

Developing a Local Culture-Based Character Design Module Using the ADDIE Model

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ABSTRACT

Objective: Many Indonesian creators struggle to integrate local cultural values into their visual designs, even as the increasing globalization of comic books, video games, and animation presents them with new opportunities. To address this gap, there is an ongoing need for structured educational resources that will help students learn how to develop a unique cultural identity in their work by embedding it into contemporary visual narratives. This study aims to develop a local culture-based character design module for design educators and local creators in the creative industry. **Methods:** The ADDIE (Analysis, Design, Development, Implementation, and Evaluation) instructional design model was used to conduct this research. Data for this project were collected through a literature review on the topics of cultural identity, visual semiotics, and mythology, in addition to conducting in-depth interviews with local designers and educators about how the module fits into design learning and creative industries. The module focused on balancing the aesthetics of the designs with the representation of local cultural values and symbolism. **Findings:** The prototype created in this study serves as a tool to incorporate local culture into the creation of character designs using visual semiotics. The prototype was validated by receiving expert evaluations and conducting limited testing with design students; these tests confirmed that the module is educationally valid and flexible enough to fit into a variety of different media contexts. **Novelty:** This research provides a valuable new method of teaching character design based on cultural identity by combining the methodologies used in instructional design with actual character design practices. Past research on the visual and/or cultural aspects of character design has been conducted independently, whereas this study systematically combines these two aspects into one model for the implementation of cultural preservation in design education.

INTRODUCTION

In recent decades, young people in many countries have experienced global popular media (comics, games, and animation) (Cai et al., 2023). It has been shown that popular media can effectively introduce and depict traditional cultural values and mythologies (Kim, 2012). Genshin Impact is a good example of this, as its world-building strategy incorporates different global communities based on the different cultures of the game's regions. The regions of Teyvat incorporate various elements of these diverse cultures; for example, Liyue takes inspiration from Chinese Culture, while Inazuma takes inspiration from Japanese Mythology, (Wang, 2024)

The character Yun Jin represents cultural integration because she embodies the philosophies of Chinese Opera in terms of her costume, music, and storytelling style. Previous studies support the position that animated films have the potential to serve as Cultural Frameworks for younger generations. Through Visual/Storytelling representations, Animated Films serve as a means of entertainment while providing opportunities for cultural diplomatic exchange (soft power) and cultural preservation (Sutanto, 2022). Evidence suggests that exposure to popular media may provide younger generations with an initial point of entry to local culture prior to formally studying it.

Yet, despite the relatively small number of local creators in Indonesia now successfully incorporating cultural aspects into their visual product development journey, many local creators remain heavily reliant on aesthetic and surface-level-based (visual form/silhouette/stylistic) methods for how they create their work, with very little conceptual consideration being employed while creating those types of visuals (Y. Wang, 2024). Consequently, the outcomes of the design process tend to be aesthetically pleasing but lack a cultural context. The lack of connection between cultural understanding and design pedagogy in design education is indicative of a larger problem within design education: the lack of a clear structure to connect aesthetic exploration with the understanding of culture. Most previous research on cultural representation within the final product has not explored how educational frameworks can guide the creator in translating cultural identity into design practice (Ivanytska et al., 2024).

The objective of this research was to create a new way of combining culture with visual communication and instructional design. It involved using ADDIE as an instructional design model to develop local culture-based character design courses and to create a framework for linking culture to creative output through cultural research, aesthetic studies, and design theory. This research provides two new ways to approach culture and design: 1) It connects culture to the creative process and allows for the development of creative solutions; 2) It creates a theory and a process for developing a culturally relevant and adaptable process of creating solutions in the design education space.

According to this background information, the research problem is stated as follows: What is the best way to develop a systematically validated instructional module for culture-based character design that incorporates local cultural influences into both academic and creative industries and enables students/creators to create meaningful designs? This will help strengthen the connection between design pedagogy and cultural preservation. Future designers will be encouraged to produce culturally relevant work that appeals globally through the contribution of this research. This study aimed to develop and validate an instructional module for culture-based character design using the ADDIE framework. The purpose of the instructional module is to be a systematic method of incorporating local cultural identity into visual practice while providing aesthetically pleasing, contemporary, and pedagogically effective design education and creative industry.

RESEARCH METHOD

A qualitative research methodology was used in conjunction with the ADDIE design method. The ADDIE Model, which has five stages (Analysis, Design, Development, Implementation and Evaluation) is a popular method for systematically developing educational programs. One of the major advantages of this model is that it is very straightforward, while still being flexible enough to work in many different contexts, including education (Das et al., 2025; Adeoye & Wirawan et al., 2024).

