

Applying constructivist cognitive structure theory to school mental health education

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Abstract: Contemporary constructivism combines the strengths of classical cognitive schools with contemporary characteristics. The cognitive counseling theory embodying the constructivist spirit, by adhering to the principle of "rational construction for resolving confusion, adjustment, and promoting development," features operational processes and methods similar to students' knowledge learning processes, methods, and goals, making it suitable for school mental health education. The research team flexibly applied cognitive constructivist principles to mental health education in secondary vocational schools, establishing a set of strategies and methods that are relatively appropriate; and developing a set of educational content that is relatively applicable and available for reference and adoption. These methods and content are, in principle, also applicable to mental health education work in universities.

Keywords: constructivism, cognitive structure, construction, mental health education

1. Introduction

A comprehensive survey of mental health education in universities and secondary schools reveals that teachers consciously or unconsciously employ psychoanalytic theory, humanistic theory, and cognitive theory. Through analysis of current university mental health education practices, as well as psychological assessments and education for secondary vocational students, the research team most strongly advocates cognitive theory, believing that the construction principles and corresponding strategies of "cognitive structure" are best suited for university and secondary vocational students whose education is primarily developmental with pathological intervention as a supplement.

2. The theoretical appropriateness of "cognitive structure"

2.1. A brief introduction to cognitive structure and its construction

2.1.1. From schema to knowledge system

Generally speaking, cognitive structure refers to the knowledge system in the human mind that possesses cognitive-evaluative functions. This concept was established on the basis of the "schema" proposed by Jean Piaget, the representative of classical cognitive schools, and was subsequently extended and expanded by modern cognitive psychology, then further developed, enriched, and elevated by contemporary constructivism. Although different theorists offer different interpretations of schema and cognitive structure, they generally include the following key points: First, schema or cognitive structure exists in memory as what people know (primarily knowledge and experience, including declarative knowledge and procedural knowledge); Second, schema or cognitive structure is organized around a particular theme; Third, there are numerous empty slots within schema or cognitive structure that can be filled with new information; Fourth, schema can be applied to a wide range of situations. [1] These four key points outline what cognitive structure is, how it is organized, its potential for future development, and its functional applications.

2.1.2. Piaget's assimilation, accommodation, and equilibrium

The construction of cognitive structure refers to the process by which it is established in the mind. In other words, it is the process by which people's knowledge and experience are organically combined into a useful system in the mind. Jean Piaget, the representative figure of classical cognitive schools, characterized this process through assimilation, accommodation, self-regulation, and equilibrium based on rigorous experiments. Among these, assimilation and accommodation characterize the process; equilibrium characterizes the result; and self-regulation characterizes the mechanism of assimilation and accommodation. Piaget believed that equilibrium is a harmonious, adaptive state established between subject and object through assimilation and accommodation. Equilibrium is both a relatively static state and a dynamic process. Because the state of equilibrium may be broken by new information at any time, integration at a new level is required to achieve a new equilibrium. The integrative mechanism that enables equilibrium to reach a new level is self-regulation. In summary, Piaget's concept or theory of "construction" not only explains how a knowledge system is constructed, but also indicates that the essence or result of construction is to achieve adaptation to the environment and maintain dynamic equilibrium with the environment. At the same time, the breaking of equilibrium and integration at a new level signifies the development of the subject. Construction → Equilibrium → Development, this trinity is the essence of Piaget's constructivism, providing broad space for the achievements of contemporary constructivism in the fields of learning and psychological counseling.

2.1.3. The in-depth elucidation of the learning process by contemporary constructivism

Contemporary constructivism offers an in-depth explanation of the construction process in student learning. This explanation is also applicable in principle to psychological counseling and self-adjustment. Constructivism posits that construction encompasses two aspects: on the one hand, students' understanding of new information is constructed through the application of existing knowledge and experience, going beyond the new information provided; on the other hand, when applying existing experience, it must be retrieved from memory, and retrieval is not mere transportation but rather involves reorganizing original knowledge and experience to varying degrees according to the specific circumstances of the new information. Reorganization is itself a form of construction. Therefore, construction should be understood as dual construction. [1]

2.2. Cognitive structure construction theory applies to school mental health education

2.2.1. From academic theory to educational practice

The construction theory of cognitive structure holds an important position in cognitive school theory. Modern cognitive scholars have not only used it to construct theories and models for effective learning and psychological counseling, but also applied it to school education practice, playing an epoch-making role distinct from behaviorism and psychoanalytic theory in modern educational reform, students' effective learning, and the maintenance of mental health.

