Action Research on the Design of Language-Based Kindergarten Activities: Integrating Traditional Poetry Teaching

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Abstract: The design of teaching activities for preschool undergraduates plays a crucial role in enhancing the integration of traditional culture into kindergarten teaching. However, existing research predominantly focuses on the procedural steps of teaching activity design, often adopting a single-dimensional perspective. To address this limitation, this study examines three key dimensions—language form, organizational framework, and content understanding—as research variables. These dimensions are integrated with a qualitative textual analysis of the steps involved in teaching activity design. The study involves two classes of third-year preschool undergraduates, using the "teaching, learning, and evaluation" approach as the implementation pathway to explore the design of teaching activities in the context of "Poetry Teaching." An experimental study was conducted to evaluate the effectiveness of the "teaching, learning, and evaluation" approach in the design of "Poetry Teaching" activities. The results indicate significant differences in language forms, organizational frameworks, and content understanding across the two classes, with the most pronounced differences observed in the content understanding dimension. Additionally, issues were identified in the organizational frameworks, design concepts, and activity objectives. Based on these findings, it is recommended that subsequent instruction in teaching activity design should focus on enhancing students' abilities in organizational structure, design concept formulation, and activity goal setting. Furthermore, increasing students' familiarity with poetry and their ability to critically evaluate activity designs will contribute to improved proficiency in designing "Poetry Teaching" activities.

Keywords: language education, pre-school children, activity design, "Poetry Teaching", action research

1. Introduction

1.1 Research background

In contemporary Chinese society, the concepts of "road confidence, theoretical confidence, institutional confidence, and cultural confidence" form the cultural backdrop, emphasizing the core values and unity of the Chinese nation. As the foundation of both basic and lifelong education, preschool education should be in synergy with other educational stages, such as primary, junior high, and senior high school, to collectively integrate traditional cultural content into the curriculum.[1]

As the cradle for training future early childhood educators, preschool education programs in universities and colleges bear the crucial responsibility of cultivating high-caliber, culturally aware teachers. Integrating traditional culture into the preschool education curriculum is essential for fostering cultural confidence and exploring the value of traditional "poetry

education" within early childhood contexts. This approach aims to equip future educators with the skills to incorporate traditional culture into their teaching practices[2]

Through the structured framework of "teaching, learning, and evaluation," this study seeks to enhance the ability of preschool education majors to design teaching activities that effectively integrate traditional cultural elements. By embedding "poetry education" into the curriculum, students will not only improve their pedagogical skills but also enrich kindergarten education with cultural depth, aligning with the broader goals of high-quality teacher training and cultural education.[3]

1.2 Research questions

The design of teaching activities is a crucial skill for teacher trainees majoring in preschool education. Enhancing their ability to effectively design such activities within the classroom context is a challenge that requires interdisciplinary collaboration. This study centers on addressing this challenge within the course "Language Education for Preschool Children" offered in preschool education programs at universities. The primary research question of this paper is how to enhance the ability of preschool education majors to integrate poetry into their teaching activity designs by utilizing a structured approach based on "teaching, learning, and evaluation."

This overarching question is further divided into three specific research sub-questions:

Q1: To what extent can the "teaching, learning, and evaluation" course management structure improve students' ability to design teaching activities that incorporate poetry?

Q2: What challenges do students encounter when designing teaching activities that are based on "poetry teaching"?

Q3: What strategies can be employed to strengthen and enhance students' ability to design effective teaching activities centered on "Poetry Teaching"?

2. Research design

2.1 Research objects

The study employed a convenience sampling method, selecting undergraduate students majoring in pre-primary education from the Class of 2021 as the study population.

2.2 Research approach

This study was conducted within the framework of the "Preschool Children's Language Education" course, utilizing an action research methodology. The research was implemented through the "teaching, learning, and evaluation" instructional pathway. As part of the study, a set of "Evaluation Indicators for the Design of Teaching Activities Based on 'Poetry Teaching'" was developed and applied to assess the effectiveness of the intervention. Pre- and post-implementation assessments were conducted to evaluate changes in students' ability to design teaching activities. For a detailed overview, refer to Figure 1.
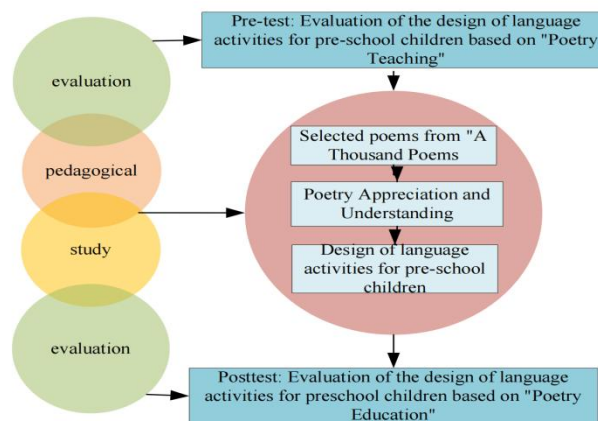

