



Research on Emotional Education in Electromagnetic Spectrum Management Course

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Abstract. This paper explores in depth the integration and practice of emotional education in electromagnetic spectrum management courses. Electromagnetic spectrum management, as an important course in the field of information technology, not only requires students to master professional knowledge, but also to cultivate their positive emotional attitude and correct values. The paper analyzes the content system and teaching status of the electromagnetic spectrum management course, and elaborates in detail on the teaching content, teaching methods, and emotional processing strategies in teaching evaluation. The aim is to stimulate students' interest in learning and enhance their professional competence through emotional education, in order to cultivate well-rounded professionals in the field of electromagnetic spectrum management.

Keywords: Electromagnetic Spectrum Management; Course; Emotional Education.

1 Introduction

In today's rapidly developing information age, the management and application of electromagnetic spectrum, as an important carrier of information transmission [1], are particularly important. The electromagnetic spectrum management course [2], as a core course [3] for cultivating professional talents, not only requires students to master solid theoretical foundations and technical methods, but also to have a high sense of responsibility and mission to cope with the increasingly complex electromagnetic environment challenges. However, traditional electromagnetic spectrum management courses often focus on imparting knowledge and training skills, neglecting the cultivation of students' emotional attitudes and the shaping of their values.

In recent years, emotional education [4] has gradually received attention in the field of education, emphasizing on paying attention to students' emotional experiences in the teaching process, cultivating students' positive emotions and correct values, in order to promote students' comprehensive development. Integrating emotional education into electromagnetic spectrum management courses can not only stimulate students' interest

in learning and improve their learning outcomes, but also cultivate their professional competence and ethics [5], laying a solid foundation for their future career development. Therefore, this paper aims to explore the implementation strategies of emotional education in electromagnetic spectrum management courses, in order to provide useful references for the teaching reform of related courses [6].

2 Overview of Electromagnetic Spectrum Management Course

Before delving into the integration of electromagnetic spectrum management courses with emotional education, we first need to have a comprehensive and systematic understanding of electromagnetic spectrum management courses.

2.1 The Content System of Electromagnetic Spectrum Management Course

The electromagnetic spectrum management course, as a core course in electronic science and technology, communication engineering and other related majors, has a rigorous and complete content system, mainly including the following three parts.

One is the fundamental theory of electromagnetic spectrum. The fundamental theory of electromagnetic spectrum is the cornerstone of the course, covering the basic properties, propagation laws, spectrum division and allocation principles of electromagnetic waves. These theoretical knowledge provide a solid scientific foundation for subsequent electromagnetic spectrum management, enabling students to deeply understand the mysteries and importance of the electromagnetic spectrum.

The second is the technology and methods of electromagnetic spectrum management. After mastering the basic theory, the course further introduces the specific techniques and methods of electromagnetic spectrum management. This includes spectrum monitoring, interference analysis, spectrum resource planning, frequency assignment, and spectrum sharing. Students will acquire basic skills in solving practical spectrum management problems through the study of this section.

The third is the policies and regulations for electromagnetic spectrum management. Electromagnetic spectrum management not only involves technical issues, but is also strictly constrained by policies and regulations. The course elaborates on the policy and regulatory system of electromagnetic spectrum management at home and abroad, the approval process for spectrum resource use, and the punishment mechanism for violations. The study of these contents helps students understand the legal framework of spectrum management and enhance their legal and compliance awareness.

2.2 The Teaching Status of Electromagnetic Spectrum Management Course

With the continuous development of communication technology and the increasing scarcity of spectrum resources, the teaching of electromagnetic spectrum management courses is also constantly exploring and innovating.

In terms of teaching objectives and practical effects. The course aims to cultivate students' solid theoretical foundation and practical operation ability in electromagnetic spectrum management, while emphasizing the cultivation of their innovative consciousness and legal literacy. However, in the actual teaching process, due to differences in student backgrounds, the balance between the depth and breadth of teaching content, and limitations in practical teaching resources, there is a certain gap between teaching effectiveness and expected goals.

In terms of teaching methods and tools. In order to meet the teaching needs of the information age, the electromagnetic spectrum management course constantly tries new teaching methods and means. Various methods such as multimedia teaching, case analysis, and laboratory simulation can be used to enhance students' interest and participation in learning. However, the singularity of teaching methods and the limitations of teaching tools are still important factors that constrain teaching effectiveness.

3 Theoretical Basis of Emotional Education

Emotional education plays an important role in contemporary education, injecting rich humanistic connotations into educational activities and having an undeniable impact on students' comprehensive development. Exploring the theoretical foundation of emotional education in depth can provide solid theoretical support for emotional education in electromagnetic spectrum management courses.

3.1 The Connotation of Emotional Education

Emotional education refers to the cultivation of students' emotional experience, expression, and regulation abilities during the educational process. It is not limited to teaching students how to recognize their own emotional state, but also involves how to understand and respect the emotions of others, as well as how to effectively manage and express personal emotional responses. Through emotional education, students can establish positive interpersonal relationships, enhance their self-efficacy, and form healthy values.

3.2 Main Theories of Emotional Education

Humanistic educational theory emphasizes the dignity and value of individuals, advocating that education should be people-oriented, focusing on individual emotional needs and development potential. Under the guidance of this theory, emotional education values individual growth experiences and personal feelings, encourages students

to explore themselves, and maximizes their personal potential. Humanists believe that students can only truly engage in learning when their emotional needs are met.

