Effectiveness Management of Jewelry Design Education in Colleges and Universities under Guangdong Province

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ABSTRACT

The purpose of this research was to propose guidelines of effectiveness management of jewelry design education in colleges and universities under Guangdong Province. This research adopts mixed methods for design. Including qualitative research and quantitative research. A total of 7 key informants from the management of jewelry design major in universities and colleges under Guangdong Province and professors engaged in related research participated in the revision and discussion of the guidance on improving teachers education management of jewelry design major. These 7 key informants had more than 10 years of teaching experience in jewelry design in colleges and universities. The instruments for data collection was in-depth interviews questionnaire, by frequency analysis, content analysis.

The results of research was found that: (1) the components of effectiveness management of jewellery design education in colleges and universities included six components as: 1) University Policy reform and innovation, 2) Educational organization management, 3) University resources management, 4)Academic excellent and learning, 5) Quality and Reputation, and 6) Financial management and resource allocation; and (2) the guidelines of effectiveness management of jewelry design education in colleges and universities under Guangdong Province was total 41 guidelines included: 1) total 7 guidelines for University Policy reform and innovation, 2) total 8 guidelines for educational organization management, 3) total 8 guidelines for university resources management, 4) total 7 guidelines for academic excellent and learning, 5) total 5 guidelines for quality and reputation, and 6) total 6 guidelines for evaluation mechanism.

Keywords: Effectiveness Management, Jewelry Design Education, Colleges and Universities, Guangdong Province

1. Introduction

Since the reform and development of China for more than 40 years, the jewelry industry in the Pearl River Delta region has developed rapidly, and Guangdong Province has become the leader of the jewelry industry in China. At present, jewelry design is still an emerging major in Chinese college education. More and more people in the industry have put forward the importance of talent training, from jewelry designers to jewelry appraisers are very short, and can not keep up with the actual development needs. Based on the professional knowledge of education management, this paper takes the jewelry major of colleges and universities in Guangdong Province, a large province of jewelry industry, as the research object, and makes a detailed case study, to discuss the advantages and disadvantages of China's current jewelry design education concept, curriculum, operation and management mode.

The problems existing in the quality management of practical teaching in Chinese universities are mainly targeted at schools and enterprises. Among them, universities mainly have problems such as imperfect management mechanism and incomplete monitoring subjects, while enterprises mainly face problems such as low participation and poor communication between schools and enterprises (Shi Guangshan, 2017). The "Internet +" era, the society has put forward higher requirements for the management mode of universities. College administrators should change their ideas and ways of thinking, and innovate and develop the management mode in combination with the reality while formulating the school development plan and management objectives scientifically and reasonably (Zhang Tong, 2023).

The factors affecting the quality of undergraduate teaching into two dimensions for analysis. The first dimension was the external factors including the intervention of stakeholders, specific social needs, Chinese cultural traditions and internal factors including campus culture, academic environment, internal management, teaching and learning activities. The second dimension is the recessive factors including campus culture, academic environment, national cultural tradition, time background, and the explicit factors including social services, academic achievements in subjects and research, teaching management, conditions of teachers and students, and conditions of hardware facilities and equipment. Also, the comprehensive deepening reform in the field of higher education is to promote the modernization of the governance system and governance capacity of higher education (Zhang Yingqiang, 2014 and Zhong Binglin, 2011) that the government was the provider of public education services and the main body of the allocation of public education resources, and performance play a decisive role in the allocation of educational resources. such as excessive emphasis on

administrative standard, but lack of openness and transparency, and the mismatch between power and responsibilities, are all related to the offside, dislocation and excessive concentration of power of government functions. Therefore, to deepen the reform of educational resource allocation. However, to improve the evaluation system of teaching quality, and they put forward that the teaching quality evaluation standards must keep pace with The Times; strengthen the evaluation of the basic teaching quality of teachers; pay attention to the cultivation of comprehensive ability, realize the separation of teaching and examination; pay attention to the collection and feedback of students, and realize the four improvement measures of system management ".

2. Research Purposes

To propose guidelines of effectiveness management of jewelry design education in colleges and universities under Guangdong Province.

3. Benefit of Research

Provided guidance for the effectiveness management of jewelry design education in colleges and universities under Guangdong Province and even in China.

