SURVEY RESEARCH ON EDUCATION SATISFACTION AMONG FULL-TIME MASTER'S DEGREE GRADUATE STUDENTS: AN EXAMPLE FROM ANHUI PROVINCE

Tu Dongxue[1], Nor Saidi Mohamed Nasir[2], Zhong Jianyan[3], Jiang Rui[4], Luo Jing[4]

[1]Department of Basic Teaching and Research, Guangdong Technology College,
Guangzhou City, Guangdong Province, China.

[2]Faculty of Business Innovation and Technology,
Universiti Melaka, Batu 28, 78200 Kuala Sungai Baru, Melaka, Malaysia.

[3]School of Marxism, Guangdong Technology College,
Guangzhou City, Guangdong Province, China.

[4]School of Foreign Languages, Guangdong Technology College,
Guangzhou City, Guangdong Province, China.

Corresponding author's email: tudongxue@163.com

ABSTRACT

Using Anhui Province as a case study, we conducted a questionnaire survey and data analysis to assess the satisfaction of full-time Master of Education (M.Ed.) students at five normal universities. Applying the Kano model and associated analytical methods, we constructed a Kano model for education satisfaction among full-time M.Ed. students. The results helped identify key indicators influencing their satisfaction. The survey revealed that the overarching goal of M.Ed. programs is the development of students' personalities. A growing trend in master's education is the increased level of supervision. Demographic characteristics significantly impact satisfaction with education. Cultivating M.Ed. requires four essential factors, including curriculum content. Additionally, there are 18 one-dimensional factors, such as teaching equipment, that are essential for proper M.Ed. training. The Master's degree in Education offers nine attractive features, including employment support for supervisors. Moreover, 26 high-sensitivity indicators, including internship platforms, significantly impact education satisfaction. To enhance the program, we recommend improvements in six areas: course teaching, research practice, mentoring, management and service, personal development, and personality development.

Keywords: *Master of Education students; Educational satisfaction; Questionnaire method; Kano model; Sensitivity level*

INTRODUCTION

In 2009, China began recruiting its first full-time professional master's degree students. Since then, the enrollment of full-time education master's degree students has steadily increased. However, these programs remain largely unknown to the general public, and full-time master's degree students often report below-average levels of satisfaction with their educational experience in their respective fields. Therefore, improving the academic satisfaction of full-time education master's degree students is a crucial concern that warrants emphasis in the education sector.

Students are integral to the education system and should be the primary focus of any study. By conducting student satisfaction surveys, educational institutions can gain valuable insights into the needs and preferences of their students. This information can then be utilized to provide effective guidance and targeted measures to the training units responsible for educating full-time master's degree students in the field of education.

The full-time Master's degree program in education is a significant component of the professional degree program. Conducting a comprehensive survey on educational satisfaction among professional degree students is not feasible due to variations in specialties. Therefore, we specifically selected full-time graduate students pursuing a Master's degree in education for an educational satisfaction survey. The survey aimed to identify essential indicators that impact the level of educational satisfaction among these students. These indicators were based on their learning experiences and expectations for personal development during their academic years. We established a clear structure and causal connections between statements to enhance comprehensibility and logical flow of information. We used standard language, consistent technical terms, and impartial language, ensuring the text was free from grammatical errors, punctuation mistakes, and spelling errors. Additionally, we included common academic sections with regular author and institution formatting, occasionally incorporating freer wording for added interest. Our research was based on the Kano model theory, developed by Noriaki Kano, a professor at the Tokyo Institute of Technology, and his colleague Fumio Takahashi (Kirgizov & Kwak, 2022). We conducted a stratified questionnaire survey at universities in Anhui Province that offer a Master's degree program in education. We then employed quantitative analysis to determine the highly sensitive key indicators that impact student satisfaction with their Master's degree program in education.

LITERATURE REVIEW

Relevant studies on full-time Master of Education (M.Ed.) postgraduate education

Juusola, Henna, and Räihä, Pekka, explored the quality of education in the exported Finnish master's degree program in teacher education in Indonesia, focusing on quality conventions. The findings of this study emphasize the diversity of quality factors that reflect the expectations of students and staff, as well as the priorities of providers that are essential to exported degree education (Juusola, H. & Räihä, P., 2019). Cohen, Richard, Murnaghan, Lucas, Collins, John, and Pratt, Dan re-examined all programs offering a master's degree in medical or health sciences education in the English-speaking world, including the Netherlands. They found that seven of the nine original master's programs still exist. Other relevant basic logistical data were summarized, confirming that a master's degree in medical or health sciences education is the most concrete way for medical schools to gain a foundation for credentialing in educational theory and practice (Cohen, R., Murnaghan, L., Collins, J., & Pratt, D., 2005).

This paper analyzes the literature on graduate education at the master's degree level, combining characteristics of training for graduate students in education. Additionally, it references surveys and research on domestic education graduate programs. The following main ideas on full-time education master's degree graduate programs are summarized by Zhang Guangcheng et al. According to relevant research, a lack of graduate student participation in curriculum planning and related activities goes against the concept of modern education (Yang Yuchun, Zhang Guangbin, 2013). Huang Baoyin stated that the Ministry of Education has implemented policies to strongly encourage structural adjustments in master's degree enrollment and the growth of graduate education for professional degrees (Huang Baoyin, 2010). These policies demonstrate the importance of advancing professional

degree education for master's degree graduates. Shao Guanghua highlighted that full-time graduate students pursuing a master's degree in education is a novel cultivation mode that, when combined with action research, can enhance the teaching reform research proficiency of education master's degree holders (Shao Guanghua, 2012).

