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COOPERATION MECHANISM AND CHINESE-FOREIGN COOPERATION IN RUNNING SCHOOLS IN CHINA: RESOURCE SHARING AND QUALITY ASSURANCE

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Abstract:
Chinese-foreign cooperative education is an important form of foreign cooperation in Chinese education, which provides an effective way to promote the internationalization of Chinese higher education, improve the quality of education, and promote international exchanges and cooperation. With the rapid development of China's society and economy, Chinese-foreign cooperative education is gradually showing new opportunities and challenges in the field of higher education. Effectively introducing foreign advanced educational resources and management experience, making up for some shortcomings of domestic higher education, improving the quality of education as well as enhancing students' cross-cultural communication ability, and improving their own competitiveness are the opportunities for the rapid development of Chinese-foreign cooperative education; and the challenge is that Chinese-foreign cooperative education is not only the cooperation between schools, but also the exchange and integration of culture, technology, talents, and other fields. Therefore, the establishment and improvement of the collaboration mechanism becomes particularly important. In this study, a quantitative research method was used to distribute questionnaires to faculty and staff of Chinese higher education institutions with a background of Chinese-foreign collaborative schooling, and their teaching experiences and views were pooled. Data processing and model validation were conducted through data analysis software such as SPSS and AMOS to derive the impact of resource sharing and quality assurance on the effectiveness of Chinese-foreign cooperation and student learning outcomes in a collaborative mechanism. It was found that in Chinese-foreign collaborative education, resource sharing not only optimizes the teaching environment and improves the education level, but also promotes cultural exchange and academic cooperation. Quality

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assurance, on the other hand, is a key factor in guaranteeing the sound development of Chinese-foreign cooperative programs, and only by ensuring the quality of education can more international recognition and support be achieved. The findings of this study demonstrate the importance of collaboration mechanisms in Chinese-foreign cooperative education, providing strong theoretical support and practical guidance for the future development of Chinese-foreign cooperative education. It also provides ideas and methods that can be drawn on for future research in related fields and injects momentum for sustainable development to establish a more flexible and efficient collaboration mechanism, strengthen international exchanges, promote intercultural understanding and integration, and realize a win-win situation for Chinese-foreign cooperative education.

Keywords: collaborative mechanism, resource sharing, quality assurance, Chinese-foreign cooperative education, student learning outcomes

1. Introduction

In the context of globalization, China has established more and more international cooperation and exchange systems with countries around the world to carry out activities of mutual appreciation of civilizations and international humanistic exchanges. As an important part of China's higher education, Chinese-foreign cooperative education plays an important role in promoting the internationalization of China's higher education, improving the quality of education, and facilitating international exchanges and cooperation (Gui & Li, 2024). Starting from the 1980s, along with the rapid growth of China's economy and the promotion of the open-door policy, the development of Chinese-foreign cooperative education in higher education has been growing. Not only has there been a significant growth in the number of programs, but also the ways of cooperation have become more and more diversified. Many internationally renowned institutions have cooperated with Chinese institutions, which has resulted in the complementary integration of domestic and foreign educational resources and provided students with more opportunities to come into contact with advanced educational concepts and practical experience. Through the establishment of joint research centers, sharing of laboratories, and the deepening of faculty training, cooperating institutions have provided students with a broader learning space and an international exchange platform (Dong, Wu & Sun, 2023).

After more than 40 years of development, as of 2022, there are 2,447 Chinese-foreign cooperative education institutions and programs approved by the approval authorities to be established or organized nationwide, of which 1,295 are above undergraduate level and more than 900 are at the specialized level; Chinese-foreign cooperative education in higher education accounts for about 90% of the total number of institutions and programs, and the number of enrolled students is about 600,000 and graduates more than 2 million (Lin, 2022). The number of enrolled students is about 60

million, and the number of graduates is more than 2 million (Lin, 2022). Chinese-foreign cooperative educational institutions have become an important part of China's higher education development, providing strong support for the cultivation of talents with international vision and competitiveness. With the deepening of cooperative education, both partners have put forward more innovative educational concepts and development plans, which have continuously promoted the reform and progress of education. In this process, the establishment and continuous improvement of the collaboration mechanism has become key (Yun, Guo & Ma, 2023). By deepening the cooperation, both parties can give full play to their respective advantages and jointly promote the progress and development of education.

