

Development of Visual Branding Competencies Through Project-Based Learning With Local MSMEs in Ciwaruga Village

Dwita Alfiani Prawesti^{1*}, Arief Johari², Suryadi³

^{1,2,3}Universitas Pendidikan Indonesia

ARTICLE INFO

Article history:

Received: April 10, 2026

Accepted: July 14, 2026

Kata Kunci:

Pembelajaran Berbasis Proyek;
Identitas Visual; Desain Kemasan;
UMKM; Pendidikan Desain

Keywords:

Project-Based Learning; Visual Identity;
Packaging Design; MSMEs; Design
Education



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Publishing.

ABSTRAK

Empat kelompok mahasiswa Desain Komunikasi Visual mengembangkan identitas visual dan kemasan untuk empat UMKM di Desa Ciwaruga dan wilayah Bandung Barat sekitarnya: ACS, usaha tanaman sukulen yang telah beroperasi sejak tahun 2000; Citruk Mawar, produsen camilan citruk (khas Jawa Barat); KUWU, produsen air minum dalam kemasan; dan Kasemaran, produsen keripik singkong rasa jengkol. Setiap kelompok mengikuti lima tahap proses branding Alina Wheeler, mulai dari riset dan strategi hingga desain identitas, pengembangan touchpoint, dan pengelolaan aset akhir. Dengan pendekatan studi kasus jamak (*multiple-case study*) kualitatif, penelitian ini membandingkan perubahan nyata pada karya desain mahasiswa, bukan sekadar menilai kompetensi mereka secara terstandar. Perbandingan artefak desain sebelum dan sesudah menunjukkan pergeseran yang jelas dari label

sederhana dan grafis dekoratif menuju sistem merek yang lebih terstruktur. Perubahan paling menonjol tampak pada hierarki visual informasi, diferensiasi identitas merek, serta konsistensi penggunaan warna dan tipografi. Karena klien yang dihadapi merupakan pemilik UMKM sesungguhnya, mahasiswa dituntut untuk merevisi karya mereka dengan mempertimbangkan karakteristik produk, preferensi pemilik usaha, keterbacaan, dan keterbatasan produksi. Dengan demikian, metode Project-Based Learning menempatkan mahasiswa pada situasi desain yang menyerupai praktik profesional, sementara kerangka kerja Wheeler menyediakan alur kerja yang jelas bagi proses studio dalam hal riset, revisi, dan implementasi.

ABSTRACT

Four teams of Visual Communication Design students developed visual identities and packaging for four MSMEs in Ciwaruga Village and the surrounding West Bandung area: ACS, a succulent plant business operating since 2000; Citruk Mawar, a producer of "citruk" snacks (a West Javanese specialty); KUWU bottled drinking water; and Kasemaran, a producer of "jengkol"-flavored cassava chips. Each team followed Alina Wheeler's five-step branding process, ranging from research and strategy to identity design, touchpoint development, and final asset management. Employing a qualitative multiple-case study approach, this research compares tangible changes in the students' design work rather than merely assessing competency. Comparative "before-and-after" artifacts reveal a clear shift from simple labels and decorative graphics toward more structured brand systems. The most striking changes are evident in information hierarchy, brand distinction, and consistency in the use of color and typography. As the clients were actual MSME owners, students were required to revise their work by considering product characteristics, owner preferences, readability, and production constraints. Thus,

*Corresponding author

E-mail addresses: alfianidwita@upi.edu

the project-based learning method placed students in design situations closely resembling professional practice, while Wheeler's framework provided a clear workflow for the studio process regarding research, revision, and design implementation.

INTRODUCTION

Designing for visual communication requires balancing aesthetic appeal, strategic intent, and production limits. Branding assignments clearly reflect this complexity; a successful logo cannot just look good in isolation, it also surely adapts to a full brand system. Students are always expected to conduct preliminary business research before determining a strategic approach, and once the basic brief is stable, students should be able to organize the visual design, develop a visual language, apply it to innovative packaging design, also create the usable touchpoints, and explain why these visual choices are better for the intended audience and product. Project-based learning, or more familiar with the term PjBL, surprisingly help increase demand to this kind of work because students learn through sustained inquiry, collaboration, revision, and the production of concrete artifacts (Blumenfeld et al., 1991; Kokotsaki et al., 2016). In higher education, particularly in exploratory studio environments, these artifacts play a central role in PjBL, although they are not always used with sufficient precision to assess students' understanding. (Guo et al., 2020).

