluation system, and learning motivation induction methods studied in pedagogy to education and training. In addition, it is necessary to consider how to effectively connect the ever-developing advanced science and technology and scientific equipment with human-centered education and training. Members of the Future Army will wear advanced equipment in a synthetic battlefield environment and train with artificial intelligence and digital trainers[8]. Accordingly, a new phenomenon of human-machine interaction will occur, and collisions or friction may occur in this process. To prepare for this, the Army should establish a scientific training system optimized for human characteristics through collaboration with experts in its fields such as educational technology, neuroscience, computer and information science, ergonomics, and behavioral psychology.

3.2. Optimal education and training course design

Changes in enemy threats, the development of new weapon systems, changes in the doctrine, and new combat patterns require changes in school education and unit training. Accordingly, the Army should be able to systematically develop a new education and training course that reflects the demand for change.

Education and training is an organized process conducted to achieve the goal of changing human behavior(knowledge, skill, attitude). The meaning of an organized process means that the entire process of education and training must be systematically designed based on scientific principles. In educational technology, systematic education and training design has been studied for a long time, and as a result of the study, various Institutional System Design (ISD) models have emerged. The ADDIE model, which is the basic model among the teaching system design models, consists of five stages of ‘Analysis-Design-Development-Implementation-Evaluation’. To design systematic instruction (education) and training, the Korean Army also needs to use the logical procedure of the ADDIE model in the instructional design of school education and the training design of field units[12].

3.3. Based on cutting-edge science and technology learning

The Army should maximize the learning effect by creating and training a dynamic operation transition landscape based on advanced science and technology, and individuals, teams, and units should be provided with differentiated education and training at each level. Learning using advanced science and technology that the Army intends to implement has the following characteristics. ①Learners can access the necessary information and learning content anytime, anywhere. ②Simulation functions create numerous problem situations necessary to train learners, and learners develop the ability to creatively utilize knowledge in the process of solving them. ③Learners can be connected to the Army network anywhere using the network app of personal learning tools (PCs, smartphones) with the help of professional learning-facilitators such as experts and artificial intelligence, and do desired learning (school education, unit training, self-development). ④Learners and teams in different positions can simultaneously access the system to participate in the same training. ⑤Learners can quickly access their learning content through search engines and information stores with commercial speed and reliability. ⑥The operation method of advanced learning tools is very simple, so the time for learners to learn the operation method should be minimized. ⑦The learning management system combined with artificial intelligence analyzes learning patterns of individuals and units, manages

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3 Through world war I and II, the U.S. military needed an education and training system suitable for efficiently training many soldiers in a short period of time. Accordingly, the university of Florida developed an ADDIE model that can integrate educational design, measurement, and evaluation beyond traditional teaching theory and distributed it to the US military. The ADDIE model was first applied in American military training in the 1950s, and in the 1960s, it was stably settled in the military.
the level of competency (acquisition, maintenance, reduction, disappearance), and provides optimized learning programs. ⑧ Learners can easily create learning content using learning tools on the network and share them with colleagues. ⑨ Using LVCG technology, individuals and units can repeatedly train in an environment similar to actual combat. ⑩ The LVCG-based training system implements all categories of training, from individual training to large-scale unit training, and can implement joint training in conjunction with the alliance’s system with fully interoperable systems. ⑪ Under the scientific learning environment, the combat power of individuals and units is objectively evaluated, and accordingly, accurate complementary needs are derived[4][5].

3.4. Motivation for learning

The Army has previously emphasized that “clear goals should be set before the implementation of education and training, but training methods will be delegated by echelon and strict evaluation” as a motivation method for education and training[2]. Motivation through the delegation and evaluation of training methods is also necessary, but at this point in time when the Army is trying to establish a learner-centered education and training system, the "motivation method considering the characteristics of learners" should also be considered. Soldiers(learners) enlisted today are very familiar with the digitized environment.④ Therefore, providing them with an education and training environment based on VCG can be a good way to motivate them. For example, soldiers who experienced combat in a battlefield environment in a game before joining the military are likely to train with a similar sense of immersion in the battlefield environment provided by scientific training after enlistment[5].

