Study on Professional Practice Ability Training Mode for Undergraduate of War Industry Specialty

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Keywords: War Industry Specialty; practice ability training; multi-level theory; practice teaching

Abstract. According to the needs of the weapon innovative talents development that is from" Excellent Engineering Training Program". We explore a set of "deepen the connotation, strengthening characteristic, practice driving" professional practice ability training mode for War Industry Specialty innovative talents, and construct the multi-level theory and the system of practice teaching, it sets up new teaching way.

1. Introduction

According to the needs of the weapon innovative talents development that is from" Excellent Engineering Training Program". according to many years teaching experience, we explore a set of "deepen the connotation, strengthening characteristic, practice driving" training course system, and get it into the new way of teaching, in order to meet the needs of War Industry engineering excellence engineers professional senior applied talents training requirements.

The research of this paper is to keep the school national defense of professional advantages and highlight the characteristics of this major. The completion of this research is in order to meet the needs of national defense and the local economic construction, and in order to cultivate the innovative spirit and strong ability of engineering practice of the needs of the senior applied talents. It is also in order to improve the needs of the graduates in the relevant scientific research units, institutions of higher learning, enterprises and the management of employment.

2. The framework of practice ability training on War industry professional senior applied talents

Combined with the needs of the weapon professional development that is from "excellence engineers" and "engineering research applied", in accordance with the "deepen the connotation, strengthening characteristic, practice driving" on the cultivation of thinking, build the weapon launch engineering senior applied talents cultivation framework.

2.1 Perfect the joint training mode of "industry-university-institute"

To meet the defense industry "wide diameter, thick foundation" talent training needs, the school has established a new model of "industry-university-institute" joint training, further highlight practice, formed practice ability training framework by the professional basic experiment teaching, the general discipline curriculum design, professional direction and the forefront of production practice and graduation design, professional production practice and range practice ability training framework composed of modules.

(1) The curriculum system setting in order to meet the practical ability.

In order to make students better grasp the professional basic theory, basic knowledge and basic skills, cultivate strong ability of engineering practice, construct an organic curriculum system on the curriculum, closely linked to the curriculum practice, the links in the course practice, combined with courses in practice. Not only satisfies the cultivation of the students' basic knowledge in the area, but

also prominent features of the weapons professional attaches' great importance to the practical experience.

(2) The teaching plan reflects the professional features.

Training weapon design and manufacturing capability of engineering practice of senior applied talents, on the curriculum, the curriculum design, the production practice, the range practice related business professionals and engaged the lecture as key link; strengthen the cultivation of the students' practical ability.

(3) Teaching plan has the scientificity, advancement and operability.

Teaching plan emphatically reflects "design as the main line, the implementation of engineering education, give prominence to the engineering practice", the talent training policy, sets the professional elective course and the quality of elective courses to be open course module, it can adjust in time according to the social needs.

