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Research on practice effect evaluation system for tourism management

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ABSTRACT

Practical teaching is an important part of talent cultivation for the major of tourism management, an important bridge for student employment and an important means of fostering the innovation ability, practical ability and employability of students. Based on the previous research results, a sensible, evaluable and workable practice effect evaluation system and its mathematical model for the undergraduate majors on tourism (i.e. 6 first class indicators and 28 second class indicators) have been constructed through comprehensive investigation and interview for multiple interest subjects including tourism education experts, practical enterprises and student representatives by means of fuzzy analytic hierarchy process. In addition, empirical research has been conducted by combining the experience in perceptual practice for the major of tourism management in Hefei University so as to provide certain theoretical basis and practice instructions for the practice effect evaluation and practice quality monitoring in tourism management. © 2014 Trade Science Inc. - INDIA

KEYWORDS

Practice effect;
System;
Construction;
Evaluation;
Research.

INTRODUCTION

At present, the practice effect research for the major of tourism management focuses primarily on the following aspects. Wang Zhongjun (2010) has conducted quality evaluation research from the aspects of practice process, practice score and practice base etc.^[1]; Dai Qianhu (2010) has conducted practice effect research from the aspects of practice motivation, practice base and practice objectives etc.^[2]; Qi Ying (2009) has conducted practice effect research from the aspects of practice preparation, practice process and practice summary etc.^[3]; Yang Xiaozhong et al (2008) believe that the practice effect of students should be evaluated from

the aspects including professional skills and interpersonal skills^[4]; and Yang Zhenfeng et al (2004) believe that an improvement in practical operation ability and professional quality is the direct effect of student practice in enterprises^[5]. In short, there are many researches on the practice effect for the undergraduate majors relating to tourism management, but these researches are not deep enough due to a lack of quantitative analysis and research. Besides, most of the practice effect evaluations are based on a single interest subject without systematic and in-depth quantitative research. In this research, a sensible, evaluable and workable practice effect evaluation index system and its mathematical model for the undergraduate majors relating to tourism

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management have been constructed on the basis of previous researches by means of qualitative research combined with quantitative research, comprehensive investigation and interview for multiple interest subjects and the fuzzy analytic hierarchy process. Moreover, this research has tried to provide certain theoretical basis and practice instructions for the practice effect evaluation in tourism management through empirical analysis.

CONSTRUCTION OF INDICATOR SYSTEM

In order to analyze the influence factors for the practice effect of tourism management and establish a quality evaluation index system for practice effect, this research has set and screened repeatedly the evaluation index system for the practice effect in tourism management applying the methods including literatures statistics, theoretical analysis and expert consultation on the basis of the principles including sensibility, evaluability and operability. At last, an evaluation index system including 6 first class indicators and 28 second class indicators has been established. See the following TABLE 1 for detailed information.

ESTABLISHING A COMPREHENSIVE EVALUATION MODEL

Establishing an evaluation factor set

This paper applies the second-class evaluation index system to establish a comprehensive evaluation factor set for the practice effect of professional cognition in tourism management. In the system, suppose that the evaluation index factors on the first evaluation index level constitute the evaluation set $M^{[7]}$, then: $M = (M_1, M_2, M_3, M_4, M_5, M_6)$ = (ideology & morality, professional cognition, management ability, service ability, employment ability, comprehensive quality)

Besides, according to $M = (M_{i1}, M_{i2}, \dots, M_{in})$:

M_1 = (professional ethics, degree of self-discipline, professional responsibility, responsibility sense of identity)

M_2 = (professional devotion, professional knowledge, development trend)

M_3 = (market analysis skill, judgment & decision making ability, commanding & coordination ability, lead-

ership skill, execution ability, motivation ability, planning ability)

M_4 = (service awareness, service etiquette, service language expression, Service Knowledge, service skills)

M_5 = (employment intention, practical experience, professional ability, social adaptability)

M_6 = (interpersonal communication ability, teamwork skills, learning ability, innovation ability, physical and mental quality)

Weight determination

As different factors in the set M will exert different degrees of effect on the actual result produced during the practice process in tourism management, different weights U ($i=1, 2, n$) should be placed for various factors in the evaluation set M . And $U = (U_{1y}, U_{2y}, U_{3y}, \dots, U_{ny})$ will be the weight set of various factors, i.e. the factor weight set^[7]. Suppose that:

(1) The weight vector of each factor in set M is $R = (R_1, R_2, R_3, R_4, R_5, R_6)$, $R = 1$.

