Development of Training Program Management Model on Inheritance of Filial Piety Culture for Chinese Students in Hubei, China

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Abstract

Background and Aim: Filial piety culture stands as a cornerstone of Chinese civilization, deeply embedded in its historical and social fabric. Despite extensive scholarly examination of this cultural phenomenon, a notable gap exists in developing systematic approaches for its transmission to younger generations in modern educational contexts. The challenges of urbanization and technological advancement necessitate structured approaches to cultural education that connect traditional values with contemporary realities. This study addresses this gap through three objectives: (1) to investigate the needs of students and teachers, and school administrators on the training program on inheritance of filial piety culture for Chinese students in Hubei Province; (2) to develop a training program management model for such training programs; and (3) to evaluate the model's effectiveness through practical implementation. By addressing these objectives, this research aims to provide a validated framework for cultural inheritance education that preserves traditional values while resonating with contemporary students.

Materials and Methods: The study employed a mixed-methods approach across six dimensions organized into three aspects: Input, Process, and Output. Data were collected through questionnaires administered to 232 students and 23 teachers, utilizing a Likert five-point scale. Analysis methods included descriptive statistics, reliability testing using Cronbach's alpha, and paired sample t-tests for pre-test and post-test comparisons. Expert consultation through focus groups guided model development, with implementation testing conducted with 30 students.

Results: Both students and teachers reported inadequate current training provisions (Student Mean = 1.12, S.D. = 0.39; Teacher Mean = 1.18, S.D. = 0.42) while expressing high expectations for comprehensive programs (Student Mean = 4.60, S.D. = 0.73; Teacher Mean = 4.46, S.D. = 0.72). The developed system approach management model integrates three components—Input, Process, and Output—with the PDCA cycle as its core mechanism. The implementation resulted in significant improvement in students' knowledge and practical abilities, with post-test scores (Mean = 57.66) substantially higher than pre-test scores (Mean = 27.50), yielding a statistically significant difference (t = -49.42, p < 0.001).

Conclusion: The system approach management model developed in this study effectively addresses the significant gap between current provisions and expectations for filial piety culture inheritance training. Its successful implementation demonstrates the model's potential for systematic cultural transmission while accommodating modern educational needs. The model offers a structured framework for preserving critical cultural values within contemporary educational settings, with implications for cultural inheritance education beyond the specific context of filial piety culture.

Keywords: Management Model; Training Program; Inheritance of Filial Piety Culture; Chinese Students

Introduction

Chinese civilization has developed a distinctive cultural identity, with filial piety culture standing as a significant distinguishing feature. This uniquely Chinese cultural element represents a fundamental virtue within Chinese tradition and serves as a core element of the nation's traditional values (Keawsawam, 2021). In traditional Chinese moral frameworks, filial piety culture occupies a special position, encompassing respect for parents, child-rearing practices, loyalty, and ancestral commemoration. It transcends basic ethical norms between parents and children to include religious, philosophical, political, legal, educational, and folk cultural dimensions, forming a comprehensive cultural system that extends from individual cultivation to family regulation and social harmony (Zhu, 2023).

Filial piety culture continues to function as an essential spiritual foundation in contemporary Chinese society, influencing political, economic, and spiritual development despite challenges posed by

urbanization, industrialization, and modernization (Lin, 2023). Early 20th-century scholars like Qian Mu characterized Chinese culture as fundamentally a "culture of filial piety," a view echoed by Xie Youwei. Modern researchers such as Keawsawam (2021) and Liu (2024) propose that traditional filial piety evolved through interactions between authoritative and public evaluations, strengthening family bonds and providing security for the elderly.

Zhu (2023) identifies key approaches to cultural inheritance, including analyzing filial piety's historical connotations, enhancing its appeal, and promoting inheritance through family traditions. Contrary to assumptions about its decline, Hao (2021) notes that filial piety culture maintains widespread acceptance in contemporary China. Zhang et al. (2019) observe that while the family-centered model has traditionally dominated Chinese society, expressions of filial piety are being modernized to accommodate social transformation. Lin (2023) suggests that education should guide public understanding away from authoritarian dimensions of filial piety toward more progressive interpretations.

