Research on Problems of Equipment Course Learning Enthusiasm and Countermeasures among Military Vocational Technical Education Students

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Abstract: This paper deeply analyzes the issue of low enthusiasm among military vocational technical education students in equipment courses and proposes corresponding solutions. The study finds that the lack of motivation for students stems from a weak cultural foundation, unclear learning objectives, outdated teaching content, monotonous teaching methods, insufficient teaching tools, and imperfect assessment methods. To enhance students' enthusiasm for learning, the paper suggests measures in six areas: improving students' cultural foundation, reshaping learning motivation, updating teaching content, enriching teaching methods, innovating teaching tools, and perfecting course assessment. Specific actions include raising enrollment standards, remedial training, strengthening comprehensive education, clarifying learning objectives, establishing incentive mechanisms, updating teaching content in sync with military units, conducting training and innovation in teaching methods, developing simulation training systems, laying out secure networks, increasing the number of network terminals, and reasonably setting assessment content. These measures aim to stimulate students' interest in learning, improve their professional literacy, and lay a solid foundation for enhancing the combat effectiveness of the military.

Keywords: Military Vocational Technical Education Students; Equipment Course; Learning Enthusiasm; Formative Assessment

1. Introduction

The equipment course is a key professional course for cultivating a highly skilled NCO team in military vocational technical education institutions and is a critical support for the formation of students' job performance capabilities [1]. However, due to various reasons, there is a general problem of low learning enthusiasm among military vocational technical education students in equipment courses. This not only affects the effectiveness of students' learning in equipment courses and restricts the formation of their job performance capabilities but also has a certain impact on maintaining and enhancing the maintenance and support capabilities of the troops. Therefore, studying the reasons for the low learning enthusiasm and countermeasures for military vocational technical education students in equipment courses has significant practical significance for improving the professional quality of military vocational technical education students and the combat effectiveness of the troops.

2. Analysis of the Reasons for Low Learning Enthusiasm in Equipment Course Learning among Military Vocational Technical Education Students

The low learning enthusiasm of military vocational technical education students in equipment courses can be attributed to reasons related to the students themselves, the courses, and the instructors, which can be summarized as follows:

2.1 Weak Cultural Foundation of Students, Leading to Difficulty in Learning

According to the current national recruitment methods, the educational level of military vocational technical education students has improved to some extent before joining the military, but the overall level is relatively low, and the cultural foundation is weak [2]. An analysis of the pre-enlistment education of 74 military vocational technical education students in a certain specialty shows that there

are 27 college students, 7 college degree students, and 40 high school students. Among them, college students and college degree students are all from vocational and technical colleges, including liberal arts, science, arts, and sports majors. Looking at the admission scores of the 74 students, with a total score of 750 points, there are 3 people scoring above 400, 20 people scoring between 300-400, 48 people scoring between 200-300, and 3 people scoring below 200. The vast majority of students have achieved less than 50% of the score, indicating a poor cultural foundation. Due to the poor cultural foundation of military vocational technical education students and the need to learn about high-tech aviation equipment with complex structures and principles, students want to learn but find it difficult, leading to a sense of fear and low learning enthusiasm.

2.2 Insufficient Learning Motivation Among Students, Resulting in a Reluctance to Learn

There is a general problem of insufficient learning motivation among military vocational technical education students in equipment course learning, mainly manifested in the following aspects:

Firstly, some military vocational technical education students have cognitive biases and lack motivation to learn theoretical knowledge about equipment. These students do not fully recognize the importance of theoretical knowledge in equipment courses, believing that it is only necessary to master the maintenance and operation methods of equipment, without the need to delve into the structure and principles of the equipment. Coupled with the relatively complex structure and principles of the equipment, they are unwilling to spend time learning about the structure and principles of the equipment, resulting in insufficient motivation to learn theoretical knowledge. The consequence is that the trained students are proficient in equipment operation after joining the troops, but they have poor ability to connect theory with practice and cannot handle fault analysis and troubleshooting.