4. Research Process:

Step 1: to study the components of effectiveness management of jewelry design education in colleges and universities. Variables were identified through in-depth interviews and literature research, Step 2: quantitative analysis factors of component of effectiveness management of jewelry design education in colleges and universities under Guangdong Province, and Step 3: to organize experts to focus group discussion to arrive at the final guidelines.

Population and Sample: 1) provided from colleges and universities under Guangdong Province conducted in-depth interviews as 13 key informants, 2) sample size was 191 faculty members, elected with a stratified sampling technique, including presidents, vice-president,director and teachers.according to the Krejci and Morgan’s table, and 3) confirm the guidelines for effectiveness management of jewelry design education in colleges and universities under Guangdong Province by 7 experts.

Instrument: 1) **c**hecklist form and In-depth interviews form questionnaire, and 2) five points rating scale questionnaire.

Data analysis: 1) Content analysis was performed the data in depth-interviews with frequencies, 2) Conduct a descriptive analysis of the questionnaire results with mean and Standard Deviation, and 3) focus group was moderated by the researcher on discussion about effectiveness management of jewelry design education in colleges and universities under Guangdong Province.

5. Conclusion and discussion

1. Variable analysis of literature review and key informants

Through a comprehensive analysis of both the literature review and in-depth interviews with key informants, as shown in Table 1.

Table 1: Literature review and in-depth interview.

Dimensions	Items
1. University Policy reform and innovation	1. Higher education quality assurance mechanism
	2. Innovation of talent training mode
	3. Innovation and entrepreneurship education
	4. Interdisciplinary development
	5. Teacher development support
	6. Practical education reform
	7. Education informationization
2. Educational organization management	8. Education policy formulation and planning
	9. School organization and leadership
	10. Teacher management and training
	11. Curriculum design and teaching quality assurance
	12. Education reform and innovation
	13. Monitoring and evaluation of education quality
	14. International exchanges and cooperation in education
	15. Social participation and after-school education
3. University resources management	16. Teaching facilities
	17. Research facilities
	18. Scientific research funds
	19. Internship and practice opportunities
	20. Academic exchanges and international cooperation
	21. Discipline construction and development
	22. Campus culture and art education
	23. Cooperation in social resources
4. Academic excellent and learning outcome	24. Intersecting of disciplines and integration
	25. Practical teaching
	26. Curriculum innovation
	27. Student interests and needs
	28. International courses
	29. Career development course
	30. Social needs course/Social practice course
	31. Credit and reputation
	32. Teaching effect and student results

5. Quality and Reputation	33. Academic reputation
	34. Research and innovation capabilities
	35. Student employ ability
6. Evaluation mechanism	36. Student assessment
	37. Teacher evaluation
	38. Academic achievements
	39. Student employment rate
	40. Student satisfaction
	41. Subject ranking

Table 2: Result of Data Analysis of the detailed questionnaire

With a 5-point rating scale questionnaire assessment by mean and Standard Deviation, this assessment were as detailed below:

Variables		Correct d for item total correlation	Delete the Cronbach's Alpha value for the item	Cronbach's Alpha	Total Cronbach's Alpha
A	1	0.776	0.969	0.970	0.977
	2	0.771	0.969		
	3	0.788	0.969		
	4	0.799	0.969		
	5	0.839	0.968		
	6	0.949	0.966		
	7	0.767	0.969		
	8	0.788	0.969		
	9	0.813	0.968		
	10	0.789	0.969		
	11	0.841	0.968		
	12	0.811	0.968		
	13	0.758	0.969		
	14	0.802	0.969		
	15	0.822	0.968		
	16	0.793	0.969		
B	17	0.814	0.962	0.965	
	18	0.826	0.962		
	19	0.782	0.963		
	20	0.821	0.962		
	21	0.807	0.962		
	22	0.786	0.963		
	23	0.813	0.962		
	24	0.812	0.962		
	25	0.936	0.959		
	26	0.812	0.962		
	27	0.792	0.963		

