



MANAGEMENT OF TEACHER COMPETENCY IN DESIGNING CO-CURRICULAR PROGRAMS BASED ON HOLISTIC LEARNING

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ABSTRACT

The management of teacher competency improvement in designing co-curricular programs still faces challenges, particularly in systematically integrating planning, organizing, implementing, and evaluating functions. This study aims to analyze the management process of teacher competency improvement in designing holistic learning-based co-curricular programs in Sei Beduk District, Batam City. A qualitative case study design was employed. The study involved 49 elementary school teachers from 29 public and private schools, along with 12 key informants selected purposively. Data were collected through participatory observation, in-depth interviews, documentation study, and pre-test and post-test assessments. Data analysis used the Miles, Huberman, and Saldana model, supported by descriptive statistics. The findings reveal that the collaborative and reflective implementation of POAC management functions (Planning, Organizing, Actuating, Controlling) significantly improved teacher competencies, with mean scores increasing from 58.78 in the pre-test to 90.61 in the post-test (a gain of 31.84 points). Teachers also demonstrated strengthened reflective, collaborative, and innovative attitudes in designing co-curricular programs. This study concludes that collaborative-reflective training management is effective for improving teacher competencies in the context of the Merdeka Curriculum. These results are recommended as a model for Education Offices and KKG/K3S in designing sustainable teacher professional development programs.

Keywords: competency improvement management, co-curricular program, holistic learning, POAC, case study

INTRODUCTION

The implementation of the Independent Curriculum has shifted the learning paradigm from content-oriented towards holistic character (Miseliunaite & Kliziene, 2022), (Triana, 2022) and competency development through strengthening co-curricular programs as an integral part of the Pancasila Student Profile (Shilviana & Hamami, 2020). Teachers are the spearhead of educational success and agents of change in shaping the character, knowledge, and skills of students (Muhammadiyah et al., 2022). In the context of Indonesia's educational transformation towards the Golden Generation of 2045 (Bidang et al., 2017) (Syahriani & Yufriadi, 2023) (Darman, 2017). Teachers are not only required to master pedagogical and professional competencies (Akbar, 2021), but must also be able to develop learning that is oriented towards strengthening character and developing students' full potential (Nurhasanah et al., 2024).

However, the facts on the ground show that there are still many elementary school teachers, especially in sub-districts such as Sei Beduk, Batam City, who experience difficulties in integrating co-curricular programs into learning planning, while the mentoring mechanisms from K3S and KKG are still reactive and unsustainable (findings of the researcher's preliminary study, 2025).

Previous studies have examined the importance of teacher training in the implementation of the Independent Curriculum, the role of professional learning communities in improving teachers' pedagogical competence (Ja et al., 2024) and the effectiveness of collaborative-reflective training models (Faridah et al., 2025)(Nurdin et al., 2025)(Nurhasanah et al., 2024), but these studies have not specifically highlighted the management of improving teacher competence in developing co-curricular programs based on holistic learning using the POAC framework (Maharani, 2025)

Thus, no research has been found that comprehensively examines how the process of managing teacher competency improvement in designing co-curricular programs at the sub-district level with diverse school characteristics (public and private) and involving multi-stakeholders such as K3S, KKG, and the Education Office. A preliminary study at eight training locations in Sei Beduk District indicated that only about 30% of 49 teachers were able to cite examples of co-curricular programs integrated with subjects, and existing training had not systematically implemented POAC management functions (researcher's initial observations, September 2025).

Based on these gaps, this study aims to analyze in depth the management process of improving teacher competency in designing co-curricular programs based on holistic learning in Sei Beduk District, Batam City, with a focus on the functions of planning, organizing, implementing, and evaluating (POAC) (John, 2025)(Down et al., 2025), which theoretically enriches the study of educational management and practically becomes a reference for the Education Office and KKG/K3S in designing sustainable teacher professional development programs.

