

Ittishal Educational Research Journal
January 2026, Vol. 7, No. 01, p. 21 - 32
<http://journal.ittishal.net/index.php/ierj>
<https://doi.org/10.51425/ierj.v7i1.138>

PRAXIS-BASED LEARNING: FURNITURE PRODUCT PACKAGING DESIGN THROUGH A PARTICIPATORY ACTION RESEARCH APPROACH

Gege Noby Priohananto¹

Program Studi Desain Komunikasi Visual, Universitas Tiga Serangkai

Correspondence : Gege@tsu.ac.id

ABSTRACT

Packaging design for furniture products involves greater complexity than packaging for small-sized products because it must not only protect the product but also address shipping efficiency, component organization, ease of assembly, visual communication, user experience, and material sustainability. In contemporary design practice, packaging is no longer understood merely as a container or protective layer, but also as an integral part of the user experience and a means of communication between products and consumers. This study aims to analyze the learning process of furniture packaging design through a Participatory Action Research (PAR) approach. The learning materials covered protective functions, component organization, visual guidance, shipping efficiency, material selection, compartmentalization systems, graphic design, sustainable packaging, QR-code tutorials, flat-pack efficiency, and brand storytelling. The study employed a PAR approach that positioned students as active participants in problem identification, action planning, implementation, observation, and reflection. The learning process was designed to enable students to understand the relationship between packaging design decisions and user experience while also considering environmental aspects. This approach enabled design learning to be participatory, reflective, and iterative.

Keywords : Praxis-Based Learning, Furniture Packaging, Visual Communication Design, Participatory Action Research, Sustainable Packaging

INTRODUCTION

Packaging is an important element in the relationship between products and users. Initially, packaging was primarily understood in terms of product protection, storage, and distribution. However, developments in design

studies have demonstrated that packaging also performs communicative and experiential functions. Norman (2013) explains that object design should consider how people interact with, understand, and use objects. In the context of packaging, such interaction may begin even before consumers directly use the product. Packaging can serve as the first point of interaction between consumers and products. Therefore, packaging quality is determined not only by its ability to protect the product but also by its capacity to provide information, guide users, shape perceptions, and create experiences. Research on Packaging User Experience indicates that packaging should be understood as part of the user experience throughout the consumer's interaction with a product (Joutsela, 2025). These issues become increasingly complex in furniture products.

Furniture is relatively large, consists of multiple components, requires protective systems during distribution, and, in the case of knock-down products, often requires consumer assembly. Consequently, furniture packaging cannot be designed solely on the basis of aesthetic considerations. The design process must integrate technical aspects, visual communication, distribution efficiency, and user experience. The Furniture Product Packaging learning materials direct students to understand furniture packaging design by integrating protective functions, aesthetics, and assembly guidance. The learning objectives also include the ability to analyze the relationship between packaging design and user experience and to identify sustainable packaging solutions for large-sized products. In the context of sustainability, packaging is also subject to demands for reduced environmental impact. Steenis et al. (2017) demonstrated that packaging materials and graphic elements can influence consumers' perceptions of sustainability as well as their evaluations of products. Steenis et al. (2018) likewise showed that sustainability-oriented packaging design strategies can influence consumer preferences. Accordingly, decisions concerning materials, form, and visual communication constitute important elements of the packaging design process.

These issues are relevant to Visual Communication Design education.

Students need to understand that packaging design is not merely a matter of creating an attractive appearance, but also of addressing user and environmental problems through design. Papanek (1982) emphasized the importance of social responsibility in design practice, while Manzini and Vezzoli (2008) positioned design as part of efforts to develop more sustainable product systems. The learning materials initiated this process through visual stimuli and questions concerning how packaging affects consumers' experiences when receiving and assembling products. These questions provided students with opportunities to observe and construct understanding based on their own experiences.