(2) The weight vector of each sub-factor in the subset M_i is $U_i = (U_{i1}, U_{i2}, U_{i3}, \dots, U_{ip})$. Delphi method will be applied to determine the weight of each factor. During the application of Delphi method, the first step is to choose authoritative experts in the fields relating to practice effect evaluation during the professional cognition practice in tourism management. This involves three aspects: advisers of cognitive practice, experts in practice enterprise and student representatives in practice. Secondly, summarize the scores given by the experts for each factor and calculate the weight of each factor according to $U_{1k}, U_{2k}, \dots, U_{nk}$ and $k=1, 2, \dots, m$. Then, calculate the mean value of U . At last, obtain the weight of each factor and calculate each weight vector through repeated feedback and negotiation of the authoritative experts in each field^[8].

$$U_i = \frac{1}{n} \sum_{k=1}^n U_{ik} \quad (1)$$

$$U_i = (21+23+16+20+22+18+22+21+20+23+22+15+17+21+20+22+19+24+21+23) / 20 \times 100 = 0.21$$

In the meantime, establish weight sets of the criterion layer:

$$U = (0.21, 0.16, 0.23, 0.15, 0.13, 0.12)$$

And calculate the weight of each factor in the index

set in a similar way:

$$U_1=(0.28,0.26,0.24,0.22)$$

$$U_2=(0.30,0.34,0.36)$$

$$U_3=(0.17,0.16,0.13,0.14,0.15,0.11,0.14)$$

$$U_4=(0.21,0.23,0.18,0.20,0.18)$$

$$U_5=(0.30,0.21,0.26,0.23)$$

$$U_6=(0.24,0.21,0.19,0.20,0.16)$$

Establishment of evaluation set

In order to collect and analyze the evaluation data information on the practice effect in tourism management in a better way, this paper mainly applies the attitude quantitative method^[7] for the evaluation index system of cognitive practice evaluation results and applies the 5-point Likert Scale that is widely used at home and abroad to measure the practice effect. The five-level remark set is $W = (W_1, W_2, W_3, W_4, W_5)$, in which $W = (\text{Excellent, Good, Medium, Qualified, Poor})$. And the corresponding scores are Excellent (W_1) = [90, 100], Good (W_2) = [80, 90], Medium (W_3) = [70, 80], Qualified (W_4) = [60, 70] and Poor (W_5) = [0, 60] respectively.

Second-class fuzzy synthetic evaluation model

(1) Determination of the first-class fuzzy evaluation matrix for practice effect evaluation in tourism management. Suppose that there are P indexes in the criterion layer M_i and S is a fuzzy set from M_i to W_p , which is a fuzzy matrix of n.P dimensions. Also, suppose that S_{ij} represents the evaluation of number j for the factor number i in the index system for the cognitive practice effect in tourism management in the order of ($i = 1, 2, \dots, n$; $j=1, 2, \dots, m$). And make $S = (S_{ij})^{[7]}$.

(2) First-class fuzzy evaluation. The evaluation matrix is calculated according to the principle of minimax

in multiplication and maximin in addition.

(3) Second-class fuzzy evaluation. Fuzzy operation is expressed as:

$$V = R.S = R.. \left\{ \begin{matrix} S_{11}^i & S_{12}^i & \dots & S_{1n}^i \\ S_{21}^i & S_{22}^i & \dots & S_{2n}^i \\ \dots & \dots & \dots & \dots \\ S_{n1}^i & S_{n2}^i & \dots & S_{nn}^i \end{matrix} \right\} \quad (2)$$

In the formula, variable R represents the weight allocation vectors of the evaluation indexes for the cognitive practice effect in tourism management, S represents the fuzzy evaluation matrix of each single index, and V represents the second-class fuzzy synthetic evaluation results of the practice effect evaluation in tourism management.

