Exploring the Path of Curriculum Ideological and Political Reform based on Cognitive Information Processing Theory

-- Take Information Technology Class "Career Career Development" as an Example

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Abstract

Cognitive information processing theory is a method to explore career Career development from the perspective of cognitive psychology. This article explores the path of curriculum ideological and political reform from three aspects: constructing the stage of academic development based on cognitive information processing theory, using the "information processing pyramid" model to determine curriculum education content, and integrating cognitive information processing theory with content to explore the expression of ideological and political elements. And create a curriculum ideological and political education system through the collaborative linkage of "a game of chess"; Connect the "one-stop" needs and build a platform for ideological and political education in courses; The integration of a series of resources has extended the practical connotation of ideological and political education in the curriculum and proposed innovative practices.

Keywords

Cognitive Information Processing Theory; Curriculum Ideological and Political Education; Career Career Development; Practical Innovation.

1. Introduction

The construction of "curriculum ideology and politics" has become a strategic measure for universities to implement the fundamental task of cultivating morality and talents since the 2016 National Conference on Ideological and Political Work in Universities. The country has successively issued documents such as "Several Opinions on Deepening the Reform and Innovation of Ideological and Political Theory Courses in Schools in the New Era" and "Guiding Outline for Ideological and Political Construction of Curriculum in Higher Education Institutions", which have pointed out the direction, provided guidance, and clarified requirements for universities to carry out ideological and political construction of curriculum.

The college career Career development course is an important course to awaken college students' career awareness, cultivate their career management ability and career adaptability, help students to recognize themselves, their majors, and their careers, enhance their sense of professional responsibility, cultivate lofty professionalism, develop good career habits, and establish lofty career ideals [1].

Vocational colleges undertake the mission of cultivating high-quality technical and skilled talents required for socialist modernization construction, which is to become great craftsmen and skilled craftsmen. The ability to solve career problems and make decisions for career development is the key and core competency for the career development of high-quality

technical and skilled talents. Cognitive information processing theory is a method to explore career Career development based on the perspective of psychological cognitive science. It improves career problem solving ability and career development decision-making ability through effective processing of information[2].Therefore, how to scientifically carry out the ideological and political reform of the curriculum in the professional Career development course from the perspective of information processing theory is of great significance to personnel training.

2. Explanation of Cognitive Information Processing Theory

Cognitive Information Processing (CIP) is a theory established by Gary Peterson, James Sampson and Robert Reardon on the basis of computer technology and Cognitive psychology, which is applied to career development, solving career problems and making life decisions. The two core viewpoints of this theory are "pyramid model of information processing" and "CASVE cycle". This theory believes that solving and decision-making career problems requires four aspects of information processing, namely, self knowledge, professional knowledge, decision-making skills and Metacognition, which constitute the "pyramid model of information processing". The most fundamental part is the knowledge level, the middle level is the decision-making level, and the top level is the execution processing level (as shown in Figure 1)[3].
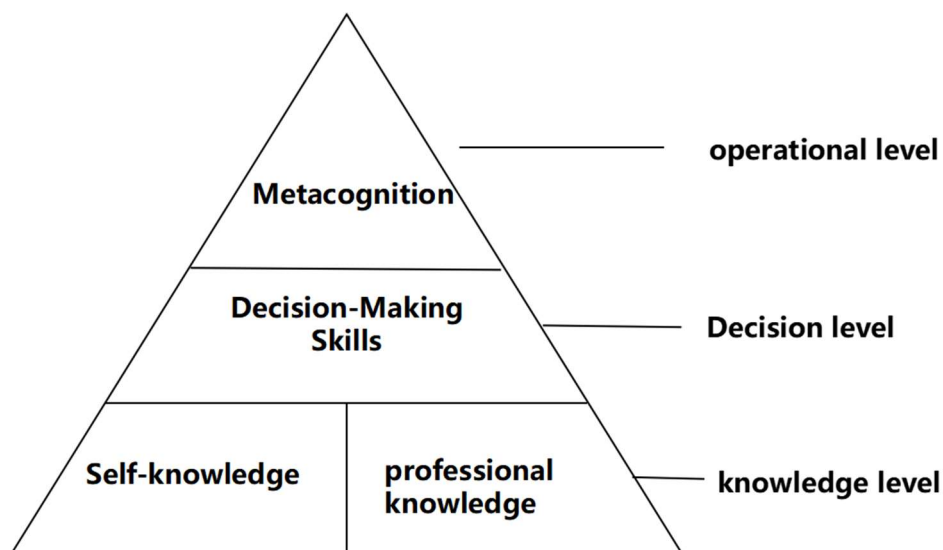