A. Analysis

The analysis stage begins with a review of cultural identity as it relates to character design, visual semiotics as a means of representing popular culture, and mythology's influence on contemporary character design. In-depth interviews were conducted with two groups of informants: 1) Indonesian local creators and 2) Indonesian educators in the design discipline to gather information about their cultural integration practices, challenges, and strategies. The two educators also participated as expert validators

during the evaluation stage, providing continuity between the analytical and validation processes. The Analysis stage provides evidence for the development of the modules in accordance with the identified learning needs and educational objectives, while including the participation of all stakeholders, as well as extensive, theory-based studies (Fatkurochman et al., 2024 ; Suratnu, 2023).

B. Design

The analysis results led to the development of a preliminary design for a character design module based on local wisdom. This is the first step towards identifying targeted learning objectives to guide future work when planning content for the module and developing materials and exercises, as well as assessment instruments, to meet those learning outcomes. Establishing clear learning objectives will facilitate the development of a well-structured module that promotes student independence in their learning process while aligning the module with the requirements of design education and the creative industries (Arila, 2023; Baeng et al., 2022).

C. Development

Utilizing the data obtained through literature research and interviews, various materials, media, and learning resources were created for this module. This research and information were utilized to create the format and content of the module to ensure that it meets the needs of the students and fits the learning environment in which it is used (Putri et al., 2023; Rianti & Simamora, 2023).

D. Implementation

The implementation phase was to put into practice the findings from the module development phase by developing structured worksheets to connect theoretical elements with creative-based applications for project-based applications. These worksheets were intended to increase students' interest and support them in applying character design principles through the lens of their local environment (Roesdiana & Hidayati, 2023).

E. Evaluation

The worksheets were tested at this stage to check how well they communicated with the user through the material provided and the information needed to apply it to the real world. The development of the worksheets has been an ongoing process through procedures allowing providers to comment on their use and the ways a creative practitioner might use it to develop quality and relevant worksheets in relation to learning character design (Hutahaeen, et al., 2022; Gomis et al., 2021). The worksheets were validated by the same two design educators who were present in the early stages of the module development process. The educators were asked to provide feedback on both the theoretical relationship of the worksheets to the theoretical body of work on learning character design and on the use of the worksheets to provide a practical application of the theory in relation to the students learning character design.

Data Collection and Analysis

Thematic qualitative analysis was based on primary data obtained from in-depth interviews and observations of two groups of informants (local creators and design educators) during the validation process. Thematic analysis provides a means to analyze and interpret qualitative data using a systematic process. The following stages were used to conduct a thematic qualitative analysis:

1. Familiarization - identifying commonly emerging ideas through multiple readings of transcriptions of interviews.
2. Initial Coding involved assigning descriptive words (codes) to significant phrases, patterns, and concepts from Cultural Adaptation, Learning Engagement and Design Pedagogy.
3. Theme Generation - groupings of codes into larger categories (themes), such as "Cultural Adaptation Strategy," "Educational Application," and "Creative Industry Relevance."
4. Theme Review - combining and refining overlapping categories to avoid confusion and increase clarity.
5. Theme Definition and Interpretation - providing a definition for each theme, relating the definition to the objectives of the research and the literature findings.

As a basis for developing the structure and content of the module, the themes identified previously provided insight into the selection of examples, learning objectives, and project-based exercises. For example, the responses provided by the creators indicated a significant level of importance placed on cultural authenticity and innovative aesthetics, whereas the educators stressed the importance of pedagogical clarity and modular adaptability. When combined, these findings created a final prototype for the module that is structured and based on cultural contexts, Pedagogical Innovation, and advancements within the creative industries. This process is visualized in Table 1, which shows the ADDIE flow along with the main output at each stage.

Table 1. Research Stages Using the ADDIE Model and Expected Outcomes
 Source: Compiled and Interpreted by the Researcher

ADDIE Stage	Research Activity Focus	Output/Results
Analysis	Literature study on cultural identity, visual semiotics, and mythology in popular media. Interviews with local creators and design educators to explore practices, challenges, and strategies for cultural integration (Gu & Laoakka, 2024).	Concept map of cultural integration in character design; findings on local practices and challenges.
Design	Formulation of learning objectives, content mapping, analysis of teaching materials, development of exercises, assessment instruments, and selection aligned with the standards of the Ministry of Education, Culture, Research, and Technology, and integrated with the findings from the analysis phase (Tompo et al., 2023).	Draft framework for a character design module based on local culture.
Development	Development of materials, media, and learning tools based on analysis and design results. The module is developed in prototype form, ready to be implemented in worksheets.	Prototype version of the character design module.
Implementation	Translation of the module prototype into a worksheet containing eight practical steps for local culture-based character design.	Draft worksheet serving as an implementation guide for the module.
Evaluation	Limited testing involving two design educators as validators to assess the objectives, content, methods, and instructions. Feedback is used to refine the module.	Revised version of the character design module, validated content, and improved instructions.

