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Development of a Metal Craft Learning Package Based on Local Ornamental Motifs for Extracurricular Students

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Abstract

This study aimed to develop and evaluate a metal craft learning package based on local ornamental motifs for students participating in extracurricular visual arts activities at SMK Negeri 2 Makassar. The study employed a Research and Development approach adapted from the Borg and Gall model and organized into three phases: needs analysis, product development, and evaluation. The learning package consisted of a teacher's guidebook, student handbook, metal craft textbook, presentation media, and student creativity assessment instrument. The participants were 32 extracurricular students. Data were collected through observations, interviews, expert-validation questionnaires, student-response questionnaires, creativity assessments, and documentation. Quantitative data were analyzed descriptively using mean scores and a five-point conversion scale, while qualitative data were analyzed through classification, interpretation, and conclusion drawing. The material expert validation produced an overall mean score of 4.31, while the media expert validation obtained 4.23, both categorized as excellent. The one-to-one, small-group, and large-group trials yielded overall mean scores of 4.55, 4.43, and 4.45, respectively, indicating a high level of practicality. Observations and participant responses showed that the visual examples, step-by-step procedures, and local motif illustrations helped students understand design development, repoussé techniques, and artwork-finishing stages more systematically. In the large-group trial, the mean student creativity score reached 84, exceeding the Minimum Mastery Criterion of 75. These findings indicate that the developed learning package met the criteria of validity, practicality, and effectiveness and was suitable for supporting local culture-based metal craft learning in extracurricular activities.

Introduction

Arts education is not merely oriented toward the acquisition of technical skills in artistic production; it also functions as a medium for the holistic development of students' potential, encompassing creativity, aesthetic sensitivity, reflective capacity, critical thinking skills, and cultural awareness (Lukaka, 2023; Samaniego et al., 2024; Costes-Onishi et al., 2025). Within the context of contemporary education, arts learning occupies a strategic position because it enables students to construct aesthetic experiences through participatory, contextual, and experience-based learning processes (Rohidi, 2018). Arts education is therefore no longer understood solely as an activity aimed at producing visual works, but rather as a process of cultivating artistic ways of thinking that encourage students to engage in interpretation, visual exploration, creative problem-solving, and reflection on their socio-cultural environment. In addition, arts education contributes to strengthening students' appreciative abilities toward cultural values through artistic experiences that are directly connected to the socio-cultural realities of society (Rosala, 2016; Suryadmaja, 2025). Consequently, the substance of arts

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education extends beyond the mastery of conceptual knowledge and practical artistic skills to include the development of cultural awareness and the ability to appreciate art as an integral component of education (Shagaya, 2025; Shao & Yu, 2026; Djafar et al., 2026). In line with the evolving paradigm of arts education, contemporary arts learning no longer focuses exclusively on the final artistic product; instead, it places greater emphasis on creative experience, artistic processes, and the formation of students' cultural identity as essential learning objectives (Nugraheni, 2019; Chiu & Hwang, 2026; Guixuan & Wenyu, 2026).

In this regard, educational institutions hold a strategic responsibility in preserving local culture through arts learning grounded in regional wisdom (Milandari et al., 2026; Indhra et al., 2026; Nurmaya et al., 20260. Culture-based education is considered capable of strengthening students' cultural identity while simultaneously establishing meaningful connections between learning experiences and the socio-cultural realities of the community (Rohidi, 2018). Within visual arts education, craft education represents an important field because it bridges creative processes with community cultural identity through the development of symbols, ornaments, and traditional motifs in artistic works. The diversity of local cultures and varying geographical conditions should not be viewed as obstacles in arts learning; rather, they constitute potential sources of inspiration and visual resources for artistic creation (Rosala, 2016; Zhong et al., 2026; Terraferma & Simeone, 2026). In visual arts, ornamental motifs are visual representations that possess not only aesthetic value but also symbolic, historical, and cultural significance. Therefore, the application of flora, fauna, and regional ornamental patterns in metal craft artworks constitutes a form of local identity reinforcement as well as a strategy for revitalizing regional visual culture through students' creative activities. The integration of local culture into arts learning has also been shown to enhance creativity, cultural sensitivity, and students' awareness of the importance of preserving regional cultural heritage (Nugraheni, 2019).

Metal craft art is a branch of craft art that emphasizes manual dexterity and technical craftsmanship in its production process. Metal craftworks function not only as decorative objects but also as artistic, symbolic, and cultural artifacts associated with the visual traditions of society. The creation of metal crafts requires mastery of techniques, material understanding, design capability, and the gradual and continuous exploration of creative ideas. Consequently, metal craft learning cannot rely solely on theoretical approaches; it requires intensive practical experiences that enable students to comprehensively understand working processes while simultaneously developing exploratory artistic abilities. Practice-based learning in arts education is considered effective in fostering creativity, vocational competence, and exploratory skills because it facilitates learning through direct experience and gradual artistic production processes (Yanto & Fadhilah, 2022). Thus, the development of practice-oriented metal craft learning based on local ornamental motifs becomes essential not only for improving students' technical skills but also for constructing contextual artistic experiences rooted in local culture.

