ABDIMAS

Jurnal Pengabdian kepada Masyarakat

DOI: https://doi.org/10.15294/abdimas.v30i2.65315 | http://journal.unnes.ac.id/journals/abdimas/
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Shibori Dyeing Workshop as a Means of Creative Expression for Grade XI Students at SRMA 20 Sleman

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Abstract
Arts and culture lessons in many secondary schools still lean heavily on theory, and students at SRMA 20 Sleman had few chances to work with textiles themselves. This community service project gave 20 Grade XI students a shibori workshop in which they folded, tied, and dyed plain cotton tote bags using Itajime, Kumo, and striped folds. The team used a participatory approach: students chose their own folds and colours, while lecturers and university students guided them at each step. The workshop was evaluated through observation, assessment of the finished bags, and a short questionnaire. The targets were for at least 90% of students to finish one product and at least 80% to take an active part. Both were exceeded, as every student completed a bag and joined in the dyeing. The bags showed a wide range of motifs, and some students arrived at new motif variations even with limited materials. Turning a dyeing exercise into a usable product made the lesson more meaningful for the students. The printed module, e-module, and video produced for the workshop allow teachers to repeat the activity in arts and culture classes or extracurricular programmes.

Keywords: *arts and culture education; creative expression; shibori; textile craft; tote bag*

INTRODUCTION

Arts and culture education is meant to give students first-hand experience of expressing ideas, making artworks, and appreciating the work of others. Yet in many schools the subject is still taught in a conventional, teacher-centred way, and students spend more time listening than making. A needs analysis of arts and culture learning media in Yogyakarta, for instance, found that limited contact hours and insufficient space for reflection hinder deep learning (Zuhro, Cahyandaru, Sumiyati, & Fidianingsih, 2025). Similar findings have been reported for local wisdom-based arts and culture learning in senior high schools, where hands-on practice strengthened teacher–student collaboration and student appreciation, although limited practice time remained a constraint (Dwi Cahya & Handayaningrum, 2026).

This condition is potentially misaligned with the demands of twenty-first-century education, which emphasise the integration of the 4C skills, namely communication, collaboration, critical thinking for problem solving, and creativity and innovation (Pramudita, Praherdhiono, & Adi, 2021). Authentic learning experiences can be strengthened through project-based learning (*project-based learning*/PjBL) and project-based programmes such as the Pancasila Student Profile Strengthening Project (Projek Penguatan Profil Pelajar Pancasila/P5). Several studies have shown that PjBL in visual arts learning enhances student creativity (Gusti & Rahayuningtyas, 2025; Martina, 2025), whereas craft-based P5 fosters cooperation, independence, and responsibility (Khoir, Sartono, & Firdaus, 2025). Creative programmes beyond regular classroom routines have also been shown to develop the creative skills and self-confidence of senior high school students (Ginting & Rachman, 2026).

More specifically, explorations of textile art such as *ecoprint* and shibori have been reported to be effective learning media for enhancing students' creativity and skills. *Ecoprint* learning in Grade XI of a senior high school improved students' technical-artistic skills, engagement, and creativity (Difitri, Kadir, & Syam, 2021), and its implementation in a junior high school yielded artworks that were predominantly rated good to very good (Fahidayati & Winarno, 2026). With regard to the shibori technique, *tote bag*-making training for madrasah tsanawiyah (MTs) students was considered highly beneficial for participants (Budiastuti, Wening, Widihastuti, Retnasari, & Indadihayati, 2023), while shibori craft training for community members produced functional items such as bags, chair cushion covers, and wallets (Yulimarni, Ditto, Sundari, & Wahyuni, 2024). Shibori itself is a Japanese *resist dyeing* technique that creates motifs by manipulating fabric through folding, binding, stitching, or clamping prior to dyeing (Wada, Rice, & Barton, 1983).

The target partners of this programme were approximately 20 Grade XI students of Sekolah Rakyat Menengah Atas (SRMA) 20 Sleman. SRMA 20 Sleman is located on Jl. Karang Mojo, Bromonilan, Purwomartani, Kalasan, Sleman, Special Region of Yogyakarta. In general, the students possess basic artistic abilities, enthusiasm for creative activities, and access to relatively adequate school facilities. Nevertheless, arts and culture learning remains focused on introducing colour and form theory without in-depth exploration of applied textile-dyeing techniques. The students' family socio-economic backgrounds are also diverse; consequently, not all students have equal access to materials and creative activities outside school hours.

Based on the situational analysis and agreement with the partner, the priority problems addressed were: (1) limited access to practice-based arts learning, indicated by scarce opportunities for textile art practice, limited variation in creative learning methods, and the absence of a fabric-dyeing training programme that is simple, safe, and suited to the students' characteristics; and (2) suboptimal channelling of students' creative potential, indicated by a lack of avenues for creative expression, unequal access to materials owing to differing economic backgrounds, and limited experience of collaborative art-making. Furthermore, practice-based art activities at the school lacked guidelines that would allow them to continue after the training.

