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Fostering Social Interdependence: Management of Cooperative Learning in Arts and Crafts to Enhance Collaborative Skills in Indonesian Elementary Schools

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Abstract. In the landscape of 21st-century education, the cultivation of collaborative skills is as critical as cognitive development. This study investigates the effectiveness of learning management within Arts and Culture and Crafts (SBdP) based on cooperative group strategies at SDN Dewi Sartika and SDN Sindangsari. Utilizing a qualitative descriptive approach within a Classroom Action Research framework, data were harvested through participant observation, in-depth interviews, and structured rubric assessments. The study reveals that a systematic management approach—encompassing strategic planning, heterogeneous organization, multimodal execution, and holistic evaluation—significantly enhances students' communication, empathy, and collective responsibility. The findings indicate that when Arts education is managed through the lens of social interdependence theory, it transcends aesthetic creation to become a medium for character building. The research concludes that structured group learning management acts as a scaffold for social competence, aligning with national character education goals. These insights offer a pedagogical blueprint for educators seeking to integrate soft skills development within creative subjects.

Keywords: Learning Management, Arts and Crafts, Cooperative Learning, Collaborative Skills, Elementary Education.

1 Introduction

The paradigm of elementary education in the 21st century has shifted from a solitary focus on cognitive accumulation to the holistic development of social and emotional competencies. Within the Indonesian context, this shift is codified in the national curriculum's emphasis on character education, specifically the formation of the Pancasila Student Profile, which highlights *Gotong Royong* (mutual cooperation) as a fundamental trait. However, the translation of this macro-policy into micro-pedagogical practice remains a significant challenge. While the curriculum mandates collaboration, the practical management of classroom dynamics often reverts to individualistic or competitive structures, leaving the development of cooperative skills to chance rather than design [1], [2].

The subject of Arts and Culture and Crafts (*Seni Budaya dan Prakarya* or SBdP) occupies a unique strategic position in this educational landscape. Unlike subjects heavily reliant on rote memorization, SBdP offers a psychomotor playground where students

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can interact physically and creatively. However, existing literature indicates that without effective management, group work in arts classes often devolves into chaotic play or unequal participation, where free riders rely on the work of diligent peers [3]. This study posits that the missing link is not the *method* of group work itself, but the *management* of that learning process—specifically the planning, organizing, actuating, and controlling (POAC) of cooperative interactions [4].

The theoretical underpinnings of this research are rooted in Vygotsky's [5]. Social Constructivism, which argues that higher mental functions originate in social relationships. Furthermore, Johnson and Johnson's [4]. Social Interdependence Theory provides the framework for distinguishing between mere group work and genuine cooperative learning, the latter requiring positive interdependence and individual accountability. In the context of Indonesian Islamic education management, this aligns with the concept of education as a practice of liberation [6]. By managing the learning environment to foster cooperation, educators liberate students from the isolation of individualism and the tyranny of competitive egoism, guiding them towards an emancipatory consciousness of shared responsibility.

However, a gap exists in current research regarding the managerial aspects of SBdP. Most studies focus on the aesthetic outcomes of art education or the general benefits of cooperative learning in subjects like Mathematics or Science. Few have explored the intersection of *Learning Management* and *Arts Education* as a vehicle for social skill acquisition in primary schools. This study addresses this lacuna by examining how teachers at SDN Dewi Sartika and SDN Sindangsari systematically manage SBdP lessons to construct an environment conducive to collaboration.

The necessity of this research is further underscored by the need for strategic approaches in improving education quality. As noted by Anwar and Sulaeman [7], employing strategic tools like SWOT analysis can help educators identify the internal strengths of their students (such as natural curiosity) and external opportunities (such as collaborative projects) to enhance learning outcomes. By applying a management lens to the creative classroom, this study aims to provide a descriptive-narrative analysis of how structured group learning can transform the chaotic energy of elementary students into productive, collaborative synergy.

Furthermore, this research integrates the perspective of Kindness-Based Leadership in education [8], [9]. In managing group dynamics, the teacher's role shifts from an authoritarian instructor to a compassionate facilitator who models empathy. This is crucial for preventing bullying and fostering a safe psychological environment, as highlighted by Maryati et al. [10]. Thus, the management of SBdP is not merely about organizing paint and paper; it is about organizing human relationships to foster a culture of care and cooperation.

2 Method

To investigate the nuances of learning management and its immediate impact on student behavior, this study employs a Qualitative Descriptive approach embedded within a Classroom Action Research (CAR) design. This methodological framework facilitates a deep, iterative examination of managerial interventions within their natural settings, focusing specifically on the how and why of the pedagogical process. The

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research was conducted at two public elementary schools in West Java, SDN Dewi Sartika and SDN Sindangsari, selected purposively for their diverse student demographics and established commitment to active learning strategies. The participants comprised four SBdP (Cultural Arts and Crafts) teachers and sixty fifth-grade students.