Figure 1 Research ideas

2.3 Research methodology

This study employs a combination of quantitative and qualitative research methods. Quantitative and qualitative evaluations were conducted using the "Evaluation Indicators of Teaching Activity Design Based on 'Poetry Teaching'" and analysis of students' teaching activity designs.

2.3.1 Experimental method

The experimental method, widely utilized in social science research, particularly in empirical studies, involves implementing an action and observing its outcomes. As described by Al ▪ Babi, this approach examines the impact of an independent variable on a dependent variable. In this study, the "Poetry Teaching"-based language activity designs for preschool children, created by undergraduate students in preschool education, served as the dependent variable. The independent variable was the "Teaching, Learning, and Evaluation" (TLE) teaching implementation path. The study evaluated changes in students' language activity designs under the "TLE" path immediately following exposure to the experimental stimulus.

2.3.2 Data analysis method

Data analysis encompasses the systematic organization and interpretation of literature, information, or gathered data to gain a comprehensive understanding of the study's content. This process involves the meticulous analysis and interpretation of texts, statistics, archival materials, etc. In this study, the source texts were students' instructional activity designs, which underwent organized and analytical scrutiny.

2.4 Research process

2.4.1 Formation of theoretical hypotheses

The study defined relevant variables: the language activity designs of preschool children based on "poetry teaching" as the dependent variable and the "teaching, learning, and evaluation" teaching implementation path as the independent variable. The theoretical hypotheses were subsequently formulated.

2.4.2 Development of research scale

The evaluation index for teaching activity design based on "Poetry Teaching" was developed through a thorough literature review. The scale utilizes Likert's 5-point scoring method, comprising three dimensions: linguistic form, organizational structure, and content understanding. Items are rated from 1 (not at all) to 5 (very much), with 1 indicating "very much not compliant", 2 "not compliant", 3 "neutral", 4 "comparatively compliant", and 5 "very compliant".

This revision aims to maintain clarity and coherence while ensuring fidelity to the original content and research methodology described in the provided text.

2.4.3 Data processing

The data from both classes, totaling 206 samples, underwent processing using SPSS 22.0.

3. Research findings

3.1 Questionnaire reliability test

3.1.1 Questionnaire reliability test

Table 1 Cronbach's reliability analysis

Name	Correction Item Total Correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
Organizational framework	0.877	0.716	0.875

Name	Correction Item Total Correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
Language form	0.877	0.716	
Content understanding	0.558	1.000	
Standardized Cronbach alpha coefficient: 0.878			

Based on the previous information, it is evident that the reliability coefficient value is 0.875, exceeding the threshold of 0.8. This indicates high data quality in terms of reliability. Regarding the "CITC value," all analyzed items show CITC values greater than 0.4, signifying good correlations among the items and reinforcing the high reliability level. In summary, with a reliability coefficient exceeding 0.8, the data can be considered highly reliable and suitable for further analysis.

3.1.2 Questionnaire validity assessment

Subsequently, validity analysis was performed using factor analysis. For questionnaire analysis, a KMO value above 0.7 is generally considered suitable for factor analysis. As indicated in the table, the KMO value obtained is 0.923, well above the 0.7 threshold. Additionally, Bartlett's test of sphericity yielded a Sig value of 0.000, indicating significant validity at the 0.001 level, thus confirming the appropriateness of factor analysis.

Table 2　KMO and Bartlett's test

KMO value		0.923
Bartlett Sphericity Check	Approximate cardinality	2233.335
	df	276
	p-value	0.000

Based on the previous findings, a deeper analysis of the table reveals that the extracted factors from the questionnaire can explain a total variance of 53.712%. This indicates a strong factor extraction capability, suggesting that the three factors extracted effectively preserve the original data information in a comprehensive manner.

