

Bamboo Music Learning to Foster Students' Cooperation Character in Raja Ampat

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Abstract

Character education in primary schools often prioritizes cognitive outcomes, leaving cooperation, an essential social character, with little contextual support, particularly where living cultural traditions could serve as a learning medium. This study aimed to describe how bamboo music learning was implemented and how it fostered students' cooperation character at SD YPK Getsemani Saporkren, Raja Ampat, Southwest Papua. A descriptive qualitative field study was conducted in July 2026. Data were gathered through classroom observation, interviews with one classroom teacher and five students, and documentation, and were analyzed through data reduction, data display, and conclusion drawing. Trustworthiness was established through source and technique triangulation and member checking. The cooperation-assessment rubric and lesson plan were validated by an expert and judged usable with minor revisions. Bamboo music learning was delivered in a structured sequence of planning, technique demonstration, group practice with instrument-role division, teacher guidance, and evaluation. Six cooperation behaviors emerged consistently across sources: mutual help, communication, task division, responsibility, respect for peers, and group cohesion. A supplementary rubric applied to five second-grade students ($n = 5$) produced a mean score of 96.0, in the very good category. Responsibility, discipline, self-confidence, and care for peers were also reported. Bamboo music appears to be a promising medium for combining local cultural preservation with character education, although the findings are limited to one school and a small group of informants.

Keywords: bamboo music; cooperation character; local culture; character education; elementary school

1. Introduction

Education is expected to shape learners' character as well as their academic knowledge. Among the values that schools cultivate, cooperation is fundamental because children in the primary years readily absorb and imitate the values modeled in their learning environment (Lickona, 2012). In practice, however, character education in elementary schools is often implemented in a limited and decontextualized way. Instruction tends to prioritize cognitive outcomes, and character values are not woven into learning activities, which may weaken students' cooperative attitudes in the classroom and in daily life (Rojas & Rojas, 2022).

Integrating local culture into learning is one promising response. Local culture carries wisdom and social values such as mutual cooperation (*gotong royong*), solidarity, and togetherness, and it can serve as a concrete medium and source of learning that connects

abstract school content to students' lived environment (Andrian, 2025; Pratama & Yunita, 2021). Traditional arts are considered especially suitable at the elementary level because they combine aesthetic and social-kinesthetic dimensions, allowing values to be internalized without doctrinal pressure (Dahri, 2018). Within the Merdeka Curriculum, such integration can be accommodated through thematic and co-curricular activities, including the Pancasila Student Profile Strengthening Project (Kemendikbudristek, 2022).

Bamboo music is a form of local culture with strong potential for character education. In Papua's coastal and island communities it has historically functioned as a collective activity and a means of social communication that binds villagers together (Kaisuku, 2021; Kakisina, 2010). It is also reported to embody discipline, cooperation, and responsibility (Majid, 2020; Pratama & Yunita, 2021). Playing in an ensemble requires rhythmic coordination, a division of roles among instruments (bass, tenor, and soprano), and mutual listening to keep the harmony, which indirectly shapes students' social character (Hallam, 2010).

Three bodies of theory explain why such activities may nurture cooperation: social learning theory, in which cooperative behavior develops through observation and imitation (Bandura, 2018); social constructivism, in which learning and moral development occur through social interaction (Vygotsky, 1978); and experiential learning, whose cycle of practice and reflection parallels an ensemble lesson (Kolb, 2015). Participatory music pedagogies associated with Orff and Kodály likewise begin with rhythm, movement, and group practice (Choksy, 1974; Orff, 1978). These ideas are discussed against the findings in Section 3.2.

Prior studies point in a similar direction. Bamboo music learning was reported to build positive character, including participation, discipline, and group involvement, among sixth-grade students at SDN Torire (Universitas Tadulako, 2023). An analysis of ensemble music practice at SDN 94 Lalong emphasized reviewing previous meetings, correct blowing technique, and player positioning to achieve musical cohesion (Universitas Negeri Jakarta, 2024). Character education based on traditional games was reported to improve elementary students' social attitudes and collaboration (Universitas Alma Ata, 2025). Yet the studies reviewed here concentrate on general character outcomes or musical skills, and none documents how cooperation emerges in a bamboo ensemble in an early-grade classroom of a remote Raja Ampat school linked to a local cultural studio.

This gap is pertinent to SD YPK Getsemani Saporkren in Saporkren Village, Raja Ampat. During a community service program in 2025, the first author made preliminary,

unsystematic observations of local children playing bamboo instruments spontaneously and inventively, using sandals as beaters, which suggested a natural inclination toward cooperation and togetherness. In school activities, however, the first author's preliminary observations indicated that some students tended to stand out individually at the start of lessons, followed the teacher's instructions unevenly in group work, and were inconsistent in keeping harmony during music practice. The school is close to Sanggar Mankonbon, a community studio that actively develops bamboo music, but the values of togetherness practiced there had not been fully internalized in students' everyday school behavior.

