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Article

The Design of a Recycled Art Activity Guide for Rural Primary School Students in Hubei, China

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Abstract: This study aims to design a recycled art activity guide for lower-grade primary school students in rural areas of Hubei Province, China. In many rural schools, art education is limited by insufficient teaching resources and a lack of diverse art materials. Recycled art provides an alternative approach by using easily accessible waste materials to support creative learning and environmental awareness.This study adopts a qualitative research approach within a Research and Development (R&D) framework. Data were collected through semi-structured interviews with a school administrator, a primary school art teacher, and an art education expert to understand the context of rural art education and gather suggestions for activity design. Based on the literature review and interview findings, a recycled art activity guide consisting of sixteen activities for students in Grades 1-3 was developed. The guide was further refined through two rounds of expert discussions.The results show that recycled materials can serve as accessible resources for creative art activities in rural classrooms. The activity guide provides structured learning objectives, suggested materials, and step-by-step procedures to support teachers in implementing recycled art activities.This study contributes to art education by proposing a practical framework for integrating recycled materials into primary school art teaching and promoting creativity and environmental awareness among rural students.

Keywords: recycled art; art education; rural primary schools; creative learning; environmental education

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1. Introduction

Art education plays an important role in supporting children's cognitive, emotional, and creative development. Through artistic activities, students can explore ideas, express personal experiences, and develop creative thinking skills. According to experiential learning theory, meaningful learning often occurs through active participation and practical experience [1]. In addition, children's cognitive development theory suggests that creative activities such as drawing and handicraft making can help children construct knowledge and understand the world through exploration and experimentation [2].

In contemporary education, creative and practice-based learning approaches have received increasing attention. Project-based learning and hands-on activities are widely considered effective methods for promoting creativity, problem-solving ability, and student engagement in the learning process [3]. In the field of art education, such approaches encourage students to actively participate in artistic creation rather than passively receiving knowledge.

However, art education in many schools still faces various challenges. Previous research has pointed out that art education is sometimes marginalized in school curricula due to limited teaching resources, insufficient support, and the emphasis on core academic subjects [4]. These challenges may be more evident in rural schools, where educational resources and art materials are often limited.

In recent years, recycled art has attracted attention as an innovative approach in art education. By using discarded or recyclable materials, students can engage in hands-on artistic activities while developing environmental awareness [5]. Recycled art activities encourage creativity, experimentation, and imaginative thinking, and they provide accessible materials for schools with limited resources [6]. Studies have also shown that using waste materials in art activities can effectively enhance students' creativity and engagement in art learning [7].

Nevertheless, although recycled art has been discussed in art education research, its practical application in rural primary school contexts remains limited. Existing studies mainly discuss the educational value of recycled art, while limited research has focused on developing structured recycled art activity guides specifically for rural primary school contexts. In particular, there is still a lack of structured activity guides that support teachers in implementing recycled art activities in rural classrooms [8]. Therefore, the objectives of this study are twofold: (1) to analyze the concepts and teaching methods of recycled art in art education, and (2) to design a recycled art activity guide for rural primary school students in Hubei Province, China.

2. Research Methodology

This study follows a structured research framework to guide the development of the recycled art activity guide. The overall research framework is illustrated in Figure 1.

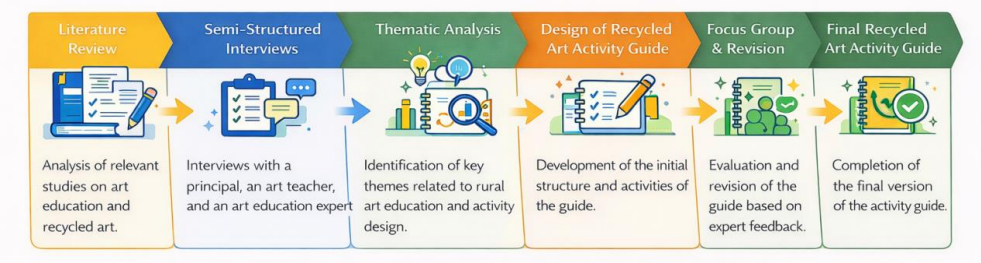

Figure 1. Research framework for developing the recycled art activity guide.

2.1. Research Design

This study adopted a qualitative research approach within a Research and Development (R&D) framework to design a recycled art activity guide for rural primary school students in Hubei Province, China. The study aims to explore the current situation of art education in rural schools and to develop a practical guide that integrates recycled materials into classroom art activities.