Western scholarship, represented by St. André (2018), acknowledges filial piety's prominence in classical texts like "The Analects of Confucius" and recognizes its continued centrality in discussions of Chinese culture, noting China's development of a distinctive "filial piety culture" that has evolved throughout history.

With the Chinese government and the Ministry of Education emphasizing cultural confidence and the inheritance of traditional values, this study focuses on universities in Hubei Province, particularly Hubei Engineering University in Xiaogan City, home to the Chinese Filial Piety Culture Research Center. This research addresses three key questions: (1) What are the needs regarding filial piety culture inheritance training programs? (2) How can a system approach management model be developed for such programs? (3) How can this model's effectiveness be evaluated? Through analysis and practical application, this study aims to develop a comprehensive model for filial piety culture inheritance training that addresses China's aging society challenges while fostering harmonious social values.

Objectives

1. To investigate the needs of students and teachers, and school administrators for the training program on the inheritance of filial piety culture for Chinese students in Hubei.

2. To develop of training program management model on inheritance of filial piety culture for Chinese students in Hubei.

3. To evaluate the effectiveness of the training program management model on inheritance of filial piety culture for Chinese students in Hubei.

Literature review

System Approach

The system approach is a methodology that views the object of study as a complete system, examining patterns, structures, and governing laws while emphasizing holistic understanding for optimal outcomes. This approach is attributed to L.V. Bertalanffy, who introduced systems theory in 1952 (Bai et al., 2016). The system approach has diverse applications across fields. Cloke et al. (2017) documented its use in Global South energy projects, while Bai et al. (2016) advocated for system approaches in urban research to maximize benefits. Rosenzweig et al. (2020) demonstrated its value in addressing climate change through food preservation systems, and Dogliotti et al. (2014) showed its effectiveness in sustainable agriculture planning in Uruguay. Leveson et al. (2015) applied system principles to risk management, highlighting the approach's versatility in solving complex problems across disciplines.

PDCA Management Model

The PDCA management model ("quality cycle") originated in the 1920s and was popularized by W. Edwards Deming. It is structured around four stages: Do, Check, and Act has evolved from total quality management to applications across diverse fields (Johnson, 2016). Chen et al. (2020) described it as a widely used "quality cycle," while Isniah et al. (2020) identified it as a continuous improvement system for

enhancing processes and productivity. Chang et al. (2024) validated its effectiveness in nursing quality management, and Kholif et al. (2018) applied PDCA methodology to improve dairy laboratory efficiency. This study applies PDCA principles to filial piety culture inheritance training to ensure systematic implementation and continuous improvement.

Training Program

Training programs involve researchers conducting targeted experiments, analyses, and improvements with subjects through questionnaires, pre-tests, and post-tests. Such programs are used across multiple disciplines. Adedoyin and Okere (2017) studied inclusion concepts in Botswana's education system, recommending strengthened training programs. Hutchinson et al. (2020) demonstrated rhythmic music movement training in post-stroke rehabilitation, while Zaharia et al. (2021) validated a psychoeducational program for patients with autism spectrum disorder. Kasperski et al. (2019) showed computer reading training's positive effects on reading skills, and Kramarski (2018) developed a dual-role model enhancing both teacher professional development and student learning. In our research, the training program aims to enhance students' knowledge and skills in filial piety culture through structured learning experiences.

Inheritance of Filial Piety Culture

The inheritance of filial piety culture involves educating young people about this cultural knowledge, emphasizing its unique position within Chinese culture and its role as a spiritual unifying force. Zhu (2023) advocates incorporating filial piety culture into university education to promote its inheritance, while Hao (2021) suggests integrating it into contemporary value systems, strengthening education and publicity, enhancing institutional guarantees, expanding funding sources, and utilizing social organizations to support these efforts.

Relevance to Current Research

This literature review directly informs our research by providing the theoretical foundation and methodological framework. The system approach offers a holistic perspective essential for developing our comprehensive model for filial piety culture inheritance training. The PDCA cycle serves as the core operational mechanism within our model, ensuring continuous improvement through iterative planning, implementation, evaluation, and refinement. Previous studies on training programs across various fields provide methodological insights for designing effective educational interventions. Finally, existing research on filial piety culture inheritance highlights key strategies and considerations that have been incorporated into our model development. By integrating these theoretical frameworks and applying them to the specific context of filial piety culture education in Hubei, China, our research addresses the gap in systematic approaches to cultural inheritance education identified in the literature.

