

Integration of CIP theory into college students' career planning course teaching

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Abstract: This paper mainly introduces the CIP theory and its value and application in the teaching of college students' career planning course. CIP theory includes knowledge category, decision category and execution category (metacognition), the core of which is to make better decisions and get better results. In teaching, CIP theory functions from four aspects: self-cognition, object cognition, decision making and metacognition. Teachers should improve their self-cognition to meet the requirements of modern education; Teachers should accurately recognize the characteristics of students to achieve good interaction; optimize teaching design to promote students' all-round development and professional growth; and through teaching reflection, adjust the strategy to improve the effect of education. To integrate CIP theory into the teaching of career planning courses, it is necessary to allocate teaching modules according to teachers' expertise, pay attention to the characteristics of student groups and the needs of different grades, set clear teaching goals, integrate ideological and political elements, expand the extension of teaching, attach importance to teaching reflection and invite enterprises to participate in practice modules, so as to improve the teaching level and the probability of "two-way adaptation" between students and enterprises. Scientific career planning is helpful to college students' reasonable career orientation, clear career goal and clear career development. The effective introduction of theories into the teaching of college students' career planning courses can not only improve the teaching quality, but also guide students to better plan their career future. As a cognitive information processing theory, CIP theory provides a new perspective and method for deepening the teaching of career planning. This paper attempts to explore the value and application of CIP theory in the teaching of college students' career planning courses, in order to provide useful reference for improving teaching level and promoting students' career development.

1. Introduction of CIP theory

Cognitive Information Processing Theory (CIP) is a cognitive information processing theory developed by Gary Peterson, as shown in Figure 1, James Sampson, and Robert Reardon in their book *Career Development and Service: A Cognitive Approach* based on innovative thinking about career development.^[1] The theory is based on the basic assumption that behavior is determined by the

internal information process of the organism, and the individual's career decision making and development process is essentially a process of learning information processing ability. Including the pyramid of information processing domains, an important tool for processing information. Thus, career development can also be described as observing how a person makes career decisions and how information is used in career problem solving and career decision making processes. The knowledge category at the bottom of the pyramid includes both self-knowledge and professional knowledge, and includes the accumulation of knowledge necessary for making career choices; In the middle layer is the decision-making category, which includes five steps: communication, analysis, synthesis, value and execution, referred to as the CASVE cycle^[2]. At the top level is the executive category, also known as metacognition, that is, thinking about our decision-making process, cognition and monitoring of our cognitive process.

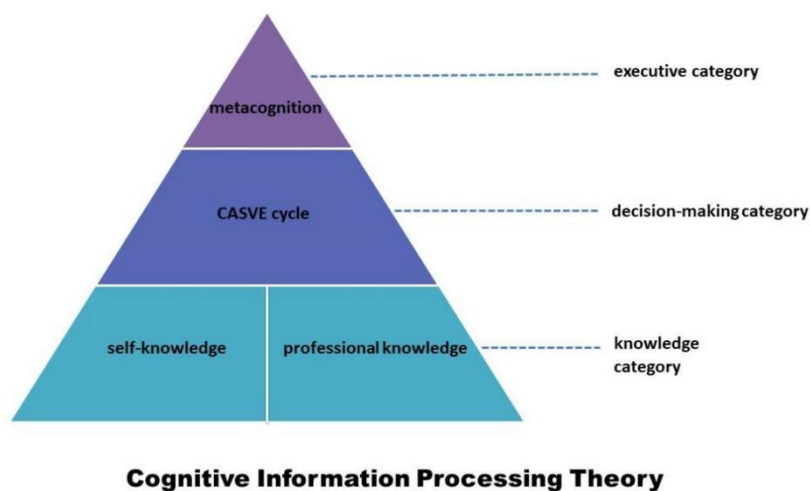


Figure 1: Cognitive Information Processing Theory

2. The value of CIP theory in the teaching of college students' career planning courses

CIP theory focuses on cognitive information processing (covering knowledge acquisition, transformation, storage and application), and strives to ensure that all information entering the system can continuously output quality results under the premise of clear understanding of its own and external conditions, under the supervision of metacognition, and through the operation of a solid decision-making system, strive to make better decisions and continuously obtain better results. Therefore, CIP can be applied not only in the field of personal career, but also in the teaching of career planning courses.

