

EFFECTIVE CURRICULUM MANAGEMENT FOR ENHANCING STUDENT ABILITY OF APPLIED SCIENCE UNIVERSITIES IN YUNNAN PROVINCE CHINA

Jianhong Zhao ^{1*}, Suttipong Boonphadung ²

^{1*,2}*Department of Educational Administration, Graduate School, Suan Sunandha Rajabhat University,
Bangkok, Thailand*

E-Mail: s64584951061@ssru.ac.th ^{1*}, suttipong.bo@ssru.ac.th ²

ABSTRACT

In recent years, China's higher education has developed rapidly. As of June 15, 2023, there are a total of 3072 higher education institutions in China, including 2820 ordinary higher education institutions, 1275 undergraduate colleges, and 1545 vocational colleges; 252 adult higher education institutions. Due to the transformation and development of China's industries and the needs of the economy and society, nearly half of universities have shifted their focus to cultivating applied college students. This article focuses on the Curriculum evaluation of applied science universities in China. By explaining the importance of Curriculum evaluation, relevant concepts of Curriculum management, and theories of effective management, the current situation of university of applied science in China is analyzed, and strategies for effective Curriculum evaluation in Chinese applied science universities are proposed.

Keywords: Curriculum Evaluation, Effective Curriculum Management

INTRODUCTION

In recent years, China's higher education has developed rapidly. According to the 2023 List of Ordinary Higher Education Institutions in China on the official website of the Ministry of Education of China, by June 15, 2023, there are a total of 3072 higher education institutions in China, including 2820 ordinary higher education institutions, 1275 undergraduate colleges, 1545 vocational colleges and 252 adult higher education institutions. Up to now, 27 universities named University of Applied Sciences, and nearly 1000 universities have completed the transformation to Applied University. There are some

problems in the management of higher education in China, among which the primary one is the lack of a sound education management system. The goal of higher education is to cultivate high-quality and practical talents that meet the needs of the times based on regional economic development. However, higher education institutions have not fully grasped the characteristics of student development and the status of regional economic development, and therefore have no legal system to establish a comprehensive education management system, making it difficult to effectively achieve talent cultivation goals (Zuo Chongliang, 2019).

It is urgent to establish a series of high-quality university of applied sciences and conduct a good evaluation of its curriculum. Course evaluation is a key link in course management, which can verify the quality of course teaching and the effectiveness of course management. Only by doing a good job in course evaluation can a closed loop be formed between course design, course development, course implementation, and course evaluation, thereby ensuring the final quality of course teaching. According to different periods and types of college students, it is necessary to develop different curriculum evaluation index systems. Wang Li and Gao Na (2021) refer to the indicator systems of the National College Student Learning Engagement Survey (NSSE) and the Chinese College Student Learning and Development Tracking Study (CCSS) at Tsinghua University to develop undergraduate course evaluation scales from five aspects: curriculum challenge, effectiveness of teaching organization, teacher-student interaction level, proactive and cooperative learning level, and learning outcomes[1]. Xu Chengying and Wang Yaping (2020) evaluated the curriculum of applied universities in five aspects: curriculum goal evaluation, curriculum framework evaluation, curriculum content evaluation, curriculum practice evaluation, and curriculum effectiveness evaluation[2]. Zhao Hewei and Li Rui (2023) evaluated higher vocational education courses based on the OBE concept from three aspects: tone achievement design, teaching activity design and implementation, and learning achievement assessment[3].

OBJECTIVES

After in-depth consideration of the current development level and curriculum evaluation practices of applied universities in Yunnan Province, it is believed that researching effective curriculum evaluation is very important and should provide some practical references for curriculum evaluation. Therefore, this study aims to achieve the following four specific objectives.

O1: Study the level of effective course evaluation in applied universities in Yunnan Province.