A study on the modeling of educational satisfaction
Wadsworth, Brooke Chapman, Hecht, Michael L., and Jung, Eura, presented a framework for gauging the academic contentment of foreign students studying in the United States. The Identity Communication Theory (ICT) proposes that the Individualized Identity Gap (IIG) and Individualized Relational Identity Gap (IRIG) contribute to the educational satisfaction of international students. These gaps, which are based on the framework of the 'Identity Communication Theory,' specifically refer to the personalized identity gap and the personalized relational identity gap (Wadsworth, B. C., Hecht, M. L., & Jung, E., 2008). Yusof and Ghouri conducted an analysis of the importance, expectations, perceptions, and satisfaction of students at Malaysian public institutions of higher education regarding the quality of educational services and customer satisfaction. The ACSI model and a modified version of the SERVQUAL model were utilized for the study, and satisfaction data were analyzed (Gade, E., Fuqua, D., & Hurlburt, G., 1988).

To accurately investigate the current state of research on education satisfaction among full-time education master's students in China, this study utilized the BlueMC word cloud tool to generate a word cloud map and a statistical table of word frequency related to education satisfaction research. The search was based on the keywords 'postgraduate education,' 'education satisfaction,' and 'Kano model' in CNKI. Based on the relevant literature and reliable databases in China, our analysis indicates that academic investigations into the educational satisfaction of full-time master's degree students typically focus on two key areas. Firstly, researchers explore approaches to measure and evaluate the educational satisfaction index of master's degree students. Secondly, studies examine satisfaction surveys from the viewpoint of training methods and service levels. This study considers the satisfaction survey results regarding training techniques and service quality to support the conclusions found in the earlier visualization analysis.

The above research provides a theoretical foundation for studying the educational satisfaction of full-time education master's degree students. However, there is a lack of research on the satisfaction survey of full-time master's degree students in education. This makes it difficult to ensure that the indicators selected for their satisfaction questionnaire are appropriate.
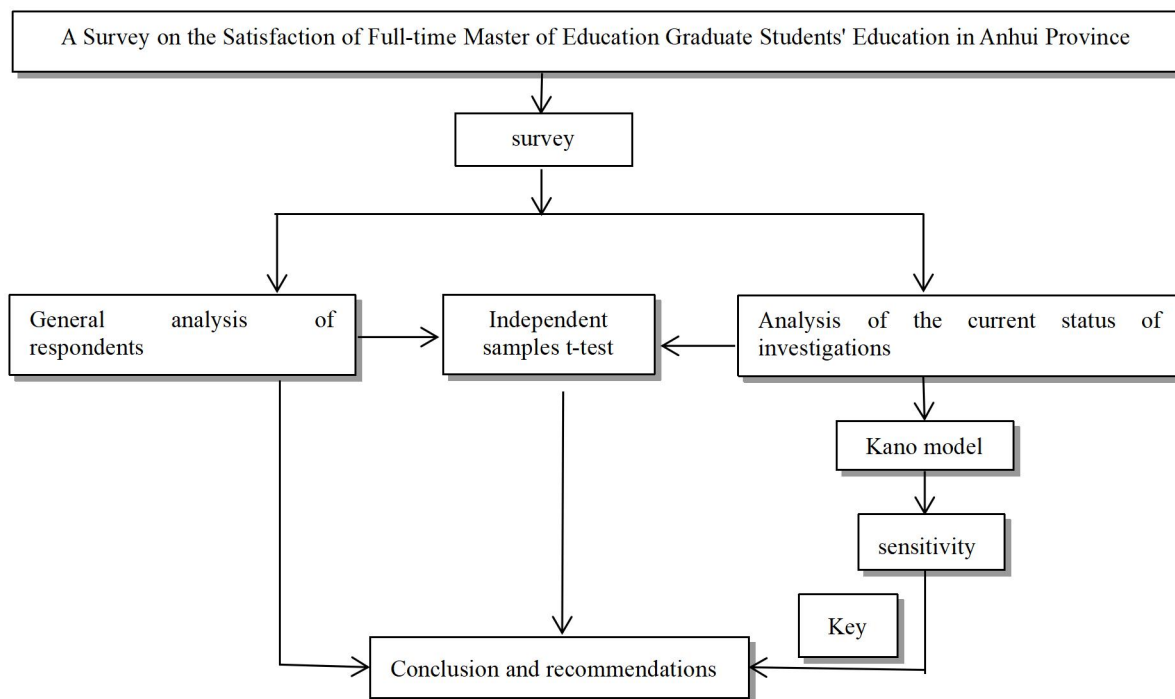
THE FRAMEWORK

Figure 1: Research framework diagram

RESEARCH PROGRAM DESIGN AND QUESTIONNAIRE PROCESSING

Investigation program
Investigation purpose and respondents
The goal of this survey is to examine the satisfaction levels of full-time M.Ed. graduate students in Anhui Province related to course teaching, research practices, supervisor guidance, management, service, personal development, and personality development. Additionally, basic information regarding gender, grade, birthplace, and family income will be collected to analyze their impact on educational satisfaction. The survey seeks to understand the current state of educational satisfaction for master's degree students in Anhui universities and provide valuable insights for improving graduate education satisfaction.

There are five universities and colleges in Anhui Province that offer Master of Education programs: Anhui Normal University, Huaibei Normal University, Anqing Normal University, Hefei Normal College, and Fuyang Normal University. The total number of full-time M.Ed. students is approximately 1,500. The survey participants consist of full-time graduate students with a master's degree in education from across Anhui Province.

