

# Construction of curriculum arrangement evaluation index system in Higher Vocational Colleges

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## Abstract

Curriculum schedule is the command and scheduling schedule of daily teaching work and other related activities in higher vocational colleges. How to use scientific management theory and management countermeasures to effectively manage the curriculum arrangement in order to achieve a scientific and reasonable curriculum schedule has become a common problem that needs to be studied and explored in higher vocational colleges. Through literature research and expert interview, this paper carries out qualitative research, decomposes and refines the evaluation dimensions step by step, and establishes the evaluation index system of curriculum arrangement in higher vocational colleges, including 5 primary indicators and 22 secondary indicators, which provides a certain theoretical basis for the scientific rationality of curriculum arrangement in Higher Vocational Colleges.

## Keywords

Timetable; Curriculum arrangement; Evaluation index system.

## 1. Introduction

In the field of education and teaching, the importance of teaching operation management is very prominent. It is like a "procedure" with rich functions in teaching methods, quality control, teaching infrastructure and the utilization of educational resources, which connects the whole talent training system and works in an orderly and effective way (Zhang Lizhi, 2018). In the field of higher vocational education management, education management is undoubtedly its key component (Fang LiZong, , Yang Ruiming , 2019). In recent years, the construction of demonstration colleges at provincial and national levels has been strengthened. Under this background, the limitations of teaching management have begun to show one after another. The focus of educational management has shifted from basic management, which makes the effectiveness of educational management objectives more and more important, and there is a lack of attention and understanding of grass-roots management. In the teaching management team, the differences of teachers' strength and teaching level are becoming more and more obvious. The teaching level of teachers and the teachers in the management team are unbalanced in teaching, educational development and educational management, resulting in backward management, poor management and unreasonable problems. Therefore, it is necessary to improve the educational management level of Higher Vocational Colleges and solve the fundamental problems (Wang siran, 2015). For teaching operation management, the main components include teaching plan, arrangement, training scheme, assessment and evaluation. The curriculum arrangement is a typical complex process, involving the comprehensive effects of different factors, links and series. It is not only a key element that will affect the stability of teaching order, but also a key link that will have a significant impact on the distribution of teaching resources, teaching rules and operating costs. Therefore, scientific scheduling and improving the level of course scheduling are not only the key content of teaching management in higher vocational colleges, but also an important goal that must be actively pursued (Hu Xiaoqing, 2009).

The curriculum not only affects the arrangement of other work, but also plays a vital role in stabilizing teaching order, implementing teaching links, implementing teaching plans and improving education and teaching quality (Wu Mei, 2018). Whether the curriculum is arranged scientifically will play an important role in orderly teaching and scientific talent training (Zhou Chang, 2020). In the process of arranging the curriculum, we should comprehensively consider the needs of teachers and students, educational resources, teaching objectives and other influencing factors (Wei Lina, Jia Lianying, Zhang Minghui, Gao Yanhong, 2020). This is not only an important measure for school curriculum planning, but also an important means for teachers to carry out curriculum teaching. Of course, it is also an important method to enhance students' learning initiative (Wu Mei, 2018). It is an optimized combination of courses, teachers, students, time and classrooms involved in a semester (Wang Lufei, 2011). In recent years, the enrollment scale of such colleges and universities has shown a growing trend. How to develop a scientific and efficient curriculum, stimulate the learning initiative of scholars and effectively improve the teaching quality has become an urgent problem for the leaders of such colleges and universities.

Starting from the main needs of participating in the teaching process, this paper provides a set of scientific, standardized, objective, fair, comprehensive and accurate curriculum arrangement evaluation index system in line with the needs of the times for fine and scientific educational administration management. Through the comprehensive analysis of various curriculum arrangement indexes, this paper evaluates the rationality of curriculum arrangement, promotes the upgrading of teaching quality and improves the satisfaction of all staff in the teaching management process.

## 2. Research Methods and Design

Scientific course scheduling is mainly influenced by the comprehensive strength of course scheduling personnel and scientific management. If we want to solve the fundamental problem of course scheduling, we need to carry out in-depth analysis based on management. In this unit, the research methods, frameworks, objects and tools should be analyzed.