Construct a measurement model for the effectiveness level of curriculum evaluation in applied universities in Yunnan Province, and conduct measurement. On the basis of analyzing relevant academic literature, the Delphi method was used to initiate no less than three rounds of expert consultation. A measurement index system for the effectiveness level of curriculum evaluation in applied universities in Yunnan Province was constructed using the Analytic Hierarchy Process and Index Weight Analysis. By applying the theory of comprehensive quality management, an integrated model of curriculum quality monitoring and evaluation has been established, which has promoted the improvement and development of higher education curriculum quality monitoring and evaluation in Yunnan Province.

O2: Examine the factors that affect the curriculum evaluation of applied universities in Yunnan Province.

Construct a structural equation model for the effective evaluation of applied university courses in Yunnan Province. Using exploratory factor analysis, the core factors affecting the effective evaluation

of applied university courses in Yunnan Province were identified through the analysis of 22 variables, including CA, CP, CI, CE, CA1-CA4, CP1-CP5, CI1-CI5, and CE1-CE4. Determine the number of factors and provide explanations.

O3: Study the level of influencing factors on curriculum evaluation in applied universities in Yunnan Province.

By conducting literature research and data investigation on the factors affecting the curriculum evaluation of applied universities in Yunnan Province, and constructing an evaluation model, the impact of corresponding factors is calculated.

O4: Provide guidance on effective course evaluation for applied universities in Yunnan Province.

Evaluate the effectiveness of curriculum evaluation for applied universities in Yunnan Province. Taking efficient course evaluation as an example, correct some inefficient and inefficient course evaluation models. Evaluate the effectiveness of educational plans in achieving goals by assessing the progress of students in education.

LITERATURE REVIEW

Concept of course evaluation

The term “course” comes from the Latin word curriculum. Now it refers to the curriculum of the school, which includes the content and plan of teaching. Curriculum evaluation is the evaluation of the value of a school’s curriculum (Lin Chongde, Jiang Lu, Wang Desheng et al., 1994)[4]. Narrowly defined, it refers to the evaluation of whether the implemented curriculum can achieve the predetermined course objectives; Broadly speaking, it can include three parts: curriculum design evaluation, curriculum implementation evaluation, and curriculum outcome evaluation. The purpose of course evaluation is to identify problems and deficiencies in the course through evaluation activities, identify the causes of these problems and deficiencies, and make corresponding improvements. A complete tourism course evaluation should be an evaluation of all aspects of course design. The general mode includes clarifying the evaluation purpose, establishing an indicator system, obtaining evaluation information, and making value judgments (Shao Qiwei, 2012)[5].

Course evaluation is the evaluation of teaching content, teaching process, and teaching results, answering the question of “how well the teaching was done”. It can be divided into formative evaluation and outcome evaluation. It can also be divided into relative evaluation and absolute evaluation. Curriculum evaluation mainly involves three aspects of educational decision-making: ① In terms of curriculum reform, what kind of educational content and textbooks are satisfactory, and what needs to be reformed. ② In terms of teaching and learning, how to determine teaching methods and approaches to improve quality. ③ In terms of management, how to judge the quality of teachers, the advantages and disadvantages of school systems, etc.

The methods of course evaluation are generally divided into traditional methods and interpretive methods. The traditional method was used before the 1970s, with a basic model of goal means evaluation. The general steps are: ① Preliminary evaluation, making preliminary decisions on the role or value of offering a certain course in achieving the training objectives; ② Formative evaluation; ③ Outcome evaluation; ④ Long term evaluation. Because this method relies on experiments and measurements, it is also known as the “experimental” method. This method may seem objective, but the problem is also very obvious. For example, not all goals may be measurable. After the 1970s, interpretive curriculum

evaluation methods emerged to overcome the shortcomings of traditional methods. The basic point of this method is to explain the problems that arise during the course implementation process and use it as inspiration and reference for subsequent actions. That is to say, the focus is on “the cause of the problem”, while traditional methods focus on “what problem occurred”, regardless of “why the problem occurred”. Dedicated to explaining various reasons for not achieving goals (including environment, conditions, etc.), this method is not as objective as traditional methods and is basically an explanation, so it is prone to personal subjective factors (Liang Zhishen, 1995)[6].

