OPEN ACCESS Freely available online

ISSN 2737-5293
Issue 4, Volume 3
https://ijssai.iikii.com.sg
International Journal of Social Sciences and Artistic Innovations

Article

Self-Made Teaching Aids for Learning Areas in Taiwanese Preschools

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Received: Jul 17, 2024; **Revised:** Jul 21, 2024; **Accepted:** Oct 04, 2024; **Published:** Oct 23, 2024

Abstract: The use of self-made teaching aids in preschools offers numerous benefits as they enhance engagement and creativity and allow for differentiated instruction. By leveraging readily available materials, preschool educators can create customized and cost-effective resources that support the diverse learning needs of young children. Grounded in established educational theories, self-made teaching aids contribute to a developmentally appropriate and enriching learning environment for preschoolers. However, Taiwanese preschools use a curriculum model to implement the learning area approach. Therefore, we explored self-made teaching aids for learning areas in Taiwanese preschools to provide recommendations from the perspectives of training programs and resource sharing. Training programs with self-made teaching aids foster an engaging and tailored learning environment for young children in early childhood education settings. By developing these platforms of resource sharing, educators can leverage collective wisdom and creativity to continually innovate in their teaching practices, ultimately benefiting young children in early childhood education in terms of their learning experiences. The results of this study benefit the learning of young children and enhance the quality of earlyhood education in Taiwan.

Keywords: Creative thinking for self, Learning areas, Made teaching aids

1. Introduction

Early childhood education lays the foundation for lifelong learning and development. Teaching aids play a crucial role in facilitating effective learning and engagement among preschool children for lifelong learning and development. In early childhood education, children often learn and explore in intuitive ways. Therefore, preschool teachers need to prepare corresponding teaching aids based on instructional content in addition to activity preparation. Self-made teaching aids, created by educators using readily available materials, are particularly effective as they are often tailored to the specific needs and interests of the children. Previous research results indicate that hands-on, interactive learning experiences are critical for young children. Self-made teaching aids present a valuable, cost-effective solution for enhancing learning in preschool settings. They not only support cognitive, social, and motor development but also allow for customization and creativity in teaching. By providing the necessary training and resources, educators can effectively incorporate these aids into their teaching practices, ultimately benefiting young learners. Self-made teaching aids, being customizable and adaptable, align well with the principles of developmentally appropriate practice. Studies have shown that these aids can boost engagement, foster creativity, and support differentiated instruction (National Association for the Education of Young Children, 2020; Piaget, 1964; Shih, Wu & Chung, 2022; Vygotsky, 1978; Ydo, 2022).

In practical settings, it is common for preschool teachers to use self-made or co-created teaching aids with children in teaching activities. These self-made teaching aids do not necessarily require high costs or effort to create; some are simple in materials but still carry creativity and educational significance. Self-made teaching aids can attract children's interest, encouraging them to engage in active and enjoyable learning activities. They also appropriately integrate educational and cultural elements, fostering positive cultural learning. This approach allows for counteract tendencies towards overly formalized learning, aligning with children's cognitive characteristics and creating an engaging learning environment in preschools. It also ensures the achievement of educational goals while inspiring young children’s imagination and creativity (Ydo, 2022).

Contemporary preschool curriculum frameworks emphasize the importance of promoting children's holistic development, thereby focusing on both academic and non-academic learning areas (Bautista, Ng, Múñez. et al., 2016). Therefore, we have explored self-made teaching aids for learning areas in Taiwanese preschools.

2. Previous Research

2.1. Foundations for Learning in Early Childhood

Early childhood education is the foundation for lifelong learning and development. There are ways in which early childhood education impacts the lifelong learning and development of young children (Ydo, 2022).

1. Cognitive development: Early childhood is a period of rapid brain development. Through rich learning and play activities, children develop fundamental cognitive abilities, including language, mathematics, science, and problem-solving skills.
2. Social and emotional development: Early childhood education helps children learn how to interact with others, form friendships, and develop emotional regulation and empathy. These skills are crucial for future social interactions and careers.
3. Creativity and imagination: Early childhood is a critical period for the development of creativity and imagination. Through activities such as art, music, and drama, children can freely express themselves and explore different ideas and perspectives.
4. Formation of habits and attitudes: Early childhood education helps children develop good learning habits and positive attitudes towards learning. These habits and attitudes influence their future motivation and academic achievement.
5. Physical development: Through outdoor activities and sports, early childhood education promotes children's physical development, enhancing their health and fitness.
6. Transmission of culture and values: Early childhood education helps children understand and identify with their cultural background while fostering respect and inclusion for diversity.
7. Foundation for lifelong learning: By stimulating children's curiosity and interest in learning, early childhood education lays a solid foundation for their future learning and development, encouraging them to continue learning and growing throughout their lives.