This community service programme aimed to provide students with hands-on experience of the shibori technique as a medium of creative expression, to offer a collaborative and equitable space for art-making, and to develop a practical guide that teachers can use for follow-up activities. The programme aligns with SDG 4 (quality education), as it contributes to enhancing the creative competencies and twenty-first-century skills of young people beyond the formal academic context. It also supports the Key Performance Indicators (Indikator Kinerja Utama) of higher education through the involvement of lecturers and students in off-campus activities, and is consistent with the Asta Cita national development agenda in improving the quality of human resources and strengthening the nation's creative culture.

METHOD

The programme was conducted under the 2026 Lecturers' Off-Campus Activities (Dosen Berkegiatan di Luar Kampus/DLK) community service scheme of the Faculty of Languages, Arts, and Culture, Universitas Negeri Yogyakarta, in partnership with Grade XI students of SRMA 20 Sleman (approximately 20 students). The activity was held on 18 August 2026 at SRMA 20 Sleman. As the partner is categorised as an economically non-productive group, the programme focused on two socio-community aspects: education, through enriching creative learning experiences in arts and culture learning; and creativity development, through shibori technique training as a means of artistic expression and appreciation.

The programme adopted a participatory, hands-on approach (*hands-on practice*), in which the partner was actively involved from planning through evaluation. This approach is consistent with the principles of *experiential learning*, in which knowledge is constructed through a cycle of concrete experience, reflection, conceptualisation, and active experimentation (Kolb, 1984). The scale of the activity was adjusted to the number of participants and the capacity of the school. The implementation stages are presented in Figure 1.

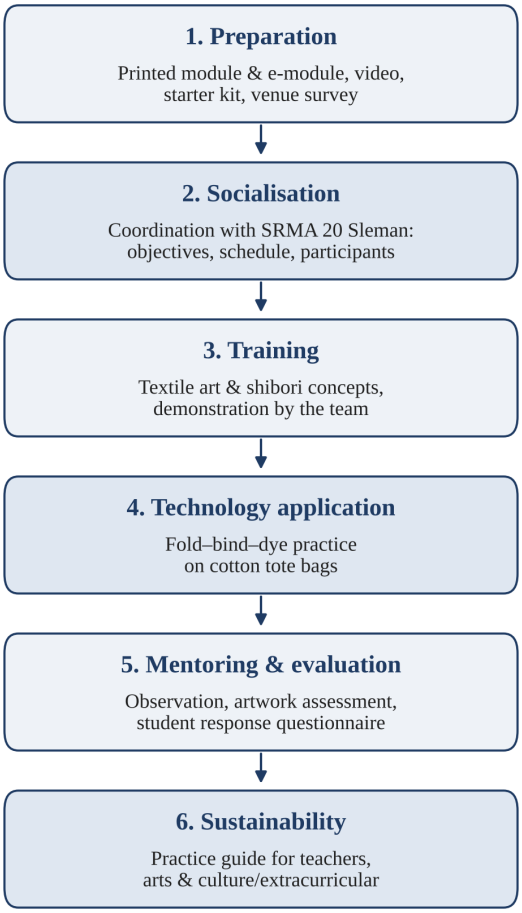


Figure 1. Implementation stages of the community service programme

The preparation stage comprised developing shibori learning materials in the form of a printed module and an e-module, producing a video tutorial, preparing tools and materials (*starter kit*), and surveying the training venue approximately one week before the activity. The socialisation stage was carried out through coordination with SRMA 20 Sleman to communicate the objectives, format, and benefits of the programme, and to agree on the schedule, venue, and number of participants. The training stage, the core of the programme, took the form of a shibori technique *workshop*. It began with an introduction to textile art and the basic concepts of shibori, followed by a step-by-step demonstration by the team, and then individual and group art-making practice. The technology application stage involved applying simple textile art technology, namely folding, binding, dyeing, and processing fabric on cotton *tote bags*, which can be easily applied in a school setting.

The mentoring and evaluation stage was conducted during and after the practice session to help students complete their artworks, understand the work stages, and apply occupational safety principles. Evaluation employed three instruments: an observation sheet of student participation and engagement, an assessment of the quality of the artworks produced, and a student response questionnaire on the activity. The sustainability stage was directed towards teachers' use of the shibori practice guide as an alternative for arts and culture learning and extracurricular activities.