This study produced a new, locally delivered module for character design based on natural wisdom. This is the foundation of a module that can effectively teach students about character design while also being usable by both creators and educators in the creative industry. This module was tested on a small scale, using input from two design

educator informants as validators to determine the relevance and usability of the module in the industry. Data were gathered by observing the validation process, reviewing the content of the module, and using direct comments from validators. All data collected will be analyzed using qualitative thematic analysis for the interview data and descriptive thematic analysis for the module input data. The outcomes of this study can be used to develop a university-level design education curriculum and help preserve cultural heritage through modern media.

RESULTS AND DISCUSSION

The findings from the research conducted for this development are presented using the sequential steps of the ADDIE model and are organized into two broad categories- Results and Discussion - to clarify the meaning of the Results and Discussion in an easy-to-understand format. The Results section provides the empirical results produced during the Analysis phase and focuses on the data, artifacts, and observed phenomena that contributed to the creation of a module. The Discussion section interprets how the empirical results were applied to instructional design decisions in the Design, Development, Implementation, and Evaluation phases. The rationale for each pedagogical decision made and the broader design education and creative industry contexts for the findings are also provided.

Results

In this phase of the research, the evidence from the analysis phase provided a solid foundation (i.e., theoretical, contextual, and pedagogical) for creating the local culture-based character design module. In addition to the literature review, data were collected through interviews with educational practitioners and educators. The findings of these interviews were then analyzed thematically to determine the cultural and visual parameters that would guide the next steps in the design process.

A. Analysis Stage

The analysis stage aimed to establish a theoretical and contextual foundation for developing a local culture-based character design module (Jiang & Cai, 2023).

B. Literature Review Findings

A comprehensive literature review and comparative analysis were conducted across the domains of cultural identity, visual semiotics, and mythology as conceptual frameworks for character creation in popular media (Rohman, 2024). Through analysis, the literature confirms that a culturally specific character design includes incorporating traditional values, cultural symbols, and mythological figures to create a character whose identity is firmly rooted in the culture from which they derive. The study illustrates that local identity can be communicated through the reinterpretation of cultural symbols or mythic characters (e.g., the Shisa character) from the Chinese mythology tradition to create modern representations based on historical and legendary figures (with appropriate changes made to reflect contemporary culture). Wen-ting et al., (2016) show that visual codes (e.g., costumes, adornments, etc.) are an effective way of communicating cultural narratives through a character, aiding in the recognition of that character in other cultures. This is supported by research on visual semiotics in digital media (Dai and Liu, 2024; Rimbawati et al., 2022).

An additional study reviewing how the character Sekhmet from Marvel Comics was formerly noted, reinforces the idea that archetypal myths can be converted into modern character designs with respect for the original narrative and at the same time, appeal to the present-day audience (Morsi & Hidayatullah, 2021). Together, these studies support the development of an appropriate balance between cultural authenticity and visual innovation to retain the same meaning and market value. The analysis of this study discovered four key components to the foundation of character designs for works based on cultures (Wei. W. et al., 2024).

1. The first step in character design is to conduct research and develop creative ideas. This involves using cultural studies, semiotic concepts, and mythological themes to help develop authentic and meaningful concepts of the character's design.
2. After gathering data, the next step in character design is to create the character's personality, archetype, and visual style through a holistic approach or "inside-out thinking." This method serves to strengthen the motivations and psychology of the characters.
3. Understanding a character's body language, gestures, and facial expressions allows for a deeper exploration of nonverbal communication and emotional depth within a character's design. For example, using different facial expressions to convey emotions adds an extra layer of complexity to a character's design.
4. Visual elements (such as shape, color, and texture) and design elements (such as balance and emphasis) should harmonize and reflect the cultural and psychological attributes of a character.

From a general perspective, the character design methodology discussed above illustrates that effective character design requires far more than simply the designer's aesthetic skills. A successful character designer must be able to articulate how their visual designs integrate cultural knowledge, semiotic theory and mythological context. Character designers must also demonstrate the importance of these integrated designs within the larger context of culture-based character design. Figure 1 illustrates the conceptual framework of the literature that guided this study.