Such impacts of early childhood education help children prepare for primary school and lay the foundation for their overall development and lifelong learning.

2.2. Learning Area

The learning area is designed to meet the various developmental needs of young children. These learning areas include the following key areas.

1. Reading: This learning area provides a variety of age-appropriate books and picture books. Picturebooks play a vital role in the lives and learning of young children. The reading area also encourages young children to read independently and listen to stories to develop language skills and cognitive abilities (Crawford, Roberts, & Lacina, 2024).
2. Art and craft This learning area is equipped with easels, paints, brushes, clay, and other materials, allowing children to express their creativity and develop their artistic talents and hand-eye coordination.
3. Construction This learning area offers blocks, Legos, puzzles, and other toys, enabling young children to build and construct, which develops spatial awareness, problem-solving skills, and teamwork.
4. Role-play This learning area features props including a play kitchen, doctor kits, and store setups, allowing children to engage in role-playing games, which enhance social skills, language abilities, and imagination.
5. Science exploration: This learning area provides simple science experiment materials and natural objects, encouraging children to explore the mysteries of nature through observation and experiments and fostering their curiosity and investigative spirit.
6. Physical activity: Equipped with slides, trampolines, climbing frames, and other equipment, this area promotes physical development, coordination, and courage.
7. Music area: This learning area offers various musical instruments and materials, allowing children to engage in musical activities to develop auditory skills, rhythm, and self-expression. Music allows children to express their emotions and ideas in a non-verbal way and create their rhythms or melodies as a powerful form of self-expression.
8. Math: For young children, games and hands-on activities are the best ways to learn math. Through play and interaction, they can better grasp abstract mathematical concepts.
9. Life skills: Self-care is a crucial aspect of a child's developmental process, encompassing many daily life skills that foster independence and confidence.

10. Language learning: The language learning area in preschool covers multiple important learning domains aimed at helping children develop language and communication skills.

In these learning areas, a diverse and stimulating learning environment can be created for children to learn through play and exploration, promoting their overall development in body, mind, and spirit.

2.3. Benefits of Sefh-Made Teaching Aids: Theoretical Perspective

Piaget (1964) emphasized the importance of hands-on, experiential learning for young children. Self-made teaching aids can support children's active exploration and discovery, promoting cognitive development. Vygotsky (1978) highlighted the role of social interaction and cultural tools in learning. Self-made teaching aids can facilitate collaborative activities and peer interactions, fostering social and emotional development. According to the National Association for the Education of Young Children (NAEYC, 2020), developmentally appropriate practice involves teaching methods that are based on how children develop and learn. Self-made teaching aids, being adaptable and responsive to children's developmental stages, align well with developmentally appropriate practice (DAP).

2.4. Impact of Self-Made Teaching Aids

Early childhood education is pivotal in shaping the foundation for lifelong learning and development. Teaching aids, especially those that are self-made, play a crucial role in facilitating effective learning and engagement among preschool children. When these aids are crafted by educators using readily available materials, they meet the specific needs and interests of the children and enhance their learning experiences. The impact of self-made teaching aids on the learning experiences of your children includes the following.

1. Customization and adaptability: Self-made teaching aids are highly customizable, allowing educators to create tools that align with the developmental stages and learning preferences of their students. This adaptability ensures that the aids are relevant and effective in addressing individual learning needs.
2. Engagement and creativity: Hands-on, interactive learning experiences are essential for young children. Self-made teaching aids, being inherently interactive, boost engagement and stimulate creativity. Children are more likely to be interested and invested in activities that are tactile and visually stimulating.
3. Support for differentiated instruction: Differentiated instruction is a teaching approach that caters to the diverse learning styles, abilities, and interests of students. Self-made teaching aids support differentiated instruction by providing flexible resources that can be modified to suit various educational requirements. This ensures that all children, regardless of their learning pace or style, receive the support they need. Purchasing commercial products allows for a broader range of resources in the classroom.
4. Creativity and innovation: Educators can design and implement unique and innovative teaching aids that encourage children to think creatively and explore new concepts.
5. Customized instruction: Self-made teaching aids can be designed to address the diverse learning styles and abilities of children, providing individualized support and promoting inclusive education.
6. Development of fine motor skills: Manipulating and interacting with self-made teaching aids helps children develop fine motor skills and hand-eye coordination.