Constructivism holds that knowledge is the result of individuals actively constructing it during their interaction with the environment. In emotional education, constructivism advocates allowing students to personally experience the process of emotional changes through practical activities, thereby deepening their understanding of emotions. This method emphasizes the learner's subjectivity, encourages them to explore the diversity of the emotional world in real or simulated contexts, and based on this, form their own unique understanding.

4 Implementation Strategy of Emotional Education in Electromagnetic Spectrum Management Course

Emotional education refers to the cultivation of students' emotional experience, expression, and regulation abilities during the educational process. It is not limited to teaching students how to recognize their own emotional state, but also involves how to understand and respect the emotions of others, as well as how to effectively manage and express personal emotional responses. Integrating emotional education into electromagnetic spectrum management courses can not only enhance students' professional competence, but also stimulate their interest in learning and cultivate their comprehensive development abilities.

4.1 Emotional Processing of Teaching Content

Teaching content is an important carrier of emotional education. In the electromagnetic spectrum management course, we need to emotionally process the teaching content to better integrate emotional education.

One is to explore the emotional factors in the content of electromagnetic spectrum management courses. Although the electromagnetic spectrum management course focuses on technology and management, it contains rich emotional factors. For example, by introducing the application of electromagnetic spectrum in fields such as communication, radar, navigation, etc., it can inspire students' love and longing for technology to change their lives; By explaining the important role of electromagnetic spectrum management in maintaining national security and promoting economic development, students' sense of responsibility and mission can be enhanced. Therefore, teachers should deeply explore these emotional factors and integrate them into teaching to stimulate students' emotional resonance.

The second is to optimize the structure of teaching content to integrate emotional education. When optimizing the structure of teaching content, we should pay attention to the integration of emotional education. By setting up case studies, group discussions, and other activities, students can experience the complexity and challenges of electromagnetic spectrum management through exploration and discussion, thereby cultivat-

ing their critical thinking and problem-solving abilities. At the same time, some historical events or character stories related to electromagnetic spectrum management can be appropriately introduced to enhance students' sense of history and cultural identity.

4.2 Emotional Application of Teaching Methods

Teaching methods are the key to implementing emotional education. In the electromagnetic spectrum management course, we should adopt various emotional teaching methods to stimulate students' interest and enthusiasm for learning.

One is the situational teaching method. Situational teaching method is a teaching method that guides students to learn and explore by simulating real scenes or situations. In the electromagnetic spectrum management course, we can set up some scenarios related to electromagnetic spectrum management, such as simulating the troubleshooting and processing process of electromagnetic spectrum interference, allowing students to experience and learn in the context, thereby deepening their understanding and application of knowledge.

The second is the cooperative learning method. Cooperative learning is a teaching method that encourages students to work together in groups to complete tasks. In the electromagnetic spectrum management course, we can divide students into several groups to discuss and research around a certain problem, and solve it through collaboration. This method can not only cultivate students' teamwork and communication skills, but also stimulate their learning enthusiasm and creativity.

The third is problem oriented teaching method. Problem oriented teaching method is a teaching approach that centers around problems and guides students to learn through exploration and problem-solving. In the electromagnetic spectrum management course, we can set some questions related to electromagnetic spectrum management, such as "How to effectively manage electromagnetic spectrum resources to avoid interference?", etc., and let students find answers through researching materials, discussing and exchanging ideas. This method can cultivate students' problem awareness and problem-solving ability, while stimulating their thirst for knowledge and exploratory spirit.

4.3 Emotional Integration in Teaching Evaluation

Teaching evaluation is an important part of implementing emotional education. In the electromagnetic spectrum management course, we should focus on teaching evaluation that integrates emotions, in order to comprehensively and objectively reflect students' learning situation and emotional development.

One is the diversification of evaluation subjects. In teaching evaluation, we should pay attention to the diversification of evaluation subjects. In addition to teacher evaluation, various evaluation methods such as student self-evaluation and peer evaluation can also be introduced. This can provide a more comprehensive understanding of students' learning situation and emotional development, while enhancing their self-awareness and self-management abilities.

The second is the emotional consideration of evaluation indicators. When formulating evaluation indicators, we should pay attention to emotional considerations. In addition to assessing students' knowledge mastery and skill levels, attention should also be paid to the development of students' emotional attitudes, values, and learning motivation. This can provide a more comprehensive evaluation of students' learning outcomes and emotional development, while also stimulating their learning enthusiasm and creativity.

5 Conclusions

Integrating emotional education into electromagnetic spectrum management courses is not only an innovation in traditional teaching methods, but also a positive response to the comprehensive development needs of students. By deeply exploring the emotional factors in the course content, optimizing the structure of teaching content, and flexibly using various emotional teaching methods, we have successfully integrated emotional education throughout the electromagnetic spectrum management course. This teaching model not only enhances students' interest and participation in learning, but also promotes the positive development of their emotional attitudes and values. In the future, we will continue to explore and improve the implementation strategies of emotional education in electromagnetic spectrum management courses, in order to cultivate more outstanding talents with professional competence and good emotional qualities, and contribute to the sustainable development of the field of electromagnetic spectrum management.

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