Data validity was ensured through rigorous triangulation. Participant observation covered the entire cycle of learning management—from material preparation to final art exhibitions—utilizing checklists to monitor specific indicators of cooperation, such as resource sharing and conflict resolution. Complementing this, semi-structured interviews with teachers and focus group discussions with students were conducted to probe perceptions of the group learning dynamic, supported by a documentation analysis of lesson plans and student portfolios. The gathered data were analyzed using the interactive model proposed by Miles, Huberman, and Saldaña [11], encompassing data condensation, display, and conclusion drawing. To guarantee the trustworthiness of the findings, the study incorporated member checking and prolonged engagement in the field.

3 Result

3.1. Strategic Planning and Organizational Architecture: Designing for Heterogeneity

The first and perhaps most critical finding of this study highlights that the success of cooperative learning is determined long before the students enter the classroom. At both SDN Dewi Sartika and SDN Sindangsari, the Planning phase is characterized by a deliberate Pedagogical Architecture. Teachers do not rely on the random assignment of groups, nor do they succumb to student preferences for friendship groups, which often reinforce social cliques. Instead, the data reveals a sophisticated, strategic approach to Heterogeneous Grouping and spatial engineering.

The Intentional Engineering of Social Collision In the analysis of the *Rencana Pelaksanaan Pembelajaran* (Lesson Plans) and teacher preparatory notes, it was evident that planning was treated as a high-level strategic operation. Teachers explicitly mapped out the class demographics using a multi-variable matrix that included academic ability, gender, artistic technical skill, and—crucially—social dominance. This meticulous preparation aligns with the Deep Learning-Based Planning Model as proposed [12], [13]. The planning was deeply contextualized; teachers did not merely copy administrative templates but engaged in a psychological profiling of their students.

For instance, a narrative from a planning session at SDN Dewi Sartika revealed a specific intervention strategy: a male student known for high artistic technical skill but low social patience (high dominance) was intentionally paired with a female student who possessed lower technical skill but high communicative empathy and mediation skills. This was not accidental. The teacher explicitly noted in the planning journal: *Target: Student A needs to learn patience through teaching, Student B needs technical confidence through peer-support.* This intentional engineering forces a zone of proximal development (ZPD) that is social as well as cognitive. It creates a structural necessity for interaction where students must rely on each other's complementary strengths

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to succeed. The planning document transforms from a mere administrative requirement into a social script designed to bridge gaps in student character.

Integrating Theological and Ecological Values in Material Planning Furthermore, the planning phase integrated complex axiological values, specifically Monotheism (*Tauhid*) and *Ecopedagogy*, adhering to the framework suggested [14], [15]. This was observed in the strategic selection of learning materials. In designing the SBdP projects—such as creating rhythmic musical instruments or dioramas—teachers prioritized the use of recycled materials (*barang bekas*). However, the management innovation lay in the *distribution* of these materials.

Teachers planned for a condition of Managed Scarcity. Instead of ensuring every student had their own scissors, glue, and waste materials, the lesson plans deliberately limited the resources available to each group. For a group of five students, only two pairs of scissors and one bottle of glue were provided. This scarcity was not due to a lack of school funds, but a planned pedagogical constraint to necessitate sharing. The lesson plans explicitly stated the objective: *Students will demonstrate ta'awun (mutual assistance) by negotiating the use of limited resources to complete the project.*

By embedding this constraint into the planning phase, teachers effectively operationalized the abstract Islamic concept of *Ta'awun* into a concrete logistical reality. The scarcity forced students to communicate (Can I use the glue after you?), wait their turn (patience), and manage time collectively. Thus, the moral curriculum was not preached; it was engineered into the material logistics of the lesson. This validates the integration of environmental awareness with spiritual values, where caring for waste (ecopedagogy) and caring for others (social piety) are interwoven in the planning stage.

The Organizing Function: Spatial Affordances The Organizing function extended beyond human resources to the physical environment. Observation data showed that teachers reorganized the classroom layout from traditional rows—which facilitate passive listening—to cluster islands or U-shaped group desks. This physical restructuring is a critical management decision that drastically alters the flow of information and power.

In traditional rows, the student's gaze is fixed on the teacher (Teacher-Centric), and peer interaction is physically difficult, often requiring turning around which is viewed as disruption. By shifting to cluster islands, the teachers removed the teacher-centric gaze and forced a peer-centric interaction. The physical arrangement created an affordance for collaboration; it became easier to talk to a peer than to ignore them. Furthermore, resources were placed in the specific *center* of the table—not given to individuals—physically enforcing the concept of common property (*milik bersama*).

