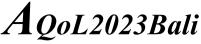
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# Measuring the Determinants of Student Satisfaction in Practical Teacher Training Education Program in China

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## Abstract

Despite extensive research on student satisfaction in HEIs, notable gaps exist in investigating the profound impact of practical teacher training in education programs, particularly in China. This study examines the relationships between student satisfaction and its predictors in practical teacher training among Chinese undergraduates. Results show that expectation, perceived administrative service quality, perceived teaching quality, and perceived value are significant predictors of student satisfaction. However, image and teacher-student interaction have no significant relationships with student satisfaction. The six constructs represent 49% of the variance in student satisfaction. These findings indicate the necessity for enhanced management of practical teacher training programs.

Keywords: Student Satisfaction; Practical Teacher Training; Perceived Value

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## 1.0 Introduction

## 1.1 Problem Statement of the Study

Due to globalization and the competitive recruitment of international and local students, Higher Education Institutions (HEIs) now strive to ensure student satisfaction with their services to retain students and gain a comparative advantage (Çalışkan, 2023). Various studies have explored the factors that impact students' satisfaction with the services offered by HEIs (Zein et al., 2023). However, there is limited research on students' satisfaction with practical teacher training (Sun et al., 2018).

Practical teacher training programs are aimed to enhance student teachers' teaching skills and practical abilities. Student teachers need practical training to apply theoretical knowledge, improve teaching and artistic abilities, and develop interpersonal skills, ultimately becoming skilled educators (To & Lung, 2020). Practical teacher training in China is still receiving criticism despite the efforts made by the government and university administrators to improve training quality. Shen and Liu (2020) surveyed 479 students from a university in Shanxi Province, China, which revealed that 55.54% of students were dissatisfied with the duration of practical teacher training, 42.59%

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were dissatisfied with the facilities, and 23.39% were dissatisfied with the evaluation methods used in practical teacher training programs. This highlights the need for improvement in the quality of practical teacher training and further exploration of the factors influencing student satisfaction in practical teacher training programs.

## 1.2 Objectives of the Study

Understanding the factors influencing student satisfaction, such as image (IMA), expectation (EXP), teacher-student interaction (TSINT), perceived administrative service quality (PASQ), perceived teaching quality (PTQ), and perceived value (PV), may help universities provide high-quality training and high-quality teachers for K-12 education in China. This research examines the relationship between university image, student expectation, teacher-student interaction, perceived administrative service quality, perceived teaching quality, perceived value, and student satisfaction in practical teacher training programs in Shanxi province, China, to provide greater insight into student satisfaction. It also aims to add further understanding of factors impacting student satisfaction in practical teacher training in China. Therefore, the RO of this study is as follows:

To determine the effect of the IMA, EXP, TSINT, PASQ, PTQ, and PV on SS of practical teacher training in early childhood teacher preparation programs in Shanxi Province, China.

## 2.0 Literature Review

## 2.1 Student Satisfaction

According to Wong and Chapman (2023), student satisfaction results from how students evaluate the educational services they receive. It is an essential factor in assessing the effectiveness of HEIs and is even considered the only performance indicator of service quality. Student satisfaction also affects the enrollment of HEIs, student employment, and government investment (Fisher et al., 2021). To grasp the complexity of the quality of practical teacher training programs in HEIs, it is insufficient only to know the degree to which students are satisfied; it is also essential to understand the factors contributing to student satisfaction with practical teacher training programs. Thus, investigating the factors influencing the satisfaction of university students in practical teacher training has become a focal point for researchers.

## 2.2 Image and Student Satisfaction

The term "image" refers to the overall impression that customers or others have about a company or organization (lizuka et al., 2017). It is a collection of opinions people have about particular services or goods in which they are involved, along with their attitudes, preconceptions, and pertinent behaviors. Mohammed et al. (2023) indicate that student satisfaction will increase significantly if the institution's image improves. Similar findings demonstrating the constructive association between image and student satisfaction were found by Chandra et al. (2019). In other words, students who attend universities with a good image are more satisfied with the services provided by the university. Hence, the following hypothesis is developed:

H1: Image has a significant relationship with student satisfaction in practical teacher training programs.

