Assessment of Postgraduate Training Towards Professionalization

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Abstract: In order to evaluate the growth of graduate students' professional competence more comprehensively, a route relationship model based on "environment", "graduate students' participation", "graduate students' quality growth", "behavioral motivation" and other indicators is proposed. On the basis of the model, this paper makes a systematic analysis of the secondary indicators of graduate students in a university by means of path analysis, finds out several factors affecting the growth of graduate students' professional quality through analysis, and puts forward some suggestions at the same time.

Generally, the evaluation methods of graduate students' professional competence are relatively one-sided. In order to evaluate the influencing factors of graduate students' growth more comprehensively, this paper constructs a path model of graduate students' approaching to specialization. The first-level indicators in the model are subdivided, and the relationship between the two-level indicators is systematically analyzed by path analysis method. Through the model, the cultivation of professional degree postgraduates in a university is analyzed, and the corresponding cultivation suggestions are put forward.

1. Establishment of Indicator Relational Path Model of Graduate Professional Growth Model

On the basis of summarizing the three models of "I-E-O", "input-output model" and "change evaluation model" of Postgraduate Quality growth, this paper puts forward a route relationship model based on "environment", "postgraduate participation", "postgraduate quality growth" and "behavioral motivation". Each index is further subdivided into "environment", "postgraduate participation", "quality growth", "behavioral motivation" and other indicators into secondary indicators [1].

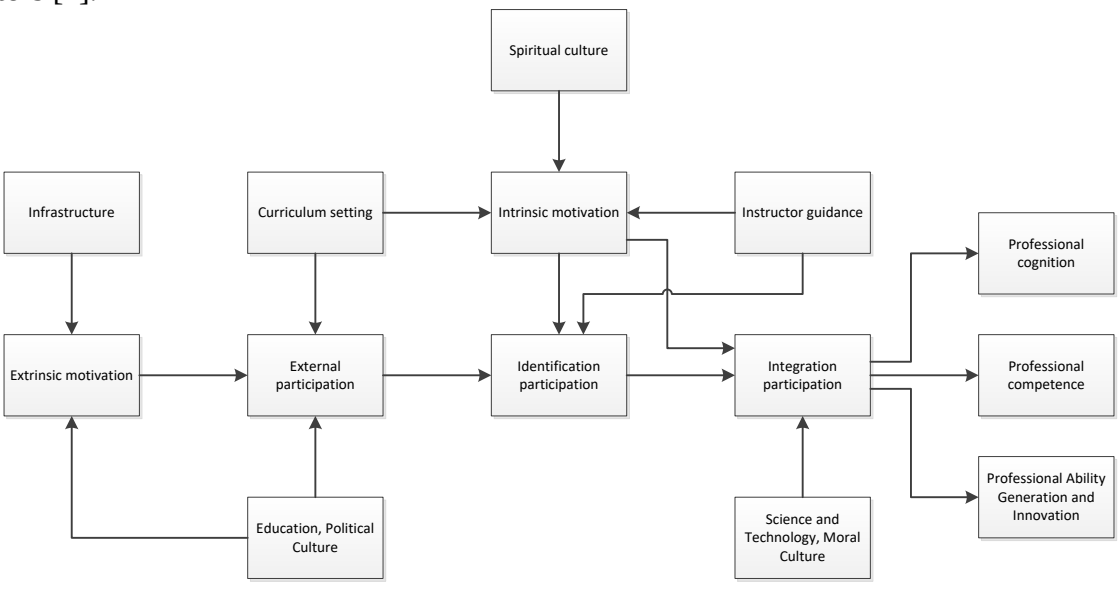

Figure 1 Path Map of Indicators of Graduate Students' Professional Approach Model.

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The environmental indicators are divided into three indicators: curriculum design, teacher guidance and college culture. Postgraduate participation is divided into three processes: external participation, identity participation and whole participation. Quality growth can be divided into three stages: cognition, competence, ability generation and innovation. Behavioral motivation is divided into two parts: intrinsic motivation and extrinsic motivation. The influence diagram of the path relationship is shown in Figure 1[2].