Nevertheless, metal craft learning in schools continues to face various challenges, particularly in the development of creativity based on local ornamental motifs (Qilu et al., 2026; Jalil et al., 2024). The application of local motifs in metal craft artworks remains relatively limited, including within educational institutions that formally teach metal craft art. This condition indicates that metal craft learning still tends to focus primarily on mastering basic techniques and has not optimally integrated local cultural values as a source of students' creative development (Rohidi, 2018). Within arts education, the integration of local culture is important because it establishes connections between students' artistic experiences and their community's cultural identity (Rosala, 2016). Previous studies on culture-based arts learning

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have generally concentrated on character education, cultural appreciation, and two-dimensional art instruction, whereas the development of metal craft learning based on local ornamental motifs within vocational high school extracurricular activities remains relatively underexplored. Preliminary observations revealed that one contributing factor is students' limited ability to develop metal craft designs that integrate technical skills with the application of local ornamental motifs. Furthermore, the absence of learning packages or instructional materials specifically designed to support creative metal craft learning has become a major obstacle in the instructional process. The availability of contextual and culturally grounded teaching materials is considered influential in enhancing creativity, aesthetic experience, and the overall quality of students' learning experiences in arts education (Nugraheni, 2019; Tao & Tao, 2024; Luo, 2026).

These challenges become increasingly apparent in Cultural Arts learning at vocational high schools, where instructional time allocation is limited to two class hours per meeting. Such time allocation is considered insufficient to support metal craft learning, which requires sequential working stages ranging from design introduction and technical mastery to motif application and artwork finishing. In fact, the process of creating metal crafts demands repeated practice to enable students to master technical procedures effectively. In practice-based arts learning, direct experience and repetition are crucial factors in developing students' artistic and vocational competencies (Yanto & Fadhilah, 2022). In this context, extracurricular activities provide a more flexible and strategic learning space for supporting students' metal craft skills because they allow more intensive and sustainable artistic exploration.

Extracurricular activities fundamentally serve as enrichment and developmental programs associated with both co-curricular and intracurricular learning. These activities provide students with opportunities to develop interests, talents, creativity, and social competencies through more applicative and participatory experiences. Through extracurricular programs, students gain opportunities to improve communication skills, collaboration, experimentation, and deeper artistic exploration. Moreover, the flexible scheduling of extracurricular activities enables metal craft learning to be conducted more intensively than in regular classroom settings. Extracurricular activities also contribute to character development, creativity enhancement, learning experiences, and the construction of students' cultural identity through contextual and experience-based activities (Rosala, 2016).

Based on these conditions, there is a need to develop a learning package capable of supporting metal craft learning processes in a systematic, practical, and contextual manner. The proposed learning package is expected not only to assist students in understanding metal craft techniques but also to guide them in exploring local ornamental motifs as sources of inspiration for artistic creation. Accordingly, metal craft learning should not merely emphasize technical mastery but also strengthen local cultural identity through students' creative activities. The development of local culture-based instructional materials has been considered effective in increasing creativity, student engagement, and the quality of learning experiences in arts education (Nugraheni, 2019).

The novelty of this study lies in the development of a metal craft learning package that integrates local ornamental motifs as the primary visual source within vocational high school visual arts extracurricular activities. Unlike conventional metal craft instruction, which generally focuses on basic technical mastery, this learning package is designed to connect practical skills, visual exploration, and creativity development based on local culture within a structured learning system. Another distinctive contribution of this study is the development of a local motif-based metal craft learning package specifically designed for extracurricular

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contexts in vocational high schools. Consequently, the package functions not only as a practical instructional resource but also as a medium for strengthening students' cultural identity through artistic creation processes. Through the implementation of this learning package, metal craft learning is expected not only to improve students' artistic craftsmanship but also to deepen their understanding of the cultural values embodied in local ornamental motifs.

Methods

This study employed a Research and Development (R&D) approach to develop a metal craft learning package based on local ornamental motifs for extracurricular students at SMK Negeri 2 Makassar. The development procedure was adapted from the Borg and Gall (1973) model and simplified into three main phases: needs analysis, product development, and evaluation. The learning package consisted of a teacher's guidebook, student handbook, metal craft textbook, presentation media, and student creativity assessment instrument. The study involved 32 students participating in the metal craft extracurricular program. The Borg and Gall model was selected because it provides systematic procedures for developing and evaluating educational products (Rahmatin et al., 2025).

The needs analysis was conducted through a literature review, classroom observations, and interviews. These activities were used to identify existing learning conditions, limitations in instructional materials and media, students' difficulties in developing local ornamental motifs, and teachers' instructional needs. The qualitative data were descriptively analyzed through data classification, interpretation, and conclusion drawing. The findings were then used to formulate the learning objectives, instructional content, practical procedures, visual media, and assessment instruments. Needs analysis is essential in development research because it identifies the gap between actual learning conditions and expected instructional requirements (Pramono et al., 2020).

The initial product was validated by material and media experts using five-point assessment questionnaires. Material validation assessed the teacher's guidebook, student handbook, textbook, learning media, and creativity assessment instrument. Media validation assessed cover design, content layout, illustrations, presentation media, readability, and usability. Expert comments and recommendations were used to revise the instructional procedures, technical terminology, motif examples, illustrations, font size, and visual layout before the product trials. Expert validation is required to ensure the content feasibility, visual quality, and instructional usability of a developed educational product (Nieveen, 2013).