Conceptual Framework

Development of the Conceptual Framework

The conceptual framework presented in this study is derived from an extensive review of literature across three primary domains: system approach methodologies, PDCA management models, and filial piety culture inheritance studies.

Theoretical Foundation

The framework integrates systems theory (Bai et al., 2016) with the PDCA cycle (Johnson, 2016) to create a comprehensive approach to filial piety culture inheritance training. The three main components- Input, Process, and Reflect the fundamental elements of the system approach methodology, which emphasizes holistic understanding and optimization of interconnected components (Leveson et al., 2015).

Input Component (A)

The Input component contains four key elements identified through needs assessment research and literature review:

- Current situation assessment (A_1) responds to research indicating gaps in existing filial piety culture inheritance training (Zhu, 2023)

- Needs analysis (A$_2$**)** addresses the requirements identified in preliminary questionnaire data from students and teachers in Hubei

- Knowledge resources (A$_3$ **)** incorporate a theoretical understanding of filial piety culture derived from historical and contemporary scholarship (Keawsawam, 2021)

- Training resources (A$_4$**)** build upon effective practices identified in training program literature (Kramarski, 2018)

Process Component (B)

The Process component adopts the PDCA cycle based on quality management principles established by Deming and subsequently validated across multiple fields (Chen et al., 2020; Isaiah et al., 2020):

- Plan (B$_1$**)** establishes objectives and processes based on input assessment
- Do (B$_2$**)** implement training activities using identified resources and knowledge
- Check (B$_3$**)** monitors and measures progress against objectives through systematic evaluation
- Act (B$_4$**)** implements improvements based on findings and refines the approach

This iterative cycle enables continuous improvement, a critical feature for adapting cultural inheritance training to contemporary educational contexts.

Output Component (C)

The Output component reflects desired outcomes identified in filial piety culture inheritance research (Hao, 2021):

- Skills (C$_1$**)** represent knowledge and abilities developed through training
- Ideas (C$_2$**)** reflect values and outlook transformation
- Practice (C$_3$**)** encompasses behavioral changes and practical application
- Models (C$_4$**)** represent replicable approaches for further implementation

System Integration

The hierarchical relationship between components is deliberate, with the System Approach Management Model serving as the foundational framework that unifies all elements. The PDCA cycle functions as the operational engine driving continuous improvement within the Process component.

The vertical and horizontal arrows demonstrate both the hierarchical relationships and sequential flow between components, with bidirectional influences ensuring adaptability and responsiveness to changing needs and conditions.