Working with real clients can transform the nature of a project because students must respond not only to a lecturer's brief but also to broader considerations, including owner preferences, existing products, and production constraints. Although Project-Based Learning (PjBL) can enhance learning outcomes, its effectiveness depends on how the project is structured and implemented (Chen & Yang, 2019). Consequently, projects involving real clients require clear, structured support (scaffolding) to ensure that client interaction remains part of the learning process rather than devolving into routine design production work (Fitch, 2011). This is particularly relevant when the client is an MSME, where visual branding decisions are often shaped by resource limitations, local market knowledge, and established business practices. Strategic branding can support the recognition and differentiation of MSMEs (Udin, 2011; Mandizwidza-Moyo et al., 2023), while project-based Visual Communication Design approaches have also been implemented in Indonesia to support the development of MSME identities (Atmami & Sumarna, 2026). In this context, students engage with real products and business constraints, while MSMEs benefit from a more structured process for developing their visual identities. Packaging clearly illustrates how student design decisions must meet real product demands. It has to protect the product, carry information, distinguish the brand, and still fit expectations within its category. Previous studies have linked packaging form, color, typography, imagery, and information structure with consumer expectations and brand perception (Ampuero & Vila, 2006; Orth & Malkewitz, 2008; Labrecque & Milne, 2012). A review of 221 studies also identified visual and structural elements, information communication, product expectations, and sustainability as recurring concerns in

packaging design and purchase intention (Liu et al., 2025).

For the food, plant, and beverage MSMEs involved in this project, packaging redesign required more than just aesthetic enhancement. Students had to integrate product character with hierarchy, brand identity, and production decisions into a single, implementable system. To date, limited attention has been paid to how professional branding processes can structure the execution of real-client projects within undergraduate Visual Communication Design studios. Many studies on Project-Based Learning (PjBL) focus on student perceptions or general learning outcomes, often overlooking the design artifacts themselves as evidence of developing design competence (Guo et al., 2020). While research is often underpinned by design thinking frameworks and creative exploration, it frequently fails to detail the transition from the research phase to a cohesive, actionable brand identity system (Guaman-Quintanilla et al., 2023). This study integrates PjBL with Wheeler's (2017) five-stage brand identity process and examines four MSME projects through the lens of tangible changes to their branding and packaging. The research investigates how these changes make visual branding competence observable, identifies patterns emerging from the four cases, and explores the learning conditions that enable students to address the practical needs of local MSME partners.

METHOD

This The study used a qualitative, classroom-based multiple-case design involving four purposely selected student teams, each consisting of four Visual Communication Design students, for a total analytic sample of 16 students. The cases involved four MSMEs from Ciwaruga and the surrounding West Bandung/Lembang area: ACS, Citruk Mawar, KUWU, and Kasemaran. Each team followed Wheeler's (2017) brand identity process within a Project-Based Learning structure that included real clients, teamwork, critique, revision, and final packaging outcomes (Kokotsaki et al., 2016; Wang, 2026). The analysis focuses on "before-and-after" design artifacts, identity implementation, design decision documentation, and packaging mock-ups, rather than interviews or survey scores. The four cases are compared based on five dimensions: contextual inquiry, strategic translation, visual system coherence, touchpoint integration, and client/production responsiveness. The analysis was thematic and interpretive, following Braun and Clarke (2006), and the cases are treated as exemplars rather than as representations of the entire class.

Table 1. Alignment of PjBL, the Wheeler process, evidence of learning, and competency dimensions.