The product trials were conducted through one-to-one, small-group, and large-group stages. The one-to-one trial examined the readability, clarity, attractiveness, and ease of use of the learning package. The small-group trial evaluated its practicality during metal craft activities, particularly in motif development and repoussé practice. The large-group trial involved all 32 students and evaluated the practicality and effectiveness of the final product. During this stage, students completed the learning activities from motif design and metal forming to repoussé practice and artwork finishing. Gradual product trials are important for identifying usability problems and evaluating students' responses to culture-based instructional products (Kusumastuti et al., 2021).

Data were collected through observations, interviews, expert-validation questionnaires, student-response questionnaires, creativity assessments, and documentation. Quantitative data obtained from the validation and trial questionnaires were analyzed descriptively by calculating the mean score using the formula:

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$$\bar{X} = \frac{\sum X}{N}$$

where $\bar{X}$ is the mean score, $\sum X$ is the total score obtained, and N is the number of ratings. The mean scores were converted into five categories: 4.21–5.00 was categorized as excellent, 3.41–4.20 as good, 2.61–3.40 as moderate, 1.81–2.60 as poor, and 1.00–1.80 as very poor. Descriptive quantitative analysis was used to determine product validity, practicality, and effectiveness, while qualitative data from observations, interviews, and expert comments were analyzed through classification, interpretation, and conclusion drawing (Haviz, 2016; Sugiyono, 2019).

The learning package was considered valid when the material and media validation results reached at least the "good" category. It was considered practical when student evaluations in the one-to-one, small-group, and large-group trials reached at least the "good" category. Product effectiveness was determined from students' creativity assessment scores in the large-group trial using the Minimum Mastery Criterion of 75. The package was considered effective when the mean creativity score reached or exceeded the predetermined criterion.

Results and Discussion

Needs Analysis

The needs analysis was conducted through field observations and interviews with the extracurricular teacher and students. The findings showed that metal craft learning was primarily delivered through direct explanations and simple demonstrations. Although basic tools and materials were available, the learning process was not supported by structured instructional materials, practical guidelines, or adequate visual media. Consequently, students depended heavily on the teacher's explanation during each stage of the production process.

Observations indicated that learning activities were more focused on basic metal-forming techniques than on the development of students' visual ideas. Students were generally able to follow basic technical instructions, but many experienced difficulties when asked to develop independent designs, arrange motif compositions, and integrate local ornamental elements into their artworks. Their initial products tended to use simple forms and showed limited exploration of local cultural characteristics.

The students demonstrated greater interest when learning involved direct practice, demonstrations, images, and examples of completed artworks. They were more active during hands-on activities than during theoretical explanations. However, students frequently required repeated explanations when identifying ornamental elements, transforming motifs into metal craft designs, and following the sequential stages of the repoussé technique.

The extracurricular teacher also reported difficulty in presenting the materials systematically because no specific learning package was available. The teacher required instructional materials containing clear learning stages, visual examples, practical procedures, and assessment guidelines. The limited instructional time in regular Cultural Arts classes further restricted the implementation of metal craft activities, whereas extracurricular sessions provided greater flexibility for repeated practice and individual guidance.

These findings indicated the need for a structured, practical, and visually supported learning package integrating local ornamental motifs, particularly Torajan decorative patterns. The package was expected to support teachers in organizing instruction and assist students in understanding design development, metal-forming procedures, motif application, and artwork finishing.

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Development of the Learning Package

Based on the needs analysis, a metal craft learning package was developed consisting of a teacher's guidebook, student handbook, metal craft textbook, presentation media, and student creativity assessment instrument. The materials covered the basic concepts of metal crafts, Torajan ornamental motifs, motif-design development, repoussé techniques, metal-forming procedures, and finishing stages.

The teacher's guidebook contained learning objectives, instructional procedures, media-use guidelines, practice stages, and assessment procedures. The student handbook provided step-by-step instructions for completing the practical activities. The textbook presented conceptual and technical materials supported by examples of ornamental motifs and metal craft products. The presentation media included process illustrations, motif examples, and visual demonstrations of the working procedures.

The learning activities were organized progressively, beginning with the observation of local motifs, selection and modification of visual elements, design preparation, motif transfer, repoussé practice, metal forming, and artwork finishing. This structure was intended to reduce students' dependence on repeated verbal instructions and enable them to follow the practical stages more independently.

Material Expert Validation

Material expert validation evaluated the content quality, instructional organization, cultural relevance, and suitability of the learning-package components. The overall mean score was 4.31, categorized as excellent. The teacher's guidebook obtained the highest mean score of 4.40, while the student handbook obtained the lowest score of 4.25. Nevertheless, all components reached the excellent category.

Table 1. Material Expert Validation Results

No.	Learning Package Component	Mean Score	Category
1	Teacher's guidebook	4.40	Excellent
2	Student handbook	4.25	Excellent
3	Metal craft textbook	4.26	Excellent
4	Learning media	4.35	Excellent
5	Student creativity assessment instrument	4.28	Excellent
	Overall mean	4.31	Excellent

The validator considered the learning content relevant to the objectives of extracurricular metal craft instruction. The organization of the materials was also considered sufficiently systematic to guide students from motif introduction to artwork completion. The integration of Torajan decorative patterns was assessed as appropriate for strengthening the local cultural orientation of the package.