2. Collaborative Mechanism Factors

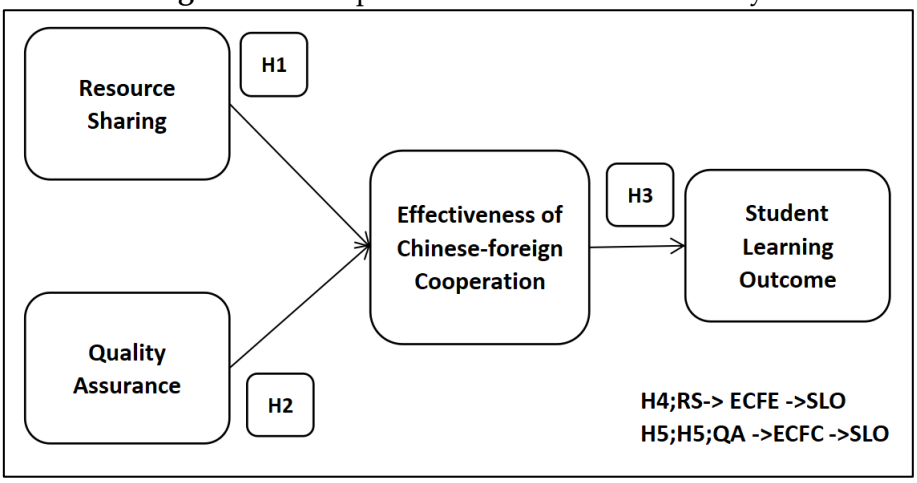
Collaboration mechanism refers to various strategies and means of synergy and cooperation adopted to achieve common goals. Between different organizations, teams, or individuals, collaboration mechanisms are particularly critical to promote information sharing, resource integration, task assignment, and work synergy, which in turn enhances the efficiency, quality, and innovation potential of work (Wang, 2022). The elements of a collaboration mechanism usually include the establishment of effective communication channels; the establishment of clear common goals and expectations; a reasonable and effective division of tasks; the use of a variety of collaborative tools and techniques as well as regular communication and evaluation. Through the above elements of the collaboration mechanism, a close communication network is established between the two parties to ensure the timely transmission and sharing of information. Clearly defined goals guide the educational endeavors and stimulate the synergy of both teams. In terms of task division, precise and effective allocation allowed each member to fully utilize their professional strengths, injecting vitality into the entire collaboration. At the same time, the utilization of advanced collaboration tools and technologies made cooperation more efficient and flexible. Both sides communicate and evaluate regularly to continuously sum up their experiences and further optimize the collaboration mechanism, laying a solid foundation for the vigorous development of education (Zhang, 2022).

Taking the above factors of collaboration mechanisms together, this study categorizes them into resource sharing and quality assurance from the perspective of their roles. The establishment of clear common goals and expectations and a rational and effective division of labor can ensure the maximization of resource sharing, while the use of various collaboration tools and techniques and regular communication and evaluation are the keys to quality assurance. Resource sharing allows both parties to fully utilize their respective strengths to achieve common goals, while quality assurance is the process of continuous review and improvement in the process of achieving goals to ensure the highest level of service delivery and results.

There is a close relationship between Chinese-foreign cooperative education and the collaboration mechanism. In the process of Chinese-foreign cooperative education, both parties need to fully communicate and consult with each other to clarify the details of cooperative goals, division of labor and resource input. Effective communication mechanisms and consultation channels are established to ensure the smooth progress of cooperation (Amarathunga, Khatibi & Talib, 2024). The cooperation parties sign a cooperation agreement or contract to clarify the rights and obligations of each party, integrate and share the resources of each party, and maximize the benefits of the cooperation in terms of teaching resources, human resources, and teaching implementation. Establish an evaluation mechanism for teaching quality and student learning outcomes to ensure that the quality of the cooperative programs meets the expected goals. Strengthen cross-cultural communication and integration, and establish a cooperative relationship of mutual respect, equality and mutual benefit (Sun, Zhao & Yun, 2022).

3. Methodological and Hypothetical Development

Figure 1: Conceptual Framework for this Study



The collaboration mechanism is closely related to the effective development of Chinese-foreign cooperative education, and resource dependence theory and organizational coordination theory provide a theoretical basis for studying the relationship between them. Resource Dependence Theory originated in the 1970s and was proposed by American sociologists Jeffrey Pfeffer and Gerald R. Salancik. The theory posits that to obtain the resources they need, organizations must interact with their external environment and strive to control, influence, or adapt to those external resources (Miao, 2022). Specifically, to maintain its survival and continued growth, organizations must rely on a variety of resources provided by the external environment, which include financial, technological, informational, and human resources. To reduce its dependence on the external environment, the organization will try to manage the path of resource acquisition through various ways. In this process, a complex network of resource

relationships is formed between the organization and its external environment, and these relationships influence the organization's behavior and development (Que, 2020). In the case of this study, the Chinese-foreign cooperative education partners can provide advanced teaching resources, curriculum content, and teaching methods for Chinese institutions. The Chinese institution can bind the external partner through the cooperation agreement. In the process of Chinese-foreign cooperative education, the cooperative relationship between the Chinese institution and the external partner constitutes a network of resource relationships, which plays an important role in promoting the development of both sides. In this win-win cooperative relationship, the Chinese and foreign parties jointly promote the continuous improvement of the quality of education through the complementarity and sharing of resources and build a solid bridge for cultivating more talents with international vision.