Table 3 Explanation of variance

Factor number	Characteristic root			Explanatory rate of variance before rotation			Post-rotation variance explained		
	Characteristic root	Variance explained %	Cumulative %	Characteristic root	Variance explained %	Cumulative %	Characteristic root	Variance explained %	Cumulative e %
1	2.136	53.391	53.391	2.136	53.391	53.391	2.136	53.391	53.391
2	5.721	47.673	47.673	5.721	47.673	47.673	5.721	47.673	47.673
3	3.223	53.712	53.712	3.223	53.712	53.712	3.223	53.712	53.712
4	0.758	18.952	72.343	-	-	-	-	-	-
5	0.639	15.968	88.311	-	-	-	-	-	-
6	0.468	11.689	100.000	-	-	-	-	-	-

Factor number	Characteristic root			Explanatory rate of variance before rotation			Post-rotation variance explained		
	Characteristic root	Variance explained %	Cumulative %	Characteristic root	Variance explained %	Cumulative %	Characteristic root	Variance explained %	Cumulative e %
7	1.100	9.166	56.838	-	-	-	-	-	-
8	1.072	8.936	65.775	-	-	-	-	-	-
9	0.641	5.341	71.115	-	-	-	-	-	-
10	0.594	4.954	76.069	-	-	-	-	-	-
11	0.569	4.741	80.810	-	-	-	-	-	-
12	0.510	4.249	85.059	-	-	-	-	-	-
13	0.497	4.146	89.205	-	-	-	-	-	-
14	0.392	3.270	92.474	-	-	-	-	-	-
15	0.337	2.808	95.282	-	-	-	-	-	-
16	0.329	2.742	98.024	-	-	-	-	-	-
17	0.237	1.976	100.000	-	-	-	-	-	-
18	0.915	15.253	68.965	-	-	-	-	-	-
19	0.626	10.433	79.398	-	-	-	-	-	-
20	0.520	8.664	88.062	-	-	-	-	-	-
21	0.413	6.888	94.950	-	-	-	-	-	-
22	0.303	5.050	100.000	-	-	-	-	-	-

According to the factor loadings in the table below, it can be seen that the questions fall into the corresponding preset dimensions. This indicates that the scale has good structural validity and the data obtained from the scale can be used for further analysis. Overall the whole scale, with high reliability and validity, is reliable and valid and can be used for research and analysis.

Table 4 Rotated component matrix

	Component	
	2	3
A1	0.781	
A12	0.731	
A3	0.691	

A4	0.716		
B1		0.710	
B3		0.648	
B4		0.734	
B5		0.727	
B7		0.691	
B8		0.701	
B9		0.741	
B10		0.705	
B11		0.652	
B12		0.651	
B13		0.660	
B15		0.657	
C2			0.721
C3			0.679
C4			0.722
C5			0.778
C6			0.723
C7			0.769

3.2 Scale overall

Table 5 "Poetry Teaching" Instructional Design in General

Name	Sample size	Minimum value	Maximum values	Average value	Standard deviation	Upper quartile
Language Forms Pre-test	104	1.750	4.750	3.060	0.556	3.000
Organizational Framework Pre-test	104	1.250	4.917	2.651	0.550	2.583
Content Comprehension Pre-Test	104	1.000	4.000	2.726	0.551	2.667
Language Forms Posttest	104	2.250	5.000	3.392	0.550	3.250

Name	Sample size	Minimum value	Maximum values	Average value	Standard deviation	Upper quartile
Organizational Framework Posttest	104	2.083	4.500	3.106	0.538	3.000
Content Comprehension Posttest	104	2.000	4.500	3.069	0.525	3.000

According to the table above, it can be seen that on the overall performance of the three dimensions, the mean value of linguistic form in the pre-test is 3.06, which is greater than the mean value of organizational framing and content comprehension; and in the post-test, the mean value of linguistic form is 3.392 which is still greater than the mean value of organizational framing and content comprehension.

3.3 Class differences

3.3.1 Class differences on the pre-test

Table 6 Pre-test Differences between Classes of "Poetry Teaching" Instructional Designs

	Class (1, 2) (mean ± standard deviation)		t	p
	1.0(n=101)	2.0(n=105)		
Language forms	3.13±0.57	2.99±0.53	1.305	0.195
Structural framework	2.58±0.46	2.72±0.62	-1.378	0.171
Content understanding	2.67±0.56	2.78±0.54	-1.018	0.311
* p<0.05 ** p<0.01				

As can be seen from the table above, using the t-test to examine the variability of the classes for the three dimensions of language expression, structural framework, and content comprehension, it can be seen that: all of the three dimensions will not show significance in all of the different classes (p>0.05), and all of them show consistency and there is no significant difference.