Such a learning model requires an approach that goes beyond knowledge transfer. Students need to be involved as learning subjects who participate in identifying problems, formulating actions, developing solutions, and conducting reflection. In this context, Participatory Action Research (PAR) represents a relevant approach. PAR positions research as a participatory process that connects action, reflection, and change. McTaggart (1994) explained that participatory action research emphasizes participant involvement throughout the research process. Kemmis et al. (2014) developed a critical participatory action research approach that connects planning, action, observation, and reflection. Reason and Bradbury (2008) likewise positioned action research as a form of participative inquiry through which knowledge can be generated through direct engagement with the issues under investigation.

Based on this background, the study addresses the following research question: How can the application of a Participatory Action Research approach in learning furniture product packaging design encourage students to understand the relationships among packaging functions, user experience, sustainability, and visual communication? The study aims to describe the learning process of furniture packaging design through a PAR approach and to identify changes in students' understanding of packaging as part of the user experience.

METHOD

This study employed a qualitative method using a Participatory Action Research (PAR) approach. The findings consist of descriptions of the learning activities, learning methods, and learning outcomes involving the lecturer and students.

1. Research Approach

The study employed a Participatory Action Research (PAR) approach. This approach was selected because design learning requires students' active involvement in identifying and solving design problems. PAR does not position students merely as research subjects, but as participants in the learning process. This model is consistent with the concept of participative inquiry, which positions participants' experiences and actions as part of the knowledge-production process (Reason & Bradbury, 2008).

2. Participants

The participants were students of the Visual Communication Design Study Program who participated in learning activities on furniture product packaging design. A total of 15 students participated in the study.

3. Research Stages

The study was conducted through a PAR cycle consisting of problem identification, planning, action, observation, and reflection.

Stage 1. Problem Identification

Students observed examples of packaging and discussed consumers' experiences when receiving and assembling products. The learning materials employed guiding questions concerning the influence of packaging on consumer experience.

Stage 2. Planning

Students formulated design problems and determined alternative

solutions. The aspects considered included protection, component organization, assembly instructions, materials, distribution efficiency, visual communication, sustainability, and brand identity.

Stage 3. Action

Students developed packaging designs based on the problems they had identified. Learning activities included selecting colors and typography according to the target market, developing brand storytelling, and maintaining the primary protective function of the packaging.

Stage 4. Observation

Observation was conducted on the packaging designs produced by the students. The observed aspects included protection, component organization, instructions, efficiency, visual communication, sustainability, user experience (UX), and branding.

Stage 5. Reflection

Students reflected on the designs they had produced. The reflection focused on three questions: (1) What was the main problem successfully addressed? (2) What weaknesses remained in the design? and (3) What changes should be made in the subsequent design iteration? This reflective cycle represents an important characteristic of action research (Kemmis et al., 2014; Stringer, 2014).

FINDINGS/RESULTS AND DISCUSSION

1. Changes in Perspectives on Packaging

The learning process encouraged students to understand packaging as a broader system rather than merely a product container. The learning materials positioned packaging as a combination of protection, component organization, visual guidance, and shipping efficiency. This perspective can be related to the concept of user experience. Joutsela (2025) positions packaging as part of user experience, while Norman (2013) emphasizes the importance of design that considers how users interact with objects. Accordingly, students were encouraged to consider not only the question, “How can attractive packaging be created?” but

also, “How can packaging assist the user”.

2. Packaging as a Communication System

Furniture packaging requires a clear communication system because consumers need to understand multiple components before assembly. The use of symbols, outlines, compartmentalization systems, and assembly illustrations in the learning materials demonstrates that visual communication has a practical function. In the context of Visual Communication Design, this indicates that the ability to design visual elements cannot be separated from the ability to understand user behavior. Information design principles are important because users require information that can be readily recognized and understood when opening and assembling a product (Lidwell et al., 2010).