The research was conducted in three stages. First, a literature review was carried out to examine previous studies on recycled art, creativity development, and experiential learning in art education. Second, semi-structured interviews were conducted to understand the context of rural art education and to collect suggestions for designing recycled art activities. Finally, based on insights obtained from the literature and interviews, a recycled art activity guide was developed and further refined through focus group discussions with art education experts.

2.2. Participants

The participants were selected based on their professional experience and direct involvement in rural primary education and art teaching. Three participants were

recruited using purposive sampling to provide insights into rural education and art activity design. They included a school administrator, a primary school art teacher, and an art education expert. The profiles of the interview participants are summarized in Table 1. The study was conducted at Huarong Primary School, a rural primary school in Hubei Province, China.

Table 1. Interview Participants.

Participant	Position	Purpose of Interview
P1	School Administrator	Understand current rural art education context
P2	Art Teacher	Identify classroom teaching challenges
P3	Art Education Expert	Provide professional suggestions

The school administrator and art teacher were interviewed to understand the current state of art education in rural primary schools. The discussions focused on issues including the availability of teaching resources, the characteristics of rural primary school students, and the level of support for implementing art activities in schools.

The art education expert was interviewed to obtain professional suggestions for designing recycled art activities. The discussions mainly centered on principles for selecting recycled materials, the structure of activity design, and strategies for fostering creativity in primary school art education.

The findings from interviews at Huarong Primary School provided the contextual basis for the design of the recycled art activity guide.

2.3. Data Collection

Data were collected through semi-structured interviews with the three participants. Semi-structured interviews allow participants to share their perspectives while enabling the researcher to focus on specific research topics.

During the interviews, the researcher recorded participants' responses through detailed note-taking. Important ideas and suggestions were written down during the conversations. Each interview lasted approximately 30 minutes.

The interview questions mainly focused on the current situation of art education in rural primary schools, the potential use of recycled materials in art activities, and suggestions for designing effective recycled art learning activities.

2.4. Development and Revision of the Activity Guide

Based on the literature review and interview findings, a preliminary version of the recycled art activity guide was developed. The guide included activity themes, learning objectives, suggested recycled materials, and step-by-step activity procedures.

To improve the quality and practicality of the guide, focus group discussions were conducted with experts in art education. Two rounds of discussions were organized to review the structure and content of the activity guide. During the discussions, participants provided suggestions regarding activity design, material selection, and the suitability of the activities for primary school students.

Based on the feedback from the focus group discussions, the researcher revised the activity guide accordingly. After two rounds of revision, the final version of the recycled art activity guide was completed.

3. Results and Design of the Recycled Art Activity Guide

3.1. Key Findings from Literature Review and Interviews

This study conducted semi-structured interviews with three participants, including the principal of Huarong Primary School, the art teacher at Huarong Primary School, and an art education expert from another institution. The purpose of the interviews was to understand the current situation of art education in rural primary schools, students'

characteristics and learning needs, and professional suggestions for designing recycled art activities. In addition, findings from the literature review were considered to support the interpretation of the interview data and to inform the development of the recycled art activity guide.

The principal and the art teacher provided information about the current conditions of art education in the school. They explained that rural schools often face limitations in teaching resources and art materials. As the art teacher noted, "Students enjoy hands-on creative activities, but the availability of art materials is often limited in rural classrooms." At the same time, they emphasized that students are enthusiastic about creative activities and show strong interest in hands-on artistic practices. They also pointed out that recyclable materials are easily available in students' daily lives and can be effectively used in classroom art activities.

The art education expert mainly provided suggestions related to activity design and teaching strategies. The expert emphasized that recycled art activities for lower-grade students should be simple, engaging, and clearly structured. As the expert suggested, "Art activities for young learners should be easy to understand and include clear steps so that teachers can guide students effectively." In addition, the expert noted that the activity guide should include clear learning objectives, appropriate material selection, and step-by-step activity procedures to support teachers in implementing art activities effectively.

Based on the synthesis of the literature review and interview data, several key themes were identified. These themes include teaching philosophy, understanding of learners, learning objectives, activity implementation, learning assessment, and material selection. These themes provide important considerations for designing recycled art activities for rural primary school students. The key themes that informed the design of the recycled art activity guide are summarized in Table 2.