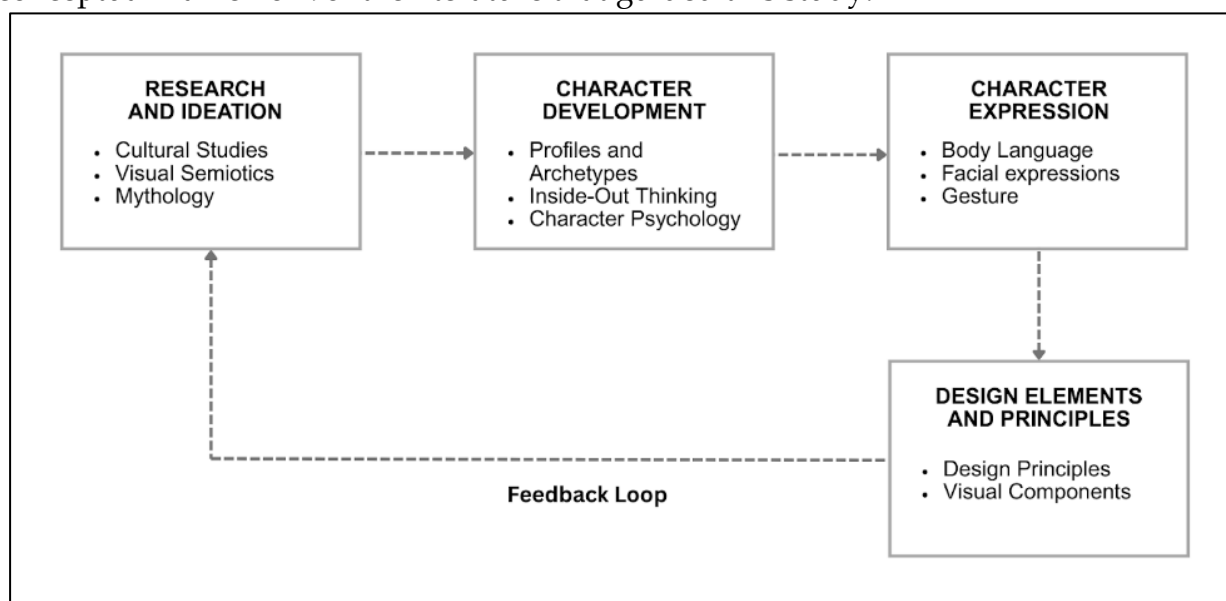


Figure 1. Framework for Developing Culture-Based Character Design
 Source: Compiled and Interpreted by the Researcher

C. Interview Findings

The character design process is divided into four stages of the character design process using a four-stage theoretical framework. To gather practical and teaching ideas, local cultures are incorporated/captured in the character design process, which has influenced the character design process through structured interviews and data collection based on structured interviews. As seen in the profiles provided (Table 2), all five interviews were completed by three creative practitioners and two educators working in the community.

Table 2. Profile of Interview Informants

Source: Compiled and Interpreted by the Researcher

Code	Role	Experience
C1	Local Creator	Freelance comic illustrator and comic artist with a background in designing children's books. Created the comic Mera Puti Emas, featuring characters from Indonesian folklore, including his work combining them with examples of modernized Indonesian folklore.
C2	Local Creator	Also an expert in producing comics and graphic novels with modern-style retellings of many of Indonesia's greatest classics from its legendary and mythological traditions such as The Grand Legend Ramayana and Garudayana.
C3	Local Creator	Proficient in cartooning, illustration, and using watercolor, he is known for producing significant comic works, including Karimata and Laosam, that are both considered silent and historical comic works. His comics have been displayed internationally, and he frequently judges cartoon and comic festivals in the country of China.
E1	Design Educator	As a lecturer for the Visual Communication Design Department at Ciputra University in Surabaya, Indonesia, he is currently an illustrator and visual graphic designer that can draw on a broad range of artistic styles for children's illustration, modern <i>ukiyo-e</i> art, ornamental designs, and urban pop design.
E2	Design Educator	Lecturer also an active member of the Indonesian comic community, regularly participating in exhibitions and numerous creative dialogue initiatives.

Through the selection of these two groups of informants, both industrial and educational perspectives were obtained for this study. Professional and educational knowledge can help provide a complete picture of how cultural values are integrated into the character design. Combining the perspectives of creative and educational practitioners has created an opportunity to improve the design education process by providing students access to skills that are relevant to the current market. Wei (2024) states that the integration of education and the professional world can enhance students' ability to master theoretical concepts and use those skills to solve problems and develop creative ideas.

Based on the professional backgrounds of the informants, the interviews were developed according to a structured interview guide to facilitate discussion regarding the cultural, visual, and pedagogical aspects of character design. The full structured interview instrument is presented in Table 3.

Each of the interview questions listed in Table 3 was created to explore the character design process within the context of culture, visual semiotics, and mythology in detail. Additionally, conducting the interviews was intended to validate the overall theoretical framework and discover the nuances of the practical implementation of the framework in the real world. Thus, these interviews have the dual purpose of validating theory and applying it to the real-world experiences of the informants, thus helping to connect theory and practice for professional creative practitioners and for individuals interested in a thorough understanding of professional character design (Son, 2024).