Organizational coordination theory originated in the early 20th century and was formed in the latter half of the 20th century. It began to develop from Weber's ideal-type theory and Taylor's scientific management theory and experienced in-depth research and continuous improvement by scholars such as Mayo, Foley, and Adler. The theory points out how to effectively coordinate the activities of different departments and individuals in a complex organizational environment to achieve the overall goals of the organization (Li, 2022). The theory emphasizes that coordination is more than simple resource allocation and involves many aspects such as information flow, decision-making negotiation, and task allocation (Dong, Wu & Sun, 2023). Organizations need multidimensional coordination in terms of hierarchical control, rules and procedures, interactions and communication, organizational culture, and team building to maintain good functioning (Ouyang, 2023). In Chinese-foreign cooperative education, both parties need to coordinate not only the curriculum and teaching arrangements but also the cultural differences and management styles to ensure the smooth running of the cooperative program. In addition, coordination also includes resource sharing and distribution, as well as teacher training and exchange. Only through multifaceted coordination can the two sides truly realize win-win cooperation and jointly promote the prosperity and development of education.

Resource Dependence Theory and Organizational Coordination Theory provide more systematic theoretical support for analyzing the effective development of collaborative mechanisms and Chinese-foreign cooperative education, as well as the improvement of students' learning outcomes and educational quality from the perspectives of organization and external environment, and organization and internal, respectively.

Based on the factors influencing the utilization and transformation of educational resources in Chinese-foreign cooperative education, Zheng (2020) constructs a model for the utilization and transformation of educational resources in Chinese-foreign cooperative education, analyzes the roles of the three main bodies, namely, universities, teachers and students, in the process of cooperative education, and puts forward strategies for improving the utilization and transformation of educational resources in

Chinese-foreign cooperative education. Xiang (2020) studied the introduction criteria of quality educational resources in Chinese-foreign cooperative education, which provides strong theoretical guidance for Chinese and foreign universities to run schools in cooperation and improve the quality of education, as well as provides references and suggestions for the decision-making of management organizations. Li (2021) conducted a case study on the localization of high-quality educational resources in Chinese-foreign cooperative universities in western China, and put forward feasible suggestions for improving the utilization efficiency of foreign high-quality educational resources in five aspects: talent cultivation concept, curriculum, and teaching materials, faculty, teaching methods and approaches, and management system. Based on the above theories and research results, hypothesis H1 is proposed for the relationship between resource sharing and the effectiveness of Chinese-foreign cooperation.

H1: In Chinese-foreign cooperative education, there is a positive correlation between resource sharing and the effectiveness of Chinese-foreign cooperation.

Xie and Ju and other scholars (2020) studied the quality assurance system that meets China's national conditions and satisfies the characteristics of Chinese-foreign cooperative education at Hefei University of Technology as an example of Chinese-foreign cooperative education program. Li (2024) studied the construction of the quality assurance system of cooperative education in Guangdong Province as an example. Wang (2024) analyzed the paths and methods of quality assurance of Chinese-foreign cooperative education in terms of the introduction of business courses in Chinese-foreign cooperative education. Based on the above theories and research results, hypothesis H2 is proposed for the relationship between quality assurance and the effectiveness of Chinese-foreign cooperation.

H2: In Chinese-foreign cooperative education, there is a positive correlation between quality assurance and the effectiveness of Chinese-foreign cooperation.

Suo and Zhou (2023) proposed methods and strategies to promote the high-quality development of Chinese-foreign cooperative education in higher vocational colleges and universities by analyzing the existing problems of quality assurance of teaching in Chinese-foreign cooperative education in higher vocational colleges and universities. Wang and Li (2023) studied the quality assurance of Chinese-foreign cooperative education as well as the enhancement measures to improve quality and efficiency from the characteristics of the geographical distribution of Chinese-foreign cooperative education, the layout of disciplines and specialties, and the development of education levels. Gao (2024) took Xi'an Eurasian College as an example and studied the construction of a quality assurance system for Chinese-foreign cooperative education programs from the dimensions of top-level design, system construction, curriculum design and implementation, etc., to enhance the effectiveness of student learning. Wu and Zhang and other scholars (2024) took the development of Chinese-foreign cooperative education between China and Ireland as a perspective, combined with the actual case of Beijing-Dublin International College of Beijing Institute of Technology, and studied the external and internal quality assurance mechanism of Sino-Irish Sino-foreign cooperative

education, which provides a good reference to enhance the quality of Chinese-foreign cooperative education, improve the learning outcomes of the students, and promote the sound development of Chinese-foreign cooperative education. good reference. Based on the above theories and research results, hypothesis H3 is proposed for the relationship between quality assurance and the effectiveness of Chinese-foreign cooperation.

