

**Objective:** To design a questionnaire to explore the social factors affecting women’s gender role psychology by collecting and analyzing the literature related to cognitive psychology and women’s gender role. It provides a certain reference value for putting forward targeted countermeasures in the future.

**Participants and methods:** 100 women with bachelor’s degree or above were randomly selected from China. Collect and sort out the literature related to cognitive psychology and gender roles, and design a questionnaire to investigate the social factors affecting women’s gender role psychology. A questionnaire survey was conducted among the above 100 women, and the social factors affecting them were analyzed later

**Results:** After the questionnaire survey, all valid questionnaires were sorted out and Table 1 was obtained. Note that for the influencing factors listed in Table 1, five grade evaluation indexes of no impact, slight impact, general impact, obvious impact and full impact were used to evaluate their impact on women’s gender role psychology.

**Table 1.** Statistical results of questionnaire survey

Influence factor	Proportion of people selected for each impact level (%)				
	No effect	Slight impact	General impact	Obvious influence	Full impact
Gender stereotypes	1	15	23	56	5
Parental education mode	13	22	28	34	3
Content of compulsory education	4	18	42	33	3
Mass media	0	3	15	48	34

It can be seen from the analysis of Table 1 that the surveyed highly educated women generally believe that gender stereotypes and mass media are the most important factors affecting women’s psychology of different roles. The proportion of people who choose the two influence levels as “general influence”, “obvious influence” and “full influence” are 23%, 56%, 5% and 15%, 48% and 34% respectively. The respondents believe that the parental education methods and the content of compulsory education have a weak impact on the psychology of women’s different roles. The proportion of people who choose the two impact levels as “no impact”, “slight impact” and “general impact” are 13%, 22%, 28% and 4%, 18% and 42% respectively.

**Conclusions:** This study collects and arranges the literature related to cognitive psychology and gender roles, and designs a questionnaire to investigate the social factors affecting women’s gender role psychology. Through the analysis of the questionnaire results, it is found that the surveyed highly educated women generally believe that gender stereotypes and mass media are the main factors affecting women’s gender role psychology, followed by the content of compulsory education and the way of parental education. The study also found that women can adjust the negative psychology caused by women’s gender role psychology through the following methods. First, improve the level of self-awareness and strive to overcome the sense of inferiority. Some negative psychology of women is not innate, but caused by the acquired social and cultural influence. Therefore, we should learn to accept ourselves and scientifically understand the differences of gender roles. In fact, gender roles are different between the sexes, but there is no difference between high and low. Only self-confidence can fully display women’s unique style. Secondly, we should weaken the stereotype of gender roles and highlight individual characteristics. In fact, both male and female self-actualizers have transcended gender and reached a state of both “paternity” and “Motherhood”. This does not mean that we should eliminate gender differences in the process of socialization of children’s gender roles, but before doing so, let children first have an understanding of self-gender identity, that is, first of all, they can correctly understand and identify with their own gender, but do not stick to their own gender stereotype, and accept the beneficial characteristics of another gender, so that they can fully publicize their personality in the process of development.

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## THE INFLUENCE OF BIM TECHNOLOGY ON ENGINEERING MANAGEMENT

## TEACHING INNOVATION FROM THE PERSPECTIVE OF COGNITIVE PSYCHOLOGY

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**Background:** Cognitive psychology, in a broad sense, refers to the study of human attention, perception, memory, creativity, language and other disciplines related to the cognitive process of things. In a narrow sense, it is similar to information processing psychology, that is, it uses relevant information to process ideas, so as to study human cognitive process.

BIM (full name: building information modeling), that is, the building information model, that is, the technology or management method of applying 3D or 4D information technology to system model construction, collaborative construction, virtual construction, engineering quantity calculation, cost management and facility operation and maintenance in the whole or a certain stage of planning, design, construction and operation and maintenance. Using the excellent data support and other technical support of BIM technology platform can improve the management level of the whole process of project construction management and the income level of the project. In order to meet international standards in the construction field, the Ministry of housing and urban rural development has prepared the 12th Five Year Plan for the construction industry, which clearly takes BIM as the continuity model of the whole life cycle of buildings, so as to realize the integrated processing of the whole process of the project from design, procurement, construction, production to operation and maintenance. BIM will be one of the main technologies for the future application and development of China's construction industry. In 2015, Beijing, Shanghai, Shenzhen and other cities in China set up the application regulations for the application of BIM technology in the bidding stage. The application of BIM technology in China has made rapid progress, but the level and level are still generally low. In terms of application, it basically focuses on the collision inspection of single buildings. The optimization technology for large-scale projects is still under research, and its application in the teaching of engineering management colleges and universities is less. Therefore, this study analyzes the impact of BIM technology on the teaching innovation of engineering management from the perspective of cognitive psychology, it has certain practical significance.