Methodology and approach to the survey
Before administering the comprehensive questionnaire, we analyzed literature concerning the Kano model, educational satisfaction, and M.Ed. education to gather relevant indirect information. Subsequently, we developed questionnaires that were disseminated within the five aforementioned universities, and then we collected the raw data. In the initial stage, the research team randomly selected four teacher training colleges situated in Anhui Province and employed SPSS software to randomize the numbers. Eventually, four colleges were chosen, namely: Anhui Normal University, Huaibei Normal University, Hefei Teachers College, and Fuyang Normal University.

In the second stage, the group performed stratified cross-subsampling (Li Peijun, 2005) in four universities and colleges to predict the effective daily sample size. They selected several sites where M.Ed. graduate students have more everyday activities, including the M.Ed. teaching floors of each college, graduate student dormitories, M.Ed. study rooms, and teacher skills training centers. This

approach guarantees that the survey sample comprises solely Master of Education graduate students, thereby eliminating the influence of other master's programs on the survey results. This can minimize sampling errors and conserve economic resources. The precise sample size is determined according to the following criteria:

The confidence probabilities for using sample data to estimate the population were calculated using the normal distribution theory (refer to Table 1).

Table 1： Confidence probabilities for different survey days

K	1	2	3	4	5	6	7	8
P	0.6	0.72	0.825	0.875	0.946	0.952	0.963	0.944

The findings in Table 1 demonstrate that the highest level of confidence, at 96.3%, is achieved when the survey is undertaken over a period of seven days. Based on this finding, it was decided that the survey would be conducted over a seven-day period, with a daily sample size of at least 30 participants. Following this approach, the research team determined that the survey would be open for seven days and expected to collect an average of 32 valid questionnaires daily, resulting in a total of 224 valid questionnaires at the end of the survey period.

In the third stage, the percentage of full-time M.Ed. scholars in the four schools was determined. Subsequently, stratified sampling was performed using the obtained calculations to procure the necessary number of samples for the daily formulation of these institutions. The results obtained are depicted in Table 3.

Table 2： Number of valid samples recovered daily from the four schools

Survey Schools	Number of full-time M.Ed. students	Average number of valid daily samples	Total valid samples for seven days
Fuyang Normal University	77	2	14
Hefei Normal University	141	4	28
Anhui Normal University	715	18	126
Huaibei Normal University	294	8	56
Total	1227	32	224

Questionnaire Design

The team devised a survey questionnaire based on the proposed program, with the questionnaire's content included in the appendix. The ratings range from 1 point for "dislike very much" to 5 points for "like very much," with "accept reluctantly" denoting 2 points, "don't care" reflecting 3 points, and "take it for granted" indicating 4 points. The survey questionnaire utilized a five-point Likert scale where "dislike" corresponds to 1, "accept" to 2, "don't care" to 3, "take it for granted" to 4, and "like it a lot" to 5. The survey examines six areas of student satisfaction, including course teaching, research practice, personal development, and personality development. To ensure optimal survey results, the group conducted a trial study by randomly selecting 10 M.Ed. students. These students were asked to complete a preliminary questionnaire at various locations, including the M.Ed. teaching building, graduate student dormitory building, M.Ed. study room, and Teacher Skills Training Center. Based on feedback from these participants regarding the initial questionnaire, the group compiled a more comprehensive and suitable replacement questionnaire for the final survey.

Questionnaire Recovery and Processing

According to the questionnaire design, the group received 238 surveys during the 7-day open period, and eliminated 12 invalid surveys, resulting in 216 valid surveys that served as the basis for analysis (see Table 3).

Table 3： Effective Sample Size by College

Survey Schools	Average number of valid daily samples	Total valid samples for seven days
Anhui Normal University	15	104
Huaibei Normal University	13	91
Hefei Normal University	2	14
Fuyang Normal University	1	7
Total	31	216

Let the sample satisfaction mean be $\overline{x}$. Calculate the variance between the satisfaction mean $\overline{x_i}$ and the sample satisfaction mean $\overline{x}$ for each category as follows: $s_i^2 = \frac{1}{k-1}\sum_{i=1}^{k}(\overline{x_i}-\overline{x})^2 (\overline{x} = \frac{1}{k}\sum_{i=1}^{i=m_k}\overline{x_i})$

The data obtained for each day of the 7 days were mutually independent random variables, and the variance of satisfaction in each category s_i^2 was utilized in place of the sample satisfaction variance. Calculate the variance $v(\overline{x_i})$ of the sample satisfaction mean $\overline{x}$ using the above formula: $v(\overline{x}) = \frac{1}{7}s_i^2 = \frac{1}{7\times(7-1)}\sum_{i=1}^{k}(\overline{x_i}-\overline{x})^2$

From the data collected in the satisfaction questionnaire, we were able to calculate the average and variance for each satisfaction category (Table 4).

