

Mixed Method Research on Technological Teaching System Based on Human Resource Management Practices (HRMP): Study Pertaining to Majors in Nursing Undergraduate Programme

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Abstract

The research aims to discuss the importance of human resource management practice in the practical teaching system of Chinese education. The teacher needs to provide practical knowledge on HRM to the students so the students of Chinese nursing school can align the theoretical knowledge in practical experience. A survey among 70 respondents has been performed to collect the primary data and thematic analysis on the collected secondary qualitative data has been done to obtain the answer of the research question. The SIG value and the statistical value of the data analysis has highlighted the practical teaching program on HRM is needed for professional development of Chinese nurses.

Keywords

Human Resource Management, Practical Teaching System, Experiential Learning, Staff Development, Nursing, HRM Practice, Teaching System

1. Introduction

The research aims to discuss the importance of HRM in the practical teaching system to advance the knowledge of Chinese nursing students. The secondary data collection method will provide qualitative data and the data will be analysed qualitatively by thematic analysis. On the other hand, the collected quantitative

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data from the primary data collection process will be statistically analysed by SPSS software (Raju, 2021).

2. Background

In 2021, China has 4.71 million registered nurses and China considers the nurses “submissive and passive and subservient to doctors” (Statista, 2021). In China, there are 85 clinical master’s programs at Beijing University and the Chinese university provides regal practical training to the students of nursing school (Raju et al., 2021).

2.1. Overview for Figure 1

Figure 1 shows that the number of registered nurses in China is gradually increasing day by day. The inadequate availability of practical trainer, poor technical infrastructure has been a problem to provide technical guidance to nursing students. The unit of above data is per-lakhs. This data has been obtained from Statista resource.

2.2. Overview for Figure 2

Figure 2 represents China’s Human Resources for Health. On the other hand, in healthcare, the nurses need to lead the team, manage the medication of patients and control OT and ICU activity which need strong time management and practical knowledge of HRM (Al Abri et al., 2022). Since nursing is a collaborative performance developed by the whole nursing team, each nurse must have HRM knowledge to perform in group work (Raju, 2021).

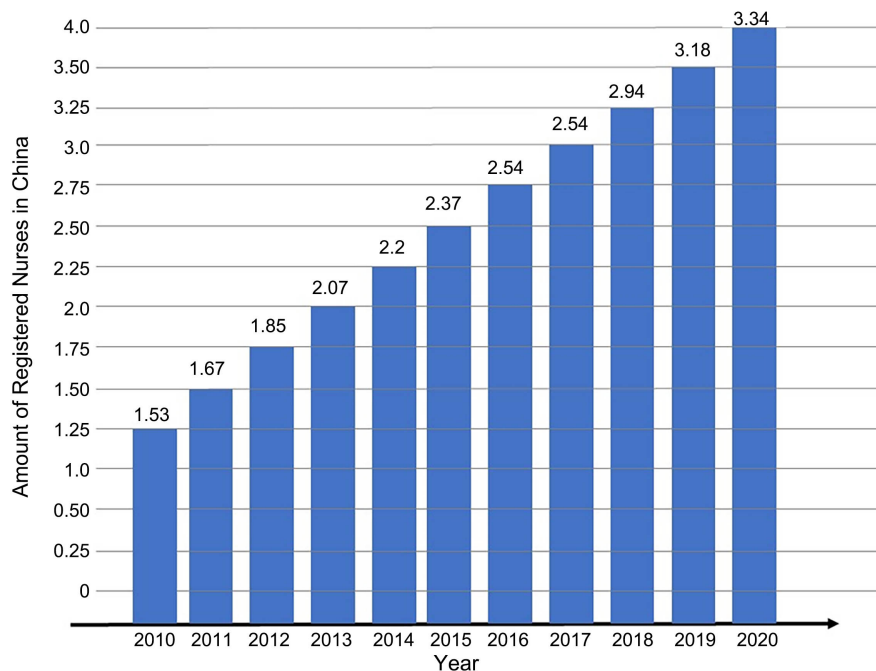


Figure 1. Number of registered nurses in China. (Source: Statista, 2021).