Table 2. Key Themes Informing the Design of the Recycled Art Activity Guide.

Theme	Key Findings	Evidence	Implications for Activity Guide Design
Teaching Philosophy	Recycled art education for rural primary students emphasizes experiential and process-oriented learning rather than technical outcomes.	Literature review; interviews with expert, principal, and art teacher	Activities emphasize exploration, experimentation, and creative engagement.
Understanding of Learners	Lower-grade students learn more effectively through sensory and hands-on experiences connected to daily life.	Literature review; teacher interview	Activities focus on hands-on making and the use of familiar recycled materials.
Learning Objectives	Recycled art education aims to promote participation, creativity, and expressive confidence rather than technical mastery.	Literature review; expert interview	Activities encourage creative expression and student participation.
Activity Implementation	Effective recycled art activities require structured guidance while allowing flexibility for student exploration.	Teacher and principal interviews	The guide provides step-by-step instructions while allowing creative variation.

Learning Assessment	Evaluation should focus on participation, exploration, and creative effort instead of comparing final products.	Literature review; expert interview	Activities include process-based evaluation and reflective learning.
Material Selection	Recycled materials used in art activities should be safe, accessible, and related to students' daily life contexts.	Teacher interview	Activities use locally available recycled materials such as paper, cardboard, and plastic bottles.

3.2. Structure of the Recycled Art Activity Guide

Based on the key themes identified in Table 2, the recycled art activity guide was developed to address the needs of rural primary school students and to support teachers in implementing recycled art activities.The guide includes several sections, such as a preface, a curriculum overview of the sixteen activities, unit introductions, detailed activity guides, and appendices. The appendices provide additional support for teachers, including suggested materials, classroom organization ideas, and safety guidelines for art activities.

To ensure clarity and usability for teachers, each activity in the guide follows a consistent instructional structure. This structure helps teachers organize classroom activities effectively while supporting students' creative exploration and hands-on learning with recyclable materials. The instructional components of each activity are summarized in Table 3.

As shown in Table 3, each recycled art activity includes six main components: Activity Theme, Learning Objectives, Materials, Activity Procedures, Classroom & Safety Notes, and Expected Outcomes. The Activity Theme introduces the topic of the lesson and connects the activity to the concept of recycling and environmental awareness. The Learning Objectives define the intended learning outcomes in terms of knowledge, skills, and attitudes. The Materials section lists the recyclable materials and basic art tools required for the activity. The Activity Procedures provide step-by-step guidance for classroom implementation, typically including stages such as introduction, demonstration, creation, presentation, and reflection. In addition, Classroom & Safety Notes offer practical suggestions for classroom management and safe use of tools and materials. Finally, the Expected Outcomes describe the anticipated learning achievements and creative products produced by students.

To further illustrate the instructional design, the overall framework of a recycled art activity is visually presented in Figure 2. The framework highlights the six key components that guide the organization and implementation of each activity in the guide. This structured design enables teachers to easily understand and apply recycled art activities in classroom teaching while encouraging students' creativity and environmental awareness.

Table 3. Instructional Components of a Recycled Art Activity.

Component	Description
Activity Theme	The Recycled Art Activity Guide is organized into progressive units designed for lower-grade rural primary school students (Grades 1-3). The activities gradually move from simple material exploration to more complex recycled art construction, allowing students to develop creativity and environmental awareness through hands-on artistic practice.

Learning Objectives	Each activity includes clearly defined learning objectives covering three domains: cognitive objectives (understanding recycling concepts and environmental protection), psychomotor objectives (developing hands-on artistic and creative skills), and affective and attitudinal objectives (cultivating creativity, cooperation, and environmental responsibility).
Materials	The activities use low-cost and easily accessible recyclable materials collected from students' daily lives, such as paper, cardboard, plastic bottles, leaves, and other recyclable objects, together with basic art tools such as scissors, glue, and markers. This ensures the feasibility of the activities in rural primary school contexts.
Activity Procedures	A structured 5-step workflow guides classroom implementation: 1. Introduction: Introduce the theme and recycled materials. 2. Demonstration: Teacher demonstrates core techniques. 3. Creation: Students create artworks hands-on. 4. Presentation: Students share their works and ideas. 5. Wrap-up: Teacher summarizes and leads reflection.
Classroom and Safety Notes	The guide also provides practical suggestions for classroom organization and safety when using recycled materials and art tools. These notes help teachers manage classroom activities effectively and ensure a safe and supportive learning environment for students.
Expected Outcomes	Encompasses tangible artistic creations and intangible improvements in students' creativity, hands-on abilities, and environmental awareness.