## 2.3 Expectation and Student Satisfaction

Expectation refers to visions or hopes one envisions or preplans in advance before attending practical teacher training. Clear expectations for practical training, according to Zou et al. (2021), can improve students' attitudes and ardor toward the program. This entails anticipating the training's content and evaluation procedure, actively participating in practical teacher training activities, and eventually positively impacting their satisfaction. Williams et al. (2020) pointed out that expectations can significantly shape a person's perception and interpretation of their experiences.

The expectations held by students before participating in practical teacher training activities can influence their evaluation of the quality of practical teacher training programs and ultimately affect their satisfaction level with practical teacher training programs. Thus, this hypothesis is :

H2: Expectation has a significant relationship with student satisfaction in practical teacher training programs.

## 2.4 Teacher-student Interaction and Student Satisfaction

Teacher-student interaction refers to the interpersonal dynamics, communication, and engagement between teachers and students in a learning environment. Liu and Fan (2019) employed questionnaires to assess 2,300 students' satisfaction with the "ideology and politics course" across three universities in Shanghai. The study discovered that student satisfaction with the "ideology and politics course" was primarily influenced by factors such as the perception of teacher-student interaction and the quality of the teacher-student relationship. Pham and Nguyen (2021) also confirmed that learner-instructor interaction is crucial in determining student satisfaction. Hence, the following hypothesis is developed:

H3: Teacher-student interaction has a significant influence on student satisfaction with practical teacher training programs.

## 2.5 Perceived Administrative Service Quality and Student Satisfaction

Perceived administrative service quality refers to the subjective evaluation or perception of the quality and effectiveness of administrative services provided by an organization or institution. Student satisfaction not only depends on classroom lectures' and tutors' guidance

during consultation hours but, more importantly, on their experiences with non-academic staff, physical infrastructure, and other aspects of college life (Helena Martins et al., 2018). Additionally, Mastoi et al. (2019) emphasized the importance of the administrative staffs cooperation, kindness, and responsiveness in determining student satisfaction in HE. Dhawan's (2022) study reveals that the highest correlation with student satisfaction is attributed to the quality of administrative services. This implies that administrative service is an essential part of university service, and students' perceptions of its quality significantly affect their satisfaction with their university experiences. Thus, the following hypothesis is developed:

H4: Perceived administrative service quality affects student satisfaction significantly in practical teacher training programs.

## 2.6 Perceived Teaching Quality and Student Satisfaction

Teaching quality refers to how effective, competent, and excellent the teaching activities are in their instructional practices. Perceived teaching quality is students' evaluation or perception of the teaching quality based on their judgments, beliefs, and opinions. Singh et al. (2021) found that the quality of teaching staff, teaching methods, and course administration significantly impacted students' satisfaction levels with the Indian higher management education institutions. Sopiah (2020) identified various factors, including lecturer competence, dedication to academic success, and the quality of their teaching, that influenced student satisfaction. Sudirman et al. (2023) also show that lecturer service quality has a significant effect on student satisfaction in private higher education in Medan City. It is evident that perceived teaching quality can affect student satisfaction. Thus, the following hypothesis is developed:

H5: Perceived quality of instruction and student satisfaction are significantly correlated in practical teacher training programs.

## 2.7 Perceived Value and Student Satisfaction

According to Watanabe (2020), perceived value is the evaluation of product attributes, performance, and outcomes during consumption that help or hinder the customer's goal and purpose. The perceived value reflects the trainees' perceptions of the value they believe they will gain from the training regarding knowledge, skills, personal development, and overall professional growth. Chen and Cuong (2020) utilized the student satisfaction index (SSI) model to evaluate 237 students' satisfaction at Foreign Trade University. They discovered that perceived value was the main factor affecting overall satisfaction for joint master's students at this private university. Numerous studies have found that perceived value directly affects student satisfaction. Thus, the following hypothesis is developed: H6: There is a significant correlation between perceived value and student satisfaction in practical teacher training programs.