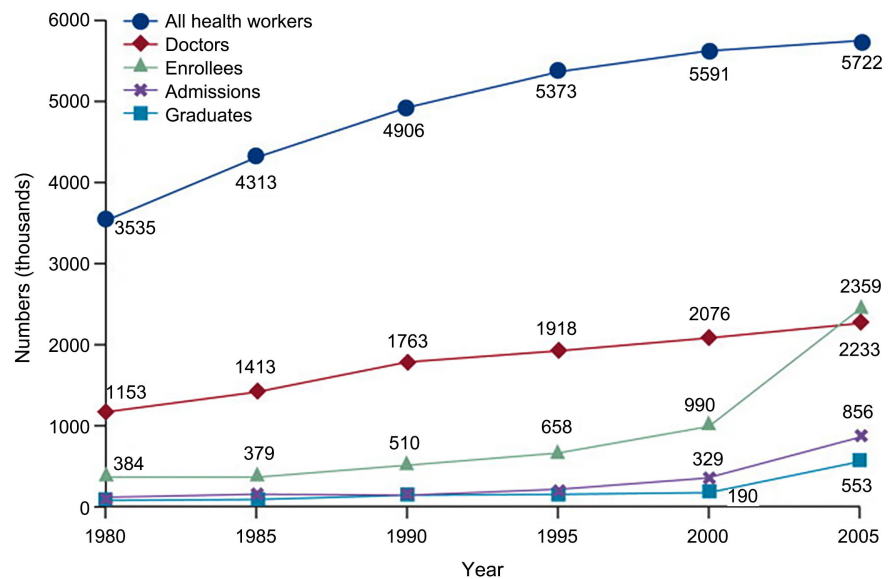


Figure 2. China's human resources for health. (Source: Mohammad & Wang, 2019).

3. Research Objectives

The primary objective of this research is “*To analyse the practical teaching system in nursing undergraduate programs on human resource management practices (HRM).*”

Sub Objectives

RO₁—To understand the importance of a practical teaching system in the nursing undergraduate programme on human resource management practices.

RO₂—To analyse the role of a practical teaching system in improving the human resource management practice of nurses.

RO₃—To conduct mixed research methods to understand the challenges in teaching human resource management in the nursing undergraduate program.

RO₄—To recommend the strategy to improve the practical teaching system in the nursing program.

4. Literature Review

4.1. Practical Teaching System Based on Human Resource Management Practices (HRMP)

Human resource management practices are a set of policies and practices which are needed to perform and control the routines of human resources in an organization. On the other hand, as mentioned by Al Abri et al. (2022), a practical teaching method is considered “a learning method in which students are engaged in the learning process”. The teacher needs to motivate the students to participate in practical activities to understand the different challenges and opportunities in the HRM process (Raju, 2021). Practical teaching encourages students in observing HRM activities in real-time and gains practical knowledge on

how to manage human resources of health care to enhance the quality of diagnostic and treatment service of healthcare (Arasli et al., 2020). It has been ensured that all the resources that have been collected have publication year “after 2017 and published in the English language”. The HRM practical knowledge is needed for nurses to understand the ethical and legal standards of the healthcare industry and apply those in real-time practice (Chetty & Phung, 2018).

4.2. Identifying the Practical Teaching System in the Nursing Undergraduate Program

The teachers of Chinese nursing schools apply the theoretical knowledge of HRM to teach the students to overcome any challenges of HRM in a practical situation (Figure 3).

“Interactive lectures, journal clubs, small group work, clinical nurse presentations, workshops and problem-based learning” and reading quizzes are the different methods of teaching in nursing in China. China educators practice HRM with the support of a practical teaching process to provide practical knowledge to the students on HRM. As mentioned by Arasli et al. (2020), practical teaching is more effective than theoretical teaching in the field of nursing. Nursing is a field where the nurses need practical knowledge to assist the doctor and must have good HRM skills to manage the different activities for different patients in the healthcare field.