The implementation team consisted of three lecturers and five university students. The lecturers were responsible for planning, material development, training delivery, mentoring, evaluation, and reporting, whereas the university students served as assistant facilitators who accompanied the participants during practice, documented the activities, and assisted with the evaluation process. The school provided the venue, helped coordinate participants, and accompanied the students, while the students participated in the entire series of activities, produced artworks, and provided feedback. The relationships among problems, solutions, expected outputs, and achievement indicators are summarised in Table 1.

Table 1. Problems, solutions, expected outputs, and achievement indicators

Priority problem	Solution	Expected output	Indicator
Limited practice-based arts learning	Workshop-based shibori technique training	Students are able to produce shibori artworks	≥90% of students produce at least one artwork
Students' creative potential not yet optimised	Group work and creative expression	Increased participation and self-confidence	≥80% of students actively engaged in the process
Lack of sustainability of art activities	Compiling a shibori practice guide	Simple practice module or guide	One guide document available and used

RESULTS AND DISCUSSION

Preparation and Overview of the Innovation

The preparation stage produced a set of shibori learning materials consisting of a printed module distributed directly to participants and an e-module that students and teachers can access at any time. The team also prepared a video tutorial on shibori making, enabling colour recipe measurements and work steps to be reviewed independently. The main materials prepared were plain white cotton *tote bags*, Remazol reactive dyes in several colours, and *waterglass* as a colour fixative. The innovation applied was a shift in arts learning from mere practice on fabric swatches to the production of a functional product, namely a shibori *tote bag* (Figure 2). Schematically, the *input* consisted of plain cotton *tote bags*, textile dyes, simple binding tools, and a practice guide; the process comprised folding and binding, dyeing, drying, and evaluation of results; and the *output* comprised shibori *tote bags* made by the students together with enhanced creativity and applied textile art skills. The specifications of the training package are presented in Table 2.



Figure 2. Shibori *tote bag* product design as the students' practical output

Table 2. Specifications of the shibori *tote bag* training package

Component	Specification
Main material	*Plain white cotton tote bag*, approximately 35 cm × 40 cm
Dyes and fixative	Remazol dyes (red, yellow, light blue, purple, brown) and *waterglass*
Auxiliary tools	Rubber bands, nylon thread, wooden/plastic clamps, basins/dye containers
Safety equipment	Plastic gloves and work mats
Guide	Printed module, e-module, and step-by-step video
Capacity	20 students; one tool set per 4–5 students
Working time	Approximately 150 minutes per training session

Material Delivery and Folding–Binding Practice

The training commenced with a presentation on shibori as a traditional fabric-dyeing art originating from Japan. The material covered a brief history and the variety of shibori techniques, including Kumo, Arashi, Miura, Nui, and Itajime, as well as examples of their use in Arts and Culture, Crafts and Entrepreneurship, P5 co-curricular activities, and extracurricular activities through a project-based learning approach. The techniques practised in this training focused on Itajime and Kumo, while allowing students to adapt the techniques according to their own creativity.

After the theory session, students directly practised fabric manipulation using three folding techniques: (1) triangular folding (Itajime), in which the fabric is folded in a repeating pattern to create a symmetrical effect; (2) spiral folding (Kumo), in which the fabric is twisted before binding to form a swirling pattern; and (3) line patterns, in which the fabric is folded horizontally or vertically to produce simple yet aesthetic striped patterns. Students were free to choose their folding technique in order to foster motivation and the courage to experiment, while the team and university students provided guidance when difficulties arose. After folding, the fabric was bound with rubber bands, and the team ensured that the bindings were tight and secure so that the dye resist would produce well-defined motifs (Figure 3).



Figure 3. Material delivery and fabric folding–binding practice

At this stage, 80% of the students and teachers were able to neatly fold and bind the tote bag fabric. The patterns and compositions of the folds and bindings were balanced and harmonious. The folding and binding techniques taught were implemented well, and the participants' overall folding and binding performance was very good.

Dyeing, Draining, and Unbinding

The subsequent stage comprised preparing the dye bath, dyeing, draining, sun-drying, washing, and *finishing*. Students were guided in measuring colour recipes according to the type and weight of the fabric; these measurements were also provided in the module and video tutorial. Dyeing was carried out using the immersion technique with Remazol dyes, and students were free to determine their colour combinations according to their own ideas. The team guided and directly assisted students who encountered difficulties during the dyeing process (Figure 4).



Figure 4. Dyeing and draining process of the *tote bags*

After dyeing, the bags were left to drain for a few minutes and then fixed before the rubber bands were taken off with the team's help. A shibori piece is considered successful when the areas held by the rubber bands stay clearly white, so that the motif stands out. The bags were then rinsed and hung to dry in the shade so the colours would not fade. Untying the bands turned out to be the part the participants enjoyed most, because no two bags looked the same.