Table 3. Interview Question Instrument

Source: Compiled and Interpreted by the Researcher

Process Stage	Focus	Questions for Local Creators	Questions for Design Educators
Research and Ideation Process	Cultural Research and Contemporary Adaptation	How do you balance research findings with creative needs to ensure designs remain original while appealing to the global market?	What strategies do you use to ensure students don't simply imitate external aesthetics but instead develop culturally rooted, original, and adaptive characters?
Character Development	Cultural Identity Integration	In the character development process, particularly during the profiling and archetype formation stages, how do you integrate cultural identity or local traditions? Have you ever faced a dilemma between preserving cultural authenticity and meeting popular market demands?	How do you guide students in integrating local cultural identity into the formation of character profiles and archetypes? What challenges typically arise when students attempt to incorporate cultural narratives into character design?
Character Expression	Gestures and Cultural Expression	How much do facial expression/video images, body gestures, and types of costumes create cultural messages in the art we create? What is the greatest difficulty we face when trying to translate cultural symbols to visual language that will allow for a clearer understanding by young audiences?	What methods have you found, when teaching students how to use their gestures, physical characteristics, and types of costumes, to allow students to discover cultural meaning in their work? Is there an established method of evaluating the conveyance of visual semiotic accuracy in student creations?
Elements and Principles of Design	Mythology and Aesthetics Adaptation	How do you adapt elements of mythology or local legends to make them relevant in popular media? Are there specific design principles you prioritize when incorporating mythological symbols into character design?	To what extent has local mythology been utilized in student assignments or projects? How do you encourage students to balance modern stylization with the preservation of mythological symbolic values?

Once the interview question instrument was constructed, the responses from each informant were thematically analyzed to identify commonalities in responses and pedagogical implications of these themes. Thematic analysis allowed the qualitative data to be condensed into meaningful key insights that were used to guide the instructional design of the module. Thematic analysis assists researchers in identifying and developing goals and objectives through data analysis and from data in order to refine their curriculum to align with the cognitive and creative developmental needs of the students (Peebles et al., 2022).

Table 4 summarizes the synthesis of insights from educators and creators, highlighting how each stage of the design process can be structured to balance authenticity, aesthetics, and contemporary appeal.

Table 4. Summary of Interview Synthesis with Educators and Creators

Source: Compiled and Interpreted by the Researcher

Process Stage	Focus	Educator Perspective (Initial Theme)	Creator Perspective (Initial Theme)	Module Implications
Research and Ideation Process	Cultural Research and Contemporary Adaptation	Students are not yet able to fully balance modern visual styles with mythological symbolism due to limited research depth and a tendency to focus on ornamental elements.	Market priorities and audience appeal often dominate over cultural authenticity, leading to compromises in adaptation.	The module should emphasize in-depth research, cultural element analysis, and adaptive strategies that preserve authenticity while remaining responsive to contemporary market demands.
Character Development	Integration of Cultural Identity	Pedagogical strategies focus on guiding students to integrate cultural identity through research, reinterpretation of folk tales, and the translation of cultural values into visual form.	Cultural research is positioned as the foundation for character creation, using folk narratives combined with modern visual styles.	The module needs to strengthen components of cultural research, exploration of folklore, and creative reinterpretation exercises to help students develop culturally grounded yet modern characters.
Character Expression	Gestures and Cultural Expression	Students begin to express cultural elements through design yet often struggle with maintaining costume logic and consistency in visual detail.	Facial expressions and gestures play a crucial role in representing cultural identity and enriching character narratives.	The module should include focused exercises on costume design, character attributes, expressions, and gestures, emphasizing consistency and logical coherence in visual storytelling.
Elements and Principles of Design	Mythology and Aesthetic Adaptation	Evaluation of visual semiotics focuses on the depth of cultural meaning rather than decorative embellishment.	Key challenges in adapting cultural symbols for younger audiences include limited references, difficulties selecting authentic elements, and maintaining relevance of cultural messages.	The module should teach critical semiotic analysis and adaptation strategies for cultural symbols, ensuring students move beyond surface-level ornamentation toward meaningful visual integration.

Interviews conducted with educators and creators using thematic analysis uncovered recurring gaps in cultural interpretation and visual character design. Educators highlighted a significant lack of semiotic understanding and depth of research when students developed their designs, while creators indicated that market demands often took precedence over preserving cultural authenticity. This information provides insights that will inform the formation and objectives of the module being created.

DISCUSSION

This section analyzes and contextualizes the outcomes of the phases associated with designing, developing, implementing, and evaluating the program. It elaborates on how the components of the module structure, including worksheets and validation methodology, were developed from the findings of the analysis phase. Each phase of analysis provides an opportunity for further discussion regarding the rationale used in designing the program, as well as the instructional issues and pedagogy of the program, which are derived from the results of the analysis and are grounded in theory and professional experience.

A. Design Stage

Based on the results obtained during the analysis phase, a pedagogical structure for the character-design module was created. During the Analysis Phase earlier), it was found that many students struggled to find the right balance between creating aesthetically pleasing work and being authentically representative of the culture. They tend to feel that style is more important than substance and have been taught that both needs exist. The analysis findings revealed that the strategies in the design process were designed to help students integrate cultural values into the visual design process while still allowing them to express their creativity visually. As part of this process, the character design module was designed to support students in creating characters that represent both current media and local cultural narratives (GeJunJie, 2025).

The character design module was designed to be academically rigorous, while also having real-world relevance, by meeting the instructional standards of the Ministry of Education and Culture (Kemendikbud Ristek DIKTI) and combining this with the flexibility offered by the Merdeka Curriculum. By combining these two efforts, the character design module supports both guided and creative exploration of how students can use their cultural identity as a context for their designs in today's digital world. From both pedagogical and professional perspectives, the character design module emphasizes culturally and contextually relevant visual design education through research-based visual experimentation, semiotic interpretation, and applied reflective storytelling.