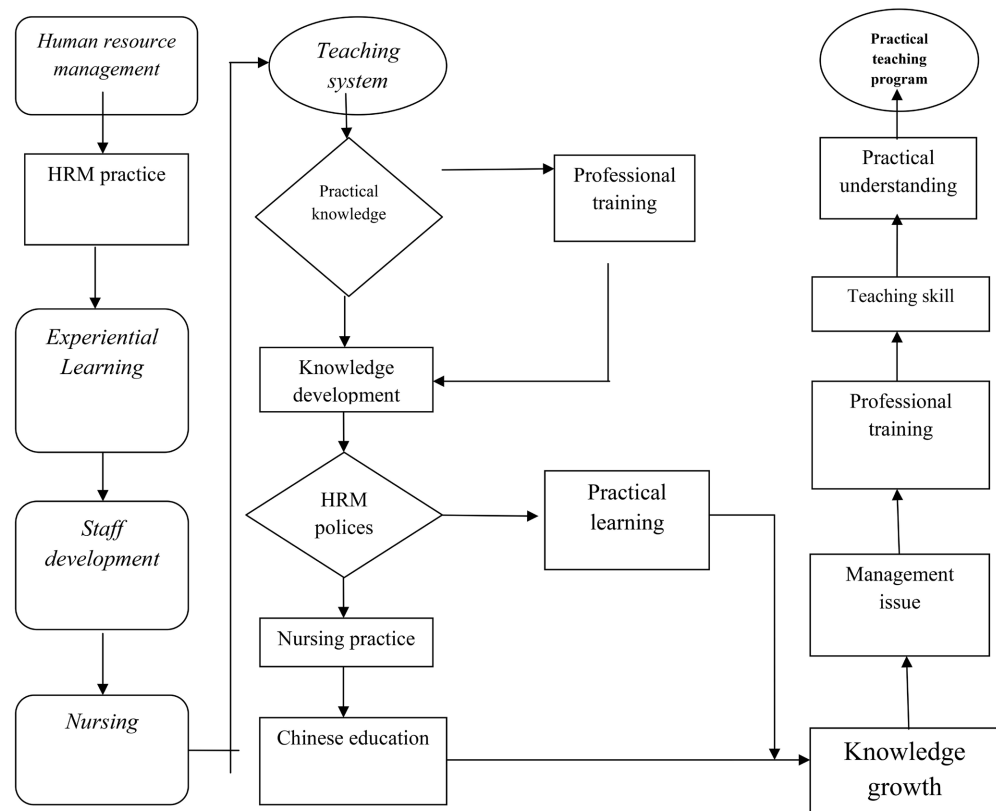


Figure 3. Flow diagram. (Source: Developed by learner).

5. Research Methodology

The research has followed a mixed research methodology including the primary research method and secondary research method. The secondary research has been conducted by making thematic analysis on collected resources such as online journals and articles. The online journal has been collected from online databases such as ResearchGate and Proquest. Two themes have been developed based on research objectives to make a thematic analysis to obtain the answer to the research question. As mentioned by [Saunders et al. \(2007\)](#), the advantages of thematic analysis are that it helps in relating the research context with real-time context and meets the research objectives. Moreover, descriptive design and inductive approach have been followed in this research.

On the other hand, the primary research has been conducted by making an online survey among 70 teachers of Chinese nursing schools. Ten questions on research objectives and hypotheses have been developed and the questionnaire has been pasted in Google form to conduct the survey. As mentioned by [Kothari \(2004\)](#), interviews and surveys are the two effective data collection methods of primary research. All the survey questions were close-ended and multiple-choice questions were supported to get to the point answer of the respondents. The sampling size of the survey is 70 and a random sampling technique has been chosen to select the respondents. Sample size has been done based G-Factor formula and thus it adheres to the protocol of sample-size calculation.

6. Findings and Analysis

6.1. Secondary Analysis (Table 1, Table 2)

The following quality review table is the outcome of Secondary analysis, that is, based on secondary data the measures were analysed. The tool for analysis was same like primary data analysis.

Table 1. Quality review table.

Authors	Study design	Respondents	Result	Quality review
Matsumoto, 2019	An online survey and primary research	305 nursing managers	The result of the primary research has highlighted that nurses must have good team management and HRM knowledge to manage and lead the nursing team in healthcare and deliver the best performance to the patients.	The primary research and survey have evaluated the HRM practice in the practical teaching system of China in a real-time context to make the research valuable.
Hou, 2021	Primary research	30 nursing undergraduate students	The practice of the practical teaching system on HRM makes the trainee nurse understand the leadership skill and make them able to be a leader in health care.	The research paper has depicted the China nursing school environment to understand the impact of practical HRM practice in nursing education.
Xu et al., 2019	Primary research	30 teachers in Chinese nursing school career life	Practical teaching on HRM guides trainee nurses to overcome the HRM issue in future	The research has been based on the opinion of nursing teachers whose respondents are valuable to understanding HRM practice in parcel teaching of the Chinese education board.