Theoretical Review of Educational Management

Definition and Scope of Educational Management

Educational management is the process of planning, organizing, actuating, and controlling educational resources to achieve educational goals effectively and efficiently (Terry, 1977; Bush, 2011). It is both a science and an art that applies management principles to the specific context of educational institutions. Unlike general management, educational management deals with human development, values, and long-term societal outcomes, making it inherently normative and ethical. Bush (2020) The scope of educational management covers all levels of the education system: macro-level (national policy), meso-level (district or school), and micro-level (classroom). At the school level, it includes academic management, student affairs, personnel, finance, facilities, public relations, and special services (Mulyasa, 2011).

Functions of Educational Management

Most scholars adopt the POAC framework derived from classical management theory (Terry, 1977; Koontz & O'Donnell, 1976) which consist of (1) Planning: The process of defining goals, establishing strategies, and developing action plans to coordinate activities. In education, this includes strategic planning, school work plans, annual work plans, and lesson planning. Effective planning is data-driven and participatory (Caldwell & Spinks, 1992). (2) Organizing: Arranging and allocating human and material resources. This involves establishing organizational structure, job descriptions, delegation of authority, and coordination mechanisms. In schools, organizing creates clear divisions such as curriculum, student affairs, and infrastructure teams. (3) Actuating or Leading: Directing and influencing people to achieve organizational goals. This function includes leadership, motivation, communication, and conflict management. Contemporary views emphasize instructional leadership, where principals focus on improving teaching and learning rather than merely administration. (4) Controlling or Evaluating: Monitoring activities to ensure conformity with plans and taking corrective action when necessary. In education, this includes supervision, performance appraisal, quality assurance, and school self-evaluation (Hoy & Miskel, 2013; Sergiovanni, 2009; Hallinger, 2011).

Relationship Between Educational Management and School Effectiveness

School effectiveness refers to the extent to which a school achieves its stated educational goals, particularly in terms of student learning outcomes, equity, and stakeholder satisfaction. A substantial body of literature establishes educational management as a key determinant of school effectiveness (Scheerens, 2000)

Management Functions as Predictors of Effectiveness

Empirical studies demonstrate that the quality of POAC implementation directly influences school performance. Reynolds and Teddlie (2000) in their review of school effectiveness research found that “purposeful leadership” and “monitoring of student progress” both elements of the actuating and controlling functions consistently differentiate effective from ineffective schools. Hallinger and Heck (2010) conducted a meta-analysis of 40 studies and concluded that principals’ instructional leadership, as part of the actuating function, has a statistically significant indirect effect on student achievement mediated by school capacity and teacher practices.

School-Based Management and Effectiveness

The decentralization of management through School-Based Management (SBM) has been linked to improved effectiveness when accompanied by capacity building. Caldwell (2005) argues that SBM increases effectiveness because it enables schools to align resources with local needs, fosters ownership, and speeds up decision-making. However, the World Bank (2008) cautions that SBM only improves outcomes if schools have strong management capacity; otherwise, autonomy without accountability leads to inefficiency.

Systems Perspective on Effectiveness

Using a systems approach, Hoy and Miskel (2013) conceptualize school effectiveness as the optimal transformation of inputs (students, teachers, funds) into outputs (achievement, skills, values) through effective management processes. Effective educational management ensures that the school system maintains internal alignment among subsystems curriculum, instruction, and assessment while remaining adaptive to external demands from parents, government, and industry.

Evidence from Indonesian Context

In Indonesia, studies by the Ministry of Education and World Bank (2010) on SBM implementation found that schools with high management scores on the School Self-Evaluation instrument had significantly higher national exam scores and lower dropout rates. Principals who scored high on instructional leadership were able to mobilize teachers to conduct lesson study and use assessment data for improvement, which directly enhanced classroom effectiveness (Surya, 2018).

Mediating Role of Teacher Quality and School Climate

Leithwood et al. (2004) proposed that educational management influences student outcomes indirectly through two mediating pathways: (1) Rational path management improves teacher quality via recruitment, professional development, and supervision, and (2) Emotional path management creates a positive school climate, collective teacher efficacy, and student motivation. Thus, management effectiveness should be measured not only by administrative compliance but by its impact on teaching and learning processes. In summary, effective educational management is a necessary condition for school effectiveness. While it does not teach students directly, it creates the organizational conditions clear goals, aligned resources, motivated staff, and continuous monitoring that make effective teaching and learning possible. Weakness in any management function produces “organizational bottlenecks” that constrain student outcomes regardless of teacher competence or curriculum quality.