## 3.0 Methodology

Shanxi Province has ten (10) universities offering undergraduate early childhood teacher preparation programs. The total number of fourth-year undergraduate students majoring in early childhood education is approximately 1500. According to the Morgan table, the minimum sample size for a population of 1500 is 306. A larger sample size enhances the representativeness of the overall population (de Lange et al., 2023). Therefore, this study decided to select 400 individuals as the sample size.

Based on the inference from 10 universities and 1000 students, to obtain 400 samples, it was determined to select students from 4 universities. The study employed a simple random sampling method. The 10 universities were coded into 10 numbers, and four were randomly selected as the study subjects, labeled A, B, C, and D.

Before distributing the questionnaires, approval was obtained from the administrators of these four universities. The electronic questionnaires were then distributed among the classes of fourth-year early childhood education majors at these four universities. After a one-month wait, a total of 400 questionnaires were collected. Invalid questionnaires were excluded, such as those completed in less than 37 seconds (covering 37 questions) or with identical responses (all questions marked as 3) (Cunningham, 2023). The final count of valid questionnaires was 365.

The survey employed a 5-point Likert scale, with one denoting strong disagreement and five denoting strong agreement. Table 1 shows the reliability of all independent and dependent variables. SPSS and AMOS 24.0 were employed to analyze the descriptive data and test the measurement and structural models. The data analysis for this study was conducted according to its research objectives. Therefore, descriptive analysis, CFA, and path analysis were used to test the hypotheses.

Table 1: Reliability analysis							
No.	Construct	N of Items	Cronbach' Alpha				
1	IMA	4	0.928				
2	EXP	4	0.947				
3	INT	6	0.942				
4	PASQ	7	0.951				
5	PTQ	8	0.958				
6	PV	3	0.92				
7	SS	5	0.958				

## 4.0 Results

## 4.1 Descriptive Analysis

Table 2 presents the mean scores of independent and dependent variables. The mean scores of the seven constructs range from 3.693 to 3.777. On a 5-point Likert Scale, 2.34<M<3.67 is considered a moderate satisfaction level or moderately positive perception of practical teacher training programs, and 3.68<M<5.00 is a high satisfaction level or highly positive perception of practical teacher training programs (Anuar et al., 2021). It can be concluded that students hold slightly higher moderate perceptions of the image, expectation, teacher-student interaction, perceived administrative service quality, perceived teaching quality, perceived value, and satisfaction.

	No.	Construct	Ν	Minimum	Maximum	Mean	SD
-	1	IMA	365	1.00	5.00	3.755	.869
	2	EXP	365	1.00	5.00	3.738	.905
	3	PASQ	365	1.00	5.00	3.693	.844
	4	PTQ	365	1.00	5.00	3.743	.875
	5	TSINT	365	1.00	5.00	3.777	.823
	6	PV	365	1.00	5.00	3.739	.927
	7	SS	365	1.00	5.00	3.767	.881

## 4.2 Test The Measurement Model

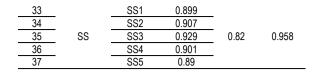
## Table 3: Fit indices for the measurement model

No.	Absolute fit measures	Levels of Acceptance*	Results	Acceptability
1	χ2		1153.629	Not
2	df	Not applicable	613	applicable
3	р		<0.05	applicable
4	χ2/df	0≤χ2/df≤5	1.882	Achieved
5	GFI	0 (Awful) -1 (Very good)	0.852	Marginal
6	AGFI	0 (Awful) -1 (Very good)	0.830	Marginal
7	CFI	0 (Awful) -1 (Very good)	0.961	Good
8	NFI	0 (Awful) -1 (Very good)	0.921	Good
9	TLI	0 (Awful) -1 (Very good)	0.958	Good
10	RMSEA	<0.05-0.08	0.049	Good
11	SRMR	1 (Awful)-0 (very good)	0.0263	Good

CFA was performed to analyze the convergent validity of the scale, and the results show that the model obtained a good fit ( $\chi$ 2=1534, df=608,  $\chi$ 2/df=1.882, GFI=.866, AGFI=.845, CFI=.961, NFI=.921, TLI=.958, RMSEA=.049, and SRMR=0.0263).