(Source: Learner).

Table 2. Thematic coding table.

Authors	Code	Theme
Matsumoto, 2019	Human resource management, practical training program	Theme 1: “Human resource management practice in practical training program improve the management skill of the nurses”
Hou, 2021	Staff development, nursing, HRM practice, teaching system,	
Xu et al., 2019	Practical teaching system, Experiential Learning	Theme 2: “The practical teaching the skill of the teacher decides the quality of human resource management practices in the nursing program”

(Source: Learner).

6.2. Thematic Analysis

Theme 1: *Human resource management practice in practical training program improve the management skill of the nurses*

HRM practical practice makes the students know about the common issues in HRM and provide guidance on how to overcome those HRM issues in the professional world. As mentioned by Matsumoto (2019), only theoretical knowledge is not sufficient to understand HRM but also practical knowledge is needed for the students to align the theoretical knowledge in a practical environment to overcome the real-time problem of HRM in nursing (Hou, 2021).

Theme 2: *The practical teaching skill of teachers decides the quality of human resource management practices in the nursing program*

The teachers must have practical knowledge of theoretical concepts to teach them theoretical applications in a practical environment (Raju, 2018). The teacher needs to provide practical training on HRM to the students and guide them in a real-time context to make the students able to have in-depth knowledge of nursing HRM (Xu et al., 2019). It can be stated that the more the teachers will have practical knowledge of HRM practice in nursing, the more the teachers will be able to guide the students to understand the technical, cultural and legal challenges of HRM in nursing,

6.3. Primary Analysis—Descriptive Test

The descriptive test (Table 3, Figures 4-6) has been performed on the demographic profile of the respondents. As depicted by Purwanto et al. (2021), “the mean value states the average value of the responses, the mode value states the most repetitive value in the data set and the median value states the middle point of the data set”. The mean value of the first four questions is 1.63, 1.00, 1.00 and 3.87. The descriptive test has supported the understanding of the characteristics of survey data. Hence from the mean value, it can be stated that the maximum responders have age, all the responders have the nursing skill, the responders are the teachers of Chinese nursing schools and they have agreed that “nurses need training on human resource management practices (hrm)”.

Table 3. Descriptive test (Source: SPSS file).

		1. What is your age?	2. Do you have nursing skills?	3. Are you a teacher of a nursing undergraduate programme?	4. Do you think that nurses need training on human resource management practices (hrmp)?
N	Valid	70	70	70	70
	Missing	2	2	2	2
	Mean	1.63	1.00	1.00	3.87
	Median	2.00	1.00	1.00	4.00
	Mode	2	1	1	5
	Std. Deviation	0.487	0.000	0.000	1.191

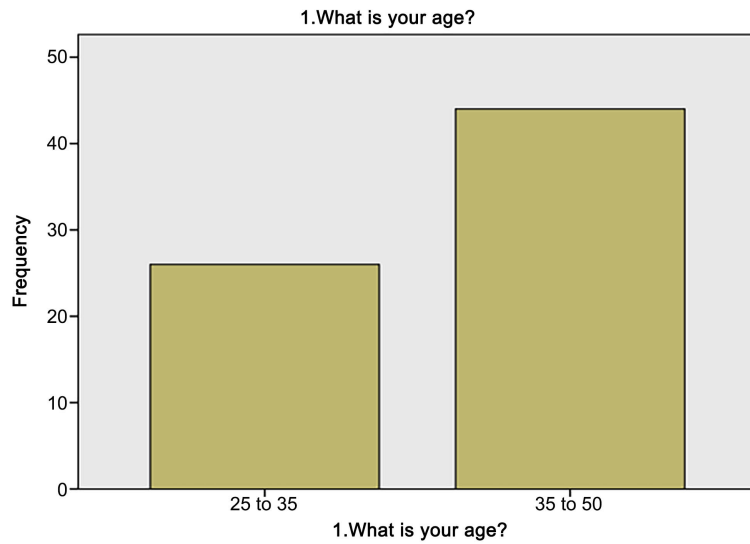


Figure 4. Age. (Source: SPSS file).