3.5. Establishing a systematic evaluation concept

The Army emphasizes creating a climate of "training in the way of fighting and evaluating" and maintaining combat readiness at all times[2]. All educators (instructors and commanders) and education and training policy officials in the Army should be able to plan education and training and effectively utilize the evaluation results with a clear understanding of the purpose and function of the evaluation.

The Army should establish a "standard" that learners (individuals and units) must reach through educational training through systematic research processes. These criteria should be observable and measurable, not abstract. Objective evaluation is possible when specific and clear criteria are set, so the side effects of varying evaluation results depending on the evaluator can be minimized. In school education, after completing a specific curriculum, it must be set and evaluated based on specific knowledge, skills, and behaviors that learners must have. Field units should prepare and evaluate specific standards to confirm the achievement of individual tasks selected as mission essential task lists (METL).

4. Creating a Learning-based Environment

The learning-based environment that the Army intends to establish is an environment in which learners can become a learner-centric in the three areas of school education, unit training, and self-development and train practically. If the learning-based environment is high-quality based on advanced science and technology, all learners (individual+unit) in the Army can reduce the time to plan education and training (preparation of educational materials/school materials, cooperation, creation of a training environment, etc.), and dramatically increase actual training

④ In the process of deriving an educational model, the U.S. Army judged that the motivation for learning would be limited if the existing analog education method was applied to today’s digital generation had characteristics such as visualization and informatization ability, multitasking ability, high-tech use ability, and sociality.
time. As a result, individual and unit combat capabilities will be improved, and the Army’s combat readiness will be strengthened.

4.1. Provide practical education and training environment

The effectiveness of education and training is the highest when education and training are conducted in an environment most similar to the actual battlefield. To this end, Kyobo materials that can describe practice must be continuously developed, and all LVCG advanced technologies such as scientific live training, simulation technology, virtual and augmented reality, and game training must be actively used for education and training. Education and training using VCG technology not only overcomes the problems of "friction with civilian elements due to practical training" and "lack of training grounds" currently facing the Army, but can also be a breakthrough that can create high effects at low cost. The Army should develop a hyper-confirmation training environment that can describe not only enemy situations but also political, social, and cultural situations so that school units, field units, and individuals who need training can participate immediately[8][9].

4.2. Modernized education and training support

The performance of education and training is greatly influenced by educational and training support factors such as budget, equipment, training ground, and ammunition required for education and training. However, in reality, compared to the emphasis on education and training, the education and training budget is insufficient, so the establishment of a science and training system and securing a training ground that the Army intends to promote are very limited[13]. In addition, despite the continuous deployment of newly-energized equipment in field units, school units are limited in timely education and training due to the priority of supply. Army policymakers and decision-makers should have a reasonable and long-term perspective on the field of education and training support and strive more for timely support.

The education and training support system (materials, facilities, budget, etc) should be developed by the purpose of creating a learner-centered education and training environment. To this end, education and training support officials should provide optimized support by closely analyzing the training concepts, training goals, requirements, and characteristics of individuals and units who are the subjects of education and training before development. The Army needs to develop advanced learning promotion tools using technologies such as artificial intelligence and big data, which are rapidly developing due to the influence of the Fourth Industrial Revolution. For example, if artificial intelligence speakers, digital tutors, and learning support apps that can communicate naturally with people are developed for military use and used for school education, unit training, and self-development, learners (individual+unit) will be able to learn with no time and space limit.

4.3. Development of a learning management system

A learning management system (LMS) is a system that enables all learning activities such as sharing learning content online, communication between educators and learners, a collaboration between learners, the input of learning history, learning evaluation, and provision of feedback. Universities, private educational institutions, or the military in developed countries are already using the learning management system[14]. Our Army is developing the Army Education

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5 The Army’s scientific training environment is expected to consist of a synthetic training environment (STE) that fully integrates virtual reality, war game simulation, and games.