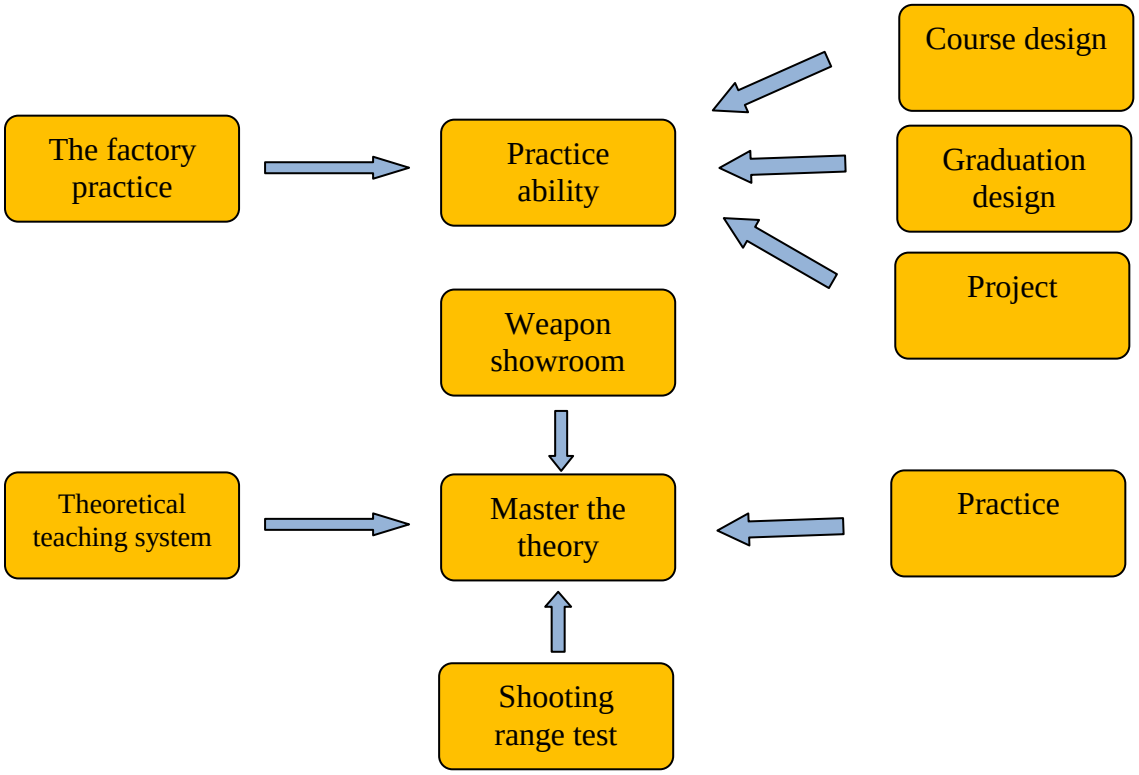

Fig. 1 The practice ability training framework of Weapon launches engineering:

2.2 The construction of a multi-level practical teaching system

Practice teaching in colleges and universities is an important part of the whole teaching activity for the engineering specialty. The practice innovation ability training is the important content of quality education. War Industry Specialty locates to the training of "wide scope, compound" senior applied talents, to cultivate the high-level talents who have the ability to solve practical engineering technology research and development. The practice teaching has an irreplaceable role in cultivating students' innovation consciousness and practical ability, and the ability to analyze and solve problems. So, strengthen practice teaching in the school, strengthen the cultivation of students during the period of school practice ability, especially the cultivation of students' practice ability and innovation consciousness [1-3]. To build War Industry Specialty characteristics, students need to have strong ability of practice. High demands on students' practical ability, students on the basis of fully understanding and practice to better master the knowledge. We put forward the "combination of university-enterprise cooperation" senior applied talents training mode.

According to the characteristics of this professional around the goal which to improve students' practice ability, we design arrangement related practice teaching link. Over the course of teaching plan to arrange the necessary experiment, practice content, at the same time, adhere to the

combination of production, study and research, establish campus practice teaching base, actively carry out cooperation with enterprises and scientific research units, causes the student to participate in scientific research and innovation activity early.

Practice teaching system has three aspects in this major. Teaching system illustrates the characteristic of this specialty. Experiment three system, the campus practice teaching system, off-campus internship and social practice teaching system and college students' innovative entrepreneurial training system.

(1) The campus practice teaching system

Reasonable arrangement of the practice in the teaching plan. Students' experiment report reflects the student has the strong practice ability. On the experiment and practice in the school, it has a new cognition practice, just like visiting the armory museum, the school metalworking practice, course design, graduation design, field and laboratory teaching, etc.

In order to make the students' professional characteristics, improve the students' practical ability, we also has carried on the reform in the teaching form, breaking the boundaries of the classroom and laboratory, for example, in the teaching of theory for design of artillery and the weapons manufacturing technology course, let the students into the "artillery disassembling lab", by artillery disassembling and typical model teaching, make students rapidly improve the manufacturing capability of artillery.

(2) The off-campus internship and social practice teaching system

To build professional characteristics, increased the fourth semester of NC practice link in 3 weeks, in addition to lead students into the enterprise, a senior process technician in combination with production site, carry out special technical report, let the students communicate with the corporate technicians face to face. School, after investigating the enterprise needs, creates a modern military skill training course content, to provide the feasible training plan for improving the students' practical ability and application ability; greatly enriches the connotation of the base construction of practice, to provide the basis for off-campus internship and social practice teaching of construction.

(3) The college students' innovative entrepreneurial training system

In order to cultivate students' innovation consciousness and practice ability, the school combined with outstanding engineer plan, on the basis of engineering practice education, actively encourages college students to participate in the innovation business plan. Let college students to participate in scientific research project, publish research papers, and the school teaching reform project, and to participate in the college students competition at all levels. Encourage students to do some topics which like ordering the list during graduation design, it is based on students’ interest in the enterprise, according to enterprise actual problem, carries on the exploratory study.

3. Reform on teaching content, method and means

3.1 The integration of the practice teaching content and theoretical teaching content

In the whole teaching process, get the integration of teaching practice and theoretical teaching. In the set of teaching content, from the students' time and network space mining potential at ordinary times, especially on the basis of new concept weapon experiment content and guide, greatly improving the students' learning interest and subjective initiative of the transfer. Practice teaching content and theory teaching content integration and crisscross, strive to achieve the best effect of teaching.