2. Analysis of Indicators Path of Professional Degree Postgraduates in a College

2.1. Evaluation Method and Algorithmic Flow

The path analysis method is used to evaluate the relationship between the secondary indicators. For example, environment, motivation, participation and harvest are expressed inξ1、ξ2、ξ3andξ4 respectively. If there is a specific directional relationship among the four variables, assume that the linear relationship between them is as follows [3]:

$$\xi_2 = \beta_{20} + \beta_{21}\xi_1 + \varepsilon_2 \tag{1}$$

$$\xi_3 = \beta_{30} + \beta_{31}\xi_1 + \beta_{32}\xi_2 + \varepsilon_3 \tag{2}$$

$$\xi_4 = \beta_{40} + \beta_{41}\xi_3 + \varepsilon_4 \tag{3}$$

The symbolic weight sum of the j th variable ξ_j refers to the symbolic weight sum of the estimated values of all other variables that are directly connected with arrows in the path graph. The mathematical expressions are as follows:

$$A_j = \sum\left(s_{ja}L_a\right) \tag{4}$$

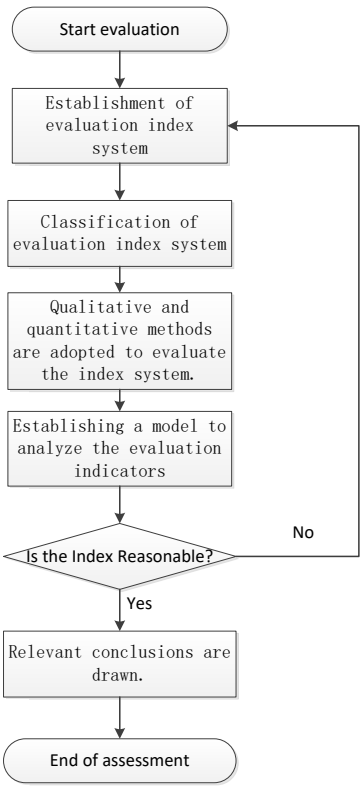

Figure 2 Flow chart of graduate student's assessment towards actual combat.

The research establishes a flow chart for evaluating graduate students' practical consideration. According to the steps of establishing the evaluation index system, grading the evaluation index

system, adopting qualitative and quantitative methods to evaluate the index system, establishing a model to analyze the evaluation indexes and drawing relevant conclusions. Among them, the model analysis of each evaluation index is an important basis for evaluation index, as shown in Figure 2 [4].

2.2 Data Acquisition of Secondary Indicators

The research collects the information of environmental indicators of colleges and universities by means of expert scoring and investigation [5]. The results are arranged in tabular form as shown in Table1-3 below.

Table 1 Information Collection Result of Course System Construction.

Index item	Evaluation Content of Course System Construction	Assessment score
Construction of Curriculum System	Required courses	0.91
	Elective courses	0.73
	Extracurricular education	0.72

Table 2 Teachers' Guidance to Information Acquisition Results.

Index item	Assessment content			Assessment score
Instructor guidance	Tutor guidance	Instructor guidance	Training plan	0.92
			Postgraduate Performance	0.81
		Tutor guidance	Training plan	0.93
			Postgraduate Performance	0.73
	Instructor guidance	Postgraduate Performance		0.81
		Assessment of Teaching Teachers		0.91

Table 3 Collected results of cultural incentive information in Colleges and Universities.

Index item	Assessment content		Assessment score
Institutional Cultural Motivation	School Material Culture	Hardware facilities	0.83
		Software facilities	0.75
	Institutional Culture of Colleges and Universities		0.82
	Behavior Culture of College Personnel		0.75
	Spiritual culture		0.81

The research collects information of graduate students' participation motivation indicators by means of survey and data statistics [6]. The results are arranged in tabular form as shown in Table 4-6.

The research collects the information of graduate students' competence and quality indicators by means of investigation and data statistics. The results are arranged in tabular form as shown in Table 7-8.

The research collects the information of graduate students' participation indicators by means of investigation, data statistics and data analysis [7]. The results are arranged in tabular form as shown in Table 9.

Table 4 Collected results of external motivation information for Postgraduates.

grade	Participants in key postgraduate projects
First year graduated school student	109
Second year graduated school student	152
Third year graduated school student	125

Table 5 Collected results of postgraduate intrinsic motivation information.

grade	Percentage of graduate students' intrinsic motivation
First year graduated school student	0.25
Second year graduated school student	0.57
Third year graduated school student	0.66

Table 6 The results of motivation information collection for Postgraduates.

Index item	Assessment content	Assessment score
Postgraduate Participation Motivation	Extrinsic motivation	0.91
	Intrinsic motivation	0.73

Table 7 Collected results of postgraduate cognitive information.

Index item	Assessment content			Assessment score
Postgraduate Cognition	Knowledge level			0.92
	Technical level			0.87
	Consciousness level	Professional Consciousness	Professional grasp ability	0.73
			Information Processing Ability	0.71
		professional ethics	consciousness	0.9
			will	0.93

Table 8 The results of competency model for Postgraduates.