EMPIRICAL RESEARCH – TAKING THE MAJOR OF TOURISM MANAGEMENT IN HEFEI UNIVERSITY FOR EXAMPLE

In this research on the practice effect evaluation for the major of tourism management in Hefei University, the assessors consists of the teachers with years of experience in practice supervision from the department, experts in practice enterprises and student representatives in practice. The assessors are all representative personnel, and the evaluation objects are the 100 student interns. The investigation is conducted in the way of questionnaire survey and interview. During the investigation, interviewees have given scores for the 28 evaluation indexes in the evaluation index system according to the perception practice effect. Relevant data is shown in TABLE 1

TABLE 1 : Data sheet of the evaluation index system, weights and scores given by experts and student representatives on the practice effect for the major of tourism management^[7]

Guidelines layer	Index layer	Weights	Excellent	Good	Medium	Qualified	Poor
ideology&morality	professional ethics	0.28	0.22	0.35	0.24	0.19	0.00
	degree of self-discipline	0.26	0.19	0.34	0.28	0.18	0.01
	professional responsibility	0.24	0.11	0.27	0.34	0.16	0.12
	responsibility sense of identity	0.22	0.07	0.31	0.24	0.24	0.14
professional cognition	professional devotion	0.30	0.03	0.19	0.29	0.31	0.18
	professional knowledge	0.34	0.11	0.15	0.24	0.27	0.23
	development trend	0.36	0.04	0.19	0.24	0.31	0.22

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Guidelines layer	Index layer	Weights	Excellent	Good	Medium	Qualified	Poor
Managementability	market analysis skill	0.17	0.12	0.21	0.23	0.26	0.18
	judgment & decision making ability	0.16	0.15	0.29	0.27	0.21	0.08
	commanding & coordination ability	0.13	0.09	0.21	0.28	0.27	0.15
	leadership skill	0.14	0.08	0.31	0.31	0.19	0.11
	execution ability	0.15	0.04	0.21	0.34	0.23	0.18
	motivation ability	0.11	0.02	0.19	0.18	0.31	0.30
	planning ability	0.14	0.11	0.21	0.24	0.26	0.18
Ervice ability	service awareness	0.21	0.07	0.19	0.28	0.31	0.15
	service etiquette	0.23	0.16	0.24	0.27	0.28	0.05
	service language expression	0.18	0.18	0.25	0.26	0.21	0.10
	Service Knowledge	0.20	0.09	0.29	0.32	0.27	0.03
	service skills	0.18	0.07	0.18	0.26	0.31	0.18
Employment ability	employment intention	0.30	0.01	0.15	0.27	0.34	0.23
	practical experience	0.21	0.06	0.18	0.24	0.27	0.25
	professional ability	0.26	0.12	0.24	0.25	0.23	0.16
	social adaptability	0.23	0.08	0.21	0.31	0.23	0.17
comprehensive quality	interpersonal communication ability	0.24	0.13	0.24	0.29	0.28	0.06
	teamwork skills	0.21	0.09	0.21	0.30	0.27	0.13
	learning ability	0.19	0.11	0.23	0.25	0.24	0.17
	innovation ability	0.20	0.09	0.25	0.29	0.21	0.16
	physical and mental quality	0.16	0.21	0.28	0.27	0.18	0.06