3. Teaching Aids in Learning Area

Teaching aids in the learning area play a crucial role in enhancing the educational experience. They help children simplify complex concepts and engage them by providing practical insights into real-world applications. Various teaching aids are used in various learning areas including math, music, art and craft, life skills, language, and role-play (Figures 1−6). The process of developing teaching aids in the learning area is presented in Fig. 8.

Understanding the Concepts of big, Medium, and Small

Understanding the Concepts of the Whole and the Parts

Learning to Count

Practicing Addition and Subtraction

Fig. 1. Teaching aids in math learning area.

musical maracas

Fig. 2. Teaching aids in music learning area.

Origami

Clay Modeling

String Art

Collage Making

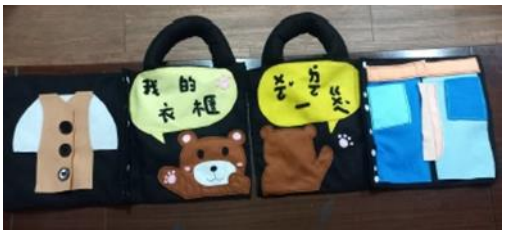
Fig. 3. Teaching aids in art and craft learning area.

Wood, cubes, and building blocks

Building blocks of popsicle stick

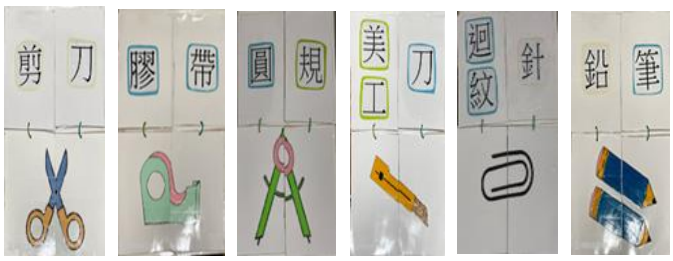
Building blocks of snowflake-shaped

Fig. 4. Teaching aids in construction learning area.

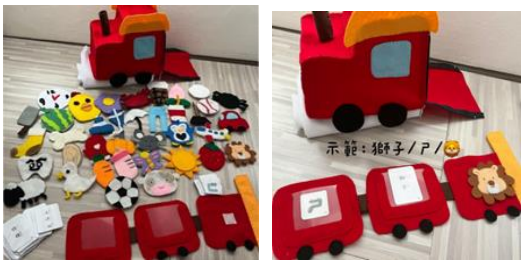


Tying shoelaces, zipping up zippers, and buttoning buttons

Fig. 5. Teaching aids in life skill learning area.



Flashcards of Stationery Name



Zhuyin Fuhao (Bopomofo) Train

Fig. 6. Teaching aids in language learning area.

Cake

Doughnuts and Macarons

A set of Barbecue Grill

Pizza

Fig. 7. Teaching aids in role-play area.

Demonstration of teaching aids

Role-play

Language learning

Life skills

Fig. 8. Developing and teaching aids in the learning area.

In this study, two courses “Planning of Learning Environments for Young Children” and “Classroom Management in Preschools” were integrated. Despite inspiring students with hands-on design for learning area and the creation of teaching aids, the COVID-19 pandemic disrupted these plans. Both courses had to be transitioned to remote teaching until the end of the semester, preventing students from completing on-site setups of THE learning area. This situation challenged practical and operational courses via distance learning, which did not fully support their hands-on nature. Thus, practical tasks could not be conducted. The COVID-19 pandemic also imposed restrictions and difficulties on experimental courses. Remote learning required more careful consideration. Thus, it was necessary to simulate online learning environments for virtual setups of learning areas and creation of teaching aids. Remote learning required a thoughtful approach to simulate the interactive aspects of traditional classrooms. We used the following strategies in remote learning.

1. Virtual classrooms on platforms such as Zoom, Microsoft Teams, or Google Meet to create virtual classrooms where students participated in real-time discussions, ask questions, and engage in group activities
2. Interactive simulations to develop virtual simulations that mimic real-life scenarios or experiments which was particularly useful in courses related to social dynamics or group behavior
3. Digital teaching aids to create or adapt digital resources such as interactive slides, videos, and infographics using Prezi or Canva to make these materials engaging and informative
4. Collaborative tools including Padlet, Miro, or Google Docs for collaborative projects and brainstorming sessions for real-time collaboration and feedback
5. Gamification to incorporate elements of gamification to make learning more engaging using quizzes, challenges, or virtual rewards to motivate students

6. Feedback mechanisms to regularly gather feedback from students to understand their experience and make adjustments as needed to continuously improve the virtual learning environment
7. Office hours and one-on-one sessions to offer virtual office hours or individual sessions to provide personalized support and address specific concerns.