Secondly, some military vocational technical education students have unclear learning goals and lack motivation. Before entering the college for study, the specialty that military vocational technical education students engaged in in the troops is not consistent with the specialty studied in the college. According to the statistics of the specialties of 74 military vocational technical education students before entering the college, there are 38 students whose specialties in the troops are consistent with those studied in the college, accounting for 51%, and the rest are various other specialties. The principle of graduation assignment for military vocational technical education students is to return to where they came from. Therefore, for students whose specialties in the college are consistent with those they engaged in before, the knowledge learned in the college is a strong support for their career development after graduation, so their learning goals are clear, and their motivation is strong. For students whose specialties in the college are inconsistent with those they engaged in before, they generally have to return to their original specialty after graduation, and the professional knowledge learned in the college does not provide much support for their career development after graduation. In addition, they have no foundation in the equipment course studied in the college, so they lack interest in learning, and 37.9% of the surveyed students said that they study only to obtain their diploma smoothly [3].

Thirdly, the incentive measures are incomplete, and some students have a negative learning attitude. To stimulate students' learning motivation, the school and student teams have also formulated some incentive measures, such as selecting outstanding students and learning models. However, these incentive measures are only aimed at top students and are not very attractive to average students, resulting in a more negative learning attitude.

2.3 Some Teaching Content is Outdated, Students are Unwilling to Learn

The teaching targets of military vocational technical education institutions come from various types of aircraft, and the equipment models used are numerous. Therefore, only a typical equipment teaching method can be adopted, which is to select a certain type of equipment as a typical model, and all classes of a certain specialty learn this typical equipment [4]. With the development of aviation technology, aviation equipment is

updated rapidly, with a multitude of models and significant differences between different models. Due to objective reasons, the aviation equipment obtained by military vocational technical education institutions is generally quite old, far behind the troops. However, to carry out practical teaching, some equipment courses have to choose old equipment as typical models. Because some of the equipment taught in the institutions is inconsistent with the equipment in the students' own troops, students feel that learning it is useless, and naturally they are unwilling to learn these old equipment courses.

2.4 Some Instructors Use Monotonous Teaching Methods, Students Find It Tiring

Currently, some instructors at military vocational technical education institutions use relatively monotonous teaching methods in the teaching of equipment courses, which are difficult to stimulate students' enthusiasm for learning. Students find it tiring and their enthusiasm for learning is not high. There are two reasons for the monotony of some instructors' teaching methods. First, some instructors do not study teaching methods enough and do not understand many new teaching methods, so their teaching methods are monotonous. The equipment courses they teach are dry and uninteresting, and students naturally do not want to listen. Second, aviation equipment is updated rapidly, requiring instructors to undertake the teaching tasks of new equipment in a short period of time. With tight schedules and heavy tasks, instructors need to digest new equipment knowledge within a limited time, produce teaching materials, compile lesson plans, and carry out teaching. Coupled with the lack of actual new equipment and materials, it is very difficult to complete the teaching tasks by using the lecture method, so it is difficult to design various teaching methods in teaching. Because the instructors' teaching methods are monotonous and the new teaching content is difficult, students find it hard to learn.

2.5 Some Instructors Have Few Teaching Tools, Students Have Nothing to Learn

Currently, some instructors at military vocational technical education institutions mainly rely on textbooks, equipment, and PPT lectures in the teaching of equipment courses. Some modern teaching tools, such as simulation training systems and online learning platforms, are not widely used. Students find it difficult to obtain rich interactive experiences and learning resources, and their enthusiasm for learning is not high. Some instructors do not use simulation training systems much, mainly because some simulators are not easy to use, and some instructors are unwilling to use them. For example, some institutions are too eager to cover all specialties when developing simulators, neglecting the depth of professional training. Because the simulator covers a wide range of specialties, it is expensive and has few configurations. Each specialty needs to use it at staggered times, and at the same time, it cannot meet the training needs of the specialty itself. Therefore, some instructors are unwilling to use such simulators for teaching and only explain the equipment operation process through PPT. Students lack the real experience of equipment operation, and their enthusiasm for learning is naturally not high. Some instructors do not use online learning platforms much, mainly because of confidentiality and a lack of network terminals. Some aviation equipment materials have a high level of confidentiality and cannot be transmitted on the internal dedicated network, so they cannot use online learning platforms to transmit learning materials to students. Military vocational technical education institutions have internal dedicated confidential networks and have also developed some online learning platforms, but there are fewer terminals connected to the network, and students do not have enough terminal computers to learn, so instructors cannot fully use online learning platforms.