This integrated framework represents a synthesis of educational management theory, quality improvement methodology, and cultural inheritance research, specifically designed to address the unique challenges of filial piety culture inheritance in contemporary Chinese educational settings, as shown in Figure 1.
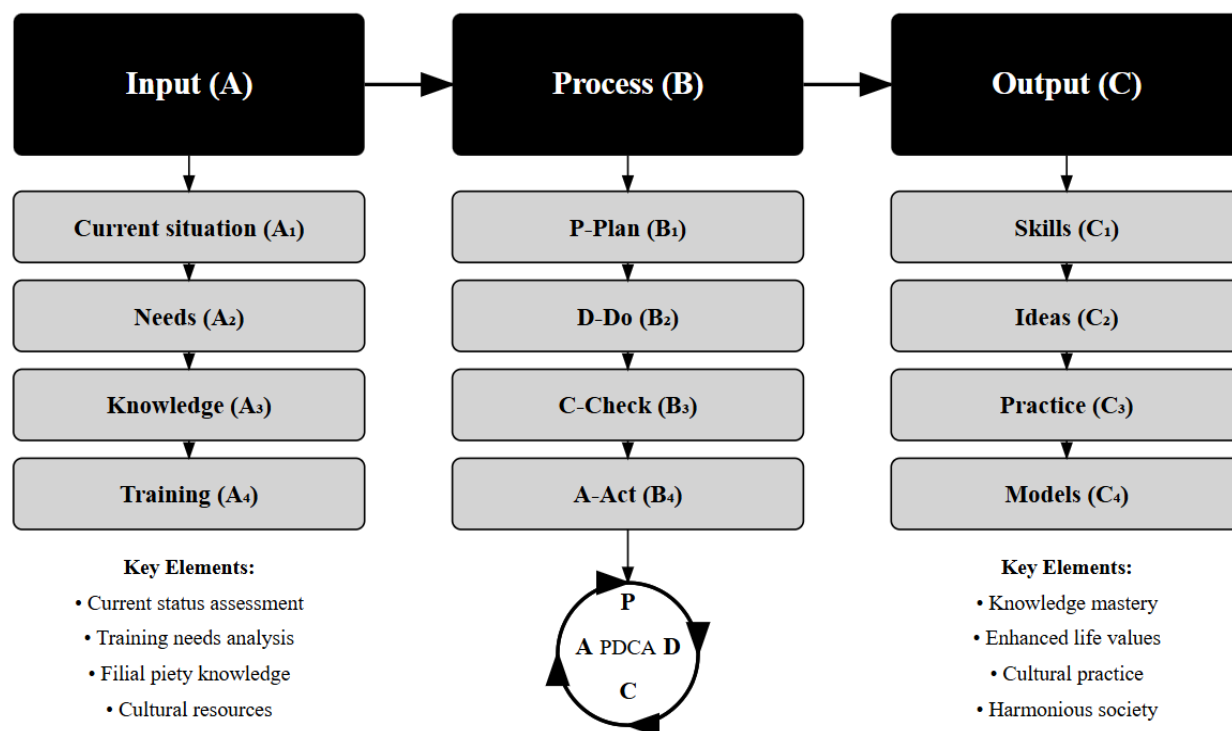
Note: The model illustrates the systematic flow from Inputs (A) through Processes (B) to Outputs (C), with the PDCA cycle at its core. The model encompasses 28 key elements across 12 secondary indicators.

Figure 1: Training Program Management Model on Inheritance of Filial Piety Culture for Chinese Students in Hubei, China

Methodology

Research Design

This study employed a mixed-methods research design combining quantitative and qualitative approaches. The quantitative component involved questionnaire surveys targeting students and teachers to assess needs and current situations regarding filial piety culture inheritance training. The qualitative aspect included focus group meetings with experts and analysis of training implementation to develop and validate the management model.

Population and Sample

The population consisted of university students and teachers in Hubei Province, China. The sample included:

232 university students were selected through stratified random sampling across different years of study

23 teachers with experience in traditional culture education

10 experts from the Chinese Filial Piety Culture Research Center for model development

5 experts for the IOC testing of research instruments

30 students for training implementation (pre-test and post-test evaluation)

Research Instruments

The following instruments were developed and utilized:

1. Student questionnaire with a Likert five-point scale assessing current situations and expectations across six dimensions

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2. Teacher questionnaire with a similar structure but tailored content
3. Focus group discussion guidelines for expert consultation
4. Training program manual developed based on data analysis and expert input
5. Pre-test and post-test evaluation forms for measuring training effectiveness

All instruments underwent validity testing through the Index of Item-Objective Congruence (IOC) method with five experts, achieving scores between 0.8-1.0, confirming their validity.

Data Collection

Data collection proceeded through several phases:
1. Administration of questionnaires to 232 students and 23 teachers
2. Analysis of questionnaire data to identify needs and current situations
3. Consultation with 10 experts through focus group meetings to develop the model
4. Development of the training program manual based on the model
5. Implementation of the training program with 30 students
6. Pre-test and post-test assessments to evaluate program effectiveness

Data Analysis

The following analytical methods were employed:
1. Descriptive statistics (mean, standard deviation, percentage) for questionnaire data
2. Reliability analysis using Cronbach's alpha coefficient
3. Paired sample t-test for comparing pre-test and post-test results
4. Qualitative analysis of expert input from focus group meetings

For data interpretation, the 5-point Likert scale responses were categorized into the following levels:
- Mean scores of 1.00-1.80 = Lowest level
- Mean scores of 1.81-2.60 = Low level
- Mean scores of 2.61-3.40 = Moderate level
- Mean scores of 3.41-4.20 = High level
- Mean scores of 4.21-5.00 = Highest level

Results

The results of this study are presented according to the three research objectives: investigating needs, developing a training program management model, and evaluating the model's effectiveness for filial piety culture inheritance training.