Pragmatism theory

Pragmatism is one of the modern Western bourgeois philosophical theories and schools. It emerged in the United States at the end of the 19th century and became widely popular in capitalist countries in the early 20th century. The founder was Pierce from the United States, with major representatives including James, Dewey, and Sidney Hook (1902-) from the United States, Ferdinand Canning Scott Schiller (1864-1937) from the United Kingdom, and Giovanni Papini (1881-1956) from Italy. Believing that “pure experience” is the only source of reality and knowledge, material and consciousness are only the internal differences of “pure experience”. The denial of truth is a subjective and objective relationship, and what is claimed to be useful to people and enable them to achieve their expected goals and effects is truth. Ideas, thinking, and truth are just tools that humans use to adapt to their environment, while practice is the activity of humans in dealing with their environment. The latest trend of development is manifested in the convergence with logical positivism, which has a color of logicism. Representative examples include Lewis’s conceptual pragmatism, Morris’ signifier theory, and Quinn’s logical pragmatism (Yuan Shiquan, 1990) .

Since William Williams first proposed the concept of “pragmatism” in his speech on “Philosophical Concepts and Practical Effects” at the University of California in 1898, the pragmatism layer has attracted worldwide attention and has declined and declined for a while before reviving again. The thematic ideas and narrative methods focused on pragmatism are constantly changing (Ji Zhichuang, 2023) [7].

Constructivist theory

Constructivist learning theory is a new development of cognitive learning theory and a rising theoretical trend in the field of educational psychology today. However, its theoretical system is not yet perfect and there are many differences. The development of constructivist learning theory has been influenced by contemporary philosophical ideas, such as philosophy of science, new evolution, and postmodern philosophy. In the field of learning and teaching, constructivism has been influenced by several important figures, such as Dewey, Vygotsky, Piaget, Bruner, Ausubel, etc. In psychological constructivism, Professor Philip from Stanford University in the United States distinguishes between individual constructivism and social constructivism. Personal constructivism emphasizes the creative role of individuals in personal knowledge construction, while social constructivism emphasizes the role of social interaction and culture in personal knowledge construction (Ma Fang, Wang Yupo, 2018)[9] .

Constructivist student view: As the main body of learning, students will actively feel the learning situation based on their own interests and concepts, drive classroom teaching through dialogue, asking questions, etc., use advanced thinking skills to make decisions and solve problems, and always take responsibility for learning. Constructivist teacher view: Teachers should become collaborators, facilitators, and guides for students to construct meaning. Stimulate student interest and help them form learning motivation; By creating scenarios, establish connections between new and old knowledge, and help students construct the meaning of current knowledge; To ensure effective construction, teachers can

guide students to think and gradually explore through questioning, follow-up, and other methods. Constructivist curriculum view: Curriculum should be operated based on raw materials; Pay attention to macro perspectives and gradually delve deeper from macro to micro; Putting students at the center and reflecting the nature of interdisciplinary studies; Provide open-ended questions with practical significance; Design classroom teaching activities based on cooperation, dialogue, and reflection; Encourage students to use advanced thinking skills to solve challenging problems and gain insights from supervisors. The constructivist evaluation perspective can be summarized as follows: evaluation arises in the learning environment of meaning construction, and multiple measurement tools are used to detect students' various learning outcomes; Reflect students' knowledge construction through their works; Comprehensively evaluate the growth of students through a learning community (Hua Xiaobo, 2015) [10].

Taylor's behavioral goal pattern

Ralph W. Taylor (R.W.) is a renowned American contemporary curriculum theorist and practitioner, the founder of modern curriculum theory, and the culmination of curriculum science. In the 1930s and 1940s, he proposed two principles of educational evaluation and curriculum development, collectively known as the "Taylor Model", and was thus hailed as the "father of contemporary educational evaluation" and "father of modern curriculum theory" (Tang Dehai, Guo Xinwei, Qin Jianrong, 2019)[11].