However, the validator recommended clarifying several practical procedures, simplifying technical terminology, and adding more visual examples of local ornamental motifs. Additional examples were particularly required to show how traditional motifs could be selected, modified, and transformed into metal craft compositions. Based on this feedback, the procedural explanations were refined, difficult terms were simplified, and additional design examples were included before the product trials.

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Media Expert Validation

Media expert validation assessed the visual quality, layout, readability, illustrations, presentation media, and usability of the learning package. The overall mean score was 4.23, categorized as excellent. The textbook cover design obtained the highest score of 4.44. The guidebook content layout and presentation media received scores of 4.16 and 4.11, respectively, and were categorized as good.

Table 2. Media Expert Validation Results

No.	Assessment Component	Mean Score	Category
1	Cover design of teacher's and student's guidebooks	4.22	Excellent
2	Guidebook content layout	4.16	Good
3	Textbook cover design	4.44	Excellent
4	Textbook content layout	4.22	Excellent
5	Presentation media	4.11	Good
6	Student creativity assessment instrument	4.25	Excellent
	Overall mean	4.23	Excellent

The validator assessed the package as visually appropriate for extracurricular students, particularly in terms of the use of motif illustrations and examples of completed artworks. Nevertheless, several pages required improvements in image placement, font size, spacing, and visual consistency. The presentation media also contained sections that were considered too dense and required simpler visual organization.

The revisions included enlarging several procedural illustrations, improving the arrangement of text and images, adjusting font sizes, simplifying presentation slides, and adding clearer visual sequences of the metal-forming process. These revisions were intended to help students distinguish each practical stage and reduce confusion during independent practice.

One-to-One Trial

The one-to-one trial evaluated the readability, clarity, visual attractiveness, and ease of use of the learning package. The overall mean score was 4.55, categorized as excellent. Presentation media received the highest score of 4.66, indicating a particularly positive response to the visual presentation of motifs and working procedures.

Table 3. One-to-One Trial Results

No.	Learning Package Component	Mean Score	Category
1	Student handbook	4.57	Excellent
2	Metal craft textbook	4.56	Excellent
3	Presentation media	4.66	Excellent
4	Student creativity assessment instrument	4.41	Excellent
	Overall mean	4.55	Excellent

During the trial, students showed strong interest in the images, motif examples, and step-by-step illustrations. They were able to identify the sequence of metal craft activities more easily when the explanation was supported by visual examples. Students also indicated that the language in the handbook and textbook was generally understandable.

However, observations showed that some students still hesitated when interpreting technical terms and distinguishing between the stages of motif design, transfer, and metal forming. They also required additional examples showing how a traditional motif could be simplified without losing its main visual characteristics. Based on these responses, several terms were replaced

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with more accessible expressions, and additional process illustrations were incorporated before the small-group trial.

Small-Group Trial

The small-group trial evaluated the practicality of the package during actual metal craft activities. The overall mean score was 4.43, categorized as excellent. The metal craft textbook received the highest score of 4.60, while the student creativity assessment instrument received a score of 4.15 and was categorized as good.

Table 4. Small-Group Trial Results

No.	Learning Package Component	Mean Score	Category
1	Student handbook	4.55	Excellent
2	Metal craft textbook	4.60	Excellent
3	Presentation media	4.42	Excellent
4	Student creativity assessment instrument	4.15	Good
	Overall mean	4.43	Excellent

Observations during the learning process showed that students were more actively involved in selecting motifs, preparing designs, and practicing the repoussé technique. The visual examples helped them understand how Torajan ornamental elements could be adapted into metal craft compositions. Students also used the textbook and handbook to review the working stages without relying entirely on repeated teacher explanations.

Despite these positive responses, several students experienced difficulty in balancing motif placement, determining the appropriate size of decorative elements, and maintaining consistent pressure during metal forming. Some students focused heavily on copying the provided examples rather than developing their own variations. The teacher therefore provided additional guidance on motif modification and composition development.

Students also required clearer explanations of the creativity assessment indicators. Several participants found it difficult to distinguish between originality, composition, technical accuracy, and finishing quality. Accordingly, the assessment instructions were simplified, additional design alternatives were provided, and the practical guidelines were refined before the large-group trial.

Large-Group Trial

The large-group trial involved all 32 extracurricular students and evaluated the practicality and effectiveness of the final learning package. The overall student-response score was 4.45, categorized as excellent. The metal craft textbook obtained the highest score of 4.60, while all other components also received excellent evaluations.

Table 5. Large-Group Trial Results

No.	Learning Package Component	Mean Score	Category
1	Student handbook	4.40	Excellent
2	Metal craft textbook	4.60	Excellent
3	Presentation media	4.39	Excellent
4	Student creativity assessment instrument	4.39	Excellent
	Overall mean	4.45	Excellent

Observations showed that students were able to follow the learning stages from motif selection and design preparation to repoussé practice and finishing. Most students used the visual

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materials to check the working sequence and correct their designs during practice. Their completed artworks displayed variation in motif selection, composition, shape development, and finishing.

Students appeared particularly engaged when adapting Torajan ornamental elements into their own designs. Some students combined more than one decorative element, while others simplified the original motif to suit the available metal surface. The learning package therefore provided sufficient guidance while still allowing students to make individual visual decisions.