2.6 Course Assessment Methods are Imperfect, Students Lack Enthusiasm for Learning

Some equipment courses have a single assessment method, measuring the quality of students' learning through final assessments at the end of the course. This assessment method cannot reflect the learning state of students during the normal learning process of the equipment course, nor can it reflect the performance of students in the equipment operation process and cannot fully stimulate students' learning motivation [5]. Some equipment course assessments, although they

include formative assessments, only focus on the skill assessment of operation steps in the formative assessment, neglecting professional quality assessment [6]. Students only mechanically memorize the operation steps and cannot stimulate their potential for independent learning.

3. Suggestions for Improving the Enthusiasm for Learning Equipment Courses among Military Vocational Technical Education Students

3.1 Improve Students' Cultural Foundation to Enable Learning

There are two ways to improve the cultural foundation level of military vocational technical education students.

(1) Improve the quality of student enrollment and recruit students with a good cultural foundation.

Improving the quality of student enrollment can start from two aspects. First, continue to recruit students from the troops, but raise the admission scores to ensure that students have a higher cultural foundation. Second, expand the recruitment channels and recruit students from ordinary college entrance examination students, set a higher score line, and recruit students with a good cultural foundation. If the students have a good cultural foundation, they can understand the knowledge of the equipment course taught by the instructor and will be interested in following the instructor's thinking to learn.

(2) Through supplementary training, improve students' cultural foundation in a targeted manner.

In response to the current situation of poor cultural foundation among military vocational students, supplementary training can be used to improve the cultural foundation of students in a targeted manner. For each teaching content of the equipment course, design supplementary knowledge for this course, and carry out cultural foundation supplementary training in the form of pre-class preview homework or in-class remedial explanations to ensure that students can understand this course. This method requires timely understanding of the students' cultural foundation and also requires good planning and scheduling of teaching time.

3.2 Reshaping Learning Motivation to Make Students Want to Learn

Reshaping learning motivation can be approached from the following aspects:

Strengthen comprehensive education to correct cognitive biases. Through organizing thematic education, conducting discussions and exchanges, and forming support pairs, make military vocational technical education students deeply understand that both theoretical and practical knowledge of equipment courses are equally important. Only by integrating theory with practice can they better meet the needs of military positions and enhance their initiative in learning.

Clarify learning objectives to stimulate motivation. From a policy perspective, it is recommended to adjust the allocation methods of military vocational technical education students, so that students can apply what they have learned, and are allocated to the military units of their specialty, naturally making their learning objectives clear and not lacking in motivation. On the student side, combining the job requirements of the aviation troops and the students' personal career development plans, help military vocational technical education students set clear learning objectives for equipment courses, so that students closely link the learning of equipment courses in school with future job requirements, enhancing the pertinence of learning.

Establish a comprehensive incentive mechanism to stimulate the enthusiasm of all students to learn. From a policy perspective, it is recommended to adjust the allocation methods of military vocational technical education students, allowing students to choose their graduation allocation units based on academic performance, stimulating the enthusiasm of all students to learn.

3.3 Updating Teaching Content to Make Students Willing to Learn

Updating teaching content can be approached from two aspects. First, actively coordinate with higher authorities to request new equipment, keeping the school's equipment in sync with the military's, and updating teaching content in a timely manner to ensure that what students learn in school is what the military needs, thereby increasing their enthusiasm for learning. Currently, by applying for aviation equipment test samples, the school's equipment is gradually approaching that of the military,

further enhancing the pertinence of teaching. Of course, there are also situations where new equipment cannot be applied for, and in this case, three-dimensional animation models and model teaching aids can be developed to meet teaching needs. Second, reform the teaching content so that students no longer uniformly learn a typical type of equipment but can choose to learn about equipment related to their own military unit's aircraft model. When students can apply what they learn, their enthusiasm for learning will naturally increase.

