

expert group is required to judge the influence degree of various reasons on the view of women in literary works. The influence degree is divided into no influence, slight influence, medium influence, obvious influence and full influence. The feedback results are sorted out and sent to the expert group for evaluation again. Until the expert group reaches an agreement on the evaluation.

**Results:** After the expert group reached an agreement, the evaluation results of the statistical expert group are shown in Table 1.

**Table 1.** Social psychological reasons for the change of women’s view in Russian literary works investigated by the Delphi method

Reason	No effect	Slight impact	Medium impact	Obvious influence	Full impact
The author and the masses are emancipated	0	1	3	12	9
The masses need more diverse literary works	1	2	6	10	6
Release the repressed desire to express	3	5	9	7	1
Foreign public opinion and guidance of literary works	1	4	12	7	1

The figures in Table 1 represent the number of people who the expert group believes that the corresponding reasons have an impact on the transformation of women’s view in Russian literary works at all levels. It can be seen from Table 1 that the expert group believes that there are four main social-psychological reasons for the transformation of women’s view in Russian literary works, among which “the minds of authors and the masses are liberated” and “the masses need more diverse literary works” have the most significant impact, followed by “foreign public opinion and guidance of literary works”.

**Conclusions:** In order to explore the reasons for the changes in women’s view in modern Russian literary works, this study selects research tools and methods from the more suitable research discipline social psychology to analyze the reasons. And share these reasons with the expert group for cross-validation to increase the reliability of the conclusion. After sorting out the opinions of the expert group, it is found that the expert group believes that the social-psychological reasons for the transformation of women’s view in Russian literary works mainly include “the emancipation of the thoughts of authors and the masses”, “the masses need more diverse literary works”, “the release of repressed desire for the expression” and “the guidance of foreign public opinion and literary works”, of which the first two have the most significant impact. The research results enlighten us that in the process of building socialist spiritual civilization, we should pay attention to maintaining the appropriate right of freedom of expression in the literary circles, to meet the growing diversified needs of the masses for literary and artistic works.

**Acknowledgement:** The research is supported by: Supported by the Fundamental Research Funds for the Central Universities (No. HIT.HSS. 202130); Heilongjiang Province Higher Education Teaching Reform Project (No. SJGY20200257).

\* \* \* \* \*

## TRAINING OF APPLIED TALENTS BASED ON ENGINEERING EDUCATION CERTIFICATION AND EVALUATION SYSTEM UNDER THE BACKGROUND OF EDUCATIONAL PSYCHOLOGY

Junjie Zhang, Lei Chen, Yawei Gu & Feng Ma

*School of Environmental Science and Engineering, Qilu University of Technology (Shandong Academy of Sciences), Jinan 250353, China*

**Background:** Educational psychology is an interdisciplinary subject composed of general psychology and pedagogy, which studies the psychological situation of human beings in the context of education, the teaching psychology of teachers and the overall consciousness and behavior of teaching related institutions. The research focus of educational psychology is to find the research results that help to improve the teaching effect and teaching quality in psychology, and apply them to improve the teaching mode in a reasonable way.

After China put forward the strategic goal of building a powerful manufacturing country, the

requirements of the state and society for the application ability of science and engineering students in colleges and universities have been greatly improved. Therefore, the training mode of applied talents in science and engineering based on engineering education and evaluation system is more and more adopted in colleges and universities. However, there are some problems in the construction and practice of the teaching mode of engineering education certification and evaluation system in some colleges and universities, such as unreasonable certification system, too strict cognitive standards, low response of students and so on. Therefore, educational psychology, which is specially used to improve teaching quality and promote the reform of teaching methods, is particularly suitable for improving the training mode of applied talents based on engineering education certification and evaluation system. Teachers and relevant school managers can investigate and understand students' real thoughts and psychological feelings about the teaching method of engineering education certification, and analyze the contents that can be improved in the teaching mode and do not conform to students' learning psychology, such as excessive and partial repetition of evaluation indicators, resulting in students' learning weariness, etc. So as to adjust and optimize this new teaching mode of science and engineering.

**Objective:** This paper analyzes whether the application of teaching psychology tools and principles in the process of using engineering education certification and evaluation system to cultivate higher applied engineering talents will help to improve the employment competitiveness and their own knowledge and skills.

**Objects and methods:** Collect the research literature on the talent training mode of science and engineering majors in China, and understand the current situation of the talent training mode of science and engineering. Then purchase the data of science and engineering talent training and employment in China in recent 10 years from a professional data supplier. The data set is sorted and cleaned, and the teaching modes are divided into three types: traditional mode without engineering education certification, engineering education certification mode and engineering certification mode with educational psychological intervention. Then compare the basic information of the three groups of students when they are exposed to engineering certification education. If there is no significant difference in the basic information of the three groups of students, carry out subsequent analysis. The monthly income data of the three groups of students after their first employment, one year after employment, three years after employment and five years after employment are statistically compared, and the statistical results are used as the basis to judge whether teaching psychology can optimize the talent training mode based on engineering education certification and evaluation system. In addition, the measurement data in the study are expressed by *t*-test and the combination of mean and standard deviation. The counting data are expressed in the form of number or proportion of number by Chi-square test, and the significance level of difference is set to 0.05.