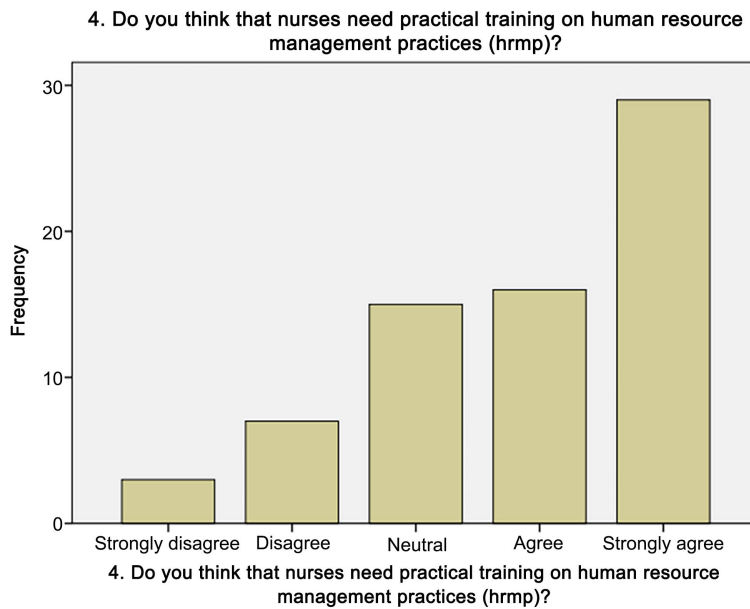


Figure 5. Practical teaching. (Source: SPSS file).

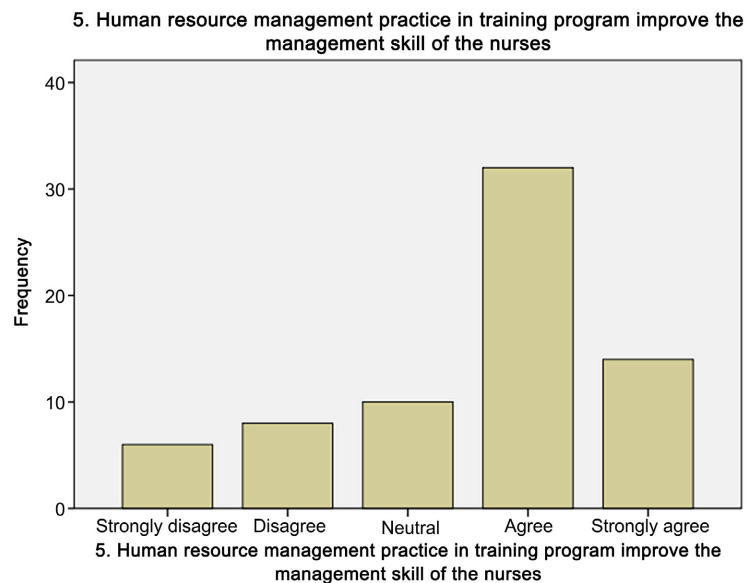


Figure 6. Human resource management practice. (Source: SPSS file).

6.3.1. Regression Test—Model Summary

The following table is about regression analysis which provides the functional value that describes the relationship between the latent (independent) variables and respondent's view along with target variable or dependent variable.

6.3.2. ANOVA

The following table represents ANOVA (Analysis of variance) from SPSS (Statistical Package of Social Science) which is an analytical tool used in statistics that divides the observed aggregate variability found inside a data set into two parts: systematic factors and random factors.

6.3.3. Coefficients

The following table represents the Coefficients in Regression with multiple latent variables to enumerate about the degree of dependent variable is expected to increase when that independent variable increases by one. This is done keeping other factors in constant.