3.4 Enriching Teaching Methods to Make Students Enjoy Learning

To improve the level of teaching methods used by instructors, three approaches can be considered. Firstly, conducting training sessions on teaching methodologies can be implemented in various formats, both offline and online. Offline, experienced instructors from the institution or other colleges can share their experiences with the use of teaching methods, which can serve as a reference for others. Online, the school can provide financial support to encourage active participation in various short-term training courses on teaching methodologies [7]. Secondly, organizing innovation competitions in teaching methods can motivate individuals to try new approaches suitable for equipment courses, such as the functional mainline method, flipped classroom, and blended online and offline teaching, etc. [8], and to adopt an integrated theoretical and practical teaching model [9]. Through these innovation competitions, the teaching method application skills of the entire team of instructors can be improved. Other instructors can learn from others' mature teaching methods by observing the competition or watching recordings, applying them to their own equipment courses, enriching their teaching methods, and stimulating students' interest in learning. Thirdly, regular discussions on teaching methods can be held to exchange experiences and learn from each other's strengths and weaknesses to collectively improve teaching methodologies.

To allow instructors to have time to integrate suitable teaching methods into new teaching content when preparing in a short time, new teaching content can be reasonably divided, with different instructors completing different teaching content. By preparing teaching content in parallel, the workload of teaching preparation is reduced, and instructors can have time to think about the combination of teaching methods and content, flexibly apply various teaching methods in equipment course teaching, and stimulate students' interest in learning.

3.5 Innovate Teaching Methods to Make Students Enjoy Learning

To address the issue that some simulators are not user-friendly, and instructors are reluctant to use them, the development approach of simulation training systems can be transformed. Develop simulation training systems tailored for each specialty, ensuring the training's breadth, depth, and operational realism, and equip them in sufficient quantities to meet class requirements. Only when the developed simulators are practical and effective will instructors be willing to use simulation systems for practical teaching in equipment courses. Students will experience the realism of equipment operation, which will naturally increase their enthusiasm for learning.

To solve the problem of equipment materials being confidential and unable to be transmitted on online learning platforms, leading to insufficient learning resources and low enthusiasm among students, a confidential local area network can be laid out, and specialized confidential learning classrooms can be set up. Instructors can post confidential learning resources on the online learning platform of the confidential local area network, and students can complete their learning in specialized confidential learning classrooms. This approach ensures confidentiality requirements while meeting students' learning needs, stimulating their motivation to learn.

To address the issue of a lack of network terminals and insufficient computers for students to learn, one solution is to increase investment to purchase enough terminal computers, and the second is to manage the use of terminal computers effectively, arranging students' online learning time reasonably. As long as students have sufficient network terminals to access the internet, instructors will naturally be willing to use online learning platforms to publish learning materials to students in order to stimulate their interest in learning and improve the effectiveness of equipment courses.

3.6 Improve Course Assessment Methods to Encourage Learning

By setting up comprehensive and reasonable assessment content for equipment courses, the learning outcomes of students can be fully inspected, encouraging them to learn and stimulating their enthusiasm for learning. According to the characteristics of different equipment courses, the assessment content should be set reasonably, and the scoring ratio for each form of assessment should be determined. Equipment course assessments generally include two parts: formative assessment and summative assessment. Formative assessment mainly examines students' mastery of current or a certain stage of learning content, including classroom questions, classroom practice, homework, experimental reports, and periodic tests. Quantitative scoring for each item of formative assessment is included in the final grade of the student. When setting up classroom practice subjects, military scenarios can be combined to enhance the pertinence and difficulty of practice, stimulating students' interest in learning. For example, by integrating military equipment troubleshooting work, classroom practice can be embedded in the equipment troubleshooting process, where students must think and perform practical operations to understand the purpose of the practice and ultimately troubleshoot the equipment. By exploring and completing equipment classroom practice, students' curiosity is stimulated, and their interest in learning naturally increases, while also improving their ability to connect theory with practice [10]. Summative assessment mainly examines students' mastery of the entire equipment course knowledge points and is conducted in a closed-book format.

4. Conclusion and Prospects

Improving the enthusiasm of military vocational technical education students in learning equipment courses is a systematic project that requires the joint efforts of students and instructors. By improving students' cultural foundation, reshaping learning motivation, updating teaching content, innovating teaching methods, enriching means, and improving course assessment methods, the enthusiasm of military vocational technical education students for learning equipment courses can be effectively stimulated, thereby further enhancing their professional literacy and job performance capabilities.

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