Classroom teaching can be divided into two aspects: supply side and demand side. As the main body of teaching, teachers play a leading role in classroom teaching by making full use of their own knowledge system framework and comprehensive professional ability. Students, as the object to be taught, namely the demand-side side, obtain professional guidance from teachers. Supply and demand are not only closely related and mutual promotion, but also relatively independent, with their own operating laws, there is a dynamic balance between the two.

How to correctly deal with the relationship between supply (teaching subject) and demand (teaching object), should be combined with the specific situation of classroom teaching to study and grasp. As far as the supply side is concerned, although the types of courses, teaching objectives, teaching contents, teaching methods and so on show a diversified trend, the one-way knowledge imparting mode is still dominant. On the demand side, young students who grow up in the all-media

era have their own network discourse system, with symbolic discourse that is easily accepted by young people. Therefore, whether the dialogue path is smooth plays an increasingly decisive role in the quality of knowledge imparting and knowledge internalization, and the demand for innovation in teaching methods becomes more and more prominent.

Based on the three levels and four key points of CIP theory, the standard course teaching is analyzed from the bottom up.

2.1 Self-knowledge (teaching body): How can I understand myself more deeply in order to promote better results?

As the main body of classroom teaching, teachers shoulder the heavy responsibility of implanting knowledge and answering doubts. They should actively rely on the main position of education and teaching in the first classroom, improve their classroom control ability with high-quality teaching methods, and implement the fundamental task of cultivating morality and educating people.

The concept of the new curriculum reform advocates teachers to carry out lifelong learning, and this learning not only covers the full recognition of their own advantages, improve their own knowledge level, but also includes improving their teaching ability level, and further promote the effective integration of "teaching has a method, teaching has no set method, it is important to obtain the method", so as to better adapt to the requirements of modern education. In the primary stage, that is, "teaching method", teachers should "learn from the achievements of predecessors", learn from, choose in thinking, profit and loss in application, and gradually build up their own teaching methods; "Teaching without definite method" requires teachers to base on the teaching plan rather than sticking to the teaching plan, and should adopt the corresponding teaching methods according to the students' classroom learning degree, understanding depth and personality differences. The final realization of "obtaining the method", in order to achieve teaching quality and efficiency: first, follow the teaching law, summarize the teaching method; Second, pay attention to teaching experience, promote scientific teaching; Teachers should pay attention to the main points of teaching and promote the diversification of teaching. Teachers should pay attention to the main points of teaching and promote the diversification of teaching. Teachers need to combine direct and indirect experience, implement "double-subject" teaching, integrate the leading role of teachers in teaching with the principal position of students in learning, start from exploring the main body of teaching itself, improve self-cognition, enhance classroom control ability, so that students can be inspired in learning, master the ways and keys of learning, and realize learning to gain and enjoy.

2.2 Object cognition (teaching object): What is the object I am facing, what are its characteristics, and how to promote better results according to the characteristics of the object?

For example, if the dissemination of knowledge is compared to product sales, then we first have to clarify who the real customer is, we expect their products to be sold at the same time can also get recognition, so the product is oriented to the B end or toward the C end of the force, the two discourse systems have obvious differences, what is said to the B end can not be said to the C end. Therefore, it is extremely important to accurately understand the characteristics of the audience.

Most of the contemporary college students are "post-00s" who grew up in the process of market economy and globalization and opening-up. Their values and behavior patterns are unique to this group. One of the outstanding characteristics is that the traditional "authority consciousness" is gradually weakening. They no longer blindly follow or superstitious elders, teachers and experts in professional fields. Instead, they break the tradition of absolute "obedience to authority" and bravely explore their own logic of doing things.