The Taylor model, also known as the behavioral goal model. A behavioral goal centered evaluation model. One of the modern theoretical schools of Western educational evaluation, proposed by Taylor in 1934. Using measurement and observation of student behavior as the main basis for engaging in educational activities and conducting educational evaluations. According to this model, educational evaluation is the process of determining the degree to which actual educational activities have achieved their goals, and then promoting actual educational work as close to the goals as possible through information feedback. It can be summarized as a closed-loop system consisting of goals, educational processes, and evaluations. It is concise, easy to understand, compact in structure, and can obtain information on achieving goals, which helps improve teaching work. It has been widely valued and has dominated educational evaluation theory for a long time (Xie Xinguan, 1999) [12].

Taylor discussed the issue of curriculum development and teaching planning from four aspects: ① What educational goals should schools achieve? ② How to choose learning experiences that may help achieve these goals? ③ How to organize learning experiences for effective teaching? ④ How to evaluate the effectiveness of learning experiences?

Tang Dehai, Guo Xinwei and Qin Jianrong (2019) believe that the Taylor model shapes a model: correcting the current view on educational quality; Building two solid foundations: reaffirming the disciplinary foundation of education; Clarify four issues: improve new ideas for talent cultivation, that is, establish educational goals, select learning experiences, organize learning experiences, and evaluate learning outcomes. They are interconnected and form a ring in order.

Michael Scriven's Goal Free Evaluation Model

In 1967, on the basis of criticizing the goal oriented Taylor model, Scriven proposed the "goal free model". He advocated reducing the subjective intention of the formulators of plans and plans in evaluation. Therefore, the evaluation purpose cannot be told to the evaluator. This evaluation model that is not affected by predetermined evaluation goals is called the "goal free model", also known as the goalless model. The biggest feature of this model (Li Qin, 2019) [13] is that evaluation has shifted from reflecting the intentions of managers and decision-makers to reflecting the wishes of outsiders, making

it more objective. It can reflect the autonomy of evaluators and the democratic concept of viewing the education process as the individual's self creation, self realization, and free development. It fundamentally reflects the evaluation criteria based on individual needs (Yifan, 2013) [14].

Staffel Beam's CIPP assessment model

The CIPP model was proposed by American scholar Stuffle beam (D.L.) in 1960. He believes that educational evaluation should not be solely aimed at testing the degree of achievement of educational goals, but should improve educational work through evaluation, with the ultimate goal of enhancing educational quality. The CIPP model establishes a systematic evaluation model consisting of four stages: Context evaluation, Input evaluation, Process evaluation, and Product evaluation. Background evaluation is an evaluation of the basic situation of a project by analyzing its social background, environmental conditions, and the needs of all parties involved; Input evaluation is the evaluation of the feasibility of the scheme design by analyzing the project organization, resource situation, and process design; Process evaluation mainly records the performance of each link in the implementation process and identifies problems during the implementation process; Achievement evaluation is the evaluation of the results and effects of a project, such as assessing the degree of achievement of course objectives, the satisfaction of the target audience, the promotability and sustainability of the project, etc (Feng Xiaolong, Luo Jianfeng, 2023) [15].

Comparison of Several Typical Evaluation Models

List 1.

Typical evaluation mode

Evaluation mode Six aspects of evaluation mode			
	Behavioral goals	Decision making	Target dissociation
Advocates	Taylor	Stafferbeim	Skrillic
Evaluation subject	Managers	Decision makers Managers	Consumer
	Psychologist Subject matter experts		
Evaluation criterion	Set goals	General objectives	Result criterion
	Achievement Test		
Evaluation methods	Behavioral goals	Survey questionnaire	Prejudice control
	Standardized testing	Interview	Logic analysis
	Norm test	Natural variables	Mode operation
Evaluation results	Efficiency	Validity	Consumer Choice Social utility
	Responsibility	Appropriateness	
		Quality control	
Key issues	Have the students achieved their goals? Is teacher efficiency high?	Is the plan effective? What parts are effective?	What is the overall social impact?

RESEARCH METHODOLOGY

The sample population for this study is university leaders, academic affairs directors, full-time teachers, and college students from the University of Applied Sciences of China. This study applied stratified random sampling with the research subject being the University of Applied Sciences of China.