Each index weight is expressed as the matrix as follows:

$$S_1 = \begin{Bmatrix} 0.22 & 0.35 & 0.24 & 0.19 & 0.00 \\ 0.19 & 0.34 & 0.28 & 0.18 & 0.01 \\ 0.11 & 0.27 & 0.34 & 0.16 & 0.12 \\ 0.07 & 0.31 & 0.24 & 0.24 & 0.14 \end{Bmatrix} \quad S_2 = \begin{Bmatrix} 0.03 & 0.19 & 0.29 & 0.31 & 0.18 \\ 0.11 & 0.15 & 0.24 & 0.27 & 0.23 \\ 0.04 & 0.19 & 0.24 & 0.31 & 0.22 \end{Bmatrix} \quad S_3 = \begin{Bmatrix} 0.12 & 0.21 & 0.23 & 0.26 & 0.18 \\ 0.15 & 0.29 & 0.27 & 0.21 & 0.08 \\ 0.09 & 0.21 & 0.28 & 0.27 & 0.15 \\ 0.08 & 0.31 & 0.31 & 0.19 & 0.11 \\ 0.04 & 0.21 & 0.34 & 0.23 & 0.18 \\ 0.02 & 0.19 & 0.18 & 0.31 & 0.30 \\ 0.11 & 0.21 & 0.24 & 0.26 & 0.18 \end{Bmatrix}$$

$$S_4 = \begin{Bmatrix} 0.07 & 0.19 & 0.28 & 0.31 & 0.15 \\ 0.16 & 0.24 & 0.27 & 0.28 & 0.05 \\ 0.18 & 0.25 & 0.26 & 0.21 & 0.10 \\ 0.09 & 0.29 & 0.32 & 0.27 & 0.03 \\ 0.07 & 0.18 & 0.26 & 0.31 & 0.18 \end{Bmatrix} \quad S_5 = \begin{Bmatrix} 0.01 & 0.15 & 0.27 & 0.34 & 0.23 \\ 0.06 & 0.18 & 0.24 & 0.27 & 0.25 \\ 0.12 & 0.24 & 0.25 & 0.23 & 0.16 \\ 0.08 & 0.21 & 0.31 & 0.23 & 0.17 \end{Bmatrix} \quad S_6 = \begin{Bmatrix} 0.13 & 0.24 & 0.29 & 0.28 & 0.06 \\ 0.09 & 0.21 & 0.30 & 0.27 & 0.13 \\ 0.11 & 0.23 & 0.25 & 0.24 & 0.17 \\ 0.09 & 0.25 & 0.29 & 0.21 & 0.16 \\ 0.21 & 0.28 & 0.27 & 0.18 & 0.06 \end{Bmatrix}$$

The operation is as follows according to the operation rules of minimax in multiplication and maximin in addition:

$$V_1 = U_1 \bullet S_1 = (0.28, 0.26, 0.24, 0.22) \bullet \begin{Bmatrix} 0.22 & 0.35 & 0.24 & 0.19 & 0.00 \\ 0.19 & 0.34 & 0.28 & 0.18 & 0.01 \\ 0.11 & 0.27 & 0.34 & 0.16 & 0.12 \\ 0.07 & 0.31 & 0.24 & 0.24 & 0.14 \end{Bmatrix} = (0.09, 0.21, 0.27, 0.15, 0.05)$$

$$V_2 = U_2 \bullet S_2 = (0.30, 0.34, 0.36) \begin{pmatrix} 0.03 & 0.19 & 0.29 & 0.31 & 0.18 \\ 0.11 & 0.15 & 0.24 & 0.27 & 0.23 \\ 0.04 & 0.19 & 0.24 & 0.31 & 0.22 \end{pmatrix} = (0.05, 0.15, 0.21, 0.26, 0.07)$$

The same can be concluded that:

$$V_3 = (0.11, 0.20, 0.28, 0.17, 0.06) \quad V_4 = (0.07, 0.21, 0.32, 0.12, 0.09)$$

$$V_5 = (0.08, 0.14, 0.34, 0.21, 0.12) \quad V_6 = (0.09, 0.21, 0.29, 0.17, 0.04)$$