Additionally, providing differentiated learning through both content and instructional strategy has been identified as the best way to meet the varied ability levels and learning styles of students (Pujiastuti & Retnosari, 2024), which corresponds with the findings emerging from interviews that demonstrate the diverse ability levels of students in their ability to comprehend and reconstruct cultural values. Thus, when designing the module, the designers included opportunities for flexibility in the design to enable students to progress through the module based on their potential while aligning with the learning outcomes of character-design education.

Furthermore, the module was divided into interrelated modules, with each module corresponding to a pedagogically informed curriculum and providing a separate instructional purpose. These interrelated modules collectively provide cultural understanding and develop creative skills.

1. Module Identity

Developed through the Visual Communication Design (VCD) program, this module focuses on Character Development based on Local Cultural Influences. This section defines the Module Identity (Module Title, Instructor, Semester, and Alignment to Program Learning Outcome-CPL).

2. Initial Competencies

Students in the VCD programme must possess basic illustration, design principles, and visual research skills. Completion of the initial competencies allows students to move from creating visually appealing works to exploring the cultural contexts of visual works.

3. Module Objectives

Based on interviews with students, the objectives should reflect the basis of the development of students' ability to develop and expand their narrative and cultural beliefs. The objectives merge the aesthetic and technical skills of the student with their critical view of symbols, myths, and moral values in visual stories.

4. Content Mapping

Content Mapping, as outlined by the instructors, notes that cultural research undertaken by students should involve research into Folklore, Mythology, and Acculturation Studies. This cultural research will be a key component of the design process and provide a basis for ensuring that local cultural content is made relevant to a global audience while balancing the need to maintain and develop local cultural identity with the need for it to be able to adapt to the global design standard.

5. Teaching Material Analysis

The process of selecting and creating teaching materials is influenced by the findings of the analysis phase related to common problems (such as over-reliance on general visual references during design). By emphasizing thoroughness in research and developing semiotic awareness, students will be taught how to interpret visual culture rather than merely replicating it.

6. Exercise Development

The sequence of exercises is based on a project-based approach, beginning with the research and reinterpretation stages through to the creative execution of their final project. Additionally, providing these exercises with links to the Sustainable Development Goals (SDGs) serves to connect the universality of human values with local cultural representation and to impart ethical and social relevance to their projects.

7. Assessment Instruments

When designing the methods for assessing student work, we created evaluation criteria that reflect not only the technical and aesthetic quality of the work but also the depth of African Culture (Cultural & Semiotic Indicators) as expressed through that technical and aesthetic quality. The three assessment indicators are: 1) Cultural Relevance, 2) Narrative/Cohesion, and 3) Ability to Translate into Media on an International Level.

B. Media Selection

Interviews indicated that successful Cultural Adaptation requires an understanding of how to adapt content (e.g., ideas or images) when designing across different media. The module will therefore expose students to several different forms of media (e.g., comics, animation, game assets, and digital illustrations) to encourage media adaptability while heightening students' sensitivity to audience and context.

To summarize, the analytical insights on which the design phase was based provided the structure of an instructional framework for an integrated model of pedagogy, meaning-making through culture, and aesthetics of creative expression. This module maintained each of its elements in relation to its pedagogical rationale and provided for

the integration of cultural research, creating opportunities for creative exploration within academically rigorous and profession-relevant contexts.

C. Development Stage

The development of this module now focuses on the systematic creation of learning materials, media, and instructional tools. A focus on constant iteration and pedagogically sound coherence resulted in the ability to build a modular, interactive environment that supported educational motivation while also meeting the identified needs of the previous phases of the design and development process (Azzahrah et al., 2022).

According to the teaching standards established by the Ministry of Education and Culture, a prototype module was created, which included a clear learning goal, organized activities designed to help students achieve this goal, and clearly measurable results on the Visual Communication Design program (Ayu Sakdiyyah & Wahjoedi, 2022).

Through a combination of a thorough literature review, a wide array of interviews, and insights gained during the design phase, best practices have been established, thereby providing both academic rigour and contextual significance within the industry. Together, they form an integrated framework of formal education and the creative industry's responsiveness to cultural values. The incorporation of cultural semiotics and visual storytelling activities into the prototype module ensures that the module will continue to foster reflective practice, adaptability, and strong cultural connections for its users throughout their learning (Qian, 2024).

As shown in Table 5, the following module activity framework provides an easy-to-follow means by which educators may adopt these selected pedagogies for use in their classrooms. Not only do these stages of learning function as a method of providing procedural direction for students, but they also serve as a graduated structure of knowledge development alongside the ways in which students are expected to complete authentic character design in a professional capacity. The module framework provides students with the opportunity to understand how research, creation, and evaluation fit together in the process of becoming professional character designers as automata for real-life applications.