Artworks and Achievement of Indicators

Figure 5 shows the students' finished bags. On the Itajime pieces, the repeated geometric motifs changed with the shape of the fold, whether isosceles triangles, equilateral triangles, or squares. Colour was not the only factor: how deep and at what angle a folded bundle was dipped also changed the result, so each bag turned out differently. The Kumo bags, by contrast, carried a burst-like motif spreading outward from the point where the fabric had been tied. Table 3 compares what the workshop achieved with the targets set during planning.



Figure 5. Grade XI students and teachers of SRMA 20 Sleman with their shibori *tote bags*

Table 3. Programme targets and results

Indicator	Target	Achievement
Students producing at least one shibori artwork	≥90%	All students produced shibori artworks
Students actively engaged in the process	≥80%	Every student took part in the dyeing session
Positive student response (questionnaire)	≥70	All students completed the questionnaire, with very satisfactory results
Shibori practice guide	One document	Printed module, e-module, and video

The questionnaire responses suggest that both students and teachers could carry out the shibori steps correctly. Because each participant tried out different ways of folding and tying, every finished bag had a character of its own. Going through the whole process, from planning the folds and choosing colours to seeing the result, gave students a complete creative experience rather than a single isolated exercise. The workshop followed Kolb's (1984) experiential learning cycle quite closely: students folded and dyed the fabric (concrete experience), looked at what appeared when the bands came off (reflection), and then tried a different fold on their next attempt (active experimentation). This pattern is consistent with findings that project-based learning in visual arts encourages students to explore ideas, utilise everyday materials, and produce original works (Gusti & Rahayuningtyas, 2025; Martina, 2025). The choice of the *tote bag* as a practice medium offered added value compared with practising on fabric swatches. A product that can be used daily fosters pride in one's own work and makes learning outcomes more meaningful. This is consistent with shibori training on *tote bags* for MTs students, which was considered highly beneficial for participants (Budiastuti et al., 2023), and with shibori craft training for community members that produced functional products with market value (Yulimarni et al., 2024). Findings in other textile arts likewise show that product-based practice enhances students' technical-artistic skills and engagement (Difitri et al., 2021; Fahidayati & Winarno, 2026).

In terms of equitable access, all materials and tools were provided during the training, so that differences in socio-economic background did not hinder students from exploring. Working in small groups (one tool set per 4–5 students) encouraged students to discuss, share tools, and appreciate one another's work, thereby also developing collaboration and communication skills. This aspect is relevant to character building through craft projects that foster cooperation, independence, and responsibility (Khoir et al., 2025), as well as to the strengthening of the 4C skills (Pramudita et al., 2021). In terms of sustainability, the printed module, e-module, and video tutorial enable teachers to replicate the activity without depending on the community service team. The materials used are relatively easy to obtain and affordable, allowing shibori to be integrated into Arts and Culture, Crafts and Entrepreneurship, P5, and extracurricular activities. The availability of simple, locally contextualised, and independently accessible learning media corresponds to the needs of arts and culture teachers identified in a previous study (Zuhro et al., 2025). The students' artworks also have the potential to be showcased in school exhibitions or developed into creative business opportunities.

CONCLUSION

The shibori technique training for Grade XI students of SRMA 20 Sleman was implemented through the stages of preparation, socialisation, training, application of simple technology, mentoring and evaluation, and sustainability planning. The innovation, a shibori *tote bag*-making training package, provided an applied textile art practice experience, ranging from folding techniques (Itajime, Kumo, and line patterns), binding, and dyeing with Remazol dyes to the production of a functional product. The programme also produced a printed module, an e-module, and a video tutorial that teachers can use for follow-up activities. For further development, the school is advised to integrate shibori practice into arts and culture learning, P5, or extracurricular activities on a scheduled basis, and to develop other technique variations such as Arashi, Miura, and Nui. Follow-up activities may be directed towards product design development and student art exhibitions, together with a more systematic measurement of creativity using pre- and post-training instruments.

DECLARATION OF GENERATIVE AI

The authors declare that no generative AI or AI-assisted technologies were used in the writing process of this manuscript.

CONFLICTING INTEREST STATEMENT

The authors state that there is no conflict of interest in the publication of this article.

FUNDING INFORMATION STATEMENT

This article was written by Cholis Mahardhika, Aida Roihana Zuhro, and Wahyono, Faculty of Languages, Arts, and Culture, Universitas Negeri Yogyakarta, prepared this journal article based on the report of the community service "Shibori Dyeing Workshop as a Means of Creative Expression for Grade XI Students at SRMA 20 Sleman". This work was funded under the 2026 Lecturers' Off-Campus Activities (Dosen Berkegiatan di Luar Kampus/DLK) community service scheme of the Faculty of Languages, Arts, and Culture, Universitas Negeri Yogyakarta. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the funding agency.

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