Wheeler phase	PjBL activity	Artifact evidence	Competency emphasized
1. Conducting research	Information gathering from SMEs/clients, audit of existing brands, and product/category observation	Before condition, problem map, competitor/context references	Contextual inquiry
2. Clarifying strategy	Synthesis, positioning, and formulation of audience and messaging	Keywords, positioning logic, brand direction	Strategic translation
3. Designing identity	Sketching, concept comparison, critique, and refinement	Logo, color, type, graphic language	Visual-system coherence
4. Creating touchpoints	Packaging architecture, label hierarchy, mock-up creation, and application testing	Primary package, secondary touchpoints, information layout	Touchpoint integration
5. Managing assets	Finalization and consistency check	Final artwork, reusable rules/assets, presentation system	Client/product on responsiveness

Analytic caution. "Enhancement" in this study refers to observable development within selected artifacts, not to a causal treatment effect or standardized pre-post competency gain. This distinction responds to concerns in PjBL research about over-reliance on self-report and the need for stronger assessment of learning processes and products (Guo et al., 2020)

RESULT

The Among the four selected projects, the most significant change lies in the shift in the students' approach to design thinking. The "before" artifacts generally treated packaging design merely as a medium for information, a decorative wrapper, or a vessel for basic details. In contrast, the "after" artifacts viewed packaging as an integral part of a cohesive identity system within the branding process. This shift is crucial in graphic design education because professional branding competence entails more than simply enhancing the packaging's appearance. It requires translating brand strategy into a consistent visual system applied across logos, typography, color, imagery, structure, and information

hierarchy that can be effectively replicated (Lelis et al., 2020). The four cases achieved this result in distinct ways, given that each business began with a unique set of challenges.

Table 2. Cross-case evidence of visual branding development

Case	Before condition	After evidence	Primary competency signal
ACS succulent	Inconsistent and varied gift/plant packaging styles; identity fragmented across different formats	Integrated kraft paper carrier packaging, distinctive green and yellow visual identity, labels featuring "thank you" messages and care instructions, and a cohesive design structure	System coherence + touchpoint integration
Citruk Mawar	Transparent bags with small round stickers; unclear flavor differentiation and low shelf-visibility of product identity	Stand-up pouch packaging system featuring consistent logos and character elements, flavor-specific color coding, and a clearer product hierarchy	Differentiation + variant architecture
KUWU	Dark green labels with competing information and limited information hierarchy	Simplified wordmark, cleaner label areas, landscape and water visual elements, and effective use of white space and visual hierarchy	Strategic simplification + legibility
Kasemaran	Small labels on transparent packaging; product name and story lack visibility	Comprehensive front-panel hierarchy and a holistic packaging design that blends cream- and brown-toned food imagery with more prominent product naming	Information hierarchy + product recognition

Case 1: ACS succulent products

Among the four cases, ACS presented the most unique touchpoint challenge. Documented initial conditions revealed a variety of packaging approaches for the gift

plants: lavender-patterned boxes, kraft paper bags with inconsistent typography, and cup-shaped plant containers. These elements functioned in isolation and failed to reflect a cohesive, unified, and recognizable brand identity.

The student design team developed a comprehensive solution centered on a more integrated and systematic structural and graphic concept. A triangular kraft paper carrier made the plant itself part of the visual experience, while a green-dominant identity panel with yellow accents featuring a thank-you message and plant care instructions established visual consistency across the front, sides, and information areas. Thus, the outcome was not merely the creation of a new logo, but a transition from fragmented, inconsistent packaging elements to a coordinated set of touchpoints.

Figure 1. ACS before–after packaging and touchpoint redesign produced in the student PjBL project.



Source: course/project documentation.

Case 2: Citruk Mawar traditional snack

Citruk Mawar presented a distinctive branding challenge: while the product itself was clearly visible through transparent packaging, the core brand identity relied solely on a small, round sticker. Although this solution conveyed the basic identity, the burden of visual communication rested almost entirely on that single label. The redesign introduced a stand-up pouch format, creating ample, organized space for branding needs. Brand identity was reinforced through consistent logo placement and scale, the recurring use of an illustrated character, uniform product photography composition, and a systematic color-coding scheme to distinguish flavor variants. Consequently, this visual system serves both recognition and navigation functions: shoppers can instantly recognize that the products

belong to the same brand while easily distinguishing between spicy, salty, and spicy red balado flavors. This case exemplifies strategic translation; the regional snack is not merely presented as an ordinary bagged chip but is positioned as a unique local snack that projects confidence and a contemporary feel on the retail shelf. This aligns with packaging research indicating that typography, visual imagery, color, and structural form combine to shape brand perception, rather than functioning as isolated variables (Orth & Malkewitz, 2008).