H3: There is a positive correlation between the effectiveness of Chinese-foreign cooperation and student learning outcomes.

Gao and Zhao (2022) studied the relationship between the effectiveness of resource sharing, cooperative learning, and socialization development of college students and student learning outcomes. Wang and Guo (2023) studied the improvement of the quality of Chinese-foreign cooperative education and the construction of a high-level talent cultivation system from the perspective of strengthening the synergy of international resources and enhancing the innovation ability of school-running research. Wu, Heng and Liu (2023) studied the various factors affecting the learning effect of students in private colleges and universities by taking Xi'an Eurasian College as an example. Qiao and Tang (2023) start from the perspective of Chinese-foreign cooperative education to explore the talent cultivation law that meets the growth needs of students and changes in market demand, so as to put forward the basic path to improve the learning outcomes of students in Chinese-foreign cooperative education and the cultivation of employment competence. Based on the above theories and research results, hypothesis H4 is proposed for the relationship between resource sharing and the effectiveness of Chinese-foreign cooperation as well as student learning outcomes.

H4: In Chinese-foreign cooperative education, Chinese-foreign cooperative effectiveness has a mediating role between resource sharing and student learning outcomes.

Li (2023) studied the relationship between optimizing the teaching quality of Chinese-foreign cooperative undergraduate majors and improving students' learning satisfaction with the students of Heze College. Chang (2023) analyzed the ideas and ways to improve students' learning outcomes and cultivate high-quality internationalized talents for the country from the characteristics of Chinese-foreign cooperative undergraduate majors as well as the countermeasures of student management in the case of Chinese-foreign cooperative undergraduate majors in Anyang Normal College. Mo and Zhang (2024) started from transnational higher education in Asian countries and studied the outcomes of their quality assurance system and student learning experience. Based on the above theories and research results, hypothesis H5 is proposed for the relationship between quality assurance and the effectiveness of Chinese-foreign cooperation as well as student learning outcomes.

H5: In Chinese-foreign cooperative education, Chinese-foreign cooperative effectiveness has a mediating role between quality assurance and student learning outcomes.

3.1 Method

This study brought together data on faculty and staff of Chinese higher education institutions with a background in Chinese-foreign cooperative education. Questionnaires were distributed to them through questionaries in the hope of getting their feedback. Therefore, the participants in this study were education staff who are engaged in Chinese-foreign cooperative education in Chinese higher education institutions. A total of 380 education staff members responded to this questionnaire, resulting in a total sample size of 380 questionnaires. This study conducted a detailed statistical analysis of the collected data using SPSS and AMOS software tools to determine the final research results.

The data were collected through questionnaires from the faculty and staff of Chinese higher education institutions with Chinese-foreign cooperative education. The questionnaire was mainly divided into two parts. The first part presents an overview of the respondents. The second part deals with items related to key variables, namely: resource sharing, quality assurance, Chinese-foreign cooperation effectiveness, and student learning outcomes. For these items, we used Likert scales to collect data.

3.2 Analysis and Discussions

The results of the descriptive statistics performed on the sample are shown in Table 1 below. If the absolute value of the skewness statistic of a variable in the sample is within 3 and the absolute value of the kurtosis statistic is within 7, it can be assumed that this variable approximately obeys a normal distribution. From Table 1 below, we can see that the absolute value of the skewness statistic of each question item in the questionnaire is 0.792 at the maximum, and the absolute value of the kurtosis statistic is 1.020 at the maximum, so it can be assumed that the data recovered from this survey basically obey the normal distribution, which can be analyzed in the later stage of the regression equation model.

The returned samples were then analyzed for reliability analysis (Reliability Analysis) using Cronbach's Alpha reliability coefficient to check the degree of consistency of the questionnaire study variables across the measurement items. It is generally accepted that for a variable to have good reliability the Cronbach's Alpha coefficient must be greater than 0.7 (Cronk, 2017).

Table 2 below shows that the Cronbach's alpha coefficient of each variable is greater than 0.7, which indicates that the variables have good internal consistency reliability, and the CITC is greater than 0.5, which indicates that the measurement items meet the requirements of the study. From the "Cronbach's Alpha for Deleting the Item", deleting any of the items does not cause an increase in Cronbach's Alpha, which also indicates that the variables have good reliability (Wu, 2010).