Several technical difficulties remained, particularly in controlling pressure during the repoussé process, maintaining line consistency, and completing the finishing stage neatly. Nevertheless, these difficulties could generally be addressed through teacher guidance and repeated practice. Students reported that the visual examples and procedural explanations helped them identify mistakes and complete the work more systematically.

The teacher's response also indicated that the package made the instructional process easier to organize. The teacher was able to use the guidebook to structure the sequence of activities, while the student materials reduced the need to repeat all practical instructions individually. The assessment instrument also assisted the teacher in evaluating the artworks using more clearly defined criteria.

The mean student creativity score was 84, exceeding the Minimum Mastery Criterion of 75. This result demonstrates that the learning package met the predetermined effectiveness criterion and supported satisfactory student achievement in producing metal craft artworks based on local ornamental motifs. Taken together, the validation, trial, observation, and participant-response data indicate that the learning package fulfilled the criteria of validity, practicality, and effectiveness for use in extracurricular metal craft learning.

The expert validation results demonstrated that the local ornamental motif-based metal craft learning package was categorized as "excellent," with a mean score of 4.31 from material experts and 4.23 from media experts. These findings indicate that the learning package fulfilled the requirements of content feasibility, systematic presentation, visual design quality, and alignment with the instructional objectives of metal craft learning within extracurricular activities. The high validation scores further suggest that all components of the learning package including the teacher's guidebook, student handbook, textbook, presentation media, and student creativity assessment instruments were systematically integrated to support gradual practice-based learning.

The validity of the learning package was also reflected in its alignment with the actual needs of metal craft instruction in schools. The needs analysis revealed that previous learning practices were primarily oriented toward mastery of basic techniques and were not supported by systematic instructional materials. Accordingly, the developed learning package became highly relevant because it provided contextual, applicable, and user-friendly instructional resources for extracurricular activities. The integration of local ornamental motifs, particularly Torajan motifs, demonstrates that arts education functions not only to develop technical skills but also to strengthen local cultural identity through contextual artistic experiences.

The practicality of the learning package was reflected in the evaluations provided by both teachers and students, all of which fell within the "excellent" category throughout every trial stage. Teachers reported that the learning package facilitated a more systematic instructional process because it was equipped with clear usage guidelines, working procedures, presentation media, and evaluation instruments. From the students' perspective, the learning package was considered easy to understand because it employed communicative language and was

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supported by visual illustrations relevant to the stages of metal craft practice. The presentation media obtained the highest score during the one-to-one trial, indicating that visually delivered materials were capable of increasing students' interest in metal craft learning. The use of visual media in practice-based instruction helps students understand working procedures more concretely, enhances learning attention, and strengthens learning experiences through direct observation of forms, colors, and visual processes presented during instruction (Handayaningrum, 2016; Yanto & Fadhilah, 2022). In addition, visually and demonstratively presented materials contribute to increasing students' engagement in creative processes because students are able to directly observe the relationship between concepts, techniques, and artistic outcomes (Kusumastuti et al., 2021).

The practicality of the learning package was also evident in its flexibility within extracurricular activities. Unlike regular classroom instruction, which is constrained by limited instructional time, extracurricular activities provide broader opportunities for students to intensively explore artistic production processes. The developed learning package was capable of accommodating the characteristics of extracurricular learning because the materials were designed to be applicative and oriented toward direct practice (*learning by doing*). Consequently, students were able to actively learn through hands-on artistic experiences. Practice-based instructional approaches have been shown to increase student engagement, strengthen contextual learning experiences, and support creativity development through direct artistic exploration (Badral et al., 2024; Yanto & Fadhilah, 2022). Furthermore, extracurricular activities grounded in arts and local culture also provide flexible spaces for students to develop creativity, collaboration, and cultural appreciation through continuous practical activities (Syafiulia & Annur, 2026). Within the context of local culture-based arts education, instructional processes that position students as active participants are considered more effective in developing cultural understanding while simultaneously strengthening students' artistic competencies in an applicative manner (Darmaji, 2025; Salam, 2020).

The effectiveness of the learning package was demonstrated by the results of the student creativity test in the large-group trial, which achieved a mean score of 84 and exceeded the Minimum Mastery Criterion (MMC) of 75. These findings indicate that the learning package effectively assisted students in understanding metal craft techniques while simultaneously improving their ability to produce artworks based on local ornamental motifs. The achievement of learning mastery suggests that the implementation of the learning package had a positive impact on the metal craft learning process within extracurricular activities.

Students' creativity improvement was reflected in their ability to develop more varied metal craft designs after using the learning package. Prior to the implementation of the package, students tended to imitate simple example forms and had not yet demonstrated the ability to independently develop motifs. Following practice-based and visually oriented learning, students became more capable of exploring forms, compositions, and the application of Torajan motifs within metal craft artworks in more creative ways. This condition indicates that practice-based learning and visual exploration encourage students to develop artistic ideas more independently through direct artistic experiences (Yanto & Fadhilah, 2022). The integration of local cultural elements into arts learning has also been shown to expand students' visual imagination because traditional motifs provide rich sources of inspiration for artistic design development (Setyawan & Dopo, 2020). Within visual arts education, the use of local cultural motifs as learning resources contributes to enhancing aesthetic sensitivity, visual creativity, and students' ability to construct artistic identity through culture-based artistic production processes (Sari et al., 2023). Arts learning involving the exploration of local cultural forms and symbols also contributes to the development of students' creative thinking

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abilities because students are not merely reproducing available visual forms, but are actively interpreting and developing motifs according to their own artistic ideas (Pratiwi & Widodo, 2021; Suryadmaja, 2025b).