Variables		Correct d for item total correlation	Delete the Cronbach's Alpha value for the item	Cronbach's Alpha	Total Cronbach's Alpha
	28	0.831	0.962		
C	29	0.832	0.974	0.975	
	30	0.800	0.974		
	31	0.813	0.974		
	32	0.809	0.974		
	33	0.793	0.974		
	34	0.806	0.974		
	35	0.792	0.974		
	36	0.803	0.974		
	37	0.807	0.974		
	38	0.953	0.972		
	39	0.808	0.974		
	40	0.819	0.974		
	41	0.791	0.974		
	42	0.844	0.974		
	43	0.790	0.974		
	44	0.803	0.974		
	45	0.844	0.974		
	46	0.811	0.974		
D	47	0.736	0.974	0.975	
	48	0.789	0.974		
	49.	0.805	0.973		
	50	0.800	0.973		
	51	0.791	0.974		
	52	0.769	0.974		
	53	0.784	0.974		
	54	0.794	0.974		
	55	0.824	0.973		
	56	0.790	0.974		
	57	0.791	0.974		
	58	0.810	0.973		

Variables		Correct d for item total correlation	Delete the Cronbach's Alpha value for the item	Cronbach's Alpha	Total Cronbach's Alpha
	59	0.808	0.973		
	60	0.787	0.974		
	61	0.725	0.974		
	62	0.942	0.972		
	63	0.747	0.974		
	64	0.796	0.974		
	65	0.806	0.973		
	66	0.762	0.974		
	67	0.810	0.973		
E	68	0.815	0.954		
	69	0.803	0.955		
	70	0.851	0.952		
	71	0.934	0.948		
	72	0.832	0.953	0.959	
	73	0.830	0.954		
	74	0.802	0.955		
	75	0.793	0.955		
	76	0.798	0.955		
F	77	0.815	0.970		
	78	0.795	0.971		
	79	0.842	0.970		
	80	0.795	0.971		
	81	0.778	0.971		
	82	0.787	0.971		
	83	0.786	0.971	0.972	
	84	0.801	0.971		
	85	0.798	0.971		
	86	0.826	0.970		
	87	0.951	0.968		
	88	0.830	0.970		
	89	0.789	0.971		

Variables		Correct d for item total correlation	Delete the Cronbach's Alpha value for the item	Cronbach's Alpha	Total Cronbach's Alpha
	90	0.827	0.970		
	91	0.817	0.970		
	92	0.806	0.970		

First, the data collected by the questionnaire were found that the overall Cronbach's Alpha value of the scale was greater than 0.7, and the Cronbach's Alpha values corresponding to the six dimensions were greater than 0.7, indicating that the internal consistency of the questionnaire was good, so the reliability of the results of this survey was excellent. In order to identify the correlation between each item and the population, the items where the correlation coefficient of CITC is lower than 0.3 should be deleted. After reliability test and analysis, the correlation between the items and the overall score in the questionnaire was higher than 0.3. See the table for details. The results show that most of the items were related to the population and had discrimination.

Exploratory factor analysis. KMO and Bartlett as table 3 .

Table 3: KMO and Bartlett

KMO and Bartlett		
Sample a sufficient Kaiser-Meyer-Olkin metric.		0.917
The sphericity test of the Bartlett	Approximate chi square	18772.258
	df	4186.000

The test results in the analysis table show that the KMO value of this study was 0.917, significantly greater than 0.7. However, in the Batley spherical test, the approximate chi-square value was 18772.258, and the probability of significance was 0.000, less than 0.01. The null hypothesis of the Batley sphericity test was therefore rejected, indicating that the questionnaire had a good validity structure and allows for factor analysis.

The total variance explained

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
1	29.881	32.479	32.479	29.881	32.479	32.479	14.228	15.465	15.465
2	9.549	10.379	42.858	9.549	10.379	42.858	12.818	13.933	29.398
3	8.588	9.335	52.193	8.588	9.335	52.193	11.451	12.446	41.844
4	6.663	7.242	59.435	6.663	7.242	59.435	11.349	12.336	54.180
5	5.906	6.420	65.855	5.906	6.420	65.855	8.783	9.547	63.727
6	4.882	5.306	71.161	4.882	5.306	71.161	6.839	7.434	71.161
7	0.897	0.975	72.135						
8	0.864	0.939	73.075						
9	0.801	0.871	73.946						
10	0.791	0.860	74.806						
11	0.741	0.805	75.611						
12	0.716	0.778	76.389						
13	0.699	0.759	77.149						
14	0.687	0.746	77.895						