CONCLUSION

This study helps to standardize the curriculum evaluation work of the University of Applied Sciences in China. In the field of educational management and curriculum evaluation, we seek advanced theories, construct scientific models, explore correct methods, explore effective mechanisms, comprehensively design evaluation mechanisms, test the effectiveness of courses, and promote the evaluation of applied science university courses.

This study contributes to expanding the theoretical research of curriculum evaluation. At present, research on curriculum evaluation in China is showing a trend of diversified development. However, due to the large research system and disorderly research, most of them are point-to-point Sanda style research, which is not efficient. This article will focus on enriching the theoretical system of course evaluation and promoting the development of course evaluation from the aspects of scientific connotation, theoretical foundation, target principles, and mechanism construction of applied science university course evaluation.

This study contributes to improving the quality of curriculum teaching in universities of applied science. The construction of an evaluation system will promote the reform of teaching methods, the updating of educational ideas, and the dissemination of educational methods, which will help strengthen communication and exchange between students and teachers, as well as between teachers and schools, and comprehensively improve the quality of teachers in universities of applied science.

ACKNOWLEDGMENT

Supported by Talent introduction and scientific research start-up fund project WYUAS : 2022RCKY0001.

Supported by the teaching project of West Yunnan University of Applied Sciences, "Creating an C-CDIO-E course ideological and political teaching model based on OBE concept"23KC01.

The teaching reform project of West Yunnan University of Applied Sciences, "Research on the Construction of Curriculum Centers Based on Talent Training Quality," is funded by 23JG03.

REFERENCES

- Wang Li, Gao Na (2021). Construction of evaluation indicators for undergraduate course teaching quality. *Research on Higher Engineering Education*. 2195-200
- Xu Chengying, Wang Yaping (2020). Research on Quality Evaluation Indicators for Professional Courses in Applied Universities. *Higher Vocational Education (Journal of Tianjin Vocational University)*. 29 (02), 60-64

- Zhao Hewei, Li Rui (2023). Curriculum Evaluation Research for Higher Vocation and Technical Education Based on OBE Concept. Technology style. 28 (02), 81-86
- Lin Chongde, Jiang Lu, and Wang Desheng, eds. Psychology and Education in the Encyclopedia of Adult Education in China. Haikou: Nanhai Publishing Company. 1994, p. 349
- Shao Qiwei. China Tourism Dictionary. Shanghai: Shanghai Dictionary Publishing House. 2012, page 222
- Liang Zhishen; Associate Editor Huo Liyan. Encyclopedia of Early Childhood Education in China, Education Theory Volume. Shenyang: Shenyang Publishing House. 1995. Page 122
- Ji Zhichuang (2023). The Path to Empirical Narrative Transformation towards New Pragmatism: An Introduction to "The Narrative Transformation of McDowell's Philosophy and New Pragmatism". Shandong Social Sciences.
- Eleven Edited by the Editorial Committee of the Chinese Encyclopedia Dictionary. Chinese Encyclopedia Dictionary. Beijing: Huaxia Publishing House. 1990. Page 35
- Ma Fang, Wang Yupo. Educational Psychology. Nanjing: Nanjing University Press
- Hua Xiaobo (2015). Analysis and Inspiration of UOI Course Evaluation. Master's thesis from Shanghai Normal University. 24-25
- Tang Dehai, Guo Xinwei, Qin Jianrong (2019). The Value Review of the "Taylor Model" Pregnancy and Birth History. Higher Education Forum. 08, 16-21
- Xie Xinguan et al. Dictionary of Distance Open Education. Beijing: Central Radio and Television University Press. 1999, p. 329
- Li Qin (2019) discusses the promoting effect of the goal free evaluation model on the "big Chinese language classroom". Journal of Fujian University of Education 20 (08), 31-40
- Yifan (2013). The goal free mode of educational evaluation. Educational Measurement and Evaluation (Theoretical Edition). 02, 64
- Feng Xiaolong, Luo Jianfeng (2023). Job Preparation Theme Course Design and Evaluation - Based on Teaching Objective Classification and CIPP Model. Curriculum and teaching. 18, 51-54