2.2.2. Questioning absolute truth and focusing on subjective construction

Contemporary constructivism, representing cognitive theory, influenced by contemporary philosophical trends—postmodern philosophical thought and philosophy of science—questions the legitimacy of absolute truth, opposes "superstition of scientific knowledge," and holds that while the world is objective, the understanding of the world and the meaning ascribed to it are constructed by each individual. Due to differences in personal experience and beliefs, our interpretations of the external world vary. Therefore, they focus more on how to construct knowledge based on original knowledge, experience, beliefs, and even the entire psychological structure, thereby expanding the scope of cognitive structure; they pay greater attention to individual differences and subjective initiative in construction, thereby strengthening the evaluative function of cognitive structure. [1]

2.2.3. The unity of the learning process and the problem-solving process

Contemporary constructivist principles have a significant impact on school mental health education, particularly on psychological counseling. Cognitive-constructivist psychological counseling theories treat psychological counseling as a learning construction process for students. This is because the subjects of both

constructions are mostly normal individuals, and the problems addressed in counseling and learning are mostly confusions encountered in personal growth. Learning involves imparting knowledge, teaching skills, and resolving doubts. Psychological counseling, moreover, resolves confusions of another nature. Both seek to construct scientific, rational knowledge systems, as well as psychological structures for operating this knowledge, such as thinking, imagination, memory, ideals, beliefs, and values; the goals both aim to achieve are the promotion of human progress and development. Therefore, cognitive psychological counseling theories are most suitable for university and secondary school students and are also the most prevalent.

2.2.4. From theory to campus application

The currently most popular Rational Emotive Therapy (RET) developed by Albert Ellis is highly consistent with contemporary constructivist principles. Its basic ABC theory posits that emotional disturbance C is not directly caused by A, but rather arises from whether B (viewpoints, beliefs)—the perception and belief regarding a certain event A—is rational and appropriate. In terms of how to regulate emotions, Ellis compared the characteristics of eleven irrational beliefs with their corresponding correct concepts, advocating the replacement of absolutized irrational cognition with dialectical rational cognition to achieve the purpose of resolving confusion and regulating emotions. Rational emotions are elicited by rational cognition and regulated by it, thereby achieving mental health. This is precisely the essence of RET and also the reason why it is suitable for the regulation of general psychological disorders in normal individuals. In recent years, some scholars engaged in university mental health education work have introduced it into their own research, [2] demonstrating a trend toward cognitive-type psychological education research gradually entering campuses.

3. The targeted nature of cognitive patterns

American psychologist M. Basseches simplified Piaget's cognitive construction theory into a "Construction-Development" model [2] (see Figure 1), making it more targeted for mental health education.

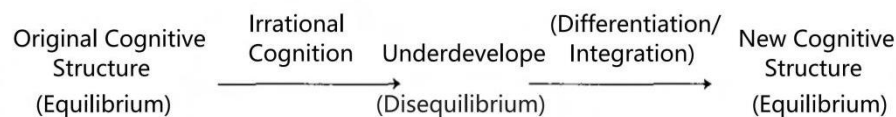


Figure 1 Basseches' Psychological Counseling Model

3.1. The structure of the model

This model reveals the current state and developmental trends of individual mental health, as well as the adjustment process. When the cognitive evaluation system in an individual's mind, or the entire subjective world, maintains equilibrium with the external environment, the individual can adapt well to the environment and progress in development—this is the manifestation of mental health. Once irrational cognition intrudes, causing the cognitive system to lose balance with the environment and producing psychological confusion and emotional disturbance, the individual cannot adapt well and falls behind others—this is the manifestation of poor mental health. Therefore, new rational cognition must be introduced to adjust the cognitive structure, differentiate and integrate it, and replace it with a new cognitive structure that maintains equilibrium with the environment at a higher level, thereby demonstrating a higher level of mental health and psychological quality.

3.2. The targeted approach to psychological education in universities and secondary schools

3.2.1. The spiritual core of construction, equilibrium, and development

From the perspective of the model's orientation, it embodies the spirit of construction, equilibrium, and development. It not only emphasizes the intervention of individuals' current psychological crises but also pursues future development and progress, aligning with the educational goals of schools.