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
15	0.664	0.722	78.617						
16	0.656	0.713	79.329						
17	0.647	0.703	80.032						
18	0.616	0.669	80.701						
19	0.612	0.666	81.367						
20	0.588	0.639	82.006						
21	0.584	0.635	82.641						
22	0.563	0.612	83.253						
23	0.551	0.599	83.852						
24	0.524	0.570	84.421						
25	0.522	0.567	84.988						
26	0.502	0.546	85.534						
27	0.487	0.530	86.064						
28	0.469	0.509	86.573						
29	0.464	0.504	87.077						

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
30	0.456	0.495	87.572						
31	0.436	0.474	88.047						
32	0.417	0.453	88.500						
33	0.396	0.431	88.931						
34	0.375	0.408	89.339						
35	0.370	0.403	89.741						
36	0.367	0.399	90.140						
37	0.357	0.388	90.528						
38	0.348	0.378	90.906						
39	0.341	0.371	91.277						
40	0.331	0.359	91.636						
41	0.321	0.349	91.986						
42	0.318	0.345	92.331						
43	0.298	0.324	92.655						
44	0.293	0.319	92.973						

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
45	0.282	0.306	93.279						
46	0.271	0.295	93.574						
47	0.260	0.283	93.857						
48	0.252	0.274	94.131						
49	0.248	0.270	94.400						
50	0.239	0.259	94.660						
51	0.234	0.255	94.914						
52	0.229	0.249	95.164						
53	0.217	0.236	95.400						
54	0.211	0.230	95.629						
55	0.204	0.222	95.851						
56	0.195	0.212	96.063						
57	0.186	0.202	96.265						
58	0.180	0.195	96.461						
59	0.179	0.195	96.655						

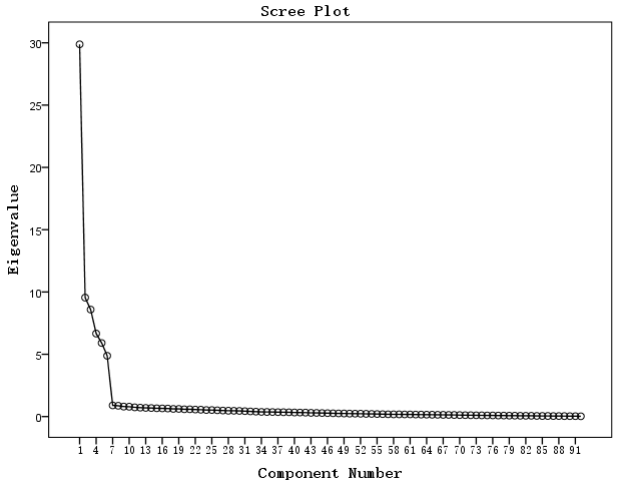
	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
60	0.174	0.189	96.845						
61	0.171	0.186	97.030						
62	0.163	0.177	97.207						
63	0.159	0.173	97.380						
64	0.153	0.166	97.546						
65	0.149	0.162	97.709						
66	0.142	0.155	97.863						
67	0.137	0.148	98.012						
68	0.133	0.145	98.156						
69	0.127	0.138	98.295						
70	0.117	0.127	98.422						
71	0.110	0.119	98.541						
72	0.106	0.116	98.657						
73	0.103	0.112	98.769						
74	0.097	0.106	98.875						

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
75	0.093	0.102	98.976						
76	0.090	0.098	99.074						
77	0.084	0.091	99.165						
78	0.080	0.086	99.251						
79	0.074	0.081	99.332						
80	0.072	0.078	99.410						
81	0.064	0.070	99.480						
82	0.061	0.067	99.547						
83	0.060	0.066	99.612						
84	0.055	0.060	99.672						
85	0.048	0.052	99.724						
86	0.047	0.051	99.775						
87	0.044	0.048	99.823						
88	0.041	0.044	99.867						
89	0.036	0.039	99.906						

	Initial eigenvalue			Extract the squared sum and load			Rotary square sum loading		
element	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%	amount to	% Of the variance	accumulate%
90	0.032	0.034	99.941						
91	0.030	0.033	99.974						
92	0.024	0.026	100.000						

Extraction method: Main component analysis.

It can be seen that there were six common factors with large eigenvalues. The results of the factor analysis also showed that the total variance interpretation rate of the factor was 71.161%, greater than 60%, from which the designed scale be considered better interpretation. And get the following diagram.