**Objective:** To analyze the impact of BIM Technology on engineering management teaching innovation from the perspective of cognitive psychology by means of literature research, questionnaire survey and comparative experiment, so as to provide some reference value for improving the teaching quality of engineering management in China, shortening the distance between engineering management education and foreign advanced level, and exporting more excellent engineering management talents.

**Objects and methods:** Four domestic colleges and universities were randomly selected, and the stratified overall sampling was carried out according to the students' grade. 200 college students majoring in engineering management who were willing to participate in the research were obtained as the research objects. They were randomly divided into experimental group and control group, with 100 people in each group. Before the experiment, a questionnaire survey was conducted on the two groups of students. The questionnaire was designed by the research team to understand the ability level of project management of the respondents. After the survey, the experimental group was taught with BIM technology, and the control group was only taught with traditional engineering management. The teaching experiment lasted for 4 weeks. After 4 weeks, a questionnaire survey was conducted again for the two groups of students.

**Results:** After the questionnaire survey and comparative teaching experiment, the relevant test items used to test the main project management ability of the research object in the questionnaire are assigned a five-integer value of - 2 - 2 according to the mastery of the ability, so as to digitize the option results and improve the accuracy of statistical results. The data of the valid questionnaire are counted and Table 1 is obtained.

As shown in Table 1, after the teaching experiment, the average quantitative scores of the students in the experimental group after the engineering management teaching integrating BIM Technology in terms of project visualization ability, engineering modeling ability and project operation and maintenance ability are 1.614, 1.538 and 1.270 respectively. Compared with the data of the students in the control group, the variation ranges are 222.16%, 125.51% and 29.07% respectively, And the *P* values obtained by the *t*-test of the two groups of students on the three data are less than the significance level of 0.05. It is considered that the data difference is statistically significant.

**Conclusions:** In all links of architectural design, construction and operation management, more and more owners, construction enterprises and design enterprises are improving their understanding of BIM. BIM Technology will play a major role in the future project intelligent construction reform, and will be gradually applied to all sub fields of the construction industry. There are great differences in the teaching of BIM Technology between architectural and civil engineering colleges and universities. Only a few colleges and

universities in China have set up BIM courses, and the quality of BIM Technology teaching materials is also uneven. The teaching contents of teachers in different schools are very different. However, with the promotion of BIM application technology, more and more colleges and universities and undergraduate colleges have built BIM comprehensive laboratories, many universities in China, such as Tsinghua University, South China University of technology and other former 985 universities, have successively set up BIM research laboratories, but most of them also have problems such as weak teachers. At the same time, many higher vocational colleges have taken the lead in the construction of BIM laboratory and the application and practical teaching of BIM Technology in practical engineering, which has played a good exemplary role in other colleges.

**Table 1.** Quantitative statistical results of some engineering management professional abilities of the two groups of students after the teaching experiment

Statistical items	Experience group	Control group	t value	P value
Project visualization capability	1.614±0.412	0.501±0.547	1.587	<0.05
Cost budget calculation capability	1.217±0.313	1.209±0.572	0.416	0.862
Engineering modeling capability	1.538±0.562	0.682±0.665	0.873	<0.05
Project operation and maintenance capability	1.270±0.295	0.984±0.613	1.240	<0.05

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## BRAND CULTIVATION MODEL OF AGRICULTURAL PRODUCTS FROM THE PERSPECTIVE OF CONSUMER PSYCHOLOGY

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**Background:** At present, China’s agricultural products industry is facing two tests. First, after China joined the World Trade Organization in 2001, foreign brands in many countries occupied a dominant position in the Chinese market, while domestic agricultural products were relatively weak in policy protection, resulting in increasing pressure on the competitiveness of local agricultural products. Secondly, the growth of per capita disposable income of Chinese residents has rapidly upgraded the overall consumer market, and consumers’ demand for high-quality brand agricultural products has also increased. On the other hand, consumers’ demand for non-brand agricultural products has not increased in proportion to their income. At the same time, most of China’s local agricultural products circulate to the market through the cultivation and sales of individual farmers. The number of brands is small, there are fewer world-famous brands, and the brand quality is low. The brand construction of agricultural products is seriously insufficient. Building a high-quality brand of agricultural products has become the common goal of farmers, businessmen and entrepreneurs. This reflects that people’s consumption habits have changed from meeting basic needs in the primary stage to gradually pursuing commodity quality and connotation, and even now are completely attracted by product concept and derived meaning. Consumers’ brand awareness has gone through the process from not to gradually sprouting and even now gradually solidifying. It is the economic development that has improved people’s living standards. With the development of agricultural products market and the continuous enrichment of commodity types, people’s brand awareness is bound to gradually awaken, which reflects a new factor affecting consumers’ purchase behavior, namely consumer psychology. Only on the premise of fully grasping the psychological needs of consumers can products occupy the leading position in the market, which also provides a new topic for agricultural product brand operators, that is, how to tap the explicit and implicit needs of customers, popularize their own brand concept and reshape the use value of products. In this context, this study intends to study the factors that affect consumers’ consumption