For the first-class evaluation matrix:

$$S = \begin{pmatrix} 0.09 & 0.21 & 0.27 & 0.15 & 0.05 \\ 0.05 & 0.15 & 0.21 & 0.26 & 0.07 \\ 0.11 & 0.20 & 0.28 & 0.17 & 0.09 \\ 0.07 & 0.21 & 0.32 & 0.12 & 0.09 \\ 0.08 & 0.14 & 0.34 & 0.21 & 0.12 \\ 0.09 & 0.21 & 0.29 & 0.17 & 0.04 \end{pmatrix}$$

According to the weights calculated from the upper level of matrix^[9], the second-class fuzzy synthetic evaluation for this practice effect evaluation can be obtained:

$$V = U \bullet S = (0.15, 0.23, 0.31, 0.19, 0.12) \begin{pmatrix} 0.09 & 0.21 & 0.27 & 0.15 & 0.05 \\ 0.05 & 0.15 & 0.21 & 0.26 & 0.07 \\ 0.11 & 0.20 & 0.28 & 0.17 & 0.09 \\ 0.07 & 0.21 & 0.32 & 0.12 & 0.09 \\ 0.08 & 0.14 & 0.34 & 0.21 & 0.12 \\ 0.09 & 0.21 & 0.29 & 0.17 & 0.04 \end{pmatrix} = (0.12, 0.18, 0.24, 0.16, 0.10)$$

The curve chart 1 of the evaluation results can be drawn according to the results on the 6 criterion layers of the above matrix. Also, it can be shown according to the maximum membership principle^[9] of the fuzzy comprehensive evaluation method that: the evaluation result of the practice effect for the major of tourism management in Hefei University is “Medium”, and the evaluation result regarding professional cognition, service ability and employability is just “Qualified”. It is thus clear that the cognitive practice effect of the major of tourism management in Hefei University is not ideal and needs to be further improved.

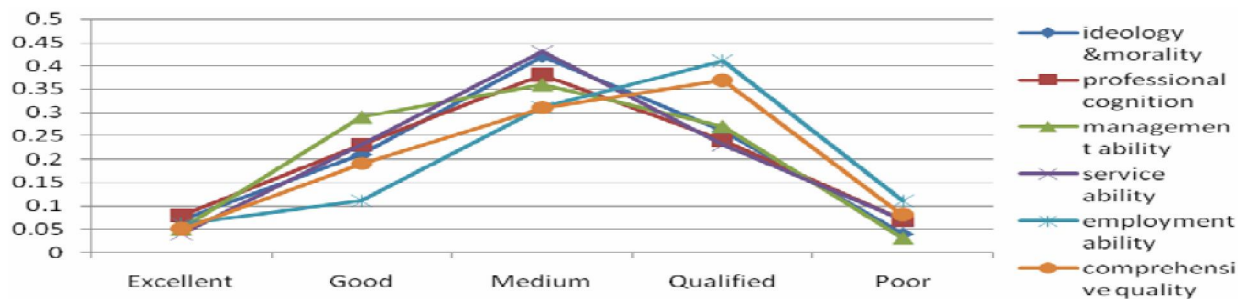


Figure 1 : Results on comprehensive evaluation of guidelines layer

Finally, it can be obtained through the normalization processing of V that:

$$V = (0.12/0.8, 0.18/0.8, 0.24/0.8, 0.16/0.8, 0.1/0.8) = (0.15, 0.225, 0.3, 0.2, 0.125)$$

From this formula, the sum of various components is 0.8 = 0.12+0.18+0.24+0.16+0.1; practice effects that are

classified as “Excellent” are 0.15, 0.225, 0.3, 0.2 and 0.125 respectively; and the score for practice effect evaluation is $V=90 \times 0.15 + 80 \times 0.225 + 60 \times 0.3 + 85 \times 0.2 + 80 \times 0.125 = 76.5$, indicating the evaluation result as “Medium”^[7]. Thus it can be seen that the overall practice effect of the major of tourism management is “Me-

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dium”, which is not very ideal. Specifically, the situation with relatively strong ideology & morality, professional cognition and service ability, relatively weak employment ability and comprehensive quality, and medium management ability has been presented.