Table 4： Means and Variance of Satisfaction Survey Categories

Satisfaction survey categories	$\overline{x_i}$	$v(\overline{x_i})$
Teaching of the curriculum x_0	$\overline{x_0} = 3.8183$	$v(\overline{x_0}) = 0.0271$
Research and Practice x_1	$\overline{x_1} = 3.5650$	$v(\overline{x_1}) = 0.0288$
Supervisor guidance x_2	$\overline{x_2} = 4.3350$	$v(\overline{x_2}) = 0.0129$
Management and services x_3	$\overline{x_3} = 3.4989$	$v(\overline{x_3}) = 0.0869$
Internships and employment x_4	$\overline{x_4} = 3.4483$	$v(\overline{x_4}) = 0.5309$
Personality development x_5	$\overline{x_5} = 3.1900$	$v(\overline{x_5}) = 0.2906$
Sample size estimation $\overline{x}$	$\overline{x}=3.6426$	$v(\overline{x})=0.0296$

QUESTIONNAIRE DATA ANALYSIS

Methodology for data analysis
Descriptive Statistics Methodology: We used a frequency count graph to depict demographic characteristics and analyzed them in conjunction with educational satisfaction scores to provide a comprehensive overview.
Test Analysis Methodology: We calculated the sampling error for the survey's scale design section.
Kano Model Analysis Methodology: Our approach involved categorizing the factors influencing the educational satisfaction of full-time M.Ed. students enrolled in the program and identifying the key factors with high sensitivity.

Analysis of the current status of education satisfaction surveys
The survey study on the satisfaction of education among full-time graduate students pursuing a Master's degree in education selected six primary indicators for investigation. Utilizing the Kano

model's scoring method, the average value of each indicator can depict the overall satisfaction levels, whether high or low, of the sample concerning that indicator. After assessing the overall satisfaction levels of full-time education Master's degree students, the study calculated high and low satisfaction levels for each measurement indicator based on demographic characteristics. The researchers used SPSS 20.0 software to conduct independent samples t-tests to compare the educational satisfaction of students with different genders and places of origin.

As shown in Table 5, there is no significant variation in satisfaction with education between boys and girls in the six primary indicators. Nevertheless, gender differences exist in each measure. Girls display higher satisfaction than boys in scientific practice and personality development, whereas the opposite is the case in the other four indicators.

Table 5: Differences in satisfaction between male and female students on each measure

Independent Samples Test							
	The levene test for variance equations		t-tests for mean equations				
	F	*Sig.*	*t*	difference in mean value	standard error value	95% confidence interval for the difference	
						upper limits	lower limit
Teaching of the curriculum	0.555	0.457	0.868	0.12715	0.1465	-0.16162	0.41592
Research and Practice	0.002	0.96	0.168	0.02568	0.15256	-0.27504	0.32639
Supervisor guidance	0.115	0.735	0.509	0.07889	0.1549	-0.22643	0.3842
Management and services	0.817	0.367	0.221	0.03361	0.15235	-0.26669	0.3339
Internships and employment	1.758	0.186	1.364	0.18147	0.13309	-0.08086	0.4438
Personality development	0.127	0.722	1.311	0.20225	0.15426	-0.10182	0.50631

As shown in Table 6, there is no notable distinction in educational satisfaction between students from towns and villages in the six primary indicators. However, the satisfaction of students from different backgrounds differs in each measure. Regarding mentoring and personality development, students from rural areas exhibit more satisfaction than those from towns, while the reverse is true in the remaining four indicators.

Table 6: Differences in Satisfaction Between Urban and Rural Students on Each Measure

Independent Samples Test							
	The levene test for variance equations		t-tests for mean equations				
	F	*Sig.*	*t*	difference in mean value	standard error value	95% confidence interval for the difference	
						upper limits	lower limit
Teaching of the curriculum	0.188	0.665	1.756	0.19903	0.11334	-0.02437	0.42243
Research and Practice	1.027	0.312	1.831	0.21565	0.11775	-0.0166	0.44776
Supervisor guidance	6.065	0.015	1.335	0.1603	0.12006	-0.07635	0.39694
Management and services	1.163	0.282	0.222	0.02628	0.1185	-0.2073	0.25985
Internships and employment	0.969	0.326	1.585	0.16382	0.10336	-0.03992	0.36757
Personality development	1.082	0.299	0.013	0.00161	0.12047	-0.23585	0.23907

Kano Model building and solving
A research survey was conducted to analyze the satisfaction of full-time master's degree students with their education using the Kano model and its analytical methods. The survey took into account the

fundamental characteristics of full-time master's degree education. Based on the survey's findings, this study identified the primary drivers influencing students' satisfaction with their education. The report provides an overview of the current state of affairs at the university and synthesizes the information above to offer targeted strategies for improvement. Noriaki Kano and Fumio Takahashi developed the Kano model, which categorizes customer satisfaction influences into five distinct categories (Chen Dan, Zhou Jieru, 2011).

The analysis of the Kano model is used to categorize the factors influencing student satisfaction and subsequently identify key factors. The Kano evaluation form (Table 7) is a questionnaire designed by our group according to the conventional question structure. It presents a well-structured and comprehensive set of objective questions, covering all measurement indicators with both positive and negative inquiries. Simultaneously, based on the Kano classification, the factors with the highest percentage are designated as satisfaction elements in the Kano classification table (Table 8).