This spatial organization reduced the friction of cooperation. In the interviews, teachers explained that this layout was designed to make collaboration the path of least resistance. If a student wanted to work alone, they would have to physically turn their chair away from the group, which would be a socially awkward act. Thus, the architecture of the room itself exerted a soft pressure toward social cohesion. This confirms that effective learning management involves the curation of space as a pedagogical tool, ensuring that the physical environment supports the intended psychological outcome of interdependence.

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3.2. Implementation Dynamics: The Pedagogical Execution of Interdependence

The *Actuating* or implementation phase revealed the dynamic, real-time interplay between teacher facilitation and student agency. The study found that Group Work in these schools was not merely a matter of sitting students together and hoping for the best. Instead, it was a highly structured execution utilizing specific Cooperative Learning Structures, most notably *Jigsaw* and *Numbered Heads Together*.

The Structural Mechanics of Jigsaw in Arts At SDN Sindangsari, the implementation of the *Jigsaw* method in a Traditional Dance learning module provided a vivid example of managed interdependence. The class was divided into Home Groups and Expert Groups. The management of this flow was precise. In the Expert Groups, specific students were tasked with mastering a distinct segment of the dance (e.g., footwork) or a specific musical rhythm (e.g., percussion beat). They were given the responsibility to become the masters of that small domain.

Once mastery was achieved, they returned to their Home Groups. At this juncture, the power dynamic shifted. The teacher stepped back, and the student became the instructor. This structure created Positive Interdependence: the success of the Home Group's final performance depended entirely on how well the Expert member taught their peers. If one student failed to transfer their knowledge, the whole group would fail. This high-stakes social environment compelled students to engage in peer tutoring with a level of seriousness rarely seen in traditional instruction.

Observations captured poignant moments of this dynamic. One Expert student, usually shy and academically struggling, was seen correcting the hand movements of a high-achieving peer. He did so with gentleness, guiding the peer's hand to the correct angle. This interaction is a clear manifestation of Kindness-Based Leadership [8] trickling down from teacher modeling to student practice. The student leader did not mock the peer's mistake but offered support, mirroring the teacher's behavior. This validates that leadership in the classroom is not a static trait of the teacher but a fluid role that can be distributed to students through structural management.

Multimodal Technology as a Centripetal Force The implementation phase also harnessed *Multimodal Technology* in a counter-intuitive way [16]. In many modern classrooms, technology isolates students (one screen per child). However, at SDN Dewi Sartika, teachers used technology to force physical closeness. Video tutorials of art techniques were projected at the front of the class or shown on a single tablet per group, but the volume was intentionally played at a low level.

This technological constraint was a brilliant management tactic. It forced the group members to huddle together, lean in physically, and maintain silence to hear the instructions. It created a centripetal force drawing students toward the center of the group. Following the video, the group had to discuss what they saw. Because the input was fleeting and quiet, they had to pool their observations (Did you see how he folded the paper? I missed that part, did you catch it?). This management of sensory input forced a collective reconstruction of knowledge, preventing any single student from absorbing the content independently of the group.

From Sage on the Stage to Mediator in the Middle The teacher's role during this phase underwent a fundamental shift. Observations confirmed that the teacher moved from being the Sage on the Stage to the Guide on the Side. In SDN Dewi Sartika, the

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teacher circulated among the clusters, not to provide answers, but to mediate social friction.

A specific vignette illustrates this: A dispute arose in Group 4 regarding the color palette for a collaborative painting. The tension was escalating. The teacher approached but did not adjudicate or choose the color. Instead, she asked a reflective question: *What is the fairest way to decide this so that everyone feels their voice is heard?* She waited, holding the silence. The students then deliberated and proposed a vote.

This intervention technique is crucial for creating *Emancipatory Consciousness* [12], [13]. By refusing to act as the authoritarian judge, the teacher empowered students to negotiate their own social contracts. She forced them to confront the difficulty of democracy and compromise. Narrative data from student interviews confirmed the impact of this approach. One student remarked, *We didn't wait for Ibu Guru to tell us who was right. We figured out that voting was fair.* This sense of ownership indicates that the management style successfully transferred the locus of control from the external authority (teacher) to the internal collective (group), a critical step in moral maturity.

3.3. Evaluative Mechanisms and Social Impact: Beyond the Aesthetic Product

The final managerial function, *Controlling* (Evaluation), demonstrated a significant paradigm shift from product-oriented assessment to process-oriented assessment. In traditional arts education, grades are often assigned solely based on the beauty of the final artwork. However, this study found that teachers at both schools utilized comprehensive Process Rubrics that weighted social skills equally with artistic quality.

The Formalization of Social Assessment The assessment instruments analyzed were robust. They included specific behavioral indicators for: (1) *Active Listening* (e.g., maintaining eye contact, nodding, not interrupting); (2) *Resource Sharing* (e.g., passing materials without being asked, not hoarding); and (3) *Conflict Resolution* (e.g., using calm tones during disagreements). Teachers moved around the room with clipboards, not just checking the artwork, but ticking boxes for these social behaviors.