Theoretical Review of Teaching Competency

Definition of Teaching Competency Teaching competency refers to an integrated set of knowledge, skills, attitudes, and values that enable teachers to perform their professional duties effectively to facilitate student learning (Shulman, 1987; Selvi, 2010). It is not merely the mastery of

subject matter, but the ability to transform content knowledge into pedagogically powerful forms that are adapted to the diverse needs of learners. Competency is therefore performance-based and observable in classroom practice, distinguishing it from abstract qualifications or certificates. According to the OECD, teaching competencies are “the complex combination of knowledge, skills, understanding, values, and attitudes that lead to effective action in situ.” This definition emphasizes that competency is contextual and manifested in real teaching situations rather than in Isolation (2009).

Dimensions of Teachers’ Teaching Competencies

Several models have been developed to classify teaching competencies. Three of the most widely cited frameworks are:

1) Shulman’s Model of Teacher Knowledge Base

Shulman proposed seven categories that form the foundation of teaching competency: (1) Content Knowledge: Deep understanding of the subject matter. (2) General Pedagogical Knowledge: Broad principles and strategies of classroom management and organization. (3) Curriculum Knowledge: Familiarity with materials and programs that serve as tools of the trade. (4) Pedagogical Content Knowledge (PCK): The blending of content and pedagogy into an understanding of how particular topics are organized, represented, and adapted to learners’ interests and abilities. PCK is considered the hallmark of expert teaching. (5) Knowledge of Learners: Understanding students’ characteristics, preconceptions, and learning difficulties. (6) Knowledge of Educational Contexts: Awareness of school, community, and cultural factors. (7) Knowledge of Educational Ends: Understanding the purposes, values, and philosophical grounds of education (1986; 1987).

2) Indonesian Law No. 14/2005 on Teachers and Lecturers

In the Indonesian context, teaching competency is legally mandated to include four core competencies: (1) Pedagogical Competency: Ability to manage student learning, including understanding learners, designing and implementing instruction, evaluating outcomes, and developing student potential. (2) Personality Competency: Steady, mature, wise, and authoritative personal qualities that serve as role models for students. (3) Social Competency: Ability to communicate and interact effectively with students, fellow teachers, parents, and the community. (4) Professional Competency: Broad and deep mastery of learning material, including mastery of curriculum, scientific substance, and scholarly structure of the subject.

3) Danielson’s Framework for Teaching

This framework divides teaching competency into four domains of professional practice: Planning and Preparation: (1) Demonstrating knowledge of content and pedagogy, setting instructional outcomes, and designing coherent instruction. (2) Classroom Environment: Creating a culture for learning and managing classroom procedures. (3) Instruction: Communicating with students, using questioning and discussion techniques, and engaging students in learning. (4) Professional Responsibilities: Reflecting on teaching, maintaining records, and participating in professional communities.

Indicators of Effective Teaching Competencies

Based on synthesis of the above models, effective teaching competencies can be observed through several key indicators: (1) Instructional Design Competency: The ability to formulate clear learning objectives, select appropriate materials, and design varied learning activities aligned with students’ developmental levels. (2) Instructional Implementation Competency: Skill in delivering material, managing time, using instructional media, applying learning models, and conducting apperception, core activities, and closure systematically. (3) Classroom Management Competency: Creating a positive, safe, and democratic learning climate; managing student behavior; and organizing physical space to support interaction. (4) Assessment Competency: Designing, administering, and analyzing authentic assessments; providing constructive feedback; and using results for instructional improvement. (5) Technology Integration Competency: Ability to utilize ICT and digital platforms to

enhance engagement and accommodate 21st-century learning [UNESCO (Mulyasa, 2013; Brown, 2018).