Color and coding systems serve as vehicles for conveying information rather than mere decoration; studies on color and brand perception show that color nuances can shape perceptions of personality and influence brand recognition when applied systematically (Labrecque & Milne, 2012). Crucially, the redesign did not require the three variants to look identical; instead, design competence was demonstrated through controlled variation within a consistent, systematic framework.

Figure 2. Citruk Mawar before–after packaging redesign, showing the move from sticker–led transparent pouches to a coordinated flavor-variant system



Source: course/project documentation.

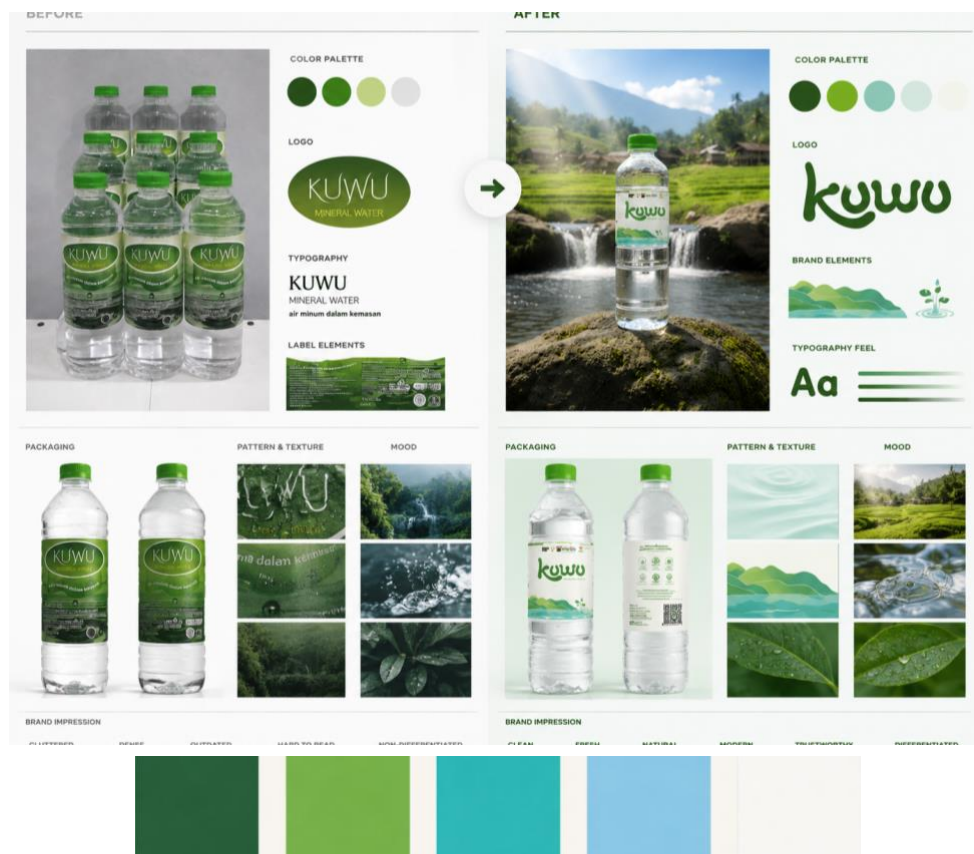
PjBL perspective, this type of variant system represents an authentic design challenge because students must make decisions that remain viable across iterations. A one-off fictional poster might mask flaws in systems thinking, whereas a real product family exposes them. The artifact must maintain coherence across various variants, package sizes, future developments, and production constraints. This aligns with higher education PjBL research emphasizing that meaningful projects yield products integrating diverse forms of knowledge and are evaluated against real-world usage requirements (Guo et al., 2020).