Figure 1. Pyramid Model at the Information Processing Level

The knowledge level mainly consists of two parts. Self knowledge includes basic information about an individual's interests, abilities, values, personal experience, etc. It mainly comes from the Episodic memory of personal past experiences. Professional knowledge includes professional knowledge and information related to the work world, through government documents, reports, reference materials, and other media resources. The decision-making skills at the decision-making level, known as the CASVE cycle, mainly include five steps: communication, analysis, synthesis, evaluation, and execution (as shown in Figure 2). This part is an important part of information processing theory, which is the process of analyzing and making decisions on career problems. The Metacognition at the executive level at the top of the pyramid is also called metacognition, which is the cognition of cognition. Metacognition is the process of individual cognition, self reflection and self supervision, which is a process of self-regulation, including self supervision, self awareness and self-monitoring.
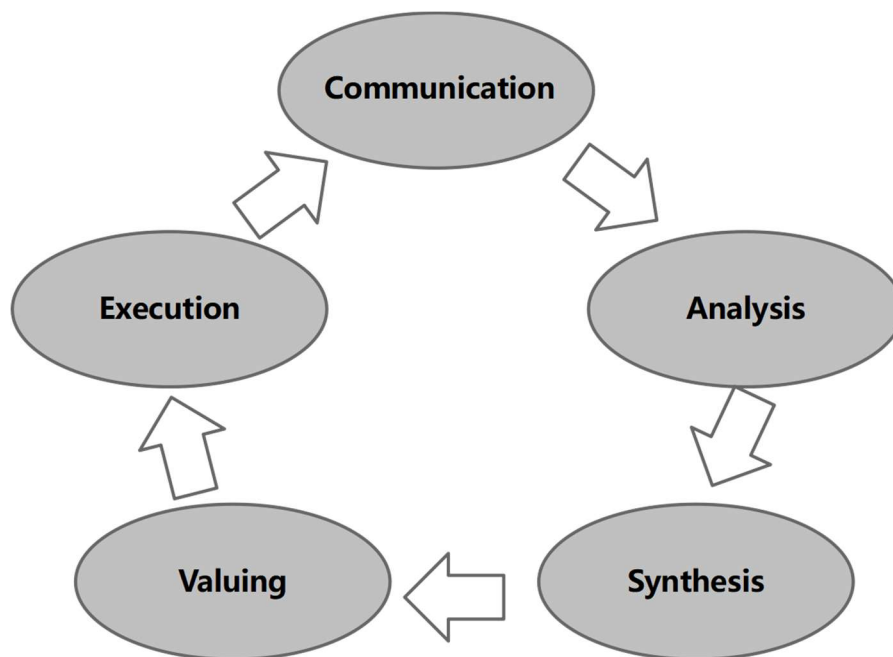
Figure 2. CASVE cycle

3. The Path of Ideological and Political Reform in Curriculum based on Cognitive Information Processing Theory

3.1. Constructing Academic Stage by Combining Schubert's Career Development Model with Cognitive Information Processing Theory

According to Shubo's Structural stage theory of career development and CASVE cycle model, we determine the Educational stage and tasks of the academic career. We define the freshman year as the career exploration period. Combining the communication and analysis links of CASVE cycle model, we take awakening career awareness as the academic career task, inspire students to think about the planning of university academic career, improve their understanding of themselves and conduct analysis and path selection of professional development direction from the professional understanding; The sophomore year is the preparation period for their career, corresponding to the comprehensive and evaluation stages of the CASVE cycle. Students have basically formed their university career plans, with the task of improving their career abilities and conducting planning and decision-making evaluations; In my junior year, I am mainly facing graduation and entering a career choice period, corresponding to the execution phase of the CASVE cycle. I mainly implement the goals of my academic career planning and carry out an action plan for employment and further education. Carry out career education focusing on three stages, namely career awareness awakening education, career ability improvement education, and employment and education promotion action plan education, to achieve full course education. Assisted by counselors, career counselors, professional teachers, corporate mentors, and outstanding students, we aim to achieve all-round education.