Table 7: Kano evaluation form

How satisfied are you with the content of the program to meet the needs of the students and your satisfaction with the content of the curriculum?	□ like it very much □ take it for granted □ don't mind it □ Reluctantly accept □ Dislike very much
The course content of this program does not meet student needs, how satisfied are you with the course content offerings?	□ like it very much □ take it for granted □ don't mind it □ Reluctantly accept □ Dislike very much

Table 8: Kano Classification Chart

Satisfaction		Forward-Looking Issue				
	Meters	Like It Very Much	Take It For Granted	Don't Mind It	Reluctantly Accept	Dislike Very Much
Negative Issue	Like It Very Much	Q	A	A	A	O
	Take It For Granted	R	I	I	I	M
	Don't Mind It	R	I	I	I	M
	Reluctantly Accept	R	I	I	I	M
	Dislike Very Much	R	R	R	R	Q

M:Basic Factors   A:Attractive Factors   O:One-Dimensional Factors   I:Irrelevant Factors   R:Reversal Factors
Q:Paradoxical Problems

According to the Kano classification table, the researchers statistically analyzed the questionnaire responses provided by the respondents. They determined the Kano classification of satisfaction attributes based on the highest percentage within the classification categories. For example, when positive questions are answered as "taken for granted" and negative questions as "disliked very much," referring to Table 8 results in categorizing this attribute as "M," which represents a basic factor.

Instead of measuring the educational satisfaction of full-time master's degree students in education, the Kano model categorizes the influencing factors of educational satisfaction among full-time master's degree students in education and calculates their sensitivity levels (Matzler & Hinterhuber, 1998) according to Equations (Guo Jie, Zhu Hongbin, 2015) (i) $SI = \dfrac{(A+O)}{(A+O+M+I)}$ and

(ii) $DSI = \dfrac{-1 \times (O+M)}{(A+O+M+I)}$. The Kano model assesses master's degree students in education as the subject of evaluation, categorizes the influencing factors of their educational satisfaction, and identifies the key influencing factors of full-time master's degree students' educational satisfaction (Fu Zhenfang, 2004).

Table 9: Classification and Sensitivity of measurement indicators

Measurement Indicators		Symbol	Kano Classification	Frequency	Percentage	SI	DSI	Sensitivity
Teaching of the curriculum B	curriculum Content Setting	B_1	M	62	28.9	0.61	-0.58	High
	Teaching equipment	B_2	O	97	45.1	0.75	-0.63	High
	Teaching methods	B_3	I	69	32	0.52	-0.71	High
	Classroom efficiency	B_4	I	65	30	0.62	-0.8	High
	Assessment Methods	B_5	R	57	26.2	0.76	-0.48	High
	teachers' level	B_6	O	84	38.7	0.51	-0.61	High
Research and Practice C	Level of scientific research projects	C_1	A	89	41.1	0.2	-0.19	Low
	Funding for scientific research projects	C_2	O	83	38.5	0.91	-0.57	High
	Research working environment	C_3	O	78	36.2	0.92	-0.83	High
	Teacher skills training	C_4	O	87	40.2	0.53	-0.51	High
	Teacher Skills Platform	C_5	O	84	39.1	0.64	-0.72	High
Supervisor guidance D	Academic level of Supervisor	D_1	O	75	34.6	0.58	-0.79	High
	Supervisor Ethics	D_2	M	80	37	0.81	-0.71	High
	Level of Supervisor	D_3	O	77	35.5	0.73	-0.59	High
	Supervisor Employment Support	D_4	A	65	30.2	0.31	-0.18	Low
	Supervisor-student relationship	D_5	O	83	38.7	0.39	-0.70	High
	dual Supervisor	D_6	A	90	41.7	0.42	-0.11	Low
Management and services E	School Accommodation Conditions	E_1	O	103	47.7	0.46	-0.78	High
	Facility conditions of the study room	E_2	O	100	46.2	0.62	-0.82	High
	Library resources	E_3	O	94	43.4	0.6	-0.64	High
	Level of scholarship provision	E_4	O	110	51.3	0.73	-0.73	High
	Collection of school fees	E_5	A	70	32.4	0.52	-0.17	Low
	School Medical Service	E_6	O	89	41.2	0.72	-0.62	High
	Administrative management services	E_7	O	65	29.9	0.64	-0.47	High
	Psychological counseling	E_8	I	79	36.5	0.81	-0.62	High
	Transportation and security	E_9	M	109	50.4	0.73	-0.91	High
Internships and employment F	Internship platform offers	F_1	O	99	46.1	0.92	-0.61	High
	Expectations of internship results	F_2	O	97	45.1	0.48	-0.87	High
	Employment platforms offer	F_3	A	91	42.4	0.45	-0.30	Low
	Employment subsidy provision	F_4	A	106	49.3	0.43	-0.37	Low
	Employment guidance	F_5	O	82	38	0.36	-0.74	High
	Overseas Exchange Opportunities	F_6	A	92	42.6	0.34	-0.41	Low
Personality development G	entertainment	G_1	A	79	36.5	0.27	-0.31	Low
	Hobbies and Interests Cultivation	G_2	A	101	46.9	0.26	-0.21	Low
	Ideological and moral development	G_3	M	94	43.3	0.42	-0.53	High

Based on the responses from the survey respondents, the frequencies and percentages corresponding to the 35 measurement indicators were calculated, with reference to Table 8. The category with the largest percentage for each measurement indicator can be considered as the Kano classification for that measurement indicator. The Q categorization was ignored, as the percentage of this category was extremely small.

From the Kano classification of the aforementioned 35 measures, it can be observed that the basic factors encompass four items: course content setting, tutor ethical training, transportation and policing, and moral and ethical development. The attraction factors include nine items, such as research project level, supervisor employment support, and dual tutoring. Additionally, eighteen items, including teaching equipment, teacher skill training, supervisor guidance level, library resources (books and databases), and career guidance, are categorized as one-dimensional factors. On the other hand, three items are classified as irrelevant factors: teaching methods, classroom efficiency, and psychological counseling. There is also one item designated as a reversed factor, namely, assessment method.