Table 2: Results of the reliability analysis

Variable	Item	CITC	Cronbach's alpha after item deletion	Cronbach's alpha
RS	RS1	0.773	0.897	0.914
	RS2	0.740	0.902	
	RS3	0.744	0.901	
	RS4	0.761	0.899	
	RS5	0.798	0.894	
	RS6	0.743	0.901	
QA	QA1	0.730	0.903	0.915
	QA2	0.723	0.904	
	QA3	0.805	0.895	
	QA4	0.786	0.897	
	QA5	0.703	0.906	
	QA6	0.735	0.903	
	QA7	0.698	0.907	
ECFC	ECFC1	0.668	0.889	0.899
	ECFC2	0.645	0.891	
	ECFC3	0.623	0.896	
	ECFC4	0.747	0.879	
	ECFC5	0.819	0.871	
	ECFC6	0.709	0.884	
	ECFC7	0.751	0.879	
SLO	SLO1	0.799	0.912	0.925
	SLO2	0.759	0.915	
	SLO3	0.714	0.918	
	SLO4	0.761	0.915	
	SLO5	0.709	0.918	
	SLO6	0.767	0.914	
	SLO7	0.747	0.916	
	SLO8	0.722	0.918	

Exploratory factor analysis using SPSS 23.0 was used to conduct KMO and Bartlett's Spherical tests on the scales and the results are shown in Table 3 below.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin metric of sampling adequacy		**0.950**
Bartlett's test of sphericity	Approximate chi-square	6973.042
	df	378
	Sig.	.000

From above Table 3, we can get KMO=0.950, which is greater than 0.7, and Bartlett's Spherical Test value is significant (Sig.<0.001), indicating that the questionnaire data meets the prerequisite requirements for factor analysis. Therefore, further analysis was carried out, and the principal component analysis method was used for factor extraction, and the common factor was extracted with the eigenroot greater than 1 as the factor, and the factor analysis was carried out with the variance-maximizing orthogonal rotation for factor rotation. The results of the analysis are shown in Table 4 below.

Table 4: Factor Analysis Results

	Component			
	1	**2**	**3**	**4**
SLO1	**0.822**			
SLO4	**0.800**			
SLO6	**0.789**			
SLO7	**0.769**			
SLO3	**0.757**			
SLO2	**0.752**			
SLO8	**0.751**			
SLO5	**0.724**			
QA4		**0.823**		
QA3		**0.796**		
QA6		**0.767**		
QA1		**0.765**		
QA7		**0.753**		
QA5		**0.750**		
QA2		**0.746**		
RS5			**0.840**	
RS4			**0.829**	
RS1			**0.782**	
RS6			**0.776**	
RS2			**0.770**	
RS3			**0.760**	
ECFC5				**0.790**
ECFC7				**0.765**
ECFC4				**0.716**
ECFC6				**0.705**
ECFC1				**0.665**
ECFC3				**0.653**
ECFC2				**0.593**
Eigenvalue	5.398	4.737	4.336	4.200
Percent variance	19.280	16.917	15.485	15.001
Cumulative %	19.280	36.197	51.682	66.682

As obtained from Table 4 above, a total of 4 factors were extracted, with a total variance explained of 66.682% which is greater than 50%, indicating that the four factors screened out were well represented. The factor loadings of each measurement item are all greater than 0.6, and the R^2 are all more than 0.4, and each item falls into the corresponding factor, which has good structural validity.

There are 4 variables in this study, containing a total of 28 measurement items, and after performing a validated factor analysis using Amos 23.0, Figure 2 and Table 5 below were obtained.