The integration of local ornamental motifs also contributed to strengthening students' local cultural identity. Through the learning process, students not only learned metal-forming techniques but also developed an understanding of the visual meanings and aesthetic characteristics of the regional motifs incorporated into their artworks. Thus, metal craft learning was not solely oriented toward technical competence but also functioned as a medium for introducing local culture through creative artistic activities.

Local culture-based metal craft learning represents one form of cultural integration within arts education. The use of local ornamental motifs demonstrates that local culture can serve as a relevant learning resource for fostering students' creativity. In this context, arts education functions not only to develop artistic skills but also as a means of cultural preservation through the transfer of cultural values and symbols to younger generations (Rohidi, 2018). The integration of local culture into arts learning also strengthens students' cultural identity because the instructional process connects artistic experiences with students' socio-cultural environments (Gunara, 2017). Furthermore, local culture-based arts learning provides opportunities for students to understand symbolic meanings, philosophical values, and regional aesthetic characteristics through contextual creative processes (Nugraheni, 2019).

Through metal craft learning, students gained direct experience in recognizing and developing local cultural elements into artistic forms. Local culture was therefore not merely understood theoretically but was internalized through artistic practice. In this sense, arts learning can function as an effective medium of cultural transmission because students actively participate in culture-based artistic production processes (Kusumastuti et al., 2021). Students' direct involvement in local culture-based artistic practices also contributes to the development of cultural awareness and appreciation for regional cultural heritage as part of the collective identity of society (Rosala, 2016). Within visual arts education, the creation of artworks grounded in local culture enables students not only to learn artistic techniques but also to understand the relationship between art, culture, and social life more comprehensively (Setyawan & Dopo, 2020).

The relevance of local ornamental motif-based metal craft learning within vocational arts education is reflected in its ability to connect practical competencies with the strengthening of local cultural identity. In vocational education, visual arts learning should not only emphasize vocational skill mastery but must also consider the development of creativity and cultural values within artistic processes. Therefore, the development of local culture-based metal craft learning packages becomes important as an effort to create arts learning that is more contextual, creative, and oriented toward the preservation of regional culture.

This study resulted in the development of a local ornamental motif-based metal craft learning package that fulfilled the criteria of validity, practicality, and effectiveness for implementation in extracurricular activities at SMK Negeri 2 Makassar. The developed learning package was capable of enhancing students' creativity and artistic craftsmanship through a systematic and local culture-based practice-oriented approach. The integration of local ornamental motifs, particularly Torajan motifs, was proven to strengthen students' appreciation of local culture through visual arts learning processes. Furthermore, extracurricular activities were shown to provide an effective learning environment for metal craft development because they offer greater flexibility and more intensive opportunities for practice compared to regular classroom instruction. Accordingly, local culture-based metal craft learning not only supports the

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development of students' artistic competencies but also contributes to regional cultural preservation efforts through arts education in vocational high schools.

Conclusion

This study successfully developed a local ornamental motif-based metal craft learning package that fulfilled the criteria of validity, practicality, and effectiveness for implementation in extracurricular activities at SMK Negeri 2 Makassar. The developed learning package consisted of a teacher's guidebook, student handbook, textbook, presentation media, and student creativity assessment instruments that were systematically organized, applicative in nature, and grounded in local cultural values. The results of material expert and media expert validations demonstrated that all components of the learning package were categorized as "excellent." Furthermore, the trial results indicated that the learning package was capable of assisting teachers in implementing instructional activities more systematically while simultaneously increasing students' engagement in the metal craft learning process.

The effectiveness of the learning package was reflected in the improvement of students' learning outcomes, with the creativity test achieving a mean score of 84, which exceeded the Minimum Mastery Criterion (MMC) of 75. The learning package was also proven effective in enhancing students' creativity in developing metal craft designs based on local ornamental motifs, particularly Torajan motifs, through a practice-oriented learning approach (*learning by doing*) and the use of communicative visual media.

Within the broader context of global educational research, the findings of this study contribute to the development of local culture-based art education models that position cultural heritage as a source of contextual and creative learning. This study reinforces the perspective that arts education functions not only to develop artistic competencies but also as a strategy for cultural preservation and the strengthening of younger generations' cultural identity through participatory learning processes. In addition, the findings demonstrate that the integration of local culture into vocational and extracurricular education can serve as an alternative educational approach in responding to the challenges of global cultural homogenization by reinforcing arts education practices rooted in local wisdom.

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References

Badral, L., Alam, M., & Candra, H. (2024). Strengthening creative character of students in Cumo Pulai Art Studio. *Indonesian Journal of Counseling and Development, 6*(2), 179–192. https://doi.org/10.32939/ijcd.v6i2.6044

Borg, W. R., & Gall, M. D. (1973). *Educational research: An introduction* (2nd ed.). David McKay Company.