The aim of this study was to describe how bamboo music learning was implemented and how it fostered cooperation character among students at SD YPK Getsemani Saporkren. The study contributes contextual empirical evidence from a remote Papuan island setting and a set of observable cooperation indicators that teachers can use to plan and assess culture-based character education.

2. Method

This study used a descriptive qualitative approach within a field research design. The design suited the research problem because the aim was to understand a phenomenon in its natural setting, namely how cooperation emerges during bamboo music lessons, with the researcher as the key instrument and with emphasis on meaning rather than generalization or hypothesis testing (Sugiyono, 2019). The study was conducted at SD YPK Getsemani Saporkren, a private school under the Yayasan Pendidikan Kristen (YPK) in South Waigeo District, Raja Ampat Regency, Southwest Papua, founded in 1960. At the time of the study the school had eight teachers and 110 students. Bamboo music was one of its flagship programs, supported by a local cultural figure and the community studio Sanggar Mankonbon. Fieldwork took place on 13–16 July 2026.

2.1 Participants / Research Subjects

Informants were selected because they had direct experience of the bamboo music program. The main informant was one classroom teacher who also guided the bamboo music lessons (coded T1). Five students who took part in the activity served as supporting informants (S1–S5). The teacher provided information on how the lessons were implemented, whereas the students provided information on the cooperation behaviors they experienced. The cooperation rubric described below was applied to five second-grade students.

2.2 Instruments and Data Collection

Data were collected through observation, interviews, and documentation. Observation was conducted on 14 July 2026 during a bamboo music lesson, using a checklist of seven aspects of implementation (lesson preparation, opening, material delivery, instrument practice, group work, teacher guidance, and evaluation) and a four-point sheet for six cooperation indicators (active participation, responsibility, communication, mutual help, respect for others' opinions, and cohesion). Interviews followed written guides: ten questions for the teacher (implementation, objectives, methods, task division, obstacles, efforts to foster cooperation, behavioral change, and character values) and seven for students (enjoyment, group practice, individual tasks, helping peers, discussion, perceived benefits, and whether bamboo music improves cooperation). Photographs of learning activities served as documentation and supplemented the other two techniques.

A cooperation-assessment rubric and a lesson plan were also prepared. The rubric scored five indicators (active participation in group practice, performing tasks according to one's role, communication with group members, willingness to help members who struggle, and group cohesion and harmony) on a 1–4 scale, giving a maximum of 20. The final score was calculated as $(\text{total score} \div 20) \times 100$. One expert lecturer, the head of the Pancasila and Civic Education study program at UNIMUDA Sorong, validated both instruments. The rubric scored 17 of 20 (85%) and the lesson plan 31 of 40 (77.5%), and both were declared usable with minor revisions. The revisions added operational descriptors for each score level so that the boundaries between levels were explicit, linked the assessment and character-strengthening components of the lesson plan directly to the lesson steps, and corrected typographical and terminological inconsistencies. No reliability coefficient was calculated.

2.3 Data Analysis

Data were analyzed following the interactive model of Miles and Huberman (1984). In data reduction, observation notes, interview transcripts, and documentation were selected and grouped by focus: stages of implementation and six cooperation indicators (mutual help, communication, task division, responsibility, respect for peers, and cohesion). In data display, the material was presented as descriptive narrative, tables, and a triangulation matrix. Conclusions were drawn and verified by cross-checking sources and techniques. Trustworthiness was ensured through source triangulation (comparing the teacher's and students' accounts), technique triangulation (comparing observation, interviews, and documentation), and member checking, in which interview results were returned to the

teacher after transcription and some students confirmed their answers. Rubric scores were summarized descriptively.

2.4 Ethical Considerations

This minimal-risk educational study involved ordinary classroom activities. The authors provide a self-declared statement of compliance with research ethics; no formal ethics committee approval number is available. Research permission was obtained from the school. Participants' names were replaced with codes (T1, S1–S5) to protect confidentiality.

3. Results and Discussion

3.1 Results

Implementation of bamboo music learning. Observation showed that the lesson proceeded through planning, delivery, practice, guidance, and evaluation (Table 1). The teacher prepared lesson materials and bamboo instruments before the lesson and opened by explaining that it aimed not only at playing the instruments but also at training cooperation, discipline, and responsibility in a group. Playing techniques, including how to hold the instrument and how to blow or strike it according to its type, and each student's role were explained through demonstration. Students then practiced in groups whose members played different instruments; they coordinated with one another and helped peers who struggled, while the teacher corrected technique, gave encouragement, and reminded them to stay together. At the end, each group performed and received feedback on playing accuracy, cohesion, and cooperation.