3.2.2. The central role of rational cognition in psychological regulation

From the overarching spirit embodied in the model, it highlights the role of rational cognition in both the causation and regulation of psychological confusion. This model posits that the cause of psychological confusion is not the direct effect of external events, nor is it the ego identity confusion of humanism, nor the repression of latent needs in psychoanalysis; rather, it is cognitive dissonance caused by irrational cognition. For instance, attributing romantic failure to physical appearance, or attributing examination mistakes to lack of ability—these are not uncommon among university and secondary school students. Since physical appearance is innate and ability cannot be changed overnight, they feel extremely despairing and distressed. Based on this, the model believes that psychological regulation should change their viewpoints and beliefs, differentiate and strip away irrational cognition from the existing cognitive evaluation system, and integrate reasonable cognition into a new cognitive system, thereby maintaining equilibrium with the environment at a new level.

3.2.3. *The dialectical unity of emotion and cognition*

From the perspective of cognitive structure reorganization, it emphasizes that emotion and cognition are equally important. It holds that there exists a dialectical relationship of mutual influence between emotion and cognition: only by regulating emotions through correct cognition and by melting cognition and catalyzing behavior through positive emotions can new cognitive horizons and sound coping styles be established, thereby achieving the goals of development and progress. The principles of the "Construction-Development" model are easy to understand, its methods are concise and clear, and it can be readily mastered by teachers who also undertake mental health education work.

3.3. **The integrated model orientation**

When we consider a particular theory or model especially suitable, it is not advisable to exclude the adoption of other theoretical models.

A specific model of psychological counseling always corresponds to a theoretical school within psychology. Around the 1930s, various theoretical schools shifted from their previous contentious state to one of mutual attraction and mutual supplementation. This has created conditions for us to synthesize the strengths of various theories and corresponding models in application, maximizing advantages and minimizing disadvantages, thereby better guiding practice. School mental health education practice indicates that the objects of psychological education are not only the majority but also minority groups. University students and young teachers with neurotic and obsessive-compulsive personalities are occasionally encountered, and their psychological adjustment is most suitable for the psychoanalytic model. As for the humanistic theory of ego identity, it is highly suitable for high-IQ, high-level young students. Furthermore, in each instance of psychological counseling, every seeker possesses a personality, motivation, and life experience different from others, as well as expectations of the counselor. These are all important factors that cause or alleviate their psychological conflicts. Thus, no single model can be absolutely suitable for any seeker; each counseling model has its own characteristics, strengths, and weaknesses. Based on these factors, it is necessary to select strategies and methods more suitable for them according to each seeker's specific circumstances, as well as the merits, adaptability, and contraindications of various models, regardless of which theoretical system these strategies and methods belong to.

4. **The innovation in the application of cognitive models**

The author, in the course of research, creatively applied cognitive constructivist principles to the psychological education of secondary vocational school students, which has, to a certain extent, refreshed the school's approach to mental health education and transformed the mental health education status of students. Educational methods suitable for secondary vocational students are, in principle, also suitable for university students. In summary, this is manifested in the following aspects:

4.1. **The adaptability of applying old methods in new ways**

4.1.1. *Classroom lectures and special topic lectures*

To help students establish cognitive structures, in addition to one-on-one psychological counseling, we employ classroom lectures and written assignments, relatively concentrating a period of time to offer special

topic lectures, implementing active guidance targeting the common psychological confusions they encounter in job seeking, study, and daily life. This method is highly suitable for secondary vocational students.

4.1.2. Practical rationale for topic-based lectures in secondary vocational education

First, because secondary vocational school students have short academic programs and high mobility, they may enter the workforce at any time due to recruitment needs. They also frequently leave the classroom for internships and practical training during their studies, making it impossible for them to undergo tightly controlled experimental training. Second, secondary vocational students are in early adolescence, aged fifteen to eighteen, and compared with university students, they lack strong independence and initiative in seeking help, being more receptive to classroom lecture-style guidance. Third, the special topic lecture format embodies the didactic method and active guidance spirit of Ellis's Rational Emotive Therapy. Although this contradicts the passive principle of traditional psychological counseling (waiting for clients to come), the effects are evident.