Relationship Between Teaching Competency and Learning Outcomes

Numerous empirical studies confirm a positive correlation between teachers' teaching competencies and student achievement. Darling-Hammond (2000) found that teacher quality, measured by certification, subject-matter knowledge, and pedagogical training, is the strongest school-related predictor of student learning. In the Indonesian context, studies by Jalal et al. (2009) showed that teachers with higher professional and pedagogical competency scores produced students with significantly better national exam results. More recent evidence during the COVID-19 disruption further reinforces this link. König, Jäger-Biela, and Glutsch (2020) investigated early-career teachers in Germany during school closures and found that teachers with stronger pedagogical competence and ICT-related competence were significantly better at mastering the challenges of emergency remote teaching, maintaining instructional quality, and sustaining student engagement. Their study revealed that teacher competence not only predicts face-to-face learning outcomes but also determines adaptability and effectiveness in technology-mediated learning environments. This finding extends Darling-Hammond's conclusion by showing that in the 21st-century context, teaching competency must include digital pedagogical skills to ensure learning continuity and quality. Thus, improving teaching competency covering pedagogical, professional, personal, social, and digital dimensions is a strategic entry point for enhancing educational quality in both normal and crisis situations.

MATERIAL AND METHODS

This study employs a qualitative approach with a case study design. The case study design was selected because it enables a holistic and contextual investigation into the process of managing teacher competency improvement within the real-life setting of co-curricular program development training in Sei Beduk District, Batam City. Rather than measuring phenomena quantitatively, this study seeks to explore how educational management functions specifically planning, organizing, implementing, and evaluating are enacted by school principals, K3S (Cluster of Schools) coordinators, KKG (Teacher Working Group) facilitators, and teachers during the training activities. By adopting a case study approach, the researcher can gain an in-depth understanding of the dynamics, managerial strategies, and subjective meanings that participants attach to their experiences in improving professional competencies (Hanim et al., 2020)

The research was conducted in Sei Beduk District, Batam City, Riau Islands Province, which encompasses four sub-districts: Muka Kuning, Mangsang, Duriangkang, and Tanjung Piayu. This location was purposively selected due to its diverse educational characteristics, including active participation of both public and private schools in implementing the Merdeka Curriculum. The study involved 49 elementary school teachers from 29 schools as the main participants. In addition, 12 key informants were selected purposively to provide deeper insights, comprising six teachers representing training participants, three school principals, two administrators of K3S or KKG, and one official from the Batam City Education Office. Participants were recruited based on their direct involvement in the competency improvement training and their experience with the Merdeka Curriculum. All individuals participated voluntarily and provided written informed consent prior to data collection. The research activities spanned a two-month period from September 2 to October 2, 2025, coinciding with the implementation of teacher competency improvement training held at eight school locations that served as training centers and observation sites.

In qualitative research, the researcher serves as the primary instrument (human instrument) who actively engages in all stages of the inquiry. In this study, the researcher acted as a participant observer and facilitator throughout the teacher competency improvement training process. By being present in the field, the researcher was able to collect empirical data directly concerning the planning,

implementation, and evaluation of the training. Furthermore, the researcher interacted with teachers and school officials through in-depth interviews, reflective discussions, and technical assistance. This active involvement ensured that the data collected were not merely descriptive facts but also rich interpretations of participants' experiences and perspectives regarding the management of competency improvement activities.

Data were collected through three complementary techniques: participatory observation, semi-structured in-depth interviews, and documentation study. Participatory observation was conducted during the training sessions to understand teachers' engagement, collaborative dynamics, and the application of managerial functions in real time. Semi-structured interviews were carried out with teachers, principals, K3S and KKG administrators, and the Education Office representative to explore their experiences, challenges, and strategies in managing teacher competency improvement. The interviews were guided by open-ended questions that allowed participants to express their views freely while enabling the researcher to probe for deeper meaning. Documentation study involved the analysis of training modules, schedules, attendance lists, activity reports, and the co-curricular program designs produced by participants as tangible outcomes of the training. All documents were reviewed to corroborate and enrich the findings from observations and interviews.

Data analysis was conducted interactively using the model proposed by Miles, Huberman, and Saldaña (2014)(Asipi et al., 2022), which consists of three concurrent flows of activity: data condensation, data display, and conclusion drawing/verification. Data condensation involved selecting, focusing, simplifying, abstracting, and transforming the raw data from field notes, interview transcripts, and documents. Data display was organized in the form of narrative text and thematic matrices to present the condensed information systematically. The analysis was guided by the main themes derived from the research focus, namely planning, organizing, implementing, and evaluating of teacher competency improvement. Finally, conclusions were drawn iteratively, with verification through re-examination of the data and cross-checking with participants. The entire analytical process was documented to ensure transparency and auditability.