3.2. Using the "Information Processing Pyramid" Model to Determine Curriculum Education Content

The theoretical knowledge layer of cognitive information processing contains self knowledge and professional knowledge. Combining the career stages and tasks of college students, the College Students' Career Career development Course is expanded to extracurricular and off campus, and various expansion courses and projects are innovated, and Design education projects and courses are designed, so that self knowledge and professional knowledge content

can run through the whole process of career education to achieve all-round education. The freshman mainly offers College Students' Career Career development Course, and the expansion projects include: professional knowledge lectures, alumni face-to-face, career exploration week, enterprise open day, new π youth growth plan, professional cognitive practice, etc. The sophomore mainly offers the expansion course "College Students' Career Ability Improvement Course", and expansion projects: professional IT culture festival, new π youth growth forum, career Career development contest, professional social practice and other projects; Third year expansion training lectures on "Improving Communication Skills in the Workplace", "Improving Stress Relief Skills in the Workplace", and "Improving Job Seeking Skills", as well as expansion projects such as workplace fast lane, workplace zero distance enterprise open days, and professional order classes. Expanding courses and projects mainly involve counselors, professional teachers, corporate mentors, and student mentors to achieve full education for all. Internalizing students' career awareness through metacognition: The metacognition at the top of the information processing pyramid refers to cognitive cognition, which refers to an individual's cognitive process, self reflection, and self supervision. It is a process of self-regulation, including self supervision, self-awareness, and self monitoring. We improve students' metacognitive level through individual career counseling and group counseling.

3.3. Integrating Cognitive Information Processing Theory with Content Mining to Express Ideological and Political Elements

The theoretical knowledge layer of cognitive information processing contains both self knowledge and professional knowledge, and the teaching content of self knowledge includes interests, abilities, values, and personal experience. In terms of professional knowledge, the focus is on designing course content that combines professional characteristics, focusing on talent cultivation plans, professional employment positions, career development paths, role models in the workplace, and excellent alumni characters. In combination with the Educational stage and tasks of the academic career, the self knowledge content will be focused on expanding the career ability module, designing the teaching content for improving career ability, and adding the career awakening teaching module. The four modules are designed to integrate the curriculum content of ideological and political elements, optimize the supply of ideological and political elements around political identity, craftsman spirit, professionalism, rule of law awareness, Core Socialist Values, and use different methods in teaching methods to promote students by combining the information characteristics of self knowledge and professional knowledge and students' cognitive rules. The specific design is as follows: In terms of self-knowledge, the focus is on designing course content that combines interests, abilities, values, and personal experience to help students explore their self-knowledge. Since self knowledge mainly comes from the Episodic memory of personal past experience, and mainly experiences the information processing process of interpretation and reorganization, teaching methods focus on experiential, case based, role playing, career fantasy travel and other ways of teaching. The design of each module is integrated with ideological and political elements, and the topics of interest are integrated with professional dedication education. On the premise of analyzing and understanding personal interests, we advocate the professionalism of love and dedication; Integrating patriotism, professional norms, and the spirit of craftsmanship into the education of competency topics; The theme of values is integrated into the education of Core Socialist Values and professional values to guide college students to consciously integrate the ego into the larger self. In terms of vocational knowledge, the focus is on designing curriculum content that combines professional characteristics, focusing on talent cultivation plans, professional employment positions, career development paths, role models in the workplace, and outstanding alumni characters, to help students explore vocational knowledge. Since the

essence of professional knowledge is semantic knowledge, teaching is mainly carried out through group information collection, video and video data, career character interviews, alumni face-to-face and other teaching methods. In terms of professional knowledge, we fully tap professional spirit, professional standards, patriotism, craftsmanship, new technology and new development trends of the profession and industry, Professional ethics awareness, and rule of law education.

4. Practical Characteristics of Curriculum Reform based on Cognitive Information Processing Theory

4.1. Collaborative Linkage of "One Chess" to Create a Curriculum Ideological and Political Education System

Adhere to the decision and deployment of the CPC Central Committee, the State Council and the Ministry of Education on "Six Stabilities and Six Guarantees", earnestly implement the spirit of relevant policies at the provincial, municipal and university levels, do a good job in college students' career Career development, strengthen the guidance of the Party organizations, colleges, enrollment and employment departments on curriculum construction, take "employment and entrepreneurship" as the guide, strengthen the "ability standard", and take career curriculum construction as an important starting point for morality and talent cultivation. The college has established a leadership group for student career education work, vigorously supporting and guiding course construction, collaborating with multiple resources, strengthening collaboration between departments, schools and enterprises, and schools, creating a "full process, full staff, diversified, and project-based" course ideological and political education and personnel training system, building a "new π youth growth classroom" structure, and comprehensively creating career development related services, Complete the overall design of educational programs based on cognitive information processing theory for students, bridging the "last mile" of employment.