This formalization of social assessment sends a powerful signal to the students: *How we work together* is just as academically important as *What we make.* It legitimizes social behavior as a learning objective. Students quickly realized that being a talented jerk would result in a lower grade than being a cooperative average achiever. This restructuring of the incentive system fundamentally altered classroom behavior.

Quantitative Trends and Qualitative Transformation The results of this holistic evaluation were profound. Quantitative data derived from the rubric scores showed a consistent upward trend in cooperation skills over three cycles of learning. Initial scores in Sharing Resources were low, with frequent hoarding observed. By the third cycle, hoarding had virtually disappeared, replaced by proactive sharing.

Qualitatively, the impact extended to the critical issue of bullying prevention. As noted school management plays a pivotal role in preventing bullying [10]. The study found that by enforcing cooperative norms in SBdP, the teachers created a classroom culture where exclusion was structurally difficult and strategically expensive. In a Jigsaw structure, a bully cannot succeed without the help of the victim. If a dominant student excludes or mocks their peer, they cut off their own access to the knowledge or resources that peer holds.

This interdependence dissolved rigid social hierarchies. The cool kids were forced to work with the marginalized kids, and in doing so, often discovered hidden talents in

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their peers. One teacher noted in an interview, *The student who used to be teased for being quiet is now respected because he was the best at making the intricate origami parts. The group needed him.* The management of the learning task effectively re-valued the students' social capital.

Reflective Practice as Moral Consolidation Finally, the evaluation phase included structured *Reflective Sessions*. At the end of each project, groups sat in circles to engage in a debriefing session. The guiding questions were not just technical (Is the paint dry?) but social-emotional: *What went well in our teamwork?* and *How could we be kinder to each other next time?*

This reflective practice instills the habit of self-regulation and continuous social improvement. It moves the evaluation from a judgment *of* the student to a conversation *with* the student. Students articulated in focus group discussions that the joy of the class was not just in the painting or dancing, but in the feeling of belonging to a cohesive team. This aligns with the transformative education goals of equipping students with 21st-century competencies—specifically collaboration, empathy, and social awareness. The management of SBdP in these schools, therefore, transcends art education; it becomes a laboratory for democratic living and moral character building [17].

4 Discussion

The findings of this study crystallize the argument that the efficacy of arts education in primary schools relies heavily on the managerial competence of the teacher. The successful enhancement of collaborative skills at SDN Dewi Sartika and SDN Sindangsari was not an accidental by product of fun activities, but the result of rigorous *Learning Management*.

The study validates Johnson and Johnson's (1994) Social Interdependence Theory, confirming that positive interdependence must be *structured* into the task. The random group work often observed in less managed classrooms fails because it lacks this structural necessity. By managing resources (scarcity) and roles (specialization), the teachers in this study engineered an environment where cooperation was the only viable survival strategy.

Crucially, this research connects the micro-management of the classroom to the macro-philosophical goals of education. Anwar (2024) posits education as a practice of liberation. In this context, the cooperative management of SBdP liberates students from the banking model of education where they are passive receptacles. Instead, they become active co-constructors of knowledge and social reality. They are liberated from the competitive individualism that characterizes much of modern capitalism, learning instead the value of *Ukhuwah* (brotherhood) and collective success.

The integration of Digital Innovation (Ulfah & Anwar, 2024) and Environmental Methods (Hanan et al., 2023) within the group tasks further suggests that SBdP is a fertile ground for transdisciplinary learning. The management strategies observed here—specifically the use of technology to facilitate rather than replace human interaction—offer a model for how digital tools can be used to humanize rather than isolate students.

However, the study also highlights the challenge of Teacher Competence. The sophisticated management required to balance artistic instruction with social mediation is

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demanding. It requires teachers to possess high emotional intelligence and managerial agility. This implies that teacher training programs must move beyond content mastery (art techniques) to include managerial mastery (group dynamics and conflict resolution).

5 Conclusion

This study concludes that the management of Arts and Culture and Crafts (SBdP) based on cooperative group learning is a potent strategy for enhancing the collaborative skills of elementary school students. The systematic application of management functions—Planning (heterogeneous grouping), Organizing (resource interdependence), Actuating (facilitated interaction), and Controlling (process-based assessment)—creates a learning ecosystem where social skills are nurtured alongside artistic skills.

The implications are twofold. For Educational Policy, the curriculum should explicitly mandate process-based assessments in creative subjects to ensure social skills are valued. For Educational Practice, teachers must be equipped with the skills to be Social Architects of their classrooms. Future research should explore the long-term retention of these collaborative skills and their transferability to academic subjects like Mathematics and Science, ensuring that the seeds of cooperation sown in the art room bear fruit across the entire educational landscape.

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