CONCLUSION AND PROSPECT

Through questionnaire survey, interview, quantitative analysis, and other methods, by using former experiences of others for reference, and on the basis of satisfying present educational assessment theory, this paper has constructed a practice effect evaluation model which has important significance to the guidance to the cognitive practice in tourism management major. Empirical study has been conducted by taking cognitive practices of students majoring in tourism management of grade 2008-2010 in Hefei University for examples. Conclusions of the research are listed as follows:

- (1) A cognitive practice effect evaluation model for tourism management major is constructed. On the basis of comprehensive investigation and survey, repeated negotiation, and screening over the three interested parties of advisers of cognitive practice, experts in practice enterprise and student representatives in practice, through the index system method, a practice effect evaluation index system for undergraduate students majoring in tourism management is constructed with six dimensions including ideological and ethical standards, professional cognition, management ability, service ability, employability, and comprehensive quality. It has determined three parties of evaluation subjects of teachers, practice units, and students in practice; has determined the weighting of the evaluation index system and the evaluation subject through the Delphi method; and has consequently regulated the evaluation index system for comprehensive evaluation of practice effect of tourism management major.
- (2) Empirical study has been conducted on evaluation of practice effect. Take 100 students representatives majoring in tourism management of Hefei University who have taken part in the hotel practices from 2008 to 2010 for example. Work out the results of evaluations to each index in sequence of evaluations of teachers, evaluations of practice units,

and evaluations of representatives of students in practice. On this basis, work out the overall evaluation result in accordance with the weighting of various evaluation subjects and make comparative analysis to the results of evaluations by various parties. It is finally concluded that the evaluation for practice effect is “Medium”, and the practice effect is less-than-ideal that ideology and morality, professional cognition, and service ability are relatively strong, employability, and comprehensive quality are relatively weak, and management ability is normal.

- (3) Influencing factors on practice effect are analyzed. Judging from the evaluation on the practice effect, factors which may have influences to the practice effects are mainly constituted by three parts: the school, practice units, and students in practice. In which, factors about the school include incomplete practical teaching system, imperfect construction of practice base, inadequate ideological education on practice, lacking of tracking in the practice process, not enough communication with the practice units, and so on. Factors of practice units include that the practice units are only profit-oriented with inadequate attention paid to the practice of the students; remuneration and system for practice are dissatisfactory that it has influenced the enthusiasm and initiative of students in practice. Factors of students in practice include that the students’ mental preparations for practice are not enough with inadequate anticipate to the difficulties and frustrations in practice.

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REFERENCES

- [1] Wang Zhongjun; Construction of Teaching Quality Evaluation System for Practice of Tourism Management Major [J], Higher Education Forum, **3(3)**, 33-35 (2010).
- [2] Dai Qianhu, On Social Practice of College Students — Take Tourism Management Major for Example [J], China Adult Education, **19**, 71-72 (2010).

- [3] Qi Ying; Research on Evaluation Index System for Practice of Students Majoring in Tourism Management [J], Heilongjiang Education (Research and Evaluation on Higher Education), **11**, 15-16 (2009).
- [4] Yang Xiaozhong, etc.; Influence of Hotel Practice to Employment Tendency of Undergraduate Students Majoring in Tourism Management [J], Higher Agricultural Education, **11**, 82-87 (2008).
- [5] Deng Zhenfeng, Wen Weining, etc.; Investigation and Analysis in Practice Effect of Students Majoring in Hotel Management [J], Journal of Guilin Institute of Tourism, **15(2)**, 70-72 (2004).
- [6] Yao Xiaoyun, Tian Jinxia; Tourism Undergraduate Internship System Evaluation and Empirical Research [J], Tourism Forum, **12**, 810-814 (2010).
- [7] Liu Dan; Decoration Engineering Quality Evaluation on the Basis of Level Two Fuzzy Comprehensive Evaluation [J], Statistics and Decision, **12**, 77-78 (2013).