**Results:** The employment data of three types of students are shown in Table 1.

**Table 1.** Comparison of employment income data of three types of students

Teaching mode grouping	First employment	One year after employment	After 3 years of employment	After five years of employment
No engineering education certification	4058±465	4825±846	6265±946	7521±840
Engineering Education Certification	4134±526	5362±753	7041±984	9044±922
Engineering education certification with educational psychological intervention	4122±653	5797±815	8319±813	11630±1154

The unit of income data in Table 1 is RMB, and the data are converted into the income data of 2021 under the condition of considering price factors. It can be seen from Table 1 that there is little difference in the income data of students with different education modes in their first employment after graduation. After one, three and five years of employment, the difference gradually expands. After five years of employment, the average monthly income of students who receive traditional education mode, engineering education certification mode and engineering education certification mode with educational psychological intervention is 7521, 9044 and 11630 respectively. The latter increased by 54.63% and 28.59% respectively compared with the former two.

**Conclusions:** At present, more and more universities in China have integrated the teaching mode of engineering education certification and evaluation system into the teaching of science and engineering, but there are many problems affecting the teaching quality in the application process. Therefore, this study proposes to apply the method of educational psychology to this teaching mode, and collect the education mode and employment data of science and engineering college students in recent 10 years to verify the

effect of this teaching mode adjustment. The analysis results show that after five years of employment, the average monthly income of students who accept the traditional education mode, engineering education certification mode and engineering education certification mode with educational psychological intervention is 7521, 9044 and 11630 respectively, and the latter is 54.63% and 28.59% higher than the former two respectively, indicating that the method of educational psychology should be integrated into the engineering certification education mode of science and engineering students for adjustment. It can improve students' employment competitiveness. This is because teachers will pay more attention to the teaching methods and progress in the teaching process to meet the students' educational psychological status, and schools will also configure auxiliary teaching tools such as practical operation animation to reduce students' fear and anxiety in the process of learning new skills.

**Acknowledgement:** The research is supported by: Teaching Reform Research Project of Qilu University of Technology (Shandong Academy of Sciences)-Studies of the "Trinity" Practice Teaching Mode of Environmental Engineering Specialty Based on Engineering Education Certification Concept (No. 2021zd12).

\* \* \* \* \*

## DESIGN AND RESEARCH OF RESIDENTIAL SPACE ENVIRONMENT FROM THE PERSPECTIVE OF HUMANISTIC PSYCHOLOGY

Shengyang Mo<sup>1</sup> & Yihua Hu<sup>2</sup>

<sup>1</sup>*Department of Architectural Engineering and Art Design, Liuzhou City Vocational College, Liuzhou 545036, China*

<sup>2</sup>*Art College, Liuzhou Vocational & Technical College, Liuzhou 545005, China*

**Background:** Humanistic psychology, the full name of humanistic psychology, is a discipline developed in the academic confrontation between the two major psychological schools of behaviorism psychology and psychoanalysis. Humanistic psychology opposes the study of human individuals in isolation without considering human psychological phenomena, and also opposes the understanding of individuals solely from the functions of various elements of human existence, or the interpretation of human words and deeds from the perspective of chemistry and neurology. Humanistic psychology attempts to build a comprehensive human analysis model, and take this as the basis to comprehensively analyze individual psychological laws and psychological conditions. With the development of economy, people's requirements for living environment are not limited to material aspects. More and more residents put forward aesthetic requirements for living space environment. Therefore, in interior design and environmental design, it is necessary to use humanistic psychology as a tool to analyze and study the living psychology and aesthetic needs of residents with different occupations and habits, so as to design a more satisfactory living space environment for residents. However, the common research methods of humanistic psychology lack reliable data support, and the research results will be significantly affected by the subjective consciousness of researchers, which is also the main reason why humanistic psychology is criticized by rigorous experimental psychological researchers. Delphi method will be introduced in this study to enhance the reliability and scientificity of the research results, try to avoid the above shortcomings of humanistic psychology.

**Objective:** To analyze the residents' living experience of new residential buildings in China in recent years, understand the current situation and main problems of residential space environment design, and then analyze the residents' living psychology and needs from the perspective of humanistic psychology according to these problems, give some suggestions and carry out an experiment based on Delphi method, Consulting with experts is helpful to improve the design quality of national residential space and residents' satisfaction.

**Participants and methods:** Through investigation and interview, we understand the opinions and evaluation of 100 newly-built community residents on the living space environment in five representative regional administrative centers in China, which are representative in economy, employment, infrastructure, climate and geography, and then analyze the residents' living psychology and actual needs from the perspective of humanistic psychology based on this feedback. Analyze and put forward suggestions that help to improve the living conditions of residents. Invite 24 domestic experts with certain authority and professional level in interior design and environmental design to send their opinions to them for feedback. After taking back the opinions, sort out and adjust the opinions and continue to send them to the expert group for feedback again until the opinions of the expert group are unified. The content of the survey is to consider the humanistic psychological needs of residents, what measures can be taken to improve the current residential space environment design, and the impact of various treatment measures on optimizing