4.2. Demonstrating the targeted nature of problem-solving

The special topic lectures were conducted in six sessions, each lasting approximately two class hours, corresponding respectively to the common psychological confusions and negative emotions of secondary vocational students. These included worries about job seeking, employment, and future prospects; anxiety over inability to understand or remember academic material; confusion due to poor interpersonal communication; trepidation about initial romantic involvement; and the question "Which personality is better, a bold one or a gentle one?" The resolution of these confusions and negative emotions was carried out through reasoning, emotional engagement, and behavioral guidance. For instance, the main title of the special topic "Cultivating Good Interpersonal Communication Skills" was "May You Possess a Wise and Happy Life"—a lively and vivid title that implicitly conveys the importance of interpersonal communication. When analyzing the importance of interpersonal communication and the skillful use of techniques, the approach was not rigid didacticism but rather emotionally rich expression, such as "The beauty of life lies in the beauty of human relationships! The happiness of life is the happiness of interpersonal communication!" The closing remarks were "People are not lovable because they are beautiful, but beautiful because they are lovable." "May friends accompany you throughout your life; may love accompany you throughout your life!" These words, which enlighten through reason and move through emotion, left a deep impression on the students. In their written assignments, students wrote: "These words are so wonderful!" "Hearing your words is worth more than ten years of reading." These sentiments were precisely where their negative emotions began to thaw, and they align with the principles of rationally regulating emotions.

4.3. Demonstrating the systematic nature of the constructivist spirit

The cognitive structure in students' minds is an organic whole encompassing knowledge, experience, viewpoints, and beliefs, composed of many small systems organized by category, each revolving around a particular theme. For instance, under the theme of "coping with setbacks," there is often a system of reasonable or unreasonable knowledge, experience, viewpoints, and attitudes for dealing with various environmental changes of different magnitudes. Our six special topics correspond respectively to six aspects of setbacks encountered by students, and collectively revolve around a single theme (goal)—adaptation, progress, and development—to form a knowledge system. Through the construction of this systematic knowledge, students can develop relatively correct attitudes and more systematic coping methods for setbacks they have already encountered and those they are likely to encounter in the future. As contemporary constructivism emphasizes, schemas (cognitive structures) are not only used to deal with currently familiar activities but can also flexibly guide activities when facing new situations.

4.4. Consolidation, assessment, and self-training that embody the dual-construction spirit

4.4.1. From "what and why" to "how"

Based on the didactic psychological education principles of RET, we employ extracurricular written assignments to consolidate and examine the effects of classroom instruction. Simultaneously, the assignments also serve the function of students' self-training and self-construction.

The assignments are divided into two categories. The first category answers "what" and "why," used to consolidate and examine declarative knowledge. The second category answers "how," used to consolidate and examine procedural knowledge, and also serves the function of self-training. For example, "What is personality, and why is there no good or bad distinction among personality types?" "Based on the five-step career planning method, try to write a personal career development plan."

4.4.2. The transcendence and reorganization of student cognition

In extracurricular written assignments, students have relatively ample time to fully utilize their own knowledge and experience to examine certain viewpoints and beliefs, and to digest new knowledge and new information. If students possess a rich background of original knowledge and experience, and have strong self-reflection ability, they may generate a certain degree of creative transcendent understanding. For example, in the chapter on how secondary vocational students should approach love, some students, combining their own specific circumstances with the content taught by the teacher, made associations and extensions: "We secondary vocational students don't really understand love and romance; even if we do, we can't control certain emotions. However, as long as we don't take things too seriously... approach them with a normal mindset... don't fear waiting, for only love that is unafraid of waiting can continue."

Contemporary constructivism holds that understanding that transcends the content provided by new information is itself a form of construction. Simultaneously, such transcendence enriches and reconstructs students' original cognitive systems, constituting dual construction, whose value lies in endowing students' cognitive functions with greater flexibility and adaptability. It is evident that extracurricular assignments allowing students ample time for reflection serve not only the functions of consolidation and examination in cognitive psychological education, but also possess the value of self-training and dual construction.

4.4.3. The strategic significance of special topic lectures

Precisely because classroom special topic lectures possess the aforementioned characteristics, teachers responsible for psychological education in secondary vocational schools are willing to use these topics as teaching materials. Therefore, the greater strategic significance of special topic lectures lies in their inspirational and promising initiating role in the construction of mental health education materials for secondary vocational schools.

5. Conclusion

The principles of contemporary constructivist "cognitive structure" are suitable for school mental health education work, but they are not omnipotent. The arguments presented in this paper inevitably contain certain biases; as constructivists believe, as long as our understanding contributes to problem-solving, the purpose has been achieved.

6. References

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