### Research Framework

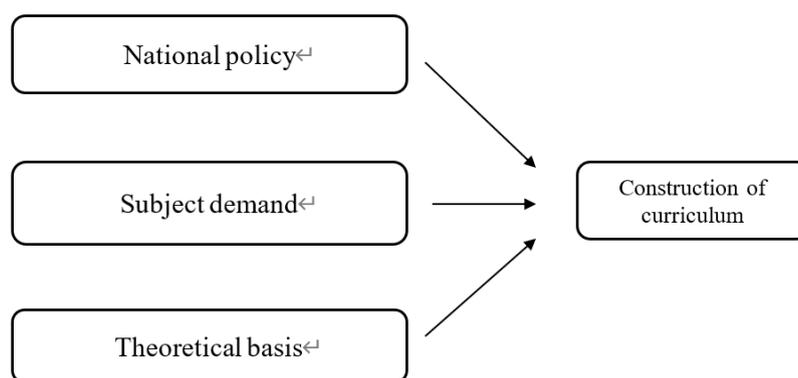


Figure 1. research framework

Figure 1 according to national policies, based on the needs and precautions of course scheduling subjects, based on the relevant theories of curriculum arrangement and evaluation index system at home and abroad, and according to the research idea of "literature research, viewpoint refining and index screening", analyze and sort out many indicators affecting curriculum arrangement, so as to create a scientific course scheduling index system.

### Research Methods

This study mainly analyzes the needs of school curriculum arrangement and establishes indicators through literature and expert interview, and carries out the second round of in-depth interview to screen the indicators of curriculum arrangement evaluation. The main research methods are:

#### (1) Literature analysis

This research selects the document database platforms such as HowNet to retrieve the research data of course scheduling in higher vocational colleges, sort out, analyze and summarize these documents, so as to obtain the current research status and future development direction in this field. At the same time, it also deeply analyzes the problems involved in the current course scheduling and the countermeasures to be put forward. By reading books on pedagogy, psychology, educational neuroscience and other related aspects, this paper summarizes and sorts out the principled characteristics that should be followed in the arrangement of school timetable in the state of should be. On this basis, it dynamically refines the growth points and makes a more detailed analysis.

#### (2) Expert interview method

In this study, especially in the construction of the index framework and the design and screening of evaluation indicators, the expert interview method is used to determine the main needs and precautions for curriculum arrangement by interviewing and consulting experts, scholars and practitioners in relevant fields, construct the evaluation framework, and determine the preliminary evaluation index system through the first round of expert interviews, Then through the second round of in-depth interviews with experts to screen and determine the final evaluation indicators.

#### Research Object

This study takes about 500 students, teachers, training room administrators, administrators and department leaders of a higher vocational college in Chongqing as the research object.

#### Research Tools

This study takes the self-made interview outline for curriculum arrangement experts in Higher Vocational Colleges as the research tool. The scale is adapted from a master's thesis published by Liu Fei in 2009. It has been scientifically measured from the formulation and modification of the scale, with high reliability and validity. Use it to investigate the needs of the main body of curriculum arrangement in higher vocational colleges, and determine the curriculum arrangement index.

#### Research Steps

This study mainly analyzes the theoretical characteristics of curriculum arrangement through national policies and theoretical basis, then analyzes the main needs of school curriculum arrangement, and deeply studies the precautions of curriculum arrangement. The preliminary evaluation index system is determined through the first round of expert interviews, and then the final evaluation index is screened and determined through the second round of expert in-depth interviews. The evaluation indexes of course arrangement are screened, corresponding to two rounds, and then a secondary evaluation index system is generated. The main research steps are:

(1) Collect different kinds of literature, compare and analyze national policies, comprehensively grasp the current situation of course arrangement in Colleges and universities according to diversified teaching experience, and conduct scientific research on relevant research contents, ideas, methods and degrees, so as to provide important support for subsequent theories.

(2) Taking relevant research as an important basis, this paper makes an in-depth analysis of the characteristics of curriculum arrangement, excavates the theoretical support of curriculum arrangement, and makes an in-depth analysis of the principles to be followed in curriculum

arrangement. At the same time, it also needs to deeply analyze the relevant curriculum arrangement work and analyze the main needs of curriculum arrangement.

(3) Through the method of expert interview, determine the main needs and precautions for curriculum arrangement, construct the evaluation framework, and select and determine the evaluation indicators from the first round of index database.

(4) After the experts evaluate the importance of indicators at all levels, with the help of expert analysis, screen the difference indicators, and complete the clarification of relevant indicators, so that the expert opinions can be unified, and then clarify the curriculum arrangement index system

### 3. Research Results and Analysis

This study mainly analyzes and discusses the results based on the data obtained from formal expert interviews, analyzes the theoretical characteristics of curriculum arrangement, excavates the theoretical support of curriculum arrangement, deeply analyzes the arrangement principles under the natural state, and analyzes the establishment principles of curriculum arrangement evaluation index system. On this basis, the specific indicators of curriculum arrangement are obtained and discussed. See Table 1 for interviewees and interview information.