Objective 1: Investigating Needs for Filial Piety Culture Inheritance Training

Table 1: Current Situation of Filial Piety Culture Inheritance Training as Perceived by Students

Items	Mean	S.D.	Level
Input	1.13	0.39	Lowest
Process: Plan	1.12	0.38	Lowest
Process: Do	1.13	0.41	Lowest
Process: Check	1.13	0.40	Lowest
Process: Act	1.12	0.38	Lowest
Output	1.12	0.39	Lowest
Total	1.12	0.39	Lowest

Note: Rating scale interpretation: 1.00-1.80 = Lowest; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = High; 4.21-5.00 = Highest.

From Table 1, it was found that students perceived the current situation of filial piety culture inheritance training as highly inadequate across all dimensions. Process: Do and Process: Check received marginally higher ratings (Mean = 1.13), suggesting slightly better implementation and evaluation activities compared to planning and improvement aspects.

Table 2: Expectations for Filial Piety Culture Inheritance Training as Perceived by Students

Items	Mean	S.D.	Level
Input	4.53	0.66	Highest
Process: Plan	4.58	0.76	Highest
Process: Do	4.61	0.75	Highest
Process: Check	4.63	0.74	Highest
Process: Act	4.62	0.75	Highest
Output	4.63	0.73	Highest
Total	4.60	0.73	Highest

From Table 2, it was found that students expressed extremely high expectations for filial piety culture inheritance training across all dimensions. Process: Check (Mean = 4.63) and Output (Mean = 4.63) received the highest ratings, indicating students particularly valued evaluation processes and tangible outcomes from training programs.

Table 3: Current Situation of Filial Piety Culture Inheritance Training as Perceived by Teachers

Items	Mean	S.D.	Level
Input	1.22	0.45	Lowest
Process: Plan	1.19	0.43	Lowest
Process: Do	1.18	0.41	Lowest
Process: Check	1.19	0.41	Lowest
Process: Act	1.15	0.35	Lowest
Output	1.17	0.49	Lowest
Total	1.18	0.42	Lowest

From Table 3, it was found that teachers also rated the current situation as highly inadequate, though slightly higher than students' ratings. Input (Mean = 1.22) received the highest rating among dimensions, suggesting teachers perceived relatively better availability of resources and preliminary considerations compared to implementation and outcomes.

Table 4: Expectations for Filial Piety Culture Inheritance Training as Perceived by Teachers

Items	Mean	S.D.	Level
Input	4.28	0.80	High
Process: Plan	4.33	0.79	High
Process: Do	4.49	0.70	High
Process: Check	4.51	0.72	Highest
Process: Act	4.52	0.69	Highest
Output	4.65	0.64	Highest
Total	4.46	0.72	High

From Table 4, it was found that teachers demonstrated high expectations for filial piety culture inheritance training, though with more variation across dimensions than students. Output received the highest rating (Mean = 4.65), followed by Process: Act and Process: Check, indicating teachers prioritized tangible outcomes and continuous improvement mechanisms.

Objective 2: Developing the Training Program Management Model
The Training Program Management Model was developed based on data analysis and expert consultation. The model, as illustrated in Figure 1, consists of three primary components:

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Table 5 Components of the Training Program Management Model

Component	Secondary Indicators	Key Elements
Input (A)	Current situation (A_1)	Assessment of existing filial piety culture inheritance practices
	Needs (A_2)	Analysis of student and teacher requirements
	Knowledge (A_3)	Theoretical foundations of filial piety culture
	Training (A_4)	Resources for effective training implementation
Process (B)	P-Plan (B_1)	Planning training objectives and strategies
	D-Do (B_2)	Implementing training activities
	C-Check (B_3)	Evaluating training outcomes
	A-Act (B_4)	Improving based on evaluation findings
Output (C)	Skills (C_1)	Knowledge and abilities in filial piety culture
	Ideas (C_2)	Values and attitudes toward filial piety
	Practice (C_3)	Practical application of filial piety principles
	Models (C_4)	Sustainable approaches for cultural inheritance

From Table 5, it was found that each secondary indicator encompasses specific key elements, totaling 28 elements across the entire model. The PDCA cycle functions as the core operational mechanism within the Process component, ensuring continuous improvement through iterative planning, implementation, evaluation, and refinement.