Table 4: Factor loadings,	composite reliability	and average	variance extracted
$1 a \cup c + 1 a \cup c \cup 1 \cup a \cup i \cup g \cup i \cup i$	composite reliability,	and average	

e <u>4: Facto</u>	r loadings, co	omposite rel	liability, and	average va	ariance extrac
No.	Construct	Item	Loading	AVE	CR
1		IMA1	0.905		
2 3	IMA	IMA2	0.876	0.764	0.928
3	IIVIA	IMA3	0.867	0.704	0.920
4		IMA4	0.846		
5		EXP1	0.904		
6	EXP	EXP2	0.911	0.817	0.947
7	LAF	EXP3	0.898	0.017	0.547
8		EXP4	0.901		
9		TSINT1	0.892		
10		TSINT2	0.912		
11	TSINT	TSINT3	0.872	0.735	0.943
12	13111	TSINT4	0.774	0.755	0.945
13		TSINT5	0.851		
14		TSINT6	0.835		
15		PASQ1	0.852		
16		PASQ2	0.875		
17		PASQ3	0.879		
18	PASQ	PASQ4	0.879	0.735	0.951
19		PASQ5	0.869		
20		PASQ6	0.811		
21		PASQ7	0.833		
22		PTQ1	0.891		
23		PTQ2	0.866		
24		PTQ3	0.847		
25	PTQ	PTQ4	0.865	0.744	0.959
26	FIQ	PTQ5	0.835	0.744	0.959
27		PTQ6	0.86		
28		PTQ7	0.848		
29		PTQ8	0.888		
30		PV1	0.874		
31	PV	PV2	0.907	0.794	0.92
32		PV3	0.891		



As shown in Table 4, the composite reliability (CR) scores of image (0.928), expectation (0.974), teacher-student interaction (0.943), perceived administrative service quality (0.951), perceived teaching quality (0.959), perceived value (0.92), and student satisfaction (0.958) exceeded the recommended criterion of 0.70, implying a high internal consistency reliability. Further analysis of convergent validity was conducted to ensure the square root of the average variance extracted (AVE) was more significant than 0.50. The results show that the AVE score of the seven constructs was above the 0.50 cut-off value. Besides, the result of indicator reliability indicates that all indicator loading scores are high and acceptable, with a range between 0.774 to 0.929, which concludes that a set of indicators is consistent with what to measure (Hair et al., 2018).

#### 4.2.1 Measurement Model: Discriminant Validity

To evaluate discriminant validity, it becomes crucial to juxtapose each construct's Average Variance Extracted (AVE) with the shared variances among that specific construct and all other constructs. Should the AVE of an individual construct surpass the shared variances, it implies the presence of discriminant validity (Hair et al., 2018). As depicted in Table 5, the AVE values for all constructs spanned from 0.735 to 0.82, each exceeding the recommended threshold of 0.5 (Hair et al., 2018). Furthermore, Table 5 illustrates the inter-construct correlations on the matrix's diagonal. The findings reflect adequate discriminant validity by comprehensively comparing correlations and the square roots of AVEs. These outcomes affirm the measurement model's strong convergent validity. Consequently, the envisioned measurement model remains dependable for scrutinizing the structural relationships interlinking the constructs.

No.	Construc t	IMA	EXP	TSINT	PASQ	PTQ	PV	SS	
1	IMA	0.874							
2	EXP	0.502	0.904						
3	TSINT	0.472	0.532	0.857					
4	PASQ	0.493	0.549	0.52	0.857				
5	PTQ	0.501	0.549	0.518	0.527	0.863			
6	PV	0.534	0.609	0.574	0.6	0.58	0.891		
7	SS	0.469	0.527	0.492	0.518	0.522	0.561	0.906	
	Note: Pearson correlation and square root of AVE value. The blue numbers on the diagonal represent the square root of the AVE value.								