Figure 2: Overall Measurement Model

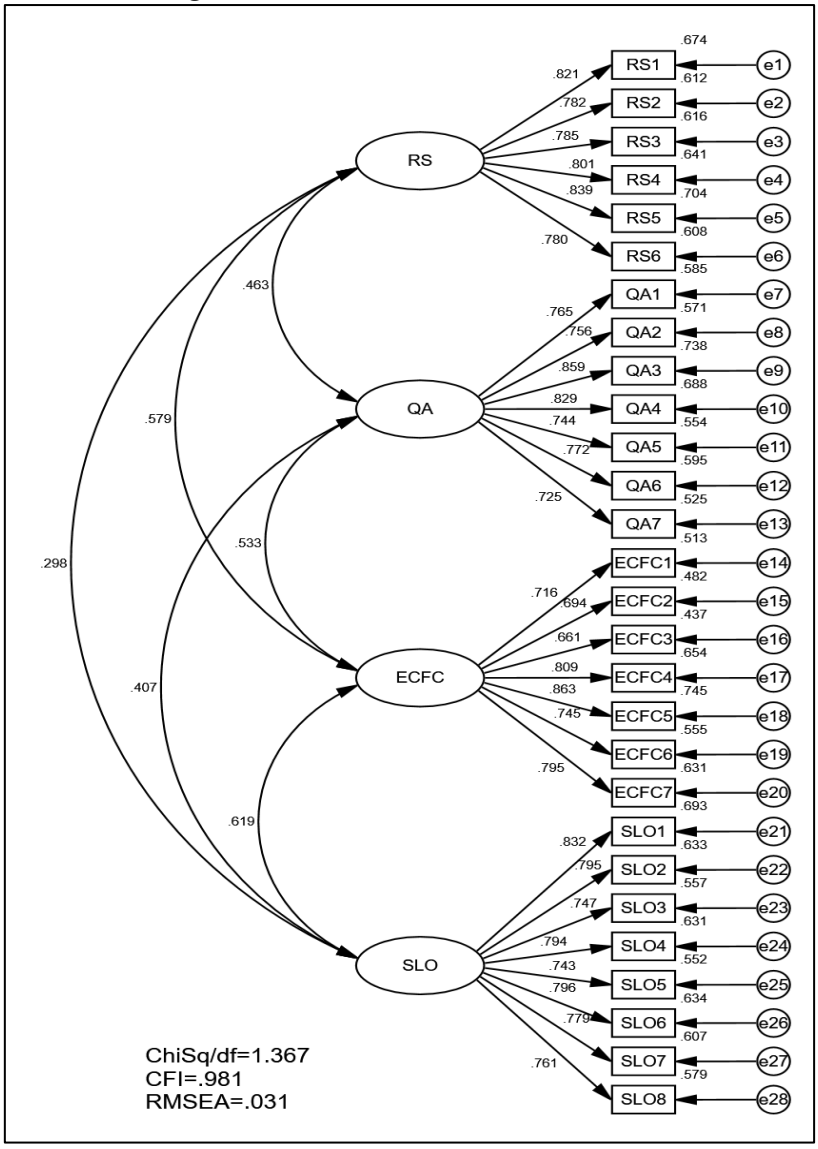


Table 5: Validation Factor Model Fit

Model fit indicators	Optimal criterion	Statistical value	Fit condition
CMIN	— —	470.083	— —
DF	— —	344	— —
CMIN/DF	<3	1.367	Good Fit
RMR	<0.08	0.052	Good Fit
GFI	>0.9	0.920	Good Fit
AGFI	>0.9	0.905	Good Fit
NFI	>0.9	0.934	Good Fit
IFI	>0.9	0.982	Good Fit
TLI	>0.9	0.980	Good Fit
CFI	>0.9	0.981	Good Fit
RMSEA	<0.08	0.031	Good Fit

From Table 5 above, the Normed Chi Sq is 1.367, which is below 3, GFI, AGFI, NFI, TLI, IFI, CFI all above 0.9, RMSEA is 0.031, which is less than 0.08. All the fit indexes are achieved.

Table 6: Verification Factor Analysis Results

Variable	Item	Factor load	CR	AVE
RS	RS1	0.821	0.915	0.643
	RS2	0.782		
	RS3	0.785		
	RS4	0.801		
	RS5	0.839		
	RS6	0.780		
QA	QA1	0.765	0.915	0.608
	QA2	0.756		
	QA3	0.859		
	QA4	0.829		
	QA5	0.744		
	QA6	0.772		
	QA7	0.725		
ECFC	ECFC1	0.716	0.903	0.574
	ECFC2	0.694		
	ECFC3	0.661		
	ECFC4	0.809		
	ECFC5	0.863		
	ECFC6	0.745		
	ECFC7	0.795		
SLO	SLO1	0.832	0.926	0.611
	SLO2	0.795		
	SLO3	0.747		
	SLO4	0.794		
	SLO5	0.743		
	SLO6	0.796		
	SLO7	0.779		
	SLO8	0.761		

Table 6 indicates the standardized factor loadings of each item for each variable, which are all greater than 0.6. All the composite reliability (CR) are greater than 0.7, and the average variance extracted (AVE) are all greater than 0.5, indicating that each variable has good convergent validity.

In terms of discriminant validity, this study used the more rigorous AVE method to assess discriminant validity, Fornell and Larcker (1981) the open root sign of the AVE for each factor had to be greater than the correlation coefficient of each paired variable, indicating that there was discriminant validity between the factors. The AVE for each factor is greater than the standardized correlation coefficient off the diagonal, so this study still has differential validity, and the diagonal lower triangles are the correlation coefficients. See Table 7 below for details.

Table 7: Discriminant Validity

	RS	QA	ECFC	SLO
RS	**0.802**			
QA	.423**	**0.780**		
ECFC	.531**	.493**	**0.758**	
SLO	.276**	.383**	.577**	**0.782**

After performing the above analysis, calculations were executed using AMOS 23.0 and estimated using the maximum likelihood method and the results are displayed in Figure 3 below.