The frame structure of the practice teaching content and theoretical teaching content integration as is shown in Fig.2.

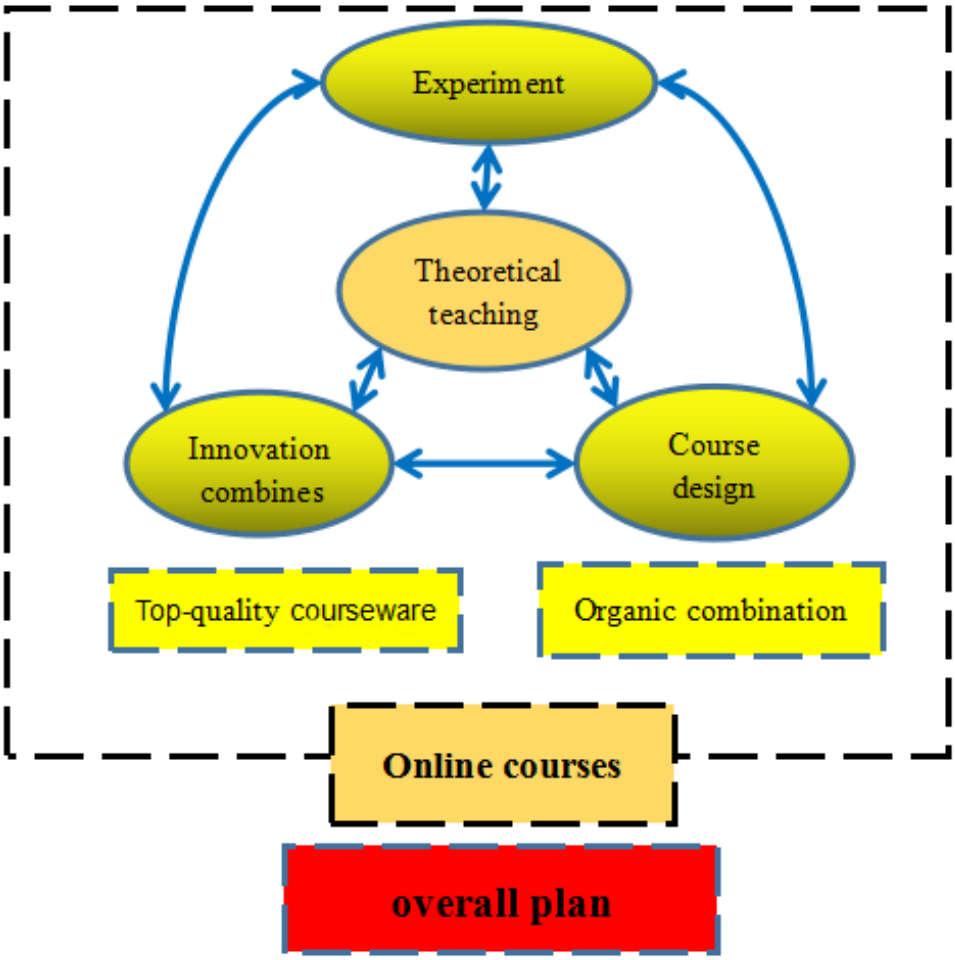

Fig. 2 The frame structure of the practice teaching content and theoretical teaching content integration

3.2 Reform of teaching methods and means

Build the professional characteristics, more attention should be paid on actual requirement in teaching content, integrating relevant courses together, strengthening the basic curriculum of the artillery manufacturing technology, without any increase in the number of courses, to let the students get more artillery design and manufacture of professional knowledge.

To strengthen the practice teaching link in teaching methods, take active "in the laboratory and enterprise field theory teaching and practice teaching integration" teaching model, according to the different kinds of courses, because of the condition to innovate the teaching methods, course boundary between the laboratory and the classroom, the classroom is located in the laboratory, combine theory with practice, effectively help the students understand the content of manufacturing technology, strengthen the cultivation of the student beginning ability to improve student's ability to design and manufacture of artillery.

Through the practice, the students' learning ability and the ability to solve practical problems will have greatly been improved[4-7].

By design, especially for curriculum design in view of the enterprise actual demand and the range of enterprise practice, to make the students have the direct contact to the needs of the enterprises, through training, to be able to use knowledge to solve the problem of enterprise's actual. Both consolidate the knowledge learnt, and improve the students' learning enthusiasm.

4. Conclusion

In order to adapt to the defense industry demands for launching weapon engineering senior talents, according to the engineering innovative talents cultivation and "industry-university-institute" joint

school-running mode, based on the engineering type education, gradually formed an opening in the engineering practice talents cultivation system.

5. References

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