Index item	Assessment content	Assessment score
Postgraduate competency	Political belief	0.9
	Scientific and technological concept	0.85
	Information knowledge	0.67
	Innovative consciousness	0.77
	Physical and mental quality	0.86

Table 9 Result collation of graduate student participation indicators.

Index item	Assessment content	Assessment score
Postgraduate Participation Indicators	Control participation	0.86
	Identification participation	0.8
	Integration participation	0.75

2.3 Indicator Path of Master's Degree Postgraduates in a College

The path coefficients of various indicators of military master degree postgraduates in a university are shown in Tables 10, 11 and 12.

Table 10 Path Coefficient Table of Postgraduate Participation Motivation Indicators.

Path pointing	Path coefficient
Extrinsic motivation <--- Technological culture	0.156
Extrinsic motivation <--- Education, Training and Culture	0.606
Intrinsic motivation <--- Curriculum setting	0.437
Intrinsic motivation<--- Spiritual culture	0.541
Intrinsic motivation <--- Instructor guidance	-.091

Table 11 Path Coefficient Table of Postgraduate Participation Indicators.

Path pointing	Path coefficient
External participation <--- Extrinsic motivation	0.533
External participation <--- Education, Training and Culture	-0.200
External participation <--- Curriculum setting	-0.200
Identification participation <--- External participation	0.296
Identification participation <--- Intrinsic motivation	0.011
Identification participation <--- Instructor guidance	0.686
Integration participation <--- Intrinsic motivation	-0.011
Integration participation <--- Identification participation	-0.015
Integration participation<--- Science and Technology, Moral Culture	0.213

Table 12 Path Coefficient Table of Graduate Quality Growth Indicators.

Path pointing	Path coefficient
Professional Cognition <--- External participation	0.720
Professional Cognition <--- Identification participation	-0.114
Professional Cognition<--- Integration participation	-0.479
Professional competence <--- External participation	0.131
Professional competence <--- Identification participation	0.291
Professional competence<--- Integration participation	0.755
Specialization Generation and Innovation <--- External participation	-0.126
Specialization Generation and Innovation<--- Identification participation	0.110
Specialization Generation and Innovation<--- Integration participation	1.516

3. Analysis and Suggestions on Promoting Postgraduate Training to Professionalization

3.1 Analysis on the Professionalization of Master's Degree Postgraduates in a College

Analysis 1: Motivation index analysis. According to the analysis, the motivation indicators of postgraduates are mainly influenced by the curriculum and spiritual culture. Through statistical indicators and path coefficient analysis, we can see that spiritual culture has a greater impact on postgraduates' intrinsic motivation. At the same time, we can see that a good curriculum system.

Analysis 2: Graduate students' stage analysis in the process of participation. Graduate students are mainly affected by the external environment in the initial participation stage, that is, the external participation stage; Graduate students are mainly affected by the teacher's guidance in the second stage, that is, the identity participation stage; Research is mainly affected by the surrounding graduate students and people's behavior in the last stage of participation, that is, the integration participation stage.

Analysis 3: Analysis of each stage in the process of Postgraduate Quality growth. In the cognitive stage, it is mainly affected by external participation, and the external environment is the most important one, which shows that the external environment has an important impact on the professional ability of graduate students at the beginning; in the competency stage, it has a greater impact on the integration participation of graduate students themselves; and in the innovation stage, it is mainly affected by the third stage of graduate students' participation.

3.2 Suggestions on Professionalization of Master's Degree Postgraduates in a College

3.2.1 The orientation of postgraduate training objectives needs diversification

As the top design of postgraduate training in Colleges and universities, the orientation of training objectives plays a guiding role in the whole process of Postgraduate Quality growth. Diversified

orientation of training objectives requires that when formulating the orientation of postgraduate training objectives, it should be closely related to the actual situation of the major to improve the professional competence of postgraduates.

3.2.2 Course System and Teacher Team Construction Need Quality

Research shows that the general curriculum cannot meet the professional improvement of graduate students. If graduate students want to improve their ability and knowledge, they can consider establishing a curriculum system with the improvement of graduate students' professional ability as the leading factor, and supporting the corresponding teaching staff.

3.2.3 Assessment and evaluation system should be implemented according to the professional situation.

To some extent, the score-oriented evaluation system is one-sided. In the process of assessment, it is easy to ignore the values, motivation, degree of participation, attitude towards training and so on of graduate students, which cannot guarantee their professionalism. Graduate professional evaluation system needs to be based on the specific professional situation of graduate students, looking for a more suitable evaluation system for graduate professional evaluation.

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