Table 5: Discriminant validity using Fornell and Larcker criterion

#### 4.3 Test The Structural Model

In this study, the  $\chi^2$ /df of the model is 1.882, and other indicators of goodness of fit (GFI = .866, AGFI = .845, CFI = .969, NFI = .921, TLI = .966, RMSEA = .046, and SRMR = 0.0219) indicate the model has acceptable fitness.

	Table 6: The results of the hypothesis tests									
No.	Path			Estimate	Standardize d Estimate	S.E.	C.R.	Р	R <sup>2</sup>	Result
H1	SS	<	IMA	0.110	0.099	0.063	1.737	0.082		reject
H2	SS	<	EXP	0.147	0.145	0.063	2.325	0.020		support
H3	SS	<	TSINT	0.111	0.097	0.067	1.666	0.096	0.40	reject
H4	SS	<	PASQ	0.152	0.141	0.065	2.330	0.020	0.49	support
H5	SS	<	PTQ	0.157	0.157	0.059	2.657	0.008		support
H6	SS	<	PV	0.215	0.199	0.078	2.771	0.006		support

As can be seen in Table 6, in total, four of the six hypotheses are supported. The influence of image on student satisfaction ( $\beta$ =0.110) and teacher-student interaction ( $\beta$ =0.111) on student satisfaction are insignificant at the 0.05 level, suggesting the rejection of H1 and H3. The expectation ( $\beta$ =0.147, p<0.05), perceived administrative service quality ( $\beta$ =0.152, p<0.05), perceived teaching quality ( $\beta$ =0.157, p<0.05), and perceived value ( $\beta$ =0.215, p<0.05) has a significant and positive effect on student satisfaction, respectively. The strongest impact on student satisfaction comes from perceived value.

Further analysis of the coefficient determination (R2) is tested to measure the accuracy of the predictive model and to identify the effect of exogenous variables on the endogenous variable. According to Hair et al. (2018), prediction accuracy increases as the value

reaches 1. The R2 value of turnover intention is 0.49. This indicated that image, expectation, teacher-student interaction, perceived administrative service quality, perceived teaching quality, and perceived value represented 49% of the variance in student satisfaction.

## 5.0 Discussion

The finding showed that expectation, perceived administrative service quality, and perceived teaching quality are predictors of student satisfaction, implying that H2, H4, H5 and H6 are accepted. While image and teacher-student interaction have no significant relationships with student satisfaction, indicating that H1 and H3 are rejected. The discussion of relationships among these hypotheses can be seen in 5.1 and 5.2.

## 5.1 The Discussion of Significant Hypotheses

The results depict that expectation is positively related to student satisfaction with practical teacher training. In other words, when students have proper expectations, their satisfaction increases. The finding of this study is consistent with studies done by Bowden et al. (2021), which highlighted that students having clear expectations for practical teacher training can improve students' attitudes and enthusiasm at the start of the training and ultimately positively influence their satisfaction with the practical teacher training. The evidence from both studies suggests that when students are well-informed about what to expect from their practical teacher training, it not only enhances their initial engagement and enthusiasm but also contributes to a sense of fulfillment and contentment throughout the training period, ultimately leading to higher satisfaction with the educational experience. Therefore, H2 is supported.

A finding of this study was also presented that perceived administrative service quality and perceived teaching quality have significant relationships with student satisfaction. We rasinghe and Fernando (2018) found that students' overall satisfaction levels are significantly impacted by the quality of teachers' instruction, the clarity of communication, and the fair treatment received from non-academic staff. When students perceive that the administrative services are efficient, responsive, and supportive, and when they find the teaching to be engaging, compelling, and aligned with their learning needs, they are more likely to experience a higher level of overall satisfaction with their educational institution. Hence, H4 and H5 are supported.

In addition, the study shows that student satisfaction is greatly influenced by students' perceptions of value. Zou et al. (2021) emphasized that students' perception of value is their most instinctive response to practical training and the second most important factor in direct impact effects. When students perceive that their education provides meaningful knowledge, skills, and opportunities that align with their personal and professional goals, they are more likely to feel satisfied with their educational journey. Therefore, H6 is confirmed.