3.3.2 Differences in classroom post-tests

Table 7 Classroom Posttest Differences in "Poetry Teaching" Instructional Designs

	Class (1,2) (mean±standard deviation)		t	p
	1.0(n=101)	2.0(n=105)		
Language forms	3.37±0.52	3.41±0.58	-0.358	0.721
Structural framework	3.19±0.60	3.02±0.46	1.576	0.118
Content understanding	3.21±0.57	2.93±0.44	2.795	0.006**
* p<0.05 ** p<0.01				

As can be seen from the table above, using t-test to examine the variability of the classes for the three dimensions of language expression, structural framework, and content comprehension, it can be seen that: the different class samples do not show a significant difference (p>0.05) for language expression and structural framework. For the content comprehension dimension presents a significant (p<0.05), there is a difference. For the content comprehension dimension presenting significance at the 0.01 level (t=2.795, p=0.006), as well as specific comparative differences, it can be seen that

the mean of class 1 (3.21), will be significantly higher than the mean of class 2 (2.93).

3.3.3 Pre-test and post-test discrepancies

Table 8 Pre-test and post-test analysis of the "Poetry Teaching" instructional design

	Pre-test post-test (pre-1, post-2) (mean ± standard deviation)		F	p
	1.0(n=104)	2.0(n=102)		
Language forms	3.06±0.56	3.39±0.55	18.570	0.000**
Structural framework	2.68±0.53	3.13±0.52	36.804	0.000**
Content comprehension	2.73±0.55	3.07±0.52	20.901	0.000**
* p<0.05 ** p<0.01				

As can be seen from the above table, using ANOVA to study the variability of the pre-test and post-test (pre-1, post-2) for a total of three items: linguistic form, organizational structure, and content comprehension, it can be seen that the pre-test and post-test show significant differences (p<0.05) in all three dimensions, as can be seen from the specific analysis:

On linguistic form presents a 0.01 level of significance (F=18.570, p=0.000), the mean of the pre-test (3.06), will be significantly lower than the mean of the post-test (3.39).

Presenting a 0.01 level of significance in organization (F=36.804, p=0.000), the mean of the pretest (2.68), would be significantly lower than the mean of the posttest (3.13).

In content comprehension showing a 0.01 level of significance (F=20.901, p=0.000), the mean of the pretest (2.73), would be significantly lower than the mean of the posttest (3.07).

3.4 Instructional design evaluation word frequency

Using the software Nvivo to code the questions that appeared in the students' activity design for the large class "Spring Dawn" to get the word frequency of lesson plan design questions in the table below, ten lesson plan designs were extracted from the students' instructional designs to be coded in the qualitative analysis to get the content of the following ten question dimensions, which are: organization, language expression, material understanding, design concept, teaching skills, teaching methods, lesson plan format, activity preparation , activity objectives and activity process. Among them, organizational structure, design concept and activity objectives ranked the top three in terms of frequency.
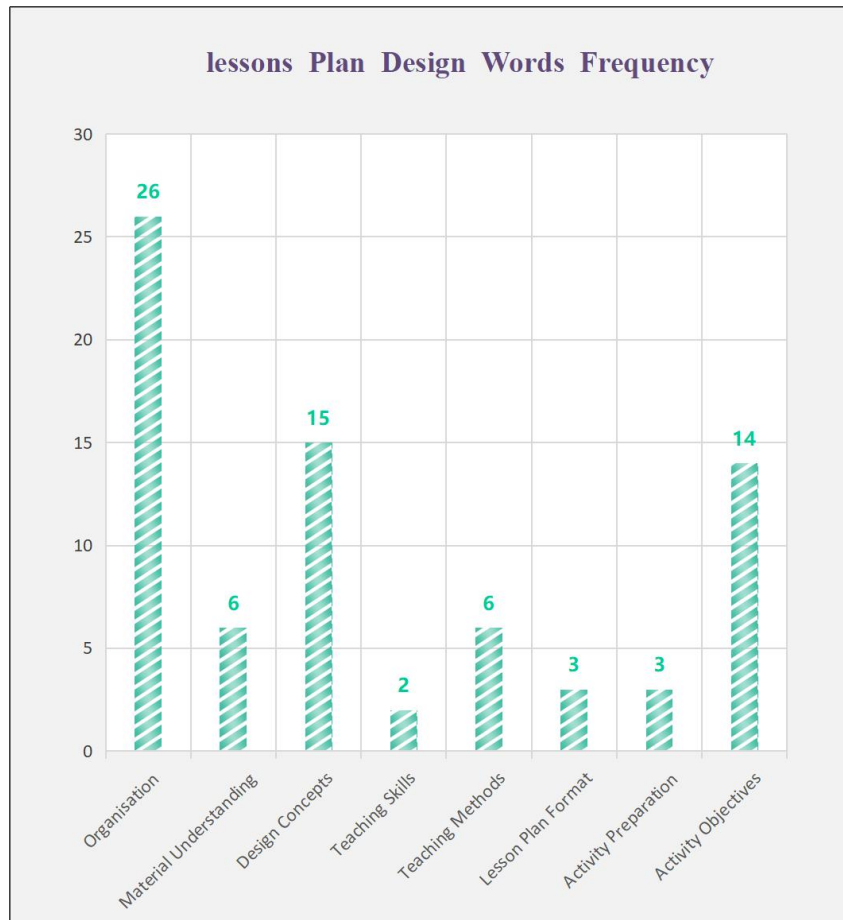
Figure 2 Frequency of words in the dimensions of the "Poetry Teaching" instructional design questions