Figure 3: Structural Equation Model

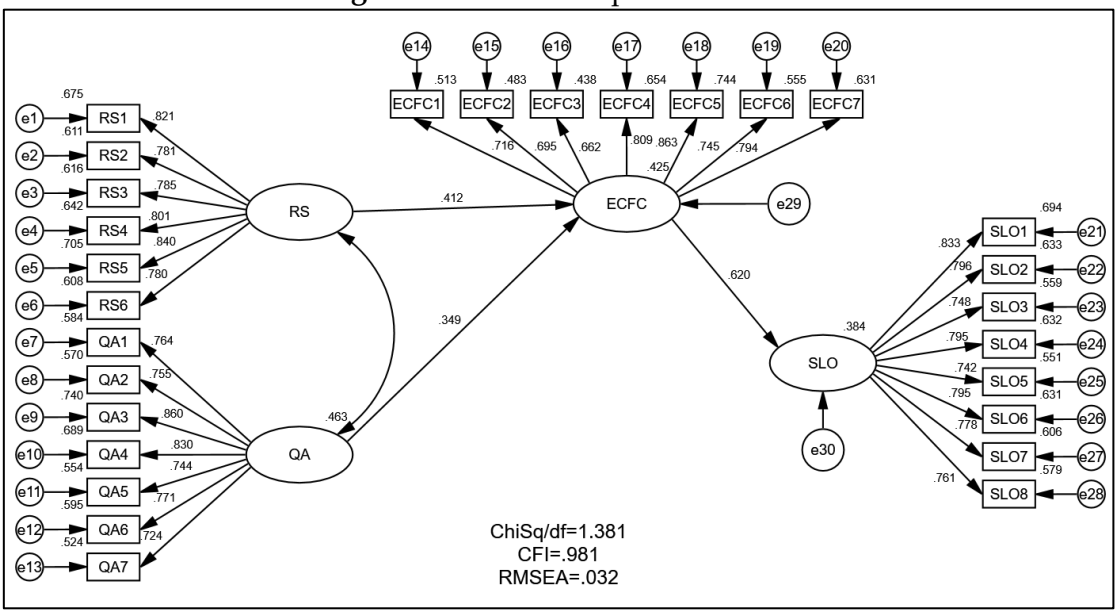


Table 8 shows that the CMIN/DF is 1.381, which is less than the standard of below 3, GFI, AGFI, NFI, TLI, IFI, CFI all above 0.9, RMR is 0.060, which is less than 0.08, and RMSEA is 0.032 which is less than 0.08. All the fitting indexes are in line with the general standard of the study, so it can be assumed that this model has achieved its' model fit.

Table 8: Structural Model Fitting

Model Fit Indicators	Optimal criterion	Statistical value	Fit condition
CMIN	——	477.954	——
DF	——	346	——
CMIN/DF	<3	1.381	Good Fit
RMR	<0.08	0.060	Good Fit
GFI	>0.9	0.918	Good Fit
AGFI	>0.9	0.904	Good Fit
NFI	>0.9	0.933	Good Fit
IFI	>0.9	0.981	Good Fit
TLI	>0.9	0.979	Good Fit
CFI	>0.9	0.981	Good Fit
RMSEA	<0.08	0.032	Good Fit

From Table 9 below, RS has a significant positive effect on ECFC (β=0.412, p<0.05) and the hypothesis is valid; QA has a significant positive effect on ECFC (β=0.349, p<0.05) and the hypothesis is valid; and ECFC has a significant positive effect on SLO (β=0.620, p<0.05) and the hypothesis is valid.

Table 9: Path Coefficient

Path			Standardization coefficient	Unstandardized coefficient	S.E.	C.R.	P	Hypothesis
ECFC	<---	RS	0.412	0.392	0.054	7.202	***	Supported
ECFC	<---	QA	0.349	0.359	0.058	6.196	***	Supported
SLO	<---	ECFC	0.620	0.590	0.056	10.516	***	Supported

Bootstrapping was used in this study to validate the mediating effect. Research has shown that bootstrap confidence intervals that do not contain 0 correspond to the presence of indirect, direct, or total effects (MacKinnon, Lockwood & Williams, 2004). The Bootstrap method was run 5,000 times in AMOS 23.0 to derive the level values of Bias-Corrected versus Percentile at the 95% confidence level, as shown in Table 10 below.

Table 10: Mediating Effect

	Standardized effect value	Bias-Corrected		Percentile	
		95%CI		95%CI	
		Lower	Upper	Lower	Upper
RS_ECFC_SLO	0.256	0.192	0.322	0.191	0.321
QA_ECFC_SLO	0.216	0.144	0.295	0.140	0.290

From Table 10 above, we can get that the mediation effect value of RS_ECFC_SLO is 0.256, which does not contain 0 within the value interval of Lower and Upper for both Bias-Corrected and Percentile95% CI, indicating that the mediation effect exists; and the mediation effect value of QA_ECFC_SLO is 0.216, which does not contain 0 within the value interval of Lower and Upper for Bias- Corrected and Percentile95% CI do not contain 0 within both the Lower and Upper value intervals, indicating the presence of a mediating effect.