Chiu, M. C., & Hwang, G. J. (2026). Enhancing student creative and critical thinking in generative AI-empowered creation: A mind-mapping approach. *Interactive Learning Environments*, *34*(2), 869-890.

Costes-Onishi, P., Shaik Kadir, M., & Vignesh, V. (2025). Advancing classroom pedagogies for 21st century competencies: insights from artist educators' teaching and artistic

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

sensibilities. *Arts Education Policy Review*, 1-16. https://doi.org/10.1080/10632913.2025.2562387

Darmaji, D. (2025). A case study of the Geti Asem Batik program in Indonesian elementary schools. *Al-Ishlah: Jurnal Pendidikan*. https://journal.staihubbulwathan.id/index.php/alishlah/article/view/7563

Djafar, N., Rahim, M., Bouti, S., & Zubaidi, M. (2026). Needs Analysis of Multicultural-Based Character Education in The Nusantara Dance I Course at The Department of Performing Arts Education. *International Journal of Science and Environment (IJSE)*, *6*(1), 458-473. https://doi.org/10.51601/ijse.v6i1.355

Guixuan, S., & Wenyu, L. (2026). Comparative Discursive Analysis of University Mission Statements: Insights From Chinese and American Higher Education. *Higher Education Quarterly*, *80*(1), e70093. https://doi.org/10.1111/hequ.70093

Gunara, S. (2017). Local knowledge system in music education culture at indigenous community Kampung Naga Tasikmalaya Regency. *Harmonia: Journal of Arts Research and Education, 17*(1), 35–43. https://doi.org/10.15294/harmonia.v17i1.8773

Handayaningrum, W. (2016). Science-based thematic cultural art learning in primary school (2013 curriculum). *Harmonia: Journal of Arts Research and Education, 16*(1), 105–115. https://doi.org/10.15294/harmonia.v16i1.6766

Haviz, M. (2016). Research and development: Penelitian di bidang kependidikan yang inovatif, produktif dan bermakna. *Ta'dib, 16*(1), 28–43. https://doi.org/10.31958/jt.v16i1.235

Indhra, F. M., Anshori, M., Nursabitha, M., Solihin, M., & Muzakki, M. (2026). Empowering Local Wisdom through Digital Storytelling: A Community-Based Literacy Program for Preserving Oral Literature in Bungo Regency. *Global Sustainability and Community Engagement*, *2*(1), 73-83. https://doi.org/10.62568/gsce.v2i1.567

Jalil, M. H., Abdullah, Q. D. L., Wong, N. R., Hoon, L. N., & Amaran, M. A. (2024). Art inheritance: Revitalizing traditional material culture motifs through innovative graphic design and artistic expression. *Journal of Graphic Engineering and Design*, *15*(4), 5-17.

Kusumastuti, E., Rohidi, T. R., Hartono, H., & Cahyono, A. (2021). Community-based art education as a cultural transfer strategy in the Jaran Kepang art performance of Semarang Regency. *Harmonia: Journal of Arts Research and Education, 21*(1), 154–167. https://doi.org/10.15294/harmonia.v21i1.30181

Lukaka, D. (2023). Art education and its impact on creativity and critical thinking skills: A review literature. *International Journal of Arts and Humanities*, *1*(1), 31-39.

Luo, N. (2026). A critical review of current trends in art education research in mainland China: epistemological underpinnings, methodological practices and contexts. *International Journal of Art & Design Education*, *45*(1), 94-110. https://doi.org/10.1111/jade.12603

Milandari, B. D., Bilal, A. I., Garba, M. M., & Hafeez, M. (2026). The effectiveness of ethnopedagogy in revitalising local wisdom in formal education: A phenomenological review. *Indonesian Journal of Educational Development (IJED)*, *6*(4), 1260-1274. https://doi.org/10.59672/ijed.v6i4.5742

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Nieveen, N. (2013). Educational design research: An introduction. In T. Plomp & N. Nieveen (Eds.), *Educational design research* (pp. 10–51). Netherlands Institute for Curriculum Development (SLO).

Nugraheni, T. (2019). Pendidikan seni berbasis budaya lokal sebagai penguatan karakter bangsa. *Imajinasi: Jurnal Seni, 13*(1), 45–54. https://doi.org/10.15294/imajinasi.v13i1.21812

Nurmaya, A., Ramli, M., Atmoko, A., & Akbar, S. D. (2026). Integrating Local Wisdom into Moral and Character Education to Foster Students' Moral Reasoning: An Embedded Mixed-Methods Study. *Journal of Cultural Analysis and Social Change*, 74-88. https://doi.org/10.64753/jcasc.v11i1.3139

Pramono, A., Rahayuningtyas, W., Puspasari, B. D., & Ismail, A. I. H. (2020). Development educational material Topeng Malang with augmented reality technology support. *KnE Social Sciences, 4*(12), 630–642. https://doi.org/10.18502/kss.v4i12.7637

Pratiwi, I. A., & Widodo, W. (2021). Local culture-based art learning in improving students' creative thinking skills. *Harmonia: Journal of Arts Research and Education, 21*(2), 234–245. https://doi.org/10.15294/harmonia.v21i2.31984

Program Pascasarjana Universitas Negeri Makassar. (2010). *Pedoman penulisan tesis dan disertasi*. Badan Penerbit UNM.