Han Yu once mentioned in "Teachers Say" that "disciples don't have to be inferior to teachers, and

teachers don't have to be better than disciples". This sentence still has a very important practical significance in today's view, which fully demonstrates the educational concept of "teaching and learning" and "ability is teacher". Classroom teaching is not a unilateral mechanical output or forcible indoctrination, but a good interaction between teachers and students.

2.3 Decision-making (instructional design): Does my decision-making conform to the principles and processes of decision-making? Is there any deduction? Is the decision-making thinking forward-looking?

Curriculum teaching design is not only the basis of teaching activities, but also the key to ensure the quality and effect of teaching. It can help teachers to clarify the teaching objectives, ensure that the teaching content and teaching methods are in line with the expected results, and then make students understand and master knowledge more effectively. To optimize the teaching content, teachers should select the appropriate teaching content according to the teaching objectives and students' actual situation after in-depth analysis of the teaching material, and ensure that the teaching content is targeted, practical and forward-looking; To use appropriate teaching methods, teachers can employ task-driven, lecturing, visual demonstration, case analysis, experiment, etc., to fully stimulate students' interest in learning and enhance teaching effectiveness; To improve teaching efficiency, instructional design can assist teachers to reasonably plan teaching time, optimize teaching process, and compact teaching links through careful design of teaching steps; To promote the all-round development of students, instructional design attaches importance to cultivating students' comprehensive quality, covering knowledge, ability, emotion, attitude, etc., and builds a "big ideological and political" field; To help teachers' professional development, instructional design is an important part of teachers' professional development.

Through continuous practice and research of instructional design, teachers can improve their instructional design ability and teaching level, form a unique teaching style and characteristics, and constantly improve the quality of teaching.

The instructional design process is the process of optimization and decision-making. Through continuous grinding of lessons, improvement of curriculum content, innovation of educational concept, curriculum structure, education model and evaluation system, it explores the way for curriculum reform, promotes teachers to transform from knowledge carriers into mentors, helpers and facilitators^[3] in students' learning process, and strengthens students' main position in the learning process.

2.4 Metacognition (teaching reflection): Am I clear about what I am doing? Why am I doing what I am doing? What should I do when faced with a problem?

Metacognition has a profound impact on individual learning, thinking, decision-making and self-development. Teaching reflection is actually a metacognition process. Teaching reflection plays a significant role in the professional growth of teachers, the improvement of teaching quality and the optimization of students' learning effect. Teaching reflection is problem-oriented. Through metacognition, relying on students' classroom feedback, assessment scores and other factors as the evaluation criteria, it objectively evaluates the teaching quality of teachers, assists teachers to supervise and adjust strategies in the process of solving problems, continuously improves and optimizes their teaching methods and ways of thinking, and achieves personal growth and self-development at the same time. We lay the foundation for the smooth implementation of teaching activities and improve the effectiveness of education.

3. CIP theory into college students' career planning course teaching thinking

In the teaching of career planning course, the characteristics of teachers and students are analyzed according to the CIP theory, and the teaching level of career planning course can be effectively improved through practical teaching operations in four dimensions, so as to further explore how to better combine the theory with practical teaching, constantly optimize the curriculum system and serve the career development of students.

3.1 Self-cognition

Systematic career planning includes six steps: awareness and commitment, understanding of oneself, understanding of the world of work, decision-making, action and re-evaluation/growth. The first step is to understand career planning, focusing on explaining knowledge concepts such as career and career planning. Secondly, it is self-exploration in career planning, including interest exploration, character exploration, skill exploration and value exploration, which helps college students to carry out preliminary career positioning on the premise of understanding themselves. Then it is about the exploration of the working world, explaining the ways and methods to explore and understand the external world such as workplace, profession and organization. The individual comes to the decision-making stage, which is mainly to make career "decisions" on the basis of integrating the information of self-exploration and work world exploration, to clarify the direction and career intention of personal career development, and how to deal with possible obstacles in the process.

Then there is the action, which explains the action part after the decision -- how to apply for a job, write a resume, and go on an interview. Finally, growth, which describes how you manage your career development so that you continue to grow.