Figure 2. Design Framework of a Recycled Art Activity.

3.3. Example of a Recycled Art Activity

To illustrate how the recycled art activity guide can be implemented in classroom teaching, an example activity from the guide is presented below. This example demonstrates how recyclable materials can be used to support creative learning for lower-grade primary school students.

The selected activity includes clearly defined learning objectives, required materials, step-by-step procedures,classroom and safety notes,and expected learning outcomes. Through this activity, students are encouraged to explore their creativity, develop hands-on skills, and transform recyclable materials into artistic creations.

Example pages from the recycled art activity guide are shown in Figure 3.

Figure 3. Example Pages from the Recycled Art Activity Guide.

4. Discussion

The findings of this study offer a pragmatic pathway for revitalizing art education in resource-constrained environments. By synthesizing the literature review and empirical data from Huarong Primary School, we can unpack the broader implications of the recycled art activity guide through the following lenses.

4.1. Bridging the Resource Gap through Material Innovation

The primary impediment to quality art education in rural Hubei is the chronic shortage of diverse art materials and teaching resources. However, our research suggests a strategic pivot: the very environment perceived as resource-poor is, in fact, rich in "alternative" media. Interviewees confirmed that waste materials-cardboard, plastic bottles, and natural objects-are ubiquitous in students' daily lives. This guide facilitates a cognitive shift where "waste" is recontextualized as a creative catalyst. By utilizing these accessible materials, schools can bypass the financial barriers of traditional art supplies while simultaneously fostering a culture of environmental stewardship among lower-grade students.

4.2. Balancing Pedagogical Scaffolding and Creative Autonomy

A recurring theme in expert discussions was the necessity of a "scaffolded" approach for young learners in Grades 1-3. Rural teachers, who may lack specialized art training,

require a high degree of structural clarity to implement activities effectively. The five-step instructional workflow-comprising introduction, demonstration, creation, presentation, and reflection-serves this need. Yet, the framework remains deliberately porous. While the guide provides clear technical steps, it reserves the "Creation" phase for open-ended exploration. This duality ensures that students are neither lost in a vacuum of choice nor stifled by rigid imitation, aligning with the principles of experiential and project-based learning.

4.3. Cultivating Process-Oriented Aesthetic Confidence

The shift from technical mastery to process-oriented engagement is perhaps the most critical takeaway from our thematic analysis. In many traditional settings, art is judged by the fidelity of the final product to a prototype. However, our focus group participants emphasized that for rural primary students, the value lies in the sensory experience and the act of transformation. By prioritizing participation and expressive effort over technical perfection, the activity guide lowers the "barrier to entry" for artistic success. This approach not only builds creative confidence but also provides a vital emotional outlet for students, allowing them to construct personal meaning through hands-on experimentation with the world around them.

5. Conclusion

This study aimed to design a recycled art activity guide for rural primary school students in Hubei Province, China. Through a literature review and semi-structured interviews with a school administrator, a primary school art teacher, and an art education expert, the study examined the current situation of art education in rural schools and identified key considerations for designing recycled art activities.

The findings indicate that rural schools often face limitations in teaching resources and art materials, which restrict the diversity of art activities available to students. At the same time, students show strong interest in hands-on creative activities. These findings suggest that recycled art can serve as a practical and accessible approach to enriching art education in resource-limited contexts. The use of recycled materials not only expands opportunities for artistic creation but also helps promote environmental awareness and creativity among primary school students.

Based on these findings, a recycled art activity guide was developed and refined through two rounds of focus group discussions with experts. The final guide provides structured yet flexible activity designs that can be implemented in rural primary school classrooms.

This study contributes to art education research by proposing a practical framework for integrating recycled materials into primary school art activities. The activity guide may serve as a useful reference for teachers seeking to promote creativity and environmental awareness among rural primary school students. However, this study is limited by the small number of participants involved in the interviews. Future research may further evaluate the effectiveness of the activity guide through classroom implementation and explore its impact on students' creativity, artistic expression, and environmental awareness in different educational contexts.

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