To ensure the credibility, dependability, and confirmability of the findings, this study employed source triangulation, method triangulation, member checking, and an audit trail. Source triangulation was achieved by comparing data from different types of participants (teachers, principals, K3S/KKG administrators, and education office officials) and from multiple training locations. Method triangulation involved cross-verifying findings obtained from observations, interviews, and documentation studies. Member checking was conducted by returning the interpreted findings to selected participants to confirm the accuracy and resonance of the interpretations with their experiences. An audit trail was maintained by keeping detailed records of all research decisions, raw data, analytical notes, and coding schemes, allowing an external reviewer to trace the research process. These strategies collectively strengthened the validity and reliability of the qualitative inquiry.

This study adhered to established ethical principles for research involving human subjects. Prior to data collection, the researcher obtained institutional permission from the relevant education authorities and the research ethics committee of the affiliated university. All participants were provided with clear information about the purpose, procedures, potential risks, and benefits of the study. Written informed consent was obtained from each participant, emphasizing their right to withdraw at any time without consequences. Confidentiality and anonymity were guaranteed by using pseudonyms and aggregating identifying information in all reports and publications. The data were stored securely and accessed only by the research team. These ethical measures ensured that the research was conducted with respect for the dignity, privacy, and autonomy of all participants.

RESULT

In this section, the author display the result of analysis of teacher competency improvement based on the filed study which conducted at Sei Beduk District, Batam City from 49 elementary school teachers from 29 public and private schools. Management analysis of teacher competency improvement proved effective in developing holistic co-curricular programs, with the highest achievements in improving conceptual understanding (81%) and implementation in schools (88%). Program design skills (91%) and collaborative skills (100% of schools) were at an effective level, while assessment skills (85%) were in the moderately effective category. Overall, this model succeeded in transforming teacher competencies in integrating holistic values.

Tabel 1. Management Analysis of Teacher Competency Improvement

Program Design Ability	Alignment of the program with the Pancasila Student Profile	45 co-curricular lesson plans (RPP) produced, integrating holistic values	Effective (91% of teachers succeeded)
Collaborative Skills	Engagement in communities of practice	Formation of 5 inter-school collaboration groups	Effective (100% of schools involved)
Assessment Ability	Use of holistic assessment techniques	85% of teachers developed authentic assessment rubrics	Moderately Effective
School Implementation	Implementation of the program in each teacher's classroom	88% of teachers implemented the program in the first month	Highly Effective

Based on table 3 Management analysis of teacher competency improvement proved effective in developing holistic co-curricular programs, with the highest achievements in improving conceptual understanding (81%) and implementation in schools (88%). Program design skills (91%) and collaborative skills (100% of schools) were at an effective level, while assessment skills (85%) were in the moderately effective category. Overall, this model succeeded in transforming teacher competencies in integrating holistic values. The following table illustrates the level of improvement in teacher competencies based on the evaluation results assessment categories.

Table 4. Analysis of Teacher Competency Improvement in Designing Co-Curricular Programs to Support Holistic Learning After Training

Holistic Dimension	Before Training	After Training	Improvement
Cognitive	Teachers focused on academic achievement	Teachers designed activities promoting critical thinking	35%
Affective	Character assessment was limited	Integrated into observation rubrics	42%

Psychomotor	Practical activities were separated	Integrated into co-curricular projects	38%
Spiritual	Delivered in a doctrinal manner	Integrated into learning reflections	45%
Social	Individual work was dominant	Collaboration and mutual cooperation	40%

The result Analysis of Teacher Competency Improvement in Designing Co-Curricular Programs to Support Holistic Learning After Training can be visualize in the figure below.