3. Sustainability as a Design Consideration



Figure 1. Image design elements

Four key visual and structural design elements were emphasized in the packaging design. First, graphic design elements, including outlines and symbols representing product components, were used to facilitate identification. Second, instructions integrated into the packaging box were intended to reduce the need for separate instruction manuals. Third, compartmentalization systems were designed to protect items or components and prevent friction between them. Fourth, strong materials such as corrugated board were considered because this material provides

structural strength while remaining relatively lightweight. The use of recycled cardboard and environmentally friendly inks was also introduced as an innovation in the learning materials. These ideas are relevant to the findings of Steenis et al. (2017), who demonstrated that packaging materials and graphics are associated with consumers' perceptions of sustainability. Steenis et al. (2018) also showed that sustainable packaging design strategies can influence consumer preferences. Branca et al. (2024) further demonstrated the importance of the consumer perspective in discussions of sustainable packaging. Therefore, students were encouraged not only to produce visually appealing packaging but also to consider the environmental consequences of their design decisions. This perspective is consistent with Manzini and Vezzoli (2008), who position design as part of efforts to develop more sustainable product systems.

4. Packaging Innovation

Innovation in packaging is not limited to creating a sense of safety and visual appeal; it can also incorporate technologies such as QR codes. Important product information, including assembly procedures, does not necessarily have to be provided through printed materials. Instead, a QR code can provide access to assembly information while making the instructional experience more accessible and engaging. A QR code linking to an assembly tutorial video represents an integration of physical and digital media. This integration expands the function of packaging because information is no longer constrained by the physical space available on the package. Users can access additional information through digital media. From a design-learning perspective, this approach demonstrates that students need to understand developments in communication technology while maintaining fundamental principles of information design.



Figure 2. Potential Innovation

The innovation process also included the use of recycled cardboard and environmentally friendly inks, the addition of QR codes containing assembly tutorial videos, and the application of flat-pack efficiency inspired by approaches such as those used by IKEA, while incorporating local cultural elements, such as woven-pattern motifs in box illustrations.

5. Flat-Pack Design and Distribution Efficiency

The concept of flat-pack efficiency represents an alternative approach to addressing the challenges of packaging large furniture products. Volume efficiency can reduce the amount of space required during distribution. However, such efficiency must be achieved without compromising the packaging's ability to protect the product and facilitate assembly. Thus, students learned to view design as a process of negotiating multiple requirements, including function, cost, efficiency, aesthetics, user experience, and sustainability.

6. Brand Storytelling and Local Culture

The learning materials explored the possibility of incorporating local cultural elements through woven-pattern motifs and developing brand storytelling based on heritage and craftsmanship. This strategy demonstrates that packaging can function as a medium for narrative communication. Furniture products are not merely sold as functional objects; they can also be communicated

through stories concerning production processes, craftsmanship, history, and local identity. This approach is particularly relevant when furniture design is associated with creative industries and local craftsmanship. From a social design perspective, this approach is also consistent with Papanek's (1982) emphasis on considering social and cultural contexts in design practice.

7. PAR and Action-Based Learning

The application of PAR shifted the learning process from content delivery toward a more reflective process. Students were presented with problem stimuli, discussed the issues, formulated alternatives, developed designs, and subsequently evaluated their work. This model corresponds to the action research cycle, which positions action and reflection as iterative processes (Kemmis et al., 2014; McTaggart, 1994). In Visual Communication Design education, this cycle is particularly relevant because design is inherently iterative. A design is not necessarily considered complete after a single outcome; rather, it can be further developed through evaluation and improvement.



Figure 3. Task Activities

Throughout the action research process, students attempted to understand the stages involved in developing furniture packaging. The first stage involved selecting colors and typography appropriate to the target market. The second stage involved incorporating brand storytelling elements, such as heritage and craftsmanship. The third stage involved maintaining the primary function of packaging, namely product

protection. The 15 participating students developed new capabilities and perspectives regarding furniture packaging, recognizing that it functions not only as product protection but also as a medium for information, visual aesthetics, and digital integration.