By blending these approaches, educators created a rich and interactive online learning experience that helped children engage with the material effectively.

4. Conclusions and Recommendations

Self-made teaching aids are invaluable in early childhood education. Their customization, adaptability, and alignment with developmentally appropriate practices make them highly effective in enhancing learning outcomes. By fostering engagement, creativity, and differentiated instruction, self-made teaching aids contribute significantly to the overall development and success of young children. Self-made teaching aids are valuable in early childhood education for several reasons. First, they can be tailored to fit the specific needs and interests of the children, making learning more engaging and effective. Additionally, materials that are easily accessible and cost-effective are used, which is beneficial for educators working with limited resources. The self-made teaching aids encourage creativity, promote active learning, and support the holistic development of young children.

Training programs for educators on creating and utilizing self-made teaching aids can significantly enhance effectiveness in early childhood education. In the training programs, the following need to be considered.

- Understanding learning objectives: Educators need to be trained to align self-made teaching aids with specific learning objectives and developmental milestones appropriate for early childhood.
- Creativity and customization: Educators need to explore their creativity in designing teaching aids that resonate with their teaching style and the needs of their students.
- Material selection and safety: Guidance is necessary in selecting safe and age-appropriate materials for creating teaching aids, ensuring they enhance rather than detract from learning.
- Adaptability and differentiation: Educators need to learn how to adapt teaching aids to meet the diverse needs of children, including those with different learning styles or abilities.
- Integration into curriculum: Self-made teaching aids need to in integrated seamlessly into existing curriculum frameworks, ensuring they complement and enhance learning experiences.
- Assessment and evaluation: Educators must learn methods for assessing the effectiveness of teaching aids in achieving learning outcomes and making adjustments as needed.
- Collaboration and sharing: Educators must collaborate with peers to share ideas, resources, and successful practices in creating and using self-made teaching aids.

By training educators with the skills and knowledge to create and effectively use self-made teaching aids a more engaging and tailored learning environment for young children in early childhood can be established. To construct platforms for educators to share ideas and resources, educators can collaborate and innovate in making teaching aids for early childhood education. The following steps are suggested to develop such platforms.

- Online community or forum where educators can create profiles, join discussions, and share their experiences, ideas, and resources related to self-made teaching aids
- Resource digital library where educators can upload and download templates, instructions, and examples of various teaching aids they have created
- Discussion groups or forums based on different themes or subjects (e.g., STEM, literacy, arts) where educators can exchange ideas and seek advice
- Webinars and workshops where educators can learn from experts and peers about effective strategies for creating and using teaching aids
- Social media to facilitate sharing and interaction and allow educators to connect across different platforms and expand their networks
- Feedback and ratings for educators to provide feedback and rate resources shared by their peers, promoting quality and effectiveness
- Support and moderation to ensure a positive and constructive environment, where educators feel comfortable sharing their ideas and collaborating with others.

By developing these platforms, educators can have collective wisdom and creativity to continually innovate in their teaching practices, ultimately benefiting the learning experiences of young children in early childhood education.

Young children are active and intentional from birth. Infancy explorative activity is central, but children's learning and development must be related to a society's cultural and educational practices. Three different educational approaches to early childhood education (Maria Montessori, Bert van Oers, and Roland Tharp) have contributed to receptive learning exploration as the central activity (Hedegaard, 2020). In early childhood learning activities, learning areas must be integrated into curricula for young children. Self-made teaching aids for learning areas in Taiwanese preschools benefit young children and help improve the quality of early childhood education in Taiwan.

Author Contributions: conceptualization, K. Kaur,Y.-Y. Liu, Y.-H. Shih, M.-C. Hsu and C.-L. Chang ; methodology, K. Kaur, Y.-Y. Liu and Y.-H. Shih ; formal analysis, Y.-Y. Liu and K. Kaur ; investigation, Y.-Y. Liu ; writing—original draft preparation, Y.-Y. Liu, M.-C. Hsu and C.-L. Chang ; writing—review and editing, Y.-H. Shih.

Funding: This research did not receive external funding.

Data Availability Statement: Not applicable.

Acknowledgments: We would like to thank two anonymous (unknown) reviewers and the editor for their comments.

Conflicts of Interest: The authors declare no conflict of interest.

Publisher's Note: IIKII remains neutral with regard to claims in published maps and institutional affiliations.

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