H(1): "There is a significant link between human resource management skill and practical teaching system"

H(0): "There is no significant link between human resource management skill and practical teaching system"

The regression test (Tables 4-6) has supported the understanding of the reaction between a dependent variable and the independent variable of the research. In this research, the dependent variable is the practical teaching system of Chinese nursing colleges and the independent variable is human resource management practice. As illustrated by Qin et al. (2018), the "sig value more than 0.05 indicates to accept the null hypothesis and the Sig value less than 0.05 indicates to accept the alternative hypothesis". In this regression test, the Sig value is 0.00 and it proves the statement "***There is a significant link between human resource***

Table 4. Regression test.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.617 ^a	0.381	0.372	0.940	0.381	41.881	1	68	0.000

^aDependent Variable: Human resource management practice in training program improve the management skill of the nurses.

Table 5. ANOVA.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.026	1	37.026	41.881	0.000 ^a
Residual	60.117	68	0.884		
Total	97.143	69			

^aPredictors: (Constant), Nurses should have good hrm skill to have good team leading capability in health care.

Table 6. Regression test.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.119	0.395		2.829	0.006
1 6. Nurses should have good HRM skill to have good team leading capability in health care	0.653	0.101	0.617	6.472	0.000

^aDependent Variable: Human resource management practice in training program improve the management skill of the nurses. (Source: SPSS file).

management skill and practical teaching system". On the other hand, as mentioned by Alili & Krstev (2019), "the R-value indicates the dependency of a dependent factor on the independent factor". For instance, an R-value less than 0.3 represent a weak relationship and an R-value more than 0.5 indicates a strong relationship. In this case, the R square value is 0.381 which represents a direct relation between nursing teaching and HRM practice.

6.3.4. Model Summary

- 1) ANOVA
- 2) Coefficients

H(2): "There is a significant link between primary education and practical teaching system"

H(0): "There is no significant link between primary education and practical teaching system"

In the second regression test (Tables 7-9), the Sig value becomes 0.00 and the R square value is 0.247. Henceforth in this case also the alternative hypothesis is accepted that implies that Chinese nursing teachers face issues in practicing HRM in the teaching process to teach HRM to nurses. On the other hand, the R square value indicates that there is a weak relationship between nursing practical teaching systems and aligning theoretical content with the practical environment.

Table 7. Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.497 ^a	0.247	0.236	1.060	0.247	22.301	1	68	0.000

^aPredictors: (Constant), No proper clinical skills, teaching and training is a typical issue in nursing undergraduate program.

Table 8. ANOVA^a.

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	25.035	1	25.035	22.301	0.000 ^b
1 Residual	76.337	68	1.123		
Total	101.371	69			

^aDependent Variable: Technological challenges in nursing education is the result of insufficient faculty development program.

^bPredictors: (Constant), No proper clinical skills, teaching and training is a typical issue in nursing undergraduate program.

Table 9. Regression test (Source: SPSS file).

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.673	0.416		4.025	0.000
1 8. No proper clinical skills, teaching and training is a typical issue in nursing undergraduate program	0.519	0.110	0.497	4.722	0.000

7. Discussion

Staff maintenance, staff development, staff relations, team leading, and staff training are some of the HRM practices that are done in the practical teaching system of China (Raju, 2021). From the analysis, it has been seen that problems of staffing, poor working conditions, funding and “incessant transfer of teachers among others” are some of the issues that are faced in the practical teaching system of China (Raju et al., 2021). The policy of HRM, rules and regulation of HRM and its impact on managing the stars and work of the organization is tickets to the students in a practical environment (Arveklev et al., 2018). As a result, rather than memorizing the policy of HRM practices, the students learned how to apply those HRM policies and use those in making successful HRM practices in a real-time context (Desroches et al., 2021). In this research, the maximum responders have agreed that HRM practice and its practical experiment are very much needed to improve the HRM knowledge of the students and to implement that the school needs to employ teachers who have good experience and knowledge of HRM (Raju, 2021).

8. Innovation and Contribution

This research can be considered as prominent submission in the field of HRM particularly in Chinese Higher Education sector. The research on the different practical processes followed in Chinese education to improve the HRM knowledge and skill of the students can be made in future days. Moreover, the role of

different technologies used in practical teaching to improve the quality of HRM practice in institutions can be discussed in future research.

9. Conclusion

From the primary and secondary data analysis, it can be stated that practical teaching is very much necessary to provide adequate guidance on human resource management to manage the activity of healthcare. The practical teaching provides practical guidance and knowledge based on HRM practice to empower the nurses to have control of HRM and utilize the skill to manage the patients, staff and team of healthcare.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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