The *SI* of the measurement indicator was calculated using Equation (i), and the *DSI* of the measurement indicator was computed using Equation (ii), as shown in Table 9. Subsequently, the position of the measurement indicator was marked on the coordinate system. Measurement indicators falling within the circle with a diameter of C_1E_5 are considered non-critical indicators with low sensitivity, while those outside the circle are deemed critical indicators with high sensitivity (refer to Figure 2).
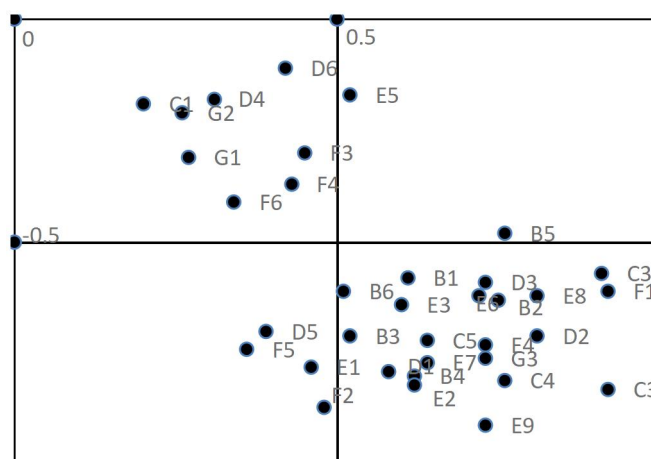

Figure 2: Sensitivity levels

According to Table 9 and Figure 2, among the 35 measurement indicators, there are 26 high-sensitivity key indicators and 9 low-sensitivity non-key indicators. The critical indicators encompass curriculum content setting, supervisor guidance level, teacher skill training, transportation and security, career guidance, school accommodation and food conditions, as well as ideological and moral development. On the other hand, the non-critical indicators include research project level, dual tutors, tuition and fees charged, employment subsidies provided, and recreational activities.

CONCLUSIONS AND RECOMMENDATIONS

Based on a multi-stage sampling method, this paper collected survey data on the education satisfaction of full-time master's degree graduate students in Anhui Province. Independent sample t-tests and the Kano model were employed to analyze demographic characteristics (such as gender and place of origin) and satisfaction measurement indexes (including course teaching, scientific research and practice, supervisor guidance, management and service, personal development, and personality development). The findings indicate that there is no significant difference in satisfaction measurement indexes between male and female students, but there are some differences. Similarly, there is no significant difference in satisfaction measurement indexes between urban and rural areas, but there are some differences. The education satisfaction measurement indexes can be divided into

two parts: key factors (26) with a high degree of sensitivity and non-key factors (9) with a low degree of sensitivity.

The development of students' personalities is the primary focus of Master of Education training.
   "Personality development" includes three key indicators: recreational activities, hobby cultivation, and ideological and moral development. According to survey data, personality development has the lowest mean satisfaction score among the six primary indicators, registering at only 3.19. Notably, the mean satisfaction score for hobby cultivation is the lowest, at 2.52. It is evident that colleges and universities do not prioritize the personality development of full-time master's degree students in education and fail to provide them with adequate conditions for their personality growth. Consequently, the needs of education master's degree students in terms of personality development remain unmet. Therefore, personality development represents the overarching direction for the training of master's degree students in education.

High-level guidance from supervisors is a prevailing trend in M.Ed. training.
According to the survey data, mentoring has the highest mean satisfaction score among the six level 1 indicators, which is 4.34. Notably, the mean satisfaction score for the ethical cultivation of supervisors is the highest, at 4.54. It is evident that colleges and universities place a significant emphasis on mentoring for full-time education master's degree students. Therefore, the trend in the training of education master's degree students is to continue maintaining and enhancing the supervisors' academic proficiency, ethical cultivation, mentoring skills, and employment support. These factors collectively represent the prevailing direction in the education master's degree training.

Demographic Characteristics Underlying Satisfaction with Education.
Demographic characteristics include gender, grade, place of origin, type of master's degree in education, parents' education, and monthly family income. In terms of gender, male student's express higher satisfaction with their education than female students, but they place greater importance on research practice and personality development. Concerning place of origin, there is a noticeable impact on the educational satisfaction of M.Ed. students based on differences between urban and rural areas. Regarding the category of master's degree in education, the needs of students pursuing a master's degree in education in science-related fields are not adequately met. Concerning monthly family income, family economic conditions significantly influence the educational satisfaction of M.Ed. students. Lastly, in terms of the educational level of parents, the literacy level of parents also plays a role in determining the educational satisfaction of M.Ed. students. Consequently, demographic characteristics serve as the foundational factors in assessing the educational satisfaction of M.Ed. students.

The basic factors are the essential guarantees for Master of Education training.
The underlying factors encompass four aspects: course content offerings, instructor ethics, transportation and security, and moral and ethical development. When these indicators are optimized, M.Ed. students experience an increase in satisfaction. Conversely, in the absence of these indicators, they express dissatisfaction. Therefore, these four indicators are indispensable in ensuring the quality of training for M.Ed. students in colleges and universities.

The one-dimensional factor is a fundamental **requirement for the preparation of the Master of Education.**
One-dimensional factors encompass 18 measurement indicators, including teaching equipment, teachers' skill training, supervisor guidance level, library resources (books, databases), and career guidance. The existence and quality of these measurement indexes have a direct linear relationship with the satisfaction level of M.Ed. students. In other words, if colleges and universities strengthen these measurement indexes, students' satisfaction will increase. Conversely, if colleges and universities neglect these measurement indexes, students' satisfaction will decrease. Therefore, these 18 measurement indicators constitute the essential prerequisites for graduate education in the field of M.Ed.