By observing the gravel diagram, found that the eigenvalue after the sixth common factor changes slowly, so it was more appropriate to select 6 common factors, and the following rotating component matrix obtained. It was concluded by rotating the composition matrix of the problems in the scale. According to the meaning of the topic in the scale and the rotating component matrix, the load value is greater than 0.5 be analyzed as an important item, the results show that the load value of each dimension was greater than 0.5, at the same time, the rotating component matrix and the results of the scale and dimensions of the research design. Therefore, the validity of the questionnaire were high and effective.

Component 1 was described by 16 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.739-0.936. and the researcher named it "**University Policy reform and innovation**".

Component 2 was described by 12 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.768-0.916 and the researcher named it "**Educational organization management**".

Component 3 was described by 18 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.749-0.944 and the researcher named it "**University resources management**".

Component 4 was described by 21 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.686-0.936 and the researcher named it "**Academic excellent and learning**".

Component 5 was described by 9 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.774-0.917 and the researcher named it "**Quality and Reputatio**n".

Component 6 was described by 16 key variables, with no value below 0.5. After rotating the axis, the variable factor loading in the component was between 0.741-0.923 and the researcher named it "**Evaluation mechanism**".

Base on the combination of qualitative research, quantitative research and factor analysis techniques, the researchers successfully and delineated the component of effectiveness management of jewelry design education in colleges and universities under Guangdong Province. The extraction process of these components is completed through EFA. A concise summary of these identified components could be visualized in Figure 1

Figure 1. Components of effectiveness management of jewelry design education in colleges and universities under Guangdong Province

Component 1 "**University Policy reform and innovation**" consisted of 7 variables.

Component 2 "**Educational organization management**" consisted of 8 variables.

Component 3 "**University resources management**" consisted of 8 variables.

Component 4 "**Academic excellent and learning**" consisted of 8 variables,

Component 5 "**Quality and Reputation**" consisted of 5 variables, and Component 6"**Evaluation mechanism**" consisted of 5 variables.

Second: Focus Group Discussion

A total of seven experts actively participated in the Focus Group Discussion, which was structured around six distinct components. These components encompassed

Educational organization management, University resources management, Academic excellent and learning, Quality and Reputation and Evaluation mechanism. Within 41 guidelines components were collaboratively generated. The findings were in the same direction with Professor Luo Yanming (2010) pointed out that it is necessary to strengthen the monitoring and management of teaching quality, establish and perfect scientific and reasonable teaching rules and regulations, build the whole process of teaching quality monitoring mechanism, build a comprehensive teaching quality evaluation system, and establish a reasonable incentive and restraint mechanism. And accordance with Zhou Linyi and Chen Tiaotiao (2009) in the construction of art course teaching evaluation system to clear course objectives, set up the course unit teaching objectives, the single homework score is summarized into unit score should be emphasized in the teaching practice and for the cultivation of creative ability and emphasize the school service for society, serve the cultural and economic construction. As Shi Shuo (2020) colleges and universities should abandon the existing traditional backward concept of planning in the curriculum mode, and adopt and draw lessons from the teaching mode of western countries with positive impact on the effectiveness of educational effectiveness.

6. Recommendation

1. Recommendations for Policies Formulation

1. The government can increase the investment in educational resources for jewellery design majors, including support in terms of funds, equipment and venues.

2. The government may establish a teacher training program to support the training and development of teachers specializing in jewelry design.

3. The government may encourage and support cooperation projects between the jewellery design profession and enterprises in the jewelry industry and set up scholarships and funding schemes for jewellery design majors to study jewellery design majors.

2. Recommendations for Practical Application

1. to build advanced laboratories and studios for jewellery design professional education, and to provide places for students to practice and create.

2. Improve the school organization ability, so as to improve the efficiency of school management and education quality.

3. Industry-oriented curriculum: Working with companies in the jewellery industry to develop a curriculum that is closely related to market needs.

4. Construction of teachers: Strengthen the construction and training of professional teachers in jewellery design. And practical opportunities and internship programs: Establish close cooperation with jewellery companies to provide students with practical opportunities and internship programs.

5. Innovation and Entrepreneurship Support: Innovation and entrepreneurship support is provided to encourage students to set up their own business or brand in the field of jewellery design.

3. Recommendations for Further Research

There are many aspects that have not been explored in detail in this article, especially regarding the basic components of effectiveness managemen of jewelry design. To help build on predictive theory and help us more fully understand the development of effectiveness managemen of jewelry design, with a focus on practical and real-world applicability.

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