Aspect	Observed result
Lesson planning	The teacher prepared lesson materials and bamboo instruments before the lesson began.
Opening	The teacher explained that the lesson aimed to train cooperation, discipline, and responsibility in addition to playing skills.
Material delivery	The teacher explained playing techniques and students' roles through demonstration.
Instrument practice	Students played the instruments according to the teacher's directions and the set rhythm.
Group work and guidance	Students practiced in groups with different instrument roles; the teacher corrected technique, motivated students, and reminded them to stay cohesive.
Evaluation	Each group performed, and the teacher gave feedback on accuracy, group cohesion, and cooperation.

Table 1. Observed implementation of bamboo music learning (observation, 14 July 2026)

Teacher interview. The teacher (T1) described the lessons as gradual: explaining techniques, demonstrating, and then letting students practice in groups “until they are able to play the

song together” (translated from Indonesian). The methods were demonstration, drill, and direct practice, starting from basic notes. Each student was assigned a different instrument, so every member had a role in producing harmonious music. Obstacles were few; the main one was differences in students’ ability, which called for repeated practice and guidance. The teacher reported that students had become more cohesive, more active in discussion, more responsible, and more willing to help one another, and rated their overall cooperation as good.

Student interviews. All five students said they enjoyed the lessons because the lessons were fun, involved playing with friends, and taught regional culture. They practiced in groups after the teacher’s demonstration and repeated the piece until it sounded cohesive. Each member had a different instrument task. When a friend did not understand, they demonstrated, explained again, encouraged, and practiced together. They often discussed tempo, mistakes, task division, and how to play more cohesively. The students reported becoming more disciplined, confident, and responsible, braver in performing before classmates, and closer to their friends. All of them said bamboo music improves cooperation because the song sounds harmonious only when members help, listen to, and respect one another.

Cooperation behaviors. Triangulating observation, the teacher interview, and the student interviews showed consistent evidence of six cooperation behaviors (Table 2). The three sources pointed in the same direction for every indicator, so the findings were regarded as consistently supported. Beyond cooperation, the teacher and students also reported responsibility, discipline, self-confidence, care for peers, communication skills, and mutual respect.

Indicator	Observation	Teacher interview	Student interviews
Mutual help	Students helped classmates who struggled.	Students were seen helping one another.	Students demonstrated and practiced together with friends.
Communication	Students discussed during practice.	The teacher guided group communication.	Students discussed tempo and mistakes.
Task division	Students played their assigned parts.	The teacher assigned roles by instrument.	Students knew their own tasks.
Responsibility	Students carried out assigned tasks.	Students were seen taking responsibility for their tasks.	Students recognized their responsibility in the group.
Respect for peers	Students listened to and supported classmates.	The teacher habituated respect for classmates.	Students did not mock and gave encouragement.
Cohesion	Students played together and followed the tempo.	The teacher stressed matching tempo.	Students said playing must be done together.

Table 2. Triangulated evidence for six cooperation behaviors

Rubric scores. The rubric was applied to five second-grade students (Table 3). The mean total score was 19.2 out of 20, equivalent to a mean final score of 96.0 in the very good category. Four students scored between 95 and 100 (very good), and one scored 85 (good).

Student	Grade	Total score (max. 20)	Final score	Category
S1	2	20	100	Very good
S2	2	20	100	Very good
S3	2	19	95	Very good
S4	2	17	85	Good
S5	2	20	100	Very good
Mean		19.2	96.0	Very good

Table 3. Cooperation-assessment results for five second-grade students

3.2 Discussion

The findings show that bamboo music learning at SD YPK Getsemani Saporkren was delivered as a structured, experience-based sequence of preparation, demonstration, group practice with role division, guidance, and evaluation, and that this structure created conditions in which cooperation behaviors surfaced. The sequence resembles the participatory logic of Orff and Kodály pedagogy, in which children learn through rhythm, movement, and group practice (Choksy, 1974; Orff, 1978), and it reflects Kolb's (2015) experiential cycle: concrete practice, reflection through evaluation, conceptual understanding of techniques and notes, and active experimentation in group performance. It is also consistent with the emphasis on correct technique and player positioning reported for ensemble practice at SDN 94 Lalong (Universitas Negeri Jakarta, 2024). What this study adds is that the teacher stated cooperation as an explicit lesson aim and used role assignment to make cooperation a requirement of the task rather than an incidental by-product. Success therefore depended not only on playing skill but also on the teacher's ability to act as a facilitator and role model who arranges learning situations in which students must cooperate (Arthur & Berkowitz, 2025).