Case 3: KUWU bottled drinking water

KUWU demonstrates branding competence through an approach of reduction rather than addition. The previous bottle label featured a large green oval, various gradients or

graphic layers, and dense information at the bottom. The redesign introduces a simpler, lowercase "kuwu" wordmark, a brighter label background, a clearer distinction between the brand and supporting information, and a landscape/water motif that links the product to freshness and the image of its water source. Consequently, the most significant improvement lies in the visual hierarchy: consumers can recognize the brand more quickly due to reduced visual clutter and fewer competing elements. This new look also places the bottle within a natural landscape context, reinforcing the connection between the packaging and the intended brand image namely water, local character, and freshness.

Figure 3. KUWU bottled water before–after identity and label redesign.



Source: course/project documentation.

This case holds pedagogical value because students often equate "redesign" solely with the addition of visual novelty. In contrast, KUWU demonstrates the competence required in the editing process specifically, the reduction of elements. Research on brand recognition indicates that aspects such as naturalness, harmony, and appropriate elaboration in a logo play a crucial role in brand recognition and the formation of brand image (Henderson & Cote, 1998). Studies on packaging also show that while visual cues influence quality perception and preference, the design must also clearly communicate information and support the product's functional category (Bou-Mitri et al., 2021; Liu et al., 2025). Thus, the student's work can be viewed as an example of strategic simplification: visual elements were reduced to create a clearer hierarchy of focus, rather than merely altering the visual style.

Case 4: Kasemaran

Initially, Kasemaran used transparent packaging with a relatively small label. Although this allowed the snack to remain visible, the product name "Emping Singkong Sari Jengkol" seemed to compete with secondary visual elements and small-print information. This redesign experiment explores two stronger approaches: a larger, cream-colored front label on transparent packaging, and fully opaque packaging featuring a brown-and-cream color scheme, an enlarged product name, a product image, and clearer information at the bottom. Thus, this design direction addresses a fundamental challenge faced by MSMEs: ensuring that the brand and product type are clearly legible at first glance.

Figure 4. Kasemaran before–after packaging redesign for emping singkong sari jengkol.



Source: course/project documentation.

The Kasemaran case demonstrates that visual branding competence entails understanding which elements should be the most visually prominent. Packaging represents a communication hierarchy; elements such as the brand, product category, variant or descriptor, quantity, legal or functional information, and visual imagery cannot compete for equal attention. Research on consumer packaging consistently identifies graphic variables and informational cues as components of product positioning and evaluation (Ampuero & Vila, 2006; Silayoi & Speece, 2007). In this instance, the redesign makes the product name far more prominent and utilizes simple color blocking to distinguish the product from the "visual noise" created by the small labels on the original design.

Cross-case synthesis of competencies

Five patterns emerged across the artifact trajectories. First, contextual inquiry became visible when the redesign responded to the type of business rather than applying a generic student aesthetic: plant-care information for ACS, flavor architecture for Citruk Mawar, freshness/source cues for KUWU, and product-name prominence for Kasemaran. Second, strategic translation appeared when brand ideas were converted into visual priorities. Third, system coherence was evident in repeated rules for color, typography, illustration, and layout. Fourth, touchpoint integration was strongest when the package structure, label, secondary tags, and information worked together. Fifth, client/production responsiveness was reflected in the practical forms selected kraft carrier, stand-up pouches, bottle label, and flexible food packs rather than speculative media unrelated to how the MSMEs sell products.

Table 3. Artifact-based competency matrix across four exemplary teams

Competency	ACS	Citruk Mawar	KUWU	Kasemaran
Contextual inquiry	Plant gifting + care	Regional snack + flavor variants	Packaged water + freshness	Traditional snack + product clarity
Strategic translation	Eco/natural gifting experience	Youthful regional snack identity	Clean/local/fresh water cue	Traditional product made more legible
Visual-system coherence	High: structure + tag + panel	High: three variants in one system	High: simplified label hierarchy	Moderate-high: stronger front-panel system
Touchpoint integration	Very visible	Visible through package family	Visible through label and product presentation	Visible through label/full-pack alternatives
Production/client responsiveness	Kraft structure and care info	Commercial pouch format	Bottle-label constraints	Transparent and opaque pack options

The matrix is deliberately qualitative. It does not rank teams or imply statistically significant gains. Its purpose is to show how a structured branding process produces observable evidence that can be discussed and assessed in studio education.