4.2. Connecting the "One-stop" Needs and Building a Platform for Ideological and Political Education in Courses

Actively build a career course ideological and political education platform that covers self-exploration platforms, career ability improvement platforms, and employment and education service platforms, accurately connecting students' growth needs in a "one-stop" manner. Build a self-exploration platform to provide self-exploration assessment for all students after enrollment. Relying on the Beisen Jixun assessment system and studio consulting tools, the platform covers a total of 19 assessment scales, self-exploration, career exploration, and decision-making action tools. It helps students learn about their career interests, personality, values, and abilities, obtain career and learning information, and master career decision-making methods, We provide evaluation services for a total of 12372 students from 22 levels.

(1) The Professional Ability Enhancement Platform provides students with quality and ability enhancement projects, mental health service projects, and professional skill enhancement projects. Through "online+offline" resources, the New π Youth Growth Forum is held, with three main groups of speakers: "leaders, guides, and fighters". The platform provides students with nourishment for growth and wakes up energy for life, moving towards a more vibrant and positive momentum. Among them, the leaders are mainly outstanding alumni and outstanding professionals from various industries. They share their growth stories and experiences with students, interpret industry information and employment policies, and become the leaders of students' future paths; The guiders are mainly young leaders, model worker, career planners, psychological counselors, and outstanding teacher representatives, who act as the guiders on the life path of students and lead them forward; Strugglers mainly rely on young people who

work hard and run in school to share stories of struggle and inspire students with the power of role models. The studio carried out a "on campus off campus" professional ability improvement activity, established 53 off campus professional practice bases, collaborated with schools and enterprises to educate students, and hired more than 36 off campus enterprise mentors.

(2) The employment and education service platform provides students with training services such as resume diagnosis, interview guidance, etiquette training, education guidance, and image design, providing guidance to nearly 3000 students; Go to enterprises and employers to negotiate talent cultivation and transportation work, actively connect talent recruitment needs with graduates' career selection needs, organize "online offline" and multiple job fairs, and provide 8000 employment positions for graduates every year; Organize alumni forum activities and build a communication platform between grassroots employment alumni.

5. Integrating a Series of Resources to Extend the Practical Connotation of Ideological and Political Education in the Curriculum

The curriculum integrates various online and offline resources, both on and off campus, as well as in and out of class, to extend the practical connotation of career culture education. Online use of Super Star Learning to establish an online interactive platform. The number of activities for the course "Improving College Students' Career Development Ability" reached 9109, and courses such as "Understanding - Finding Your Career Direction" were launched on the alumni bond platform, with 1063 views (see Figure 5). Relying on the "24365" campus recruitment service platform of the Ministry of Education and various cloud platforms for job hunting and recruitment of college graduates; Beisen Career Education Integrated Platform, Dagong System, Jixun System, Job Resume, etc; Career guidance work is carried out on the employment center website. Offline career counseling work is carried out through courses, workshops, social practices, enterprise visits, the construction and use of internal and external consultation rooms, and group support rooms. Relying on internal and external resources, we conducted activities such as professor talk about majors, career character interviews, alumni interviews, and face-to-face interviews with celebrities. We conducted a total of 35 professor talk about majors and completed over 300 career character interview reports. We have jointly established a 5G+industry education integration research institute with China Unicom, providing over 30 outstanding students to industries such as automotive parts, electrical appliances, and plastic woven food over the past three years; Fully leverage the "Optical Network Academy" jointly built by Huawei Technology Co., Ltd., a global leader in the optical network industry; The Information and Innovation Industry College jointly established by two leading enterprises, China Soft International and Huawei, promotes the integration of "industry chain", "education chain", "innovation chain", "talent chain" and "four chains", and the linkage of "five industries" of industry, industry, enterprise, occupation and specialty, to provide students with order class training, employment recommendation, orientation and other work, and promote high-quality employment and entrepreneurship. Related work has been reported by Guangming Daily and other media.

Acknowledgments

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