#### 5.2 The Discussion of Non-significant Hypotheses

The image has no significant relationship with students' satisfaction with practical teacher training in China, implying that the H1 is rejected. This finding is congruent with Sun et al. (2018), who tested student satisfaction with practical training in China and pointed out that image can not directly influence student satisfaction if a university's image does not align with the actual quality of education it provides; students may prioritize the training experience over the university's image. This indicates that the promotion of practical teacher training in universities does not align with the actual quality of practical teacher training programs. This mismatch creates a sense of discrepancy, diminishing students' satisfaction with practical teacher training. H1 is rejected.

The teacher-student interaction also has no significant effect on student satisfaction, which contradicts the conclusions reached by To and Lung (2020). The possible cause of this result may be attributed to a high teacher-student ratio in practical teacher training, which results in a lower frequency and quality of interaction between teachers and students. This situation might lead to reduced personalized guidance and limited opportunities for individualized feedback, ultimately impacting the effectiveness of the teacher training process and potentially affecting the overall learning experience for aspiring educators. Hence, H3 is rejected.

According to the result, it is shown that image, expectation, teacher-student interaction, perceived administrative service quality, perceived teaching quality, and perceived value represented 49% of the variance for student satisfaction. The strength is considered moderate intensity, implying that 51% of the total variance is explained by other constructs or variables not included in this study.

#### 6.0 Conclusion, Limitations & Recommendations

This study found that perceived value has the most significant impact on student satisfaction, followed by perceived teaching quality, perceived administrative service quality, and student expectations. The findings highlight that administrators can enhance student satisfaction with practical teacher training by improving perceived value, perceived administrative service quality, perceived teaching quality, and student expectations (Quiachon & Paulino, 2023). These actions include improving the attitude of administrative staff, optimizing teaching methods, and assisting students in developing appropriate expectations. In concrete terms, the administrators can implement customer service training for administrative staff to enhance interpersonal skills, responsiveness, and positive student engagement to improve administrative service quality. Teachers can introduce innovative teaching approaches, such as flipped classrooms, project-based learning, or incorporating technology for interactive sessions. The universities, with practical teacher training education programs, can conduct orientation sessions for new students to communicate program expectations, learning outcomes, and potential challenges. Universities can also provide resources and counseling services to help students set realistic academic and career expectations. The study also revealed that image and teacher-student interaction are not crucial for student satisfaction; instead, it

indicates significant room for improvement in these aspects. In conclusion, considering the significance of practical teacher training, future research could explore diverse methods to validate the impact of these factors on student satisfaction.

This study does not deny its limitations. The limitations of this study are mainly as follows: Firstly, the data were collected from only four universities in Shanxi province. Due to different levels, these universities may lag behind other Chinese institutions regarding hardware, such as practical training equipment, and software, such as the quality of teachers. These disparities may impact students' judgments of satisfaction (Wang, et al., 2023). Secondly, the study focused only on fourth-year undergraduate students. Evaluations of practical teaching by fourth-year students may differ significantly from those of first-year students to those of juniors, diploma students, and master's students, limiting the generalizability of the research conclusions to these groups. Thirdly, the study utilized a survey as its sole research method, and this methodological singularity may restrict a more in-depth understanding of the satisfaction of undergraduate students attending practical teacher training education programs. Lastly, the study is cross-sectional, conducting a single test of satisfaction among undergraduate students in practical teacher training education programs within a limited time frame (one month). As student satisfaction is dynamic, student satisfaction during this period may not represent satisfaction at other times.

Future research can test the effects identified in this study that influence student satisfaction at other universities, further validating the research conclusions. This study can be extended to other academic levels, such as freshmen to junior levels, and other education programs, including diploma and graduate programs, to explore further factors influencing practical teacher training education programs (Sudirman et al., 2023). Additionally, diverse research methods such as interviews, observational techniques, and surveys can be comprehensively employed to gain a more comprehensive and in-depth understanding of student satisfaction in practical teacher training.

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#### Paper Contribution to Related Field of Study

The findings help to advance the understanding and development of effective practical teacher training programs in China, which ultimately benefits the teaching profession and the quality of practical teacher training delivered to students.

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