6 Of the 46.6971 trillion won in defense expenditure in 2019, the education and training budget of the Army, Navy, and Air Force was 612.2 billion won, accounting for 1.3% of the total defense expenditure. Among them, the army education and training budget is KRW 279.6 billion, accounting for 0.59% of the total defense expenditure.
and Training Management System (ATMS) as a learning management system. Under the learning management system, all learners (individuals + units) of the Army will be able to learn cooperatively while sharing useful knowledge (information, know-how, experience, etc.) they each have without time and space limitations. The shared knowledge is automatically classified and stored by the subject, so that learners can access the knowledge they need at any time.

As remote education using the learning management system is effectively implemented, online and offline classes will be flexible in school education according to the characteristics of the subject. While conducting offline classes, instructors and trainees can communicate smoothly through text or video, and trainees will perform group activities smoothly through collaborative functions such as discussion rooms and wiki.

In the field unit, through the learning management system, individuals will be able to check their current learning status, and the unit commander will be able to check the level of learning (training) of the entire unit by monitoring the learning status of the unit. In addition, the commander may contact instructors for each subject in the unit on the learning management system to direct or distribute specific training. Training results are provided to commanders through automated training records and statistical analysis, so commanders can identify weaknesses of individuals and units and plan additional training.

5. Optimization for Unit and Personal Learning

5.1. Education and training to develop adaptability

Future threats faced by the Army can arise in combination by various actors such as state, non-state, and quasi-state organizations in multi-domain in addition to traditional spaces[7][15][16]. For the Army to succeed in operations under such complex and uncertain circumstances, it must be able to cultivate "adaptation" and complete new missions in any region, even if it is given a new mission that has not been experienced before.

Despite uncertainties in the battlefield environment, each unit identifies what tasks to complete. To complete a single mission, it is necessary to be able to perform various tasks. Nevertheless, there are various restrictions such as training ground, time, and cost to train all tasks. In this situation, training is centered on essential tasks, but adaptability can be developed by diversifying the conditions of training. For example, adaptability can be developed by training one task but giving various conditions such as day and night, bad weather, and changes in terrain and enemy situations[17].

5.2. Self-development

5.2.1. Exploring areas to be supplemented

All members of the Army acquire military knowledge necessary for individual mission performance through school education, and master the knowledge acquired through unit training through action. Nevertheless, if there is a lack in performing an individual's mission at an excellent level, it should be supplemented by utilizing the individual's available time. Therefore, all members of the Army must first accurately find out what needs to be supplemented in performing their duties according to their position through self-evaluation, peer evaluation, objective measurement data, etc.[18].

5.2.2. Curriculum design and implementation

All members of the Army should be able to set their own learning goals as self-directed learners. In addition, it is necessary to be able to find the human and material resources necessary to achieve learning goals, organize learning contents, and learn by oneself. In addition, it should
be possible to continuously develop the self-development process by evaluating one's learning outcomes and feeding them back on one's own.

5.2.3. Learning attitude

The learning environment of the Army is gradually becoming more advanced. Accordingly, all learners in the Army will be able to easily find the desired learning content at any time they want through small devices such as smartphones. The important thing is for learners to have an attitude of learning anytime, anywhere.

5.3. School education

5.3.1. Curriculum design considering educational goals

When designing a curriculum, the goal of the entire curriculum should be established in consideration of the consumer's 'field needs' and 'learner's characteristics (interest, aptitude, etc.)', and the goals of the individual subjects constituting the curriculum should be established in connection with the overall curriculum. Instructors of individual subjects should determine in-depth whether the subject's goal contributes to the achievement of the goal of the entire curriculum. When this structure is in place, all subjects are organically linked to each other and can be consistent.

5.3.2. Providing tailored curriculum

A customized curriculum should be provided that considers learners' experiences and levels. To this end, diagnosis of learners' experiences and levels (pre-evaluation, assignments, interviews, etc.) must be preceded before the start of the curriculum.

5.3.3. Learner-centered class progression

Classes should be conducted in a way that learners collaboratively solve problems. At this time, as a facilitator, the instructor should play a role in helping learners think correctly about the learning content and understand the context well.[2][19].