Attractive factors as highlights of M.Ed. training.
The attraction factors encompass nine measures, including the quality of the research program, mentor employment support, and dual mentorship. The provision of these nine measurements exceeds students' expectations and results in high levels of satisfaction. However, students will not be disappointed if these metrics are not provided. Therefore, these nine measurement indicators stand out as highlights of M.Ed. graduate education.

Highly Sensitive Indicators as Key Factors Influencing Education Satisfaction.
The sensitivity of key influencing factors on the educational satisfaction of full-time master's degree students in education is high. In other words, even a slight change in their corresponding measurement indicators can immediately impact students' educational satisfaction. Identifying these key indicators that can swiftly influence students' satisfaction and improving the quality of their corresponding measures will effectively enhance the overall quality of full-time master's education and the educational satisfaction of master's degree students.

Students show heightened concern for the promotion of personal development, management, and services, leading to higher satisfaction and sensitivity. Specifically, conditions related to school accommodation, study room facilities, library resources, scholarship levels, school medical services, administrative services, psychological counseling, transportation and security, the provision of internship platforms, expectations of internship outcomes, and career guidance can directly and rapidly influence the educational satisfaction of master's degree students in education. Therefore, these types of measures play a pivotal role in influencing the satisfaction of M.Ed. students regarding their personal development and life needs.

Recommendations
The above conclusions hold significant reference value for enhancing the educational satisfaction of full-time education master's students. These highly sensitive key indicators can offer precise and reliable information for decision-making by the educational administration in Anhui Province. They also provide both theoretical reference and practical guidance for the education and training of master's degree students in the field of education. The following six aspects are analyzed in consideration of the actual situation in education for master's degree students, primarily focusing on course teaching, scientific research and practical experience, supervisor guidance, management and services, personal development, and personality development.

Enhancing the Quality of Teaching and Learning in the Curriculum.
"Curriculum teaching" comprises six indicators: course content, teaching equipment, teaching methods, classroom efficiency, assessment methods, and teacher competence. These indicators are highly sensitive key factors, with teaching methods and classroom efficiency being unrelated factors, assessment methods serving as inverse factors, curriculum content development as a fundamental factor, and teaching equipment and teacher competence as one-dimensional factors.

First and foremost, the establishment of course content is an indispensable guarantee. Colleges and universities should optimize curriculum content development and strengthen the development of pedagogical disciplines. Secondly, teaching equipment represents the fundamental prerequisite for effective teaching. Colleges and universities should provide advanced teaching equipment for education master's degree students. This includes offering cutting-edge experimental teaching and innovation laboratories for primary and secondary school subjects, as well as three-stroke training rooms, to meet the needs of education master's degree students in terms of teaching equipment. Lastly, improving the teaching competence of classroom instructors provides assurance for the effective learning of Master of Education students.

Increase Investment in Research and Enhance Teacher Skills.
"Research practice" encompasses five measures: research program level, research program funding, research work environment, teacher skill training, and teacher skill platform. Among these, research program funding, research work environment, teacher skill training, and teacher skill platform are key indicators with high sensitivity, all falling into the category of one-dimensional factors.

Firstly, relevant departments should allocate sufficient funding for research projects at Anhui universities. They should increase research grants for graduate students, ensuring financial support for students' research projects and addressing their research difficulties and needs to the fullest extent possible. Concurrently, colleges and universities should foster a conducive learning environment for students and provide a comfortable research atmosphere to enhance their sense of engagement in scientific research. Secondly, teacher skills are the foundation for education master's degree students. Therefore, colleges and universities should bolster the provision of teacher skill platforms and corresponding professional skills training. This may include organizing national and provincial teacher skills competitions to ensure that students acquire a solid foundation in teaching skills and have access to platforms for further learning.

Optimizing Teacher-Student Relationships and Enhancing the Quality of Mentoring.
Supervisor's academic level, supervisor's ethics, supervisor's guidance level, and teacher-student relationship are key indicators with high sensitivity. Among these, supervisor's ethics falls under the category of basic factors, while supervisor's academic level, supervisor's guidance level, and teacher-student relationship fall under the category of one-dimensional factors.

A positive teacher-student relationship contributes to students' holistic development. Therefore, graduate students should proactively engage in communication and maintain contact with their supervisors. Supervisors, in turn, should take an interest in the personal and academic well-being of their graduate students. Both parties should work collaboratively to nurture a healthy teacher-student relationship. Supervisors, as the primary mentors for graduate students, should prioritize possessing good moral character and a high level of academic competence. This ensures they can offer comprehensive and high-level guidance to students and serve as role models for exemplary teaching and mentorship.

Introducing High-Level Management Talents and Clarifying the Authority and Responsibility of Management Departments.
"Management and services" encompass nine measures, which include school accommodation, study room facilities, library resources, the level of scholarships, tuition and fees, school medical services, administrative services, psychological counseling, and transportation and security. Among these, only tuition and fee collection is a low-sensitivity non-key indicator, while the other seven are high-sensitivity key indicators. School accommodation, study room facilities, library resources, scholarship levels, school medical services, and administrative services fall into the category of one-dimensional factors, psychological counseling is deemed an unrelated factor, and transportation and security are considered basic factors.