Objective 3: Evaluating the Model's Effectiveness

Table 6: Pre-test and Post-test Results of Filial Piety Culture Inheritance Training

Assessment	n	Mean	S.D.	t-value	df	Sig.
Pre-test	30	27.50	4.86	49.42	29	0.00
Post-test	30	57.66	3.40			

From Table 6, it was found that the implementation of the System Approach Management Model through a 60-hour training program resulted in a dramatic improvement in students' understanding and practice of filial piety culture. The average score increased from 27.50 in the pre-test to 57.66 in the post-test. The t-value of 49.42 with a significance level of 0.00 ($p < 0.05$) confirms that this improvement is statistically significant, validating the effectiveness of the developed model, as shown in Figure 2.
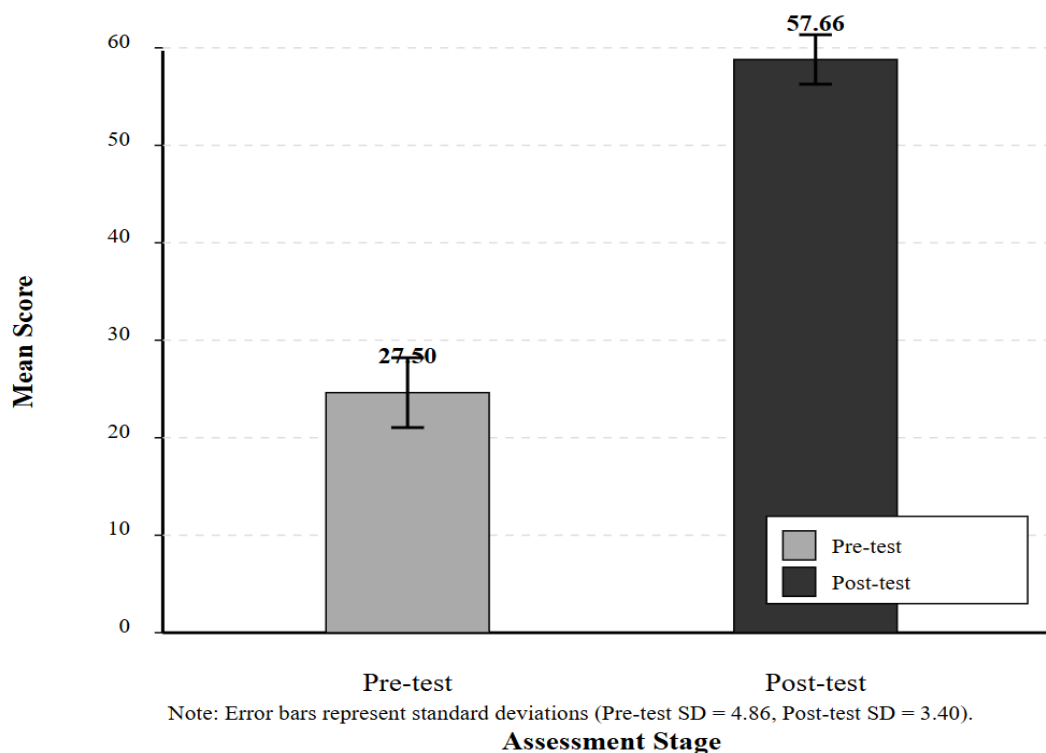
Note: Error bars represent standard deviations (Pre-test SD = 4.86, Post-test SD = 3.40).