4. Discussion and explanation

4.1 Overall analysis of "poetry teaching" instructional design

Upon evaluating the performance of third-year preschool students in the "Poetry Teaching" instructional design, several insights emerge. The students demonstrated strong proficiency in linguistic form, organizational framework, and content comprehension. This was evident from their ability to effectively analyze textual issues related to instructional design. However, their performance was relatively weaker in dimensions such as design concepts and activity objectives.

The students' competency in linguistic form reflects their accumulated language education and writing skills, enabling them to articulate ideas fluently within the lesson plan design. Hence, their superior performance in linguistic form compared to other dimensions can be attributed to their linguistic training and familiarity with written expression.

4.2 Analysis of class differences in "poetry teaching" activity design

An analysis of pre-test differences between two classes revealed no significant disparities in linguistic form, content comprehension, and structural framework within the "Poetry Teaching" design. Both classes performed similarly overall. However, following the action research phase, a post-test analysis indicated a notable distinction between the classes in content comprehension. Specifically, Class 1 exhibited significantly stronger comprehension compared to Class 2.

This difference may stem from the distinct learning atmospheres in each class. Class 1 fostered a more positive environment, nurturing students' curiosity and eagerness to explore new content. Such engagement is crucial for deeper understanding of poetry as a literary genre and enhances their grasp of the instructional design in "Poetry Teaching".

4.3 Analysis of pre-test and post-test differences

The pedagogical action research on "Poetry Teaching" revealed significant improvements across the board. Both

classes demonstrated marked enhancements in linguistic form, organizational framework, and content comprehension. This underscores the efficacy of the pedagogical approach in enhancing students' understanding and application of "Poetry Teaching" across these dimensions.

In summary, the action research on "Poetry Teaching" has proven to be highly effective in improving students' engagement and proficiency in various aspects of instructional design. This highlights its positive impact on both the learning environment and students' comprehension of poetic teaching methodologies.

5. Conclusion and recommendations

5.1 Enhancing teaching on organizational frameworks, design concepts, and activity goals

Students demonstrated proficiency in language form but exhibited weaknesses in understanding organizational frameworks, design concepts, and activity goals. Therefore, it is imperative to focus future teaching efforts on enhancing students' comprehension of hierarchical organizational structures, identifying activity objectives, and applying relevant design concepts.

5.2 Fostering a positive learning atmosphere in the classroom

A conducive and positive learning environment aids students in comprehending and assimilating taught content effectively. Teachers should actively cultivate and guide students in establishing a positive classroom culture and conducive learning atmosphere through daily teaching and classroom management.

5.3 Cultivating curiosity and foster knowledge accumulation

The "Poetry Teaching" curriculum emphasizes traditional poetry and literary forms. Therefore, students' prior understanding and accumulation of knowledge in traditional poetry are crucial for them to effectively apply this knowledge in teaching design. Therefore, it is essential to nurture students' diverse interests and encourage them to broaden their knowledge of liberal arts, facilitating the application of their learning in teaching and curriculum design.

5.4 Promoting group learning and evaluation in teaching practices

Action research on "teaching, learning, and evaluation" in the "Poetry Teaching" design has shown positive teaching outcomes. Therefore, prioritizing independent and group evaluations among students during teaching enhances their understanding of teaching content and its practical application, thereby improving their teaching design capabilities.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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