The above six steps constitute a relatively comprehensive and systematic operation process of career planning. In the actual classroom teaching process, they can be assigned according to the teacher's expertise, so as to realize the specialization and focus of individual skills. For example, teachers in charge of employment are taught in modules such as industry understanding and employment direction, giving full play to their knowledge advantages such as employment data, recruitment information and industry analysis accumulated in special work, so as to explore professional employment prospects with evidence and help. For example, in the modules of interest and personality, auxiliary theories such as "Holland code" and "Mayer-Briggs type indicator" can be taught by teachers of psychology majors; For another example, job hunting decision-making can be taught by teachers with corporate work experience, effectively avoiding the phenomenon of "two skins" between theory and practice.

The undergraduate teaching arrangement of career planning course is from the first year to the third year (6 semesters). According to the six steps of the vocational regulations, one module is arranged in turn each semester. Therefore, according to the teachers' own knowledge, it is recommended to arrange different lecturers according to different modules for the teaching of career planning courses, rather than one teacher to give a professional whole-course teaching.

3.2 Object cognition

At present, the majority of college students are post-00s, and post-00s show group characteristics such as personalized value pursuit, independent learning mode, and networked entertainment life. Post-00s college students pay more attention to individual emotional experience and value realization. They pursue personalized value realization, and focus more on individual development and value realization in collective view. The family education that post-00s college students receive during their growth is generally better than that of the post-80s and post-90s. They have a natural sense of

compliance to study and have the desire to learn independently. They are no longer limited to the study of textbook knowledge, but are more inclined to acquire knowledge through extracurricular practice, situational experience, network distance learning and other diversified ways. Post-00s college students are called "digital media natives". Their way of thinking, way of life and way of entertainment are deeply networked, and they generally have strong social, consumption, entertainment and learning capabilities based on network platforms.

The modes of cultural inheritance in today's society are becoming more and more diversified, showing the remarkable characteristics of The Times. Among them, the rise of "post-metaphor culture", which is mainly characterized by the reverse transformation of cultural inheritance relationship, promotes the two-way development of teaching subject and teaching object, and the traditional one-way knowledge inculcation model is no longer applicable. Teachers should try their best to open up the dialogue path between youth culture and socialist culture, pay attention to new ideas and methods in the field of education, and integrate them into classroom teaching, such as student-centered, competency-oriented, innovative education and other concepts. Teachers and students should promote each other and make common progress in the teaching process.

What's more, students in different grades focus on different lessons. For example, the first chapter of the career planning course mentions the importance of recognizing career planning. If the target group is freshmen, the teacher should guide them to form the awareness of career planning as soon as possible. If you are facing a graduate who is busy looking for a job, is it too late to find out what kind of job is suitable for you? What students really care about is how to find a good job! As teachers, we need to pinpoint the hierarchy of our audience's needs and their immediate needs. Therefore, with regard to the questions just mentioned, it is never too late to start one's career planning, and different stages will have their meanings and functions. When graduates face the pressure of finding a job, which is often accompanied by extreme anxiety, it is not easy for students to calm down and start self-exploration under such circumstances. Some students pessimistically believe that they will be grateful if an employer is willing to accept them, and have no time to worry about suitability. In this case, career planning may start with the most "practical" part, such as the exploration of abilities. Knowing what you can do often gives you a sense of certainty, stability, and can help you better prepare a resume and deal with an interview.

3.3 Decision Making

At the beginning of the course teaching, teachers should set clear teaching goals, clearly know where to lead students, and ensure that the teaching follows the right direction and path. In the course of teaching, teachers can compare the achievement of the goal in real time to judge the effectiveness of teaching, which is helpful for teachers to plan the content, method and progress of teaching in an orderly manner. In particular, it is worth paying attention to that the evaluation system of career planning courses has a very strong practicality. If it is separated from the market and industry measurement criteria, it is just a paper talk. The development of career planning is a practical process. Students should transform the results of self-cognition and career exploration into practical goals and action plans, and practice these plans in the subsequent study, life and job market, and continue to adjust and improve them.