Table 5 Module Activity Framework for Local Wisdom-Based Character Design

Source: Compiled and Interpreted by the Researcher

Process Stage	Module Stage	Activity Focus
Research and Ideation Process (Initial)	1. Cultural Research	Cultural Identity
	2. Visual Symbol Exploration	Visual Semiotics
	3. Initial Character Sketches	Cultural Translation into Visuals
Character Development	4. Characterization & Narrative	Character Profile
Character Expression	5. Expression & Gesture	Dynamic Visualization
Design Elements and Principles	6. Design Refinement	Visual Refinement
Research and Ideation Process (iteration)	7. Popular Relevance Testing	Adaptation to Popular Media
Documentation & Reflection	8. Documentation of Work	Presentation & Reflection

In summary, the development phase combines the analysis and design data into one instructional prototype structured in a pedagogically sound manner that preserves cultural authenticity while allowing for creative adaptation. This framework enhances methodological clarity while extending the applicability of the modules to both academic and industry learning situations.

D. Implementation Stage

The transition from building concepts into practice to applying them to a classroom occurred during the implementation stage. During the implementation stage, the Prototype Module was developed into a Structured Worksheet that provided a systematic approach to applying the Learning Framework through hands-on and measurable Experiences. The objective of the project-based learning (PBL) approach was to provide a means of utilizing the Theory of Learning Principles to create an effective tool to take students through the step-by-step mechanism of developing culturally relevant character designs.

The structured worksheets for this project were created based on The Principles of Project-Based Learning (PBL), which links the development of conceptual understanding and the execution of creative abilities. The structured worksheets create a connection between These Theoretical Aspects of Learning and Creative Application by providing hands-on experiences (Anugraha & Padmadewi, 2023).

To accomplish the organization of the worksheet into eight interrelated stages, the focus of the worksheet was to provide a progression of learning activities from cultural inquiry to visual articulation, and finally to reflective evaluation. Table Six summarizes the eight stages of the worksheet, showing the various ways in which the module's conceptual framework has been implemented through practical, process-based tasks. For each stage, the table identifies the learning focus, principal activity, and expected results.

Table 6. Implementation Stages of the Local Culture-Based Character Design Worksheet

Source: Compiled and Interpreted by the Researcher

Module Stage	Worksheet Activity Description	Expected Output
Cultural Research	Identify one cultural source (location, myth, legend, or tradition) as the foundation for character development. Compile a mood board using valid and credible references.	Summary of cultural research, including the basic narrative of the character derived from research findings. Mood board based on verified sources.
Visual Symbol Exploration	Translate research findings into a visual symbol bank consisting of clothing, colors, patterns, and gestures supported by simple semiotic analysis.	Contextual and meaningful visual symbol bank reflecting the selected cultural source.
Initial Character Sketches	Produce at least three variations of initial sketches referencing popular character benchmarks in the target medium.	Three variations of initial character sketches. Character design concept notes (short narrative and cultural integration). Visual benchmark mood board referencing target media (comics, games, animation, etc.).
Characterization and Narrative	Develop a complete character profile including name (with cultural etymology), background, personality, and archetype. Test the narrative for coherence with the visual design.	Characters with clear narrative profiles (name, background, personality, archetype). Visual and narrative integration where design and story reflect the chosen cultural source.
Expression and Gesture	Create facial expressions and body poses consistent with personality, archetype, and cultural values.	Facial expression sheet (minimum of 4 variations). Body gesture sheet (2-3 poses). Brief notes explaining the relationship between expression, gesture, and the character's cultural background.
Design Refinement	Refine sketches into a complete character design sheet including turnarounds, expressions, gestures,	Complete character design sheet consisting of turn-around model (minimum 3 viewpoints plus 1

Module Stage	Worksheet Activity Description	Expected Output
	and a color guide with symbolic meanings.	perspective), 5 facial expressions, 3 body gestures, costume and accessory details, color guide with symbolic explanations, and a brief cultural narrative.
Popular Relevance Test	Create mock-ups of the character within a popular media context (comics, games, animation). Conduct limited testing with audiences and cultural experts for feedback.	Character prototype in popular media (mini-comic, game mock-up, or animation clip). Documentation of testing process and feedback results. Analysis and recommendations for design refinement.
Documentation and Reflection	Compile a comprehensive portfolio including the design process, the results, and critical reflections.	The portfolio documents the complete process of creating a culture-based character design through seven specific stages. This includes student reflections about the design process and the challenges they faced in order to learn more about creating culturally based characters. The portfolio will be ready for publication/exhibition.

Through the development of this learning instrument, the implementation of the Initial Design Worksheet proved that the knowledge gained in earlier stages could be translated into an effective pedagogical model for the later stages. The Initial Design Worksheet helped support independent research and creativity through an easily reproducible and adaptable format applicable to any creative paradigm, including educational contexts that promote culturally responsive design practice.