5.3.4. Applying the best educational method

When selecting or developing an educational method, it should be decided by referring to the learning pyramid⁷ that represents the relationship between the educational method and the learning effect[20], but various educational methods should be flexibly applied in consideration of the characteristics of each education subject.

5.3.5. Flexible "face-to-face and non-face-to-face education" application

In consideration of educational goals, educational effects, and learner conditions, convocation education (classroom class) and non-calling education (remote education) should be flexibly implemented.

5.3.6. Utilizing cutting-edge technologies to increase learning effects

Technologies such as learning support applications, virtual environments, simulations, and games that can be used to increase learning efficiency (learning effect over time) are used for education.

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⁷ As a result of experimenting with the efficiency (memory rate) by learning method at the National Training Laboratories (NLT), 5% efficiency was found to be listening, 10% reading, 20% audiovisual classes, 30% demonstration, 50% discussion, 75% practice, and 90% teaching others.
5.3.7. Cultivating the mindset of lifelong learning

Learners should have a lifelong learning (learning over the entire service period) mindset that it should be constantly carried out not only in school units but also in field unit life and personal time[19].

5.4. Unit training

5.4.1. Essential task-oriented training based on mission

For the unit to complete its combat mission, it must train various tasks required to complete the mission from normal times. However, in reality, it is very limited to train all of the tasks according to various missions within the available time for each unit. Therefore, each unit should select only essential tasks and train intensively, but under various conditions. Mission-based education and training means analyzing current and expected missions in the future and training essential training tasks first to maintain mission performance capabilities at all times[17].

5.4.2. Training to reach the required level (standard)

Training is always conducted according to the level of demand (standard) set for individual and unit tasks. The level of demand (standard) refers to the level of proficiency required to achieve a task. Mastery refers to the ability to immediately perform tasks under any conditions. The commanders are responsible for clearly knowing what criteria are required to achieve the mission and training the unit to achieve the desired level (standard) [17].

5.4.3. Training under an environment similar to the actual operation

Training should be conducted in a situation similar to the "operational environment experienced when performing actual missions." The commander should create extreme situations such as night and bad weather, and train by operating opposing forces. To this end, the commander must construct a training environment in consideration of ‘Operational Element (PMESII-PT)’ and ‘Tactical Element (METT-TC)’[9][17].

5.4.4. Periodic diagnosis of training level

The training level of the unit can be changed under the influence of various factors such as the number of training sessions, the rate of personnel replacement, and the deployment of new equipment. Therefore, the commander should periodically diagnose the training level of the unit to identify areas that require improvement in training level, and plan and implement training to supplement it[17].

5.4.5. Training to operate equipment at all times

Combat power can be exercised normally when all equipment is available at all times. Therefore, equipment operation training is an important part of the additional training plan. There must be objective measurement indicators for equipment operation training. The commander should ensure that his subordinates are clearly aware of the importance of managing equipment[17].

6. Conclusion

This study began with a sense of question, "How can we take the level of army education and training further and foster individuals and units that win when fighting enemies?" amid uncertain security environments and various unpredictable threats. In order to find the best answer,
interviews and discussions were conducted in collaboration with education and training literature analysis, education engineering experts, human resource development experts, education and training policy officials, field unit commanders and staff, and school unit instructors.

As a result of the study, it was concluded that in order for the Army's education and training to develop rapidly, four implementation directions should be realized: education and human resource development, scientific learning system construction, learning base environment creation, and individual learning optimization[21][22]. In the future, it is predicted that the results of this study will be reflected in Army education and training policies and systems, regulations, doctrines, and guidelines, contributing to the leap forward in Army education and training.

7. References

7.1. Journal articles


7.2. Books


8. Appendix

8.1. Authors contribution

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<td>-Significant contributions to concepts, designs, practices, analysis and interpretation of data ✓</td>
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<td>-Participants in Drafting and Revising Papers ✓</td>
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<td>-Someone who can explain all aspects of the paper ✓</td>
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<td>Corresponding Author*</td>
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*Corresponding Author