Table 1. Interview object and interview information

Interviewees	gender	age	Seniority	Major studied	Interview time	Interview location
Director Lu	Female	57	34	Education, Psychology, Sociology	90 minutes	Office of the Commissioner
Director Bai	Male	45	22	Pedagogy, Psychology	60 minutes	Office of the Commissioner
Section Chief	Female	37	15	pedagogy	60 minutes	Office of the Chief of Section
Director Li	Female	32	10	Pedagogy, Psychology	60 minutes	Office of the Director
Teacher Zeng	Male	30	8	pedagogy	60 minutes	classroom
Teacher Hu	Female	39	17	pedagogy	60 minutes	classroom

Construction and revision of curriculum arrangement evaluation indicators in Higher Vocational Colleges

(1) Preliminary construction of curriculum arrangement evaluation index system in Higher Vocational Colleges

Higher vocational colleges are to ensure the smooth progress of school running and the stability of teaching order. They should not only start from the school running characteristics and school running tasks, but also receive scientific attention, in order to make the integration of teaching elements and presentation process reach the best state and truly people-oriented. The establishment of evaluation indicators is a prerequisite for the evaluation system, and the construction of evaluation indicators is scientific. In addition, vocational schools also need to further improve the investment level in education, vigorously optimize the teaching

environment, and give scientific support to curriculum planning. At the time of arranging courses, we also need to improve the teaching management system, so as to make the teaching management ability grow continuously. The evaluation index system is the bridge between the method and the evaluation object. Therefore, when establishing the index, we should follow the corresponding evaluation principles and multiple standards required by the evaluation object. On the basis of adopting scientific methods, we should also follow scientific and reasonable processes. Only in this way can the constructed index evaluation system ensure its scientific, accuracy and rationality, Build an evaluation index system that meets the actual operation requirements. In the first round, experts from major higher vocational colleges are invited to put forward opinions and suggestions on the curriculum arrangement evaluation index system. The curriculum arrangement evaluation index of higher vocational colleges is preliminarily constructed through the first round of expert interviews, and then screened through the second round of interviews, so as to clarify the curriculum arrangement index system accordingly.

Through the comprehensive analysis of expert suggestions, the primary evaluation indicators of course scheduling are summarized as follows: the scientific, efficiency, balance, limitation and people-oriented of the schedule. From these aspects, formulate detailed secondary indicators. Taking "curriculum arrangement" as the evaluation objective, based on the perspective of pedagogy, on the basis of defining the concept of curriculum arrangement, according to the construction principles of the index system and according to the in-depth interviews with experts, this study preliminarily condensed the constituent elements of curriculum arrangement, decomposed them layer by layer and refined them into specific and behavioral evaluation indicators, and constructed the curriculum arrangement evaluation index system: there are 5 primary indicators in total, There are 27 secondary indicators in total.(Table 2).

Table 2. Evaluation index system of curriculum arrangement (continued in the first draft)

	Level 1 indicators	Secondary indicators
Comprehensive evaluation of the course schedule	Scientific principles	Physical education classes do not have 1 or 2 classes in the morning
		Difficult classes are scheduled for 1 or 2 sessions in the morning and are scheduled every other day
		Public and professional courses are cross-mixed
		Students have a maximum of 8 sessions per day and a minimum of 1 day off per week
		Teachers can schedule up to 6 lessons per day (excluding make-up lessons)
	The principle of equilibrium	The daily lessons are evenly balanced
		The same course in the same class is scheduled every other day
		Classes with many assignments are not scheduled on the same day
		Students do not attend classes across campuses on the same day
	The principle of efficiency	Some courses need to be lined up in special classrooms

		Class size matches classroom size (e.g. small classes are held in small classrooms, large classes are held in large classrooms, and the number of classes is smaller than the classroom capacity)
		Arrange a classroom nearby
		The first large section of the morning is not vacant
		The same class is in the same classroom
	The principle of limitation	Weekly hours are singular and are scheduled on a single or double week
		Some class classes schedule specific times
		Some courses need to be lined up in special classrooms
		There are no classes scheduled during certain regular meeting times on Tuesday afternoons
		Some special courses require scheduling to specific times and classrooms
		Professional training rooms are arranged
	People-oriented principle	Special care for pregnant and lactation teachers
		Teachers try to concentrate on class scheduling (6 lessons per day)
		Students with special circumstances are given care
		Teachers who live outside the school do not line up for the first big festival in the morning
		Children whose homes are far from school or need to be picked up and dropped off can skip the 1st and 2nd in the morning and 7 or 8th in the afternoon
There are two days of the week in which there are scientific research tasks to complete the course		

(2) Expert revision of curriculum arrangement evaluation index system in Higher Vocational Colleges

Through in-depth interviews with experts in the first round, in order to make all indicators reflect the essence of curriculum arrangement and ensure the scientificity of indicators, it is necessary to further screen and revise the initially constructed index system, and classify, merge or abandon the indicators with intersection, repetition, inclusion, contradiction and causality. Now we will conduct the second round of expert interviews and invite senior experts from major universities to screen the index system through face-to-face conversation, so as to enhance the scientificity and effectiveness of the index system.