E. Evaluation Stage

In the evaluation phase of the project, several experts evaluated the worksheet, confirming its pedagogical quality and cultural relevance. Two design educators (who had previously participated in the interview phase) were asked to provide a qualitative evaluation of the module objectives, content, and alignment with instruction. Experts evaluated the technical format of the materials and their expected effects on students' cognitive and emotional growth (Bourkee et al., 2020 ; Surikova & Sidorova, 2023).

The feedback provided by experts identified several areas that could be improved: expanding the use of ethical citation practices in relation to visual images, increasing the diversity and variation of sketches to increase the opportunity for creative exploration, and further incorporating emotional and geometric elements to improve expressiveness (Tamir et al., 2004). The contributions of experts clearly illustrate that for cultural character design to be successful, visual accuracy and emotional depth, as well as opportunities for reflection and engagement, are required.

Table 7 summarizes the feedback received from the validators and the changes made to the module based on that feedback, showing the extent to which feedback from validators enhanced the module's instructional coherence. Enhancements include expanded sketching guidelines, refined characterization profiles with emotional dimensions (Hamby et al., 2023), and the integration of shape theory to establish visual-symbolic consistency in character design (Roberson et al., 2022).

Table 7. Summary of Validator Input and Module Follow-Up/ Revision

Source: Compiled and Interpreted by the Researcher

Module Stage	Validator Input	Follow-Up / Revision
Stage 1: Cultural Research	E1: Include the name of the creator or photographer in the original source.	The worksheet instructions were revised to require students to record the name of the creator or photographer on both the mood board and reference list.
Stage 3: Initial Sketches	E1: A minimum of three sketches is insufficient; each design approach should produce two to three sketches, resulting in a total of six to nine initial sketches.	The instructions were revised so that each design approach must produce multiple variations to enhance creative exploration.
Stage 4: Characterization	E1: Add personality aspects such as <i>likes</i> and <i>fears</i> , as identifying these traits early in development deepens character consistency and narrative coherence.	The character profile guidelines were expanded to include emotional dimensions and character preferences.
Stage 5: Expression and Gesture	E1: Integrate <i>basic shape theory</i> , which associates triangles with antagonistic characters, squares with assertive personalities, and circles with friendly traits, as described in studies on geometric archetypes in character design. E2: Increase the number of expressions beyond 3–4 by including basic emotions (happy, sad, surprised) and distinctive expressions (e.g., wry smile, frown).	The worksheet now includes visual examples of basic shape theory and provides detailed instructions for adding expression variations, including both basic emotions and distinctive expressions.

As a group, the results of the validation provide evidence of the transition of the module from one merely designed through many iterations into a full-fledged pedagogical framework by connecting cultural preservation with visual communication and preparing future designers to succeed in the creative industries (Vindigni, 2023). These adjustments represent the emphasis placed by all participants in the validation on culturally responsive and systematic design education as a key component in developing and preparing designers who are global yet local in their competitiveness.

CONCLUSION

Through literature analysis, interviews with creators and design educators, and validation by expert reviewers, this study successfully produced a systematic, pedagogically grounded, and culturally relevant learning framework for the integration of cultural identity into design education through a module for character design. The results indicate that the module connects theoretical understanding to creative practice via a structured process that incorporates cultural research, visual exploration, sketching, characterization, and design of the character's expression. Each stage includes both aesthetic and symbolic dimensions of character design. The results show that characters designed using the module embody local cultural identity, appear visually appealing, and are appropriate for contemporary popular media.

What makes this study unique is the integration of pedagogical design methodology with cultural semiotics and the application of this integration to creative industries. Previous work has primarily focused on either the visual technique of character design or the cultural aspects of character design; this study includes both dimensions within an educational framework. This enables students or practitioners to effectively transform local cultural narratives into visually designed characters, and the inclusion of expert validation enhances the academic and practical aspects of the module.

The validation results provided several key improvements: the addition of original visual sources, increased personality attributes, increased variation in sketching and the ability to express emotions, and the inclusion of basic shape theory to reinforce emotional consistency and the symbolism of characters. This has resulted in more comprehensive and flexible modules that support skill development and promote the protection of cultural identity through design education.

The developed module is a validated instructional design framework that incorporates cultural identity into visual communication design education. It represents an example of how to create a sustainable cultural preservation model that will allow you to build your skillset creatively while also serving as a strategic connection between the heritage of the past and the innovation of today, thereby strengthening Indonesia's creative economy.

As far as the limitations of this study are concerned, the only method used to evaluate the module was through limited scale evaluation by experts. Future research should address this limitation by implementing a quantitative or mixed methodology approach to assess the effectiveness of this module in developing students' creative ability, their awareness of culture, and their application of cultural values within their design practice. It is highly recommended that future research involve a wider pool of design students and creative practitioners to statistically measure learning outcomes. and validated the model's scalability across different creative disciplines and digital learning environments.

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