4. Conclusion

Upon completing this study, it becomes evident that the mechanisms of resource sharing and quality assurance within the framework of Sino-foreign cooperative endeavours exhibit a pronounced positive correlation with the efficacy of such programs. Specifically, integrating resource sharing and quality assurance mechanisms is indispensable for the sustained advancement of Sino-foreign collaborative initiatives. The empirical evidence from this study elucidates that efficacious resource sharing not only elevates the calibre of pedagogical practices but also fosters collaboration and interchange among educational institutions, thereby bolstering the resilience and continuity of Sino-foreign cooperative ventures. Quality assurance emerges as a critical factor in catalysing the

mutual advancement of universities engaged in Sino-foreign educational collaborations, serving as a foundational element for the internationalised evolution characterised by deep integration and reciprocal benefits. Concerning student academic achievements, the findings reveal that proficient resource sharing and quality assurance mechanisms directly influence the success of Sino-foreign collaborations. Moreover, the efficacy of these collaborations significantly impacts students' learning outcomes and the enhancement of their overall competencies. The role of Sino-foreign collaboration effectiveness in mediating the relationship between the mechanisms of resource sharing, quality assurance, and student learning outcomes is also highlighted.

Within this joint collaborative framework, students gain exposure to educational resources from diverse national and cultural contexts, facilitating the development of a global perspective and cross-cultural communicative competencies. Concurrently, the synergetic interplay of resource sharing and quality assurance in the collaborative framework augments the capacity of Chinese educational institutions' faculty and students to engage with the global educational landscape, thereby broadening their perspectives and augmenting their competitive edge. This cross-cultural dialogue and collaboration propel the depth of scholarly inquiries and establish a robust foundation for students' professional trajectories and personal development. Consequently, fortifying the resource-sharing and quality assurance mechanisms and the continuous refinement of cooperative modalities is paramount for promoting a sustainable and flourishing future for Sino-foreign educational cooperation. Through collective endeavours, Sino-foreign educational cooperation will herald a more luminous future, contributing significantly to the global educational discourse and progress.

4.1 Theoretical Significance

The conduct of this study expands the research field of Chinese-foreign cooperative education, introduces the resource sharing and quality assurance of the collaborative mechanism as key variables in the study of the relationship between the effectiveness of Chinese-foreign cooperative education and student learning outcomes, and provides a new perspective to understand and analyze the excellence of Chinese-foreign cooperative education. By deeply exploring the impact of resource sharing and quality assurance in the collaborative mechanism on the effectiveness of Chinese-foreign cooperation as well as student learning outcomes, it enriches the existing theoretical system of Chinese-foreign cooperative education, strengthens the cross-study of the collaborative mechanism and Chinese-foreign cooperative education, and applies the principles and practices of the collaborative mechanism to the field of education, especially in the context of Chinese-foreign cooperative education, which can help to solve the problems and challenges of the process of cooperation, and also It can promote the long-term and stable development of cooperative programs and provide a solid theoretical foundation and practical guidance for the leapfrog development of education.

4.2 Practical Significance

The results of this study show that resource sharing and quality assurance in the collaborative mechanism have significant positive effects on the effective development of Chinese-foreign cooperative education and the improvement of student learning outcomes. It provides a more solid support for the effective cooperation between the two parties of Chinese-foreign cooperative education. At the same time, the intermediary role between resource sharing and quality assurance in the collaboration mechanism and student learning outcomes shows that the optimization and innovation of the collaboration mechanism is crucial for the sustainable development of Chinese-foreign cooperative education. In the future, we should continue to improve the collaboration mechanism, enhance the efficiency of resource sharing and strengthen the quality assurance in order to promote the long-term prosperity of Chinese-foreign cooperative education. At the same time, we also need to emphasize on cultivating students' intercultural communication ability and international vision, so as to make them become talents with global competitiveness.

4.3 Innovations

Compared with previous studies, this study divides the collaboration mechanism into two core variables, resource sharing and quality assurance, from the perspective of their roles, and analyzes their impacts in depth. This is relatively rare in previous studies but shows unique value in this study. The two-pronged approach of resource sharing and quality assurance has injected new vitality and impetus into Chinese-foreign cooperative education. This study not only emphasizes their importance in the process of cooperation, but also digs deeper into their role in influencing student learning outcomes. This all-round analysis provides clearer guidelines for the future development of Chinese-foreign cooperative education. In the face of the increasingly complex international educational environment, the cooperating parties are reminded that they need to consciously build a more open and inclusive cooperation mechanism, so that resource sharing and quality assurance can become the two wings of the long-term and sound development of Chinese-foreign cooperative education, laying a solid foundation for cultivating outstanding talents with international competitiveness, and also bringing more inspiration and reference for the development of cooperation in higher education in other countries or regions in the world.

Conflict of Interest Statement

The authors declared that they have no conflicts of interest to this work. We declare that we do not have any commercial or associative interest that represents a conflict of interest in connection with the work submitted.

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