Qilu, Q., Gee, L. L. S., Pangayan, V. B., Bo, L., & Shuyu, F. (2026). Innovative Transformation of Wenshan Zhuang Nationality Modern Design: Reconstruction of Traditional Craftsmanship Based on Wearable Art. *Online Journal of Art & Design*, *14*(2), 179.

Rahmatin, J. A., Larasati, S. A. N., & Alawiyah, R. (2025). A literature review: The implementation of the Borg & Gall development model in science learning. *Indonesian Journal of STEM Education, 7*(1), 40–46. https://journal.publication-center.com/index.php/ijse/article/view/1692

Rohidi, T. R. (2018). Pendidikan seni berbasis budaya dalam penguatan identitas nasional. *Harmonia: Journal of Arts Research and Education, 18*(1), 1–10. https://doi.org/10.15294/harmonia.v18i1.9503

Rosala, D. (2016). Pembelajaran seni budaya berbasis kearifan lokal dalam upaya membangun pendidikan karakter siswa di sekolah dasar. *Ritme, 2*(1), 17–26. https://ejournal.upi.edu/index.php/ritme/article/view/5078

Salam, S. (2020). Promoting cultural identity through arts education. *Advances in Social Science, Education and Humanities Research*. https://www.atlantis-press.com/article/125942945.pdf

Samaniego, M., Usca, N., Salguero, J., & Quevedo, W. (2024). Creative thinking in art and design education: A systematic review. *Education Sciences*, *14*(2), 192. https://doi.org/10.3390/educsci14020192

Sari, N. P., Wahyudin, A., & Mulyadi, M. (2023). Cultural-based visual art learning and students' creative development in secondary education. *International Journal of Education and Art Studies, 5*(1), 44–53. https://doi.org/10.46627/ijeas.v5i1.312

Setyawan, D., & Dopo, F. (2020). Strengthening national identity through the learning of east culture-based art education. *Harmonia: Journal of Arts Research and Education, 20*(1), 39–46. https://doi.org/10.15294/harmonia.v20i1.21711

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)

Shagaya, M. O. (2025). Integrating art and craft into early childhood education: A pathway to holistic skill development in Nigeria. *International Journal of Research and Innovation in Social Science*, *9*(7), 5140-5147.

Shao, H., & Yu, Z. (2026). Inclusive approaches to liberal arts education in the context of the creative economy: integrating access, engagement, and technological literacy. *International Journal of Inclusive Education*, *30*(4), 704-731. https://doi.org/10.1080/13603116.2025.2490594

Sugiyono. (2019). *Metode penelitian dan pengembangan (Research and Development/R&D)*. Alfabeta.

Suryadmaja, G. (2025). Semiotic analysis of John Fiske: The meaning of the song" Senja Kala Itu" by Gading Suryadmaja. *Jurnal Multidisiplin Sahombu*, *5*(03), 325-335. https://ejournal.seaninstitute.or.id/index.php/JMS/article/view/6511

Suryadmaja, G., & Saearani, M. F. T. (2025). Studi estetika seni pertunjukan di era global. *Cantata Deo: Jurnal Musik dan Seni,* *3*(1), 71–86. https://doi.org/10.69748/jmcd.v3i1.339

Suryadmaja, G., Di Biagi, I. W. K., Renda, R., Saearani, M. F. T., Halil, N. A., & Ningsih, D. P. (2025). Tradition Adaptation: Creativity and Innovation in the Sasak Community's Kecimol Performance by the Merpati Nusantara Ensemble in Mataram. *Jurnal Ilmiah Multidisiplin Indonesia (JIM-ID)*, *4*(12), 1093-1114. https://ejournal.seaninstitute.or.id/index.php/esaprom/article/view/7775

Syafiulia, S. H., & Annur, R. A. (2026). The implementation of local wisdom-based education: Karawitan extracurricular activities as a strategy for preserving local arts and culture. *Indonesian Journal of Local Wisdom Education,* *1*(2), 58–63. https://doi.org/10.26740/ijlwe.v1n2.p58-63

Tao, Y., & Tao, Y. (2024). Integrating aesthetic education in quality education: A bibliometric analysis of sustainable development perspectives. *Sustainability (2071-1050)*, *16*(2).

Terraferma, M., & Simeone, L. (2026). Reinterpreting attractions through design: new tourist activities as sources of new experiences. *Journal of Destination Marketing & Management*, *41*, 101115. https://doi.org/10.1016/j.jdmm.2026.101115

Yanto, A., & Fadhilah, N. (2022). Pembelajaran berbasis praktik dalam pendidikan seni rupa untuk meningkatkan kreativitas siswa. *Harmonia: Journal of Arts Research and Education, 22*(2), 223–234. https://doi.org/10.15294/harmonia.v22i2.36241

Zhong, D., Pan, J., Li, R., & Luo, Q. (2026). Let residents interpret the artwork: connecting art and local communities by sharing local knowledge at rural art festivals. *Journal of Sustainable Tourism*, *34*(4), 1083-1107. https://doi.org/10.1080/09669582.2025.2537767

ISSN 2721-0979 (Print), ISSN 2721-1258 (Online)