Figure 2 Comparison of Pre-test and Post-test Scores

Table 7: Reliability Analysis of Research Instruments

Instrument	Cronbach's Alpha	Number of Items
Student Current Situation Questionnaire	0.994	33
Student Expectation Questionnaire	0.995	33
Teacher Current Situation Questionnaire	0.975	38
Teacher Expectation Questionnaire	0.915	38

From Table 7, it was found that all research instruments demonstrated exceptionally high reliability coefficients, confirming the internal consistency and dependability of the data collected. These high Cronbach's alpha values (all above 0.90) provide strong support for the validity of the findings and subsequent model development.

The results across all three objectives demonstrate a significant gap between the current situation and expectations for filial piety culture inheritance training, the successful development of a comprehensive training program management model, and the proven effectiveness of this model in enhancing students' understanding and practice of filial piety culture.

Discussion

The findings of this study reveal several important insights regarding filial piety culture inheritance training in Hubei, China. First, the significant disparity between current training provisions (with means ranging from 1.12 to 1.18) and expectations (with means ranging from 4.46 to 4.60) highlights an urgent need for systematic approaches to cultural inheritance education. This gap confirms Zhu's (2023) assertion

that filial piety culture requires deliberate educational integration for effective transmission to younger generations.

The System Approach Management Model developed in this research demonstrates strong theoretical alignment with established management principles. The integration of the Input-Process-Output framework with the PDCA cycle creates a dynamic model capable of addressing the complex, multifaceted nature of cultural inheritance. This aligns with Bai et al.'s (2016) emphasis on holistic system approaches for addressing complex societal challenges.

The model's effectiveness, evidenced by significant improvements in students' knowledge and practice (pre-test mean: 27.50; post-test mean: 57.66; p<0.001), validates the application of quality management principles to cultural education. This supports Isniah et al.'s (2020) position that PDCA methodology enables continuous improvement across diverse domains.

Particularly noteworthy is the teachers' slightly different prioritization pattern compared to students. While students rated all expectation dimensions at the highest level, teachers showed more variation, with Output receiving their highest rating (Mean = 4.65). This suggests that teachers, with their professional experience, particularly value tangible outcomes and may take a more pragmatic view of educational interventions.

The successful implementation of the model in an educational setting addresses Hao's (2021) call for contemporary approaches to filial piety culture inheritance that balance traditional values with modern educational frameworks. By providing a structured yet adaptable methodology, the model offers a promising approach to navigating the challenges of cultural transmission in rapidly changing social contexts.

Conclusion

This research successfully addressed the critical gap in systematic approaches to filial piety culture inheritance training through the development and validation of a comprehensive Training Program Management Model. The significant disparity between current provisions and expectations confirms the necessity for structured educational interventions to preserve and transmit this essential aspect of Chinese cultural heritage.

The integrated model, combining system approach methodology with the PDCA cycle, provides a holistic framework that addresses the multidimensional nature of cultural inheritance education. Its effectiveness, demonstrated through statistically significant improvement in student outcomes, validates the application of management principles to cultural education contexts. This research contributes both theoretical understanding and practical methodology to the field of cultural inheritance education, offering a blueprint for similar initiatives across cultural contexts.

Recommendation

Based on the findings of this study, several recommendations are proposed for enhancing filial piety culture inheritance education:

1. Educational institutions should implement comprehensive training programs based on the developed Training Program Management Model, ensuring adequate resources for all components from Input through Process to Output. Particular attention should be given to establishing clear objectives and continuous evaluation mechanisms.

2. Teacher professional development should be prioritized, with specialized training in both filial piety culture content and the application of the PDCA methodology. This aligns with findings showing teachers valued Process: Act components highly (Mean = 4.52), suggesting recognition of the importance of continuous improvement.

3. Educational authorities should develop policies and guidelines that incorporate filial piety culture into formal curricula at various educational levels, supported by standardized resources and assessment methods. This addresses the systematically low ratings for current provisions across all dimensions.

4. Future research should explore the long-term impacts of such training programs, examining how an enhanced understanding of filial piety culture influences students' behaviors, values, and relationships in various contexts. Longitudinal studies would provide valuable insights into the sustainability of educational interventions.

5. Cross-cultural applications of the model should be investigated, exploring how the Training Program Management Model might be adapted for cultural inheritance education in other contexts, both within China for different cultural elements and internationally for various cultural traditions.

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