DISCUSSION

In these four cases, branding competence is evident in how students link research, strategy, visual forms, and implementation, rather than focusing merely on specific graphic

elements. The best results emerge when these decisions are integrated into a cohesive system. This aligns with Project-Based Learning (PjBL) theory, which views learning as a process of knowledge construction through meaningful tasks rather than a mere accumulation of isolated techniques (Blumenfeld et al., 1991). This approach also reflects higher education research indicating that final artifacts can serve as evidence of students' practical capabilities (Guo et al., 2020). In this branding studio, the resulting artifacts document the students' workflow from research and strategy to decisions regarding identity and packaging. Wheeler's framework helps structure this process by minimizing the tendency to focus immediately on logo or packaging aesthetics, while the PjBL method ensures the work remains grounded in real-world design problems. Similar benefits of structured, iterative design processes have also been reported in higher education contexts (Guaman-Quintanilla et al., 2023).

Engagement with real clients gives these design decisions greater impact. Students must explain and revise their work while considering the business owner's product, history, expectations, and production constraints, thereby bringing the project closer to professional branding practice. Research on learning involving real clients and industry indicates that authentic collaboration can strengthen professional skills, provided that communication and expectations are clearly managed (Fitch, 2011; Lahdenperä et al., 2022; Popli & Singh, 2024). Community partners also provide contextual insights that students lack at the project's outset (Jordaan & Mennega, 2022). This is particularly relevant for MSME cases, where visual identity systems were previously inconsistent or limited. Studies on SME branding report that small-scale enterprises often lack systematic identity development despite the fact that coherent branding can bolster brand recognition and corporate performance (Mandizwidza-Moyo et al., 2023) while design projects for Indonesian SMEs similarly highlight the need for stronger logos, color systems, and visual identity applications (Atmami & Sumarna, 2026). In these instances, SMEs serve not merely as clients but also as platforms where students learn to align research, strategy, visual consistency, and implementation.

Packaging became the clearest place to assess how well students could coordinate strategy and visual form. Consumers read packaging through its structure, hierarchy, color, imagery, and overall configuration, which can shape perceptions of positioning, quality, safety, and brand meaning (Ampuero & Vila, 2006; Bou-Mitri et al., 2021; Orth & Malkewitz, 2008). The four cases made these decisions visible in different ways. Citruk Mawar used controlled variation to build a recognizable product family, KUWU simplified competing visual elements, Kasemaran strengthened the product-name hierarchy, and ACS linked packaging structure with supporting touchpoints such as a thank-you tag and plant-care information. These outcomes suggest that assessment in visual branding should look beyond aesthetic finish. More useful evidence lies in whether students can identify the communication problem, define a strategic direction, build a repeatable identity system, apply it across touchpoints, and adjust the work to actual production constraints. This

artifact-based approach also responds to Guo et al. (2020), who noted that final artifacts are central to PjBL but are still underused as evidence of learning.

Teamwork and local context added further design constraints. Four-person groups allowed tasks to be shared, but PjBL research also warns that unclear roles and uneven participation can weaken learning (Kokotsaki et al., 2016), while recent visual communication research links project performance with self-efficacy, engagement, attitude, and motivation (Wang, 2026). Future iterations of the Ciwaruga model could therefore document responsibilities across Wheeler's phases while keeping cross-review between members so that research, strategy, identity, and implementation remain connected. The local dimension also requires care. Working with regional MSMEs should not lead students to add local motifs simply for decoration. What matters is whether product origin, owner narrative, customer expectations, production practices, and category conventions are translated into appropriate design decisions. Research on live briefs in visual communication similarly stresses primary research, cultural sensitivity, and explicit learning goals when students design beyond their own assumptions (Williams et al., 2026). For products such as Citruk Mawar and Kasemaran, local character is more convincing when it is carried through the brand narrative and visual system rather than added as surface ornament.