CONCLUSIONS

Learning furniture product packaging design through a Participatory Action Research approach provided a learning framework that positioned 15 students as active participants in problem identification, planning, design action, observation, and reflection. The learning materials demonstrated that furniture packaging has interconnected functions, including product protection, component organization, visual guidance, distribution efficiency, brand communication, and user experience. The user-experience perspective broadened students' understanding by demonstrating that packaging is more than a product container. Rather, packaging forms part of the user's journey, from receiving the package and opening the packaging to identifying components, understanding instructions, and assembling the product.

Sustainability also emerged as an important component of the design process. The use of recycled cardboard, environmentally friendly inks, QR codes, flat-pack efficiency, and the integration of local cultural elements provided opportunities for students to develop packaging innovations that were not only functional but also responsive to environmental and cultural issues. The PAR approach is relevant to Visual Communication Design education because the nature of design requires processes of exploration, action, evaluation, and iterative improvement. Through this approach, students can develop design competencies as well as reflective capabilities for understanding the relationships among design, users, the environment, and the broader social context.

ACKNOWLEDGMENTS

The author would like to express sincere appreciation to the vocational students of the Visual Communication Design Study Program at Universitas Tiga Serangkai, Surakarta, for their assistance, collaboration, and commitment. This learning activity was successfully conducted through the collective dedication and hard work of the lecturer and students, ultimately contributing to the development of this manuscript.

REFERENCES

- Barbaritano, M., & Savelli, E. (2021). How consumer environmental responsibility affects the purchasing intention of design furniture products. *Sustainability*, 13(11), 6140. <https://doi.org/10.3390/su13116140>
- Bradbury, H. (Ed.). (2015). *The SAGE handbook of action research* (3rd ed.). SAGE Publications.
- Bradbury, H. (2019). Education action research: With and for the next generation. In C. A. Mertler (Ed.), *The Wiley handbook of action research in education*. Wiley.
- Branca, G., Resciniti, R., & Babin, B. J. (2024). Sustainable packaging design and the consumer perspective: A systematic literature review. *Italian Journal of Marketing*.
- Joutsela, M. (2025). *Towards experiential packaging: Understanding and designing for packaging user experience (PUX)*. Aalto University.
- Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner: Doing critical participatory action research*. Springer.
- Lidwell, W., Holden, K., & Butler, J. (2010). *Universal principles of design*. Rockport Publishers.
- Manzini, E., & Vezzoli, C. (2008). *Design for environmental sustainability*. Springer.
- McTaggart, R. (1994). Participatory action research: Issues in theory and practice. *Educational Action Research*, 2(3), 313–337.
- Mertler, C. A. (Ed.). (2019). *The Wiley handbook of action research in education*. Wiley.
- Norman, D. A. (2013). *The design of everyday things: Revised and expanded*. Basic Books.

- Papanek, V. (1982). *Design for the real world: Human ecology and social change* (2nd ed.). Academy Chicago Publishers.
- Reason, P., & Bradbury, H. (Eds.). (2008). *The SAGE handbook of action research: Participative inquiry and practice* (2nd ed.). SAGE Publications.
- Steenis, N. D. (2019). *Consumer response to sustainable packaging design*. Wageningen University.
- Steenis, N. D., van Herpen, E., van der Lans, I. A., Ligthart, T. N., & van Trijp, H. C. M. (2017). Consumer response to packaging design: The role of packaging materials and graphics in sustainability perceptions and product evaluations. *Journal of Cleaner Production*, 162, 286–298.
- Steenis, N. D., van der Lans, I. A., van Herpen, E., & van Trijp, H. C. M. (2018). Effects of sustainable design strategies on consumer preferences for redesigned packaging. *Journal of Cleaner Production*, 205, 854–865.
- Stringer, E. T. (2014). *Action research* (4th ed.). SAGE Publications.
- Vara, N. (2025). *Intrinsic value of industrial packaging design in brand image: Case studies in the furniture industry*. LUT University.