Each of the six behaviors can be read against established theory. Mutual help, in which students demonstrated, explained again, and practiced with peers, illustrates Bandura's (2018) argument that social behavior develops through observation and interaction, which is consistent with students also learning from classmates who demonstrated and practiced with them. Discussion of tempo, mistakes, and playing methods reflects Vygotsky's (1978) view that social interaction lets learners exchange information, correct errors, and build shared understanding. Assigning each student a distinct instrument linked individual responsibility

to group success, in line with Hallam's (2010) observation that group music-making develops coordination, collaboration, and social skills; because every instrument contributed to the whole piece, each member's contribution became visible in the group's result. Respect for peers, shown in students not mocking and in giving encouragement, may be related to the need to accommodate differences in ability, which the teacher identified as the main obstacle. Cohesion, which students themselves linked to playing together and keeping the tempo, can be read as a product of the fact that harmony is impossible unless everyone keeps the tempo, listens, and adjusts.

Taken together, the behaviors formed a chain rather than isolated traits. Mutual help required communication; communication supported task division; task division required responsibility; responsibility had to be accompanied by respect for peers; and the whole process converged on group cohesion. This interdependence suggests why an ensemble instrument such as bamboo music is a fitting medium for cooperation: the musical result cannot be achieved by individuals alone, so the activity itself requires students to subordinate individual display to group harmony. This is a plausible interpretation consistent with social learning and constructivist accounts of character formation, not a mechanism this design could test directly.

The results extend earlier evidence that learning based on local culture strengthens collaboration, for example through traditional games (Universitas Alma Ata, 2025), by showing that a musical medium can serve a similar purpose. They agree with the report from SDN Torire that bamboo music learning supports discipline and participation in groups (Universitas Tadulako, 2023), while adding cooperation indicators observed in younger students. They also fit accounts of bamboo music as a collective, solidarity-building practice in Papuan communities (Kaisuku, 2021; Kakisina, 2010) and the view that local culture conveys values such as *gotong royong* (Andrian, 2025). In a setting where the school works with a local cultural figure and studio, students met these values through authentic practice rather than abstract instruction. The additional characters reported, namely responsibility, discipline, self-confidence, care for peers, and respect, are consistent with the view in the literature on culture-based learning that such media may engage cognitive, affective, and psychomotor aspects together (Pratama & Yunita, 2021), although this study did not measure those aspects separately.

The findings have practical implications. Teachers can design ensemble tasks in which each student holds a distinct instrument role, state cooperation explicitly as a lesson aim, and use

peer help to manage the mixed abilities that the teacher identified as the main obstacle. A rubric with operational descriptors for each score level, as developed here, can make cooperation observable and assessable. Schools can also involve cultural figures and community studios, which fits the Pancasila Student Profile Strengthening Project of the Merdeka Curriculum (Kemendikbudristek, 2022). Theoretically, the study supports the view that cooperation is formed through social interaction and experiential learning within culturally authentic tasks.

Several limitations qualify these findings. The study involved one school, one teacher, and five students, and observation covered a single lesson within four days of fieldwork, so the results are a context-bound snapshot that cannot be generalized. No baseline or comparison group was used, so the study cannot show that cooperation increased because of the program, and the teacher's statements about improvement are perceptions; the weaknesses noted at the outset, such as students who stood out individually, were not re-measured. The rubric scores were very high (four of five students scored 95–100), which may reflect a ceiling effect or lenient scoring, and inter-rater reliability was not tested. Young students' self-reports may be influenced by social desirability, the teacher was both facilitator and main informant, and the instruments were validated by a single expert.

4. Conclusion

This study aimed to describe how bamboo music learning was implemented and how it fostered cooperation character at SD YPK Getsemani Saporkren. The learning was implemented in a structured sequence of planning, technique demonstration, group practice with instrument-role division, guidance, and evaluation. Within these activities, six cooperation behaviors (mutual help, communication, task division, responsibility, respect for peers, and cohesion) were consistently observed and reported across sources and techniques, and a supplementary rubric gave a mean score of 96.0 among five second-grade students. Responsibility, discipline, self-confidence, and care for peers were also reported. The study contributes a context-specific account of how an ensemble grounded in local culture can make cooperation a practical requirement of learning, together with observable indicators for planning and assessing it. Given the design limits, bamboo music should be regarded as a promising medium rather than a proven intervention.

For practice, schools and teachers are encouraged to keep bamboo music as a culture-based program, assign every student a distinct instrument role, use peer help for mixed-ability

groups, and assess cooperation with descriptor-based rubrics. For future research, a pre–post or comparison-class design, or a mixed-methods design that adds a rubric completed by two independent raters, would test whether cooperation actually increases. Studies should also include several schools in Raja Ampat and more informants, such as principals, cultural trainers, and parents, and could examine other characters, including discipline, responsibility, creativity, and love of local culture.

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Author Contributions

Yuni Sardi Wairisal: conceptualization, methodology, investigation, formal analysis, writing—original draft. Anis Alfian Fitriani: supervision, validation, writing—review and editing. Endra Putra Raharja: supervision, writing—review and editing. All authors have read and agreed to the published version of the manuscript.

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