Based on the goal of education, we advocate "five education simultaneously". Apart from the original knowledge of career planning course, teachers should also integrate the goal of ideological and political education to cultivate students' feelings of family and country, social responsibility, professional ethics and teamwork spirit. During classroom teaching, teachers can use multiple teaching means, such as case analysis, group discussion, role play, etc., to lead students to think and experience in practice, and integrate ideological and political elements into the teaching process of

career planning. In the practical course, students can be organized to participate in social practice, internship, voluntary service, career planning competition, innovation and entrepreneurship activities, so that students can realize the importance of social responsibility and professional ethics in the activities and competitions, and improve their professional quality and practical ability.

Starting from the goal of employing enterprises, talent training needs to meet the market demand. Market demand is one of the important factors that determine the employment and career development of talents. In the current competitive job market, it is extremely important for college students and professionals to clarify the market demand and combine it with their personal career planning. When designing a career planning course, teachers should pay attention to the current market trend and industry dynamics, and they can collect relevant information of different majors with the help of market research, industry reports, corporate interviews, and other forms, understand the development frontier of different industries, the requirements of career positions, and the future employment trend, and emphasize personalized guidance.

At the same time, teachers should pay attention to the extension of the teaching of career planning courses, and help students to clarify their strengths and weaknesses and draw up career development plans that fit their own through one-on-one consultation, career assessment, presentation by outstanding alumni and other ways other than the first class.

3.4 Metacognition

John Dewey once said, "A person needs to begin his reflective thinking with observation in order to examine situations. Some observations are made directly through the senses; Others are recollections of old experiences, one's own or others'." Teaching reflection is such a kind of introspective thinking, it plays a decisive role in the teaching process, prompting teachers to examine all aspects of teaching, for the end of the teaching process to review, understand, improve the thinking process.

From the level of teaching process, teachers' ability to control the key and difficult points of the course, flexible use of teaching strategies and teaching skills are positively correlated with the number of lectures. Teachers reflect on and improve their teaching level in the process of continuous accumulation. For example, in the section of value exploration in the course of career planning, in the traditional and new teaching methods, teachers usually start from the definition of values, the importance of values and the incentive function of values. Most of the values conveyed by the way of teaching only stay at the cognitive level. If interactive games such as professional values classification card and value auction are adopted, the mode of practice before theory can not only make the classroom atmosphere active, but also allow students to feel and think about their own professional values more directly. From the point of view of teaching process, the latter is obviously better.

In addition, as far as students' job-hunting development is concerned, teachers should always be clear that the external manifestation of teaching reflection is to make the teaching efficiency and effect better, but the fundamental logic is to focus on the goal that the teaching needs to achieve. In short, the ultimate goal of the career planning course is to help students find a "two-way fit" of jobs, here said "two-way fit" refers to the student is willing to go to the enterprise, and the enterprise values the core competitiveness of the applicant has, so as to achieve a win-win situation. The career planning course is divided into theoretical and practical modules. In the practical module, if well-known companies in the industry can be invited to participate, it will make job preparation more concrete image, thus improving the probability of "two-way adaptation".

4. Conclusion

In a word, CIP theory has important application value in the teaching of college students' career planning courses. We should make full use of the advantages of the theory, compare the three levels and four points of the theory, improve the teaching quality from multiple dimensions, help students make reasonable career planning, and realize the organic combination of personal value and social needs. It is believed that in the continuous practice and improvement, CIP theory will bring greater help to the career development of college students.

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References

- [1] Zhen Yang, Jing Xu. *Construction of college students' Career Planning Curriculum System based on Cognitive Information Processing theory* [J]. *Going abroad and Employment (Employment Edition)*, 2011, (19):74-75.
- [2] Gulan Zhong, Kai Yang. *Career Development and Planning of College Students (Second edition)* [M]. Shanghai: East China Normal University Press, 2016:125-126, 9-11.
- [3] M. David. Merrill. Qunli Sheng, Shanyun He, et al. *Primary Teaching Principles* [J]. *Contemporary Education and Culture*, 2014, 6(6):1-7.