To sum up, merge or reconfirm the indicators with duplicate concepts and connotations; The inaccurate indicators are modified; The important but missing indicators are supplemented; Unnecessary indicators have been deleted. Finally, the experts reached a relatively consensus on the dimension division and connotation composition of curriculum arrangement evaluation indicators in higher vocational colleges, and adopted the principle of the minority obeying the majority for the indicators with different opinions.

The second round of expert opinion analysis:

Some experts believe that there is an inclusive relationship between the two indicators of "the same class in the same classroom" and "arranging classrooms nearby", and that "the same class in the same classroom" cannot be achieved for some schools lacking classroom resources. Therefore, the secondary indicator "the same class in the same classroom" should be deleted.

Some experts believe that "teachers who live outside the school do not arrange the first big festival in the morning" and "those who are far from the school or need to pick up children can not arrange the first and second festivals in the morning and the seventh and eighth festivals in the afternoon" are unreasonable, because teachers serve teaching, and the first and second festivals in the morning are the golden time for students to study, so they cannot affect the teaching effect and quality for their own reasons. Therefore, the secondary indicators "teachers who live outside the school do not arrange the first day in the morning" and "those who are far from the school or need to pick up children can not arrange the first and second day in the morning and the seventh and eighth day in the afternoon" should be deleted.

Most experts believe that "professional courses are arranged in professional training room" and "some courses need to be arranged in special classroom" have similar meanings and repetitive relationship. It is suggested to combine the two indicators. Therefore, the secondary indicators "professional courses are arranged in professional training rooms" and "some courses need to be arranged in special classrooms" are deleted. Finally, it is summarized into a secondary index "courses that need to be arranged in the training room".

(3) The evaluation index system of curriculum arrangement in higher vocational colleges was finally established

The original "curriculum arrangement evaluation index system of Higher Vocational Colleges" is composed of 5 primary indicators and 25 secondary indicators. Among them, the primary indicators are composed of "scientific principle", "balance principle", "high efficiency principle", "restrictive principle" and "people-oriented principle". There are 4-7 secondary indicators under each primary indicator. After the first round of expert consultation and analysis, an evaluation standard was deleted in the dimension of "University principle"; Two evaluation criteria have been deleted in the dimension of "people-oriented principle"; Two evaluation criteria are combined in the "restrictive principle". Therefore, the "curriculum arrangement evaluation index system of Higher Vocational Colleges" finally constructed includes five primary indicators and 22 secondary indicators (table 3).

Table 3. Evaluation index system of curriculum arrangement (Continued)

	Level 1 indicators	Secondary indicators
Comprehensive evaluation of the course schedule	Scientific principle	Physical education classes do not have 1 or 2 classes in the morning
		Difficult classes are scheduled for 1 or 2 sessions in the morning and are scheduled every other day
		Public and professional courses are cross-mixed
		Students have a maximum of 8 sessions per day and a minimum of 1 day off per week
		Teachers can schedule up to 6 lessons per day (excluding make-up lessons)
	The principle of equilibrium	The daily lessons are evenly balanced
		The same course in the same class is scheduled every other day

		Classes with many assignments are not scheduled on the same day
		Students do not attend classes across campuses on the same day
	The principle of efficiency	Some courses need to be lined up in special classrooms
		Class size matches classroom size (e.g. small classes are held in small classrooms, large classes are held in large classrooms, and the number of classes is smaller than the classroom capacity)
		Arrange a classroom nearby
		The first large section of the morning is not vacant
	The principle of limitation	Weekly hours are singular and are scheduled on a single or double week
		Some class classes schedule specific times
		There are no classes scheduled during certain regular meeting times on Tuesday afternoons
		Some special courses require scheduling to specific times and classrooms
		Courses that require a training room
	People-oriented principle	Special care for pregnant and lactation teachers
		Teachers try to concentrate on class scheduling (6 lessons per day)
		Students with special circumstances are given care
		There are two days of the week in which there are scientific research tasks to complete the course

#### 4. Conclusion

This study takes the construction of curriculum arrangement evaluation index system in Higher Vocational Colleges as the research goal. Through combing and summarizing the theme needs of curriculum arrangement, curriculum theory, evaluation index system and related theories, as well as in-depth interviews with relevant experts, this paper defines the evaluation basis and evaluation objectives of curriculum arrangement; Under the goal guidance, according to the elements of curriculum arrangement, combined with the representation, process and support conditions of deep learning, this paper establishes the key elements of evaluation such as scientific principle, balance principle, efficiency principle, restrictive principle and people-oriented principle, constructs the curriculum arrangement evaluation framework, and develops it into specific evaluation indicators to form the curriculum arrangement evaluation index system of higher vocational colleges.

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