In curriculum design, this model can be implemented as a series of semester-long activities comprising three evaluation stages. Stage 1 evaluates evidence from research and strategy; Stage 2 evaluates the logic of the identity system prior to packaging production; and Stage 3 evaluates the coherence of touchpoints, client responsiveness, and final asset management. This structure prevents packaging that is technically well-executed from masking weaknesses in the research phase. Furthermore, the model creates clearer opportunities for client feedback. Literature on PjBL indicates that scaffolding, formative feedback, and aligned assessment are crucial factors for successful implementation (Kokotsaki et al., 2016), while community-engaged learning yields significant benefits when reciprocal responsibilities are explicitly defined (Covington et al., 2025).

For MSME partners, this educational collaboration should be viewed as a joint development effort (co-development) rather than merely a source of free design services. A comprehensive brief must include information regarding current business challenges, aspects the business owner is willing to change, the availability of packaging suppliers or printing methods, mandatory information, estimated production volumes, and budget constraints. Literature on co-design emphasizes that a participatory approach is most effective when expected benefits and stakeholder roles are clearly defined (Steen et al., 2011). Therefore, clients need to be involved in research validation, the determination of strategic direction, and pre-production reviews, while educators play the role of upholding learning objectives and ensuring the project does not devolve into a mere technical execution task for the client.

This study proposes a practice-oriented concept: visual branding competence within an authentic Project-Based Learning (PjBL) framework can be defined as the ability to maintain strategic coherence across five stages of transformation—from context to insight, insight to strategy, strategy to identity, identity to touchpoints, and touchpoints to manageable assets. The first two transformations make the design rationale explicit; the next two stages visually embody that rationale; and the final transformation enables its application beyond the classroom. The process pioneered by Wheeler provides the sequence of steps, while PjBL creates the social and pedagogical conditions that render that sequence meaningful and impactful. This model helps distinguish between merely "working on a branding project" and learning branding as an integrated professional practice.

There are several important limitations. First, the four cases were purposively selected as strong examples; thus, they do not represent the performance distribution across the entire course. Second, this analysis is artifact-based and does not include competency measurements via validated pre- and post-tests, individual student interviews, or long-term professional outcomes. Third, the study did not measure MSME sales, purchase intentions, brand recall, or the sustainability of adoption after the course concluded. Fourth, the quality of the "before-and-after" comparison photos varied, meaning the visual presentation itself could reinforce the perception of improvement. Future studies should combine the use of artifact rubrics with individual reflections, client satisfaction, and follow-up monitoring of implementation after a certain period. Additionally, a quasi-experimental or repeated-measures design could be employed to test whether a PjBL studio structured around Wheeler's framework fosters stronger systems thinking capabilities compared to conventional project assignment methods.

CONCLUSION

This study examined how an authentic Project-Based Learning (PjBL) studio, structured around Wheeler's five-stage branding process, develops visual branding competence among Visual Communication Design students collaborating with four MSMEs in Ciwaruga Village: ACS Succulent, Citruk Mawar, KUWU, and Kasemaran. Comparative analysis of before-and-after design artifacts across the four cases reveals a consistent trajectory: packaging that once functioned as an isolated decorative surface was reworked into coherent identity systems, marked by clearer information hierarchy, sharper brand differentiation, and more disciplined typography and color use carried consistently across touchpoints. This observable development addresses the study's central question by showing that PjBL builds visual branding competence primarily by making strategic coherence, rather than aesthetic polish, the measure of successful design, and by requiring that coherence to survive contact with a real client's constraints rather than a simulated brief.

ACKNOWLEDGMENTS

This section should acknowledge individuals, institutions, funding agencies, research partners, or organizations that have provided academic, technical, financial, or other forms of support for the research but do not meet the criteria for authorship.

DECLARATION OF INTEREST

Authors are required to disclose any financial, personal, or professional interests that could have influenced the research, the preparation of the manuscript, or its publication. If no competing interests exist, authors should state:

"The authors declare that they have no conflict of interest regarding the research, authorship, and publication of this article.

ETHICAL CONSIDERATION

This section should describe the ethical principles followed during the conduct of the research. For studies involving human participants, authors should provide information regarding informed consent, voluntary participation, confidentiality and anonymity of participants, and approval from an institutional ethics committee, where applicable.

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