First and foremost, colleges and universities should establish a comprehensive training system for management personnel and cultivate individuals with modern management skills. Secondly, effective management of study room facilities, accommodation environments, and healthcare services are pivotal for the harmonious development of colleges and universities. To achieve this, institutions should clarify the authority and responsibility of their management departments, finely divide the areas of authority, and prevent managers from evading their responsibilities.

Improvement of internships and employment should be accompanied by an increase in overseas exchange opportunities.
"Personal development" encompasses six measures: the availability of internships, expectations for internship outcomes, the presence of employment platforms, the availability of employment subsidies, employment guidance, and overseas exchange opportunities. The provision of internships, expectations for internship outcomes, and career guidance are key indicators with high sensitivity and are one-dimensional factors. In contrast, the provision of employment platforms, employment subsidies, and overseas exchange opportunities are non-key indicators with low sensitivity.

Firstly, as a graduate student pursuing a Master of Education degree, a teaching internship is of paramount importance for enhancing professional abilities. Therefore, colleges and universities should refine the existing internship methods and enhance the impact of students' internships. This will enable students to acquire and improve their teaching language, teaching posture, board design,

classroom organization and management, as well as their ability to handle teaching content after the internship. Simultaneously, colleges and universities should provide students with high-quality, high-level career guidance and establish a strong connection between internships and employment. Secondly, while enhancing their own teaching abilities, educators should draw inspiration from excellent foreign teaching concepts and methods. Universities in Anhui Province can expand overseas exchange opportunities by organizing collective overseas training and learning experiences for teachers and facilitating student exchanges with their international counterparts. This approach will significantly enhance students' personal development levels.

Improving the comprehensive quality of students depends on their ideological and moral cultivation.

"Personality development" comprises three measures: recreational activities, hobby development, and moral and ethical development. Among these, only moral and ethical development is a key indicator with high sensitivity and is a fundamental factor.

Ideological and moral cultivation is a matter of great concern for master's degree students in education, and the importance of their ideological and moral values is emphasized by both teachers and supervisors, as well as in their own requirements. Colleges and universities should offer courses on ideology and morality. Simultaneously, they should infuse ideology and morality into professional courses. The material culture on campus should also reflect these values, allowing students to mature with a high level of ideological and moral grounding. This approach will satisfy students' needs for ideology and morality and, in turn, enhance their overall quality.

AUTHOR CONTRIBUTIONS

All authors played a role in conceptualizing the research and drafting the manuscript. In simple words, all team members provided support in various aspects of this paper.

CONFLICTS OF INTEREST

The manuscript has not been published elsewhere and is not under consideration by other journals. All authors have approved the review, agree with its submission and declare no conflict of interest on the manuscript. This paper published as part of 1st International Conference On Business & Management (1ST ICBM) 2023.

REFERENCES

Cohen, R. Murnaghan, L.,Collins, J., & Pratt, D. (2005). An update on master's degrees in medical education. Medical Teacher, 27(8), 686-692. doi:http://dx.doi.org/10.1080/01421590500315170

Chen, Dan & Zhou, Jieru. (2011). A study of customer satisfaction in Chinese higher education: An application of KANO model in higher education. Journal of Changchun University of Science and Technology (Social Science Edition) (02), 99-102.

Fu, Zhenfang. (2004). Research on empirical analysis of college students' satisfaction in higher education. Higher Education Forum (05), 12-18+31.

Gade, E., Fuqua, D., & Hurlburt, G. (1988). The relationship of Holland's personality types to educational satisfaction with a native-American high school population.Journal of Counseling Psychology,35(2), 183. Retrieved from https://search.proquest.com/docview/236564430?accountid=175632

Guo, Jie. & Zhu, Hongbin. (2015). A study on the satisfaction of full-time professional master's education based on Kano model--Taking University of L as an example. Journal of Changchun University (08), 88-93.

Huang, Bao-yin. (2010). A new era of development of professional degree graduate education in China. Degree and Graduate Education (10), 1-7. doi:10.16750/j.adge.2010.10.005.

Juusola, H.& Räihä, P. (2019). Quality conventions in the exported Finnish master's degree programme in teacher education in Indonesia. Higher Education, 79(4):675–690. doi:http://dx.doi.org/10.1007/s10734-019-00430-3

Kirgizov, U. A., & Kwak, C. (2022). How can a quantitative analysis of Kano's model be improved further for better understanding of customer needs? Total Quality Management and Business Excellence, 33(13–14), 1605–1624. https://doi.org/10.1080/14783363.2021.1981760

Li, Peijun. (2005). Application of stratified cross-sampling subsamples. Journal of Shandong Finance College (03), 34-38.

Matzler, K., & Hinterhuber, H. H. (1998). How to make product development projects more successful by integrating Kano's model of customer satisfaction into quality function deployment. Technovation, 18(1), 25–38. https://doi.org/10.1016/S0166-4972(97)00072-2

Shao, Guanghua. (2012). Research on Practice Teaching Mode of Full-time Master of Education Degree Graduate Students. Teacher Education Research (02), 87-91+47. doi:10.13445/j.cnki.t.e.r.2012.02.015.

Wadsworth, B. C., Hecht, M. L., & Jung, E. (2008). The role of identity gaps, discrimination, and acculturation in international students' educational satisfaction in american classrooms.Communication Education,57(1),64.Retrieved from https://search.proquest.com/docview/214120681?accountid=175632

Yang, Y. Chun & Zhang, Guangbin. (2013). Research on graduate program management: current status-issues-suggestions. Degree and Graduate Education (05), 28-31. doi:10.16750/j.adge.2013.05.010.