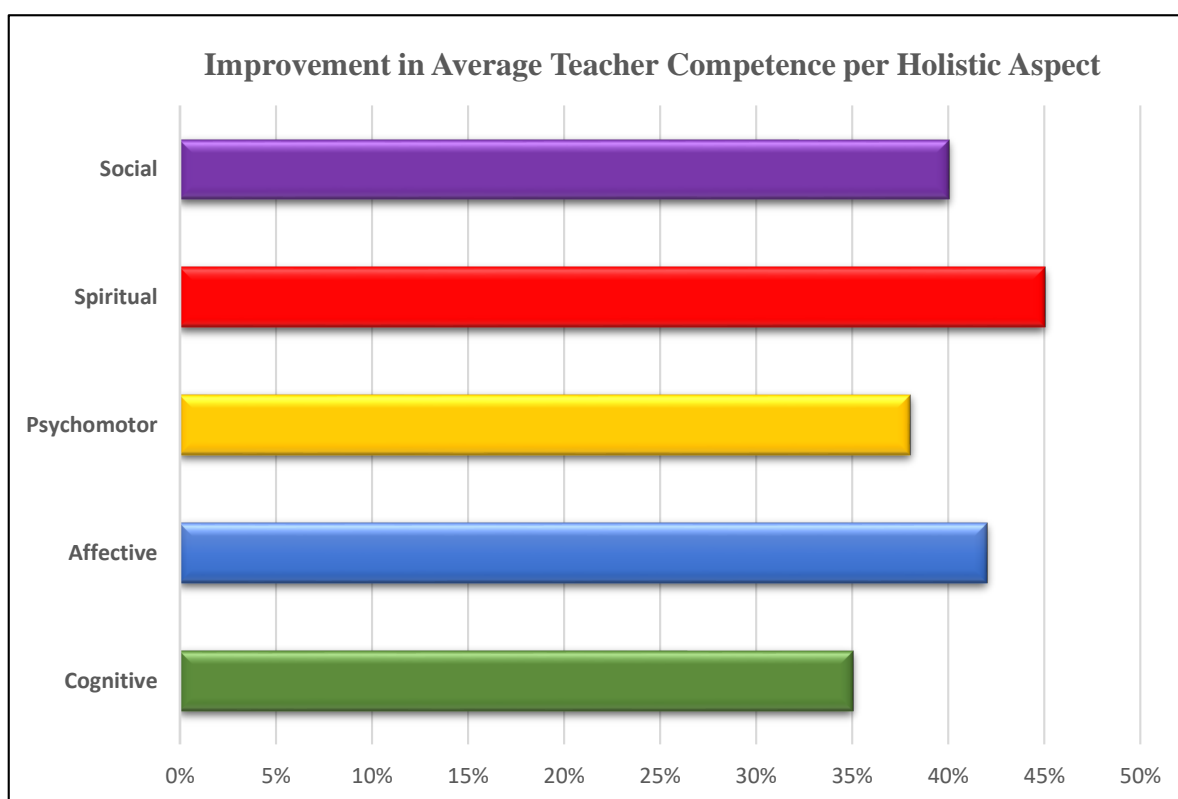


Figure 1. Analysis of Teacher Competency Improvement in Designing Co-Curricular Programs to Support Holistic Learning After Training

Based on Figure 1: the analysis shows a significant increase in teacher competence across all dimensions of holistic learning, with the highest achievement in the spiritual dimension (45%), reflected in the ability of teachers to integrate reflective values into learning, followed by the affective dimension (42%) through the development of character observation rubrics. The improvement in the social dimension (40%) is demonstrated by a shift towards a collaborative learning model, while the psychomotor (38%) and cognitive (35%) dimensions have developed through the integration of practical skills and an emphasis on critical thinking activities. This pattern of improvement confirms the effectiveness of training management in transforming the teacher paradigm from a purely cognitive approach to truly holistic and integrated learning practices.

From the results of qualitative analysis, this education management-based training not only improves teachers' knowledge but also strengthens reflective and collaborative attitudes in designing learning activities. Continuous evaluation is the key to the success of this activity because teachers

continue to receive feedback and opportunities to improve their work.

DISCUSSION

Research findings indicate that the success of improving teacher competence in designing co-curricular programs is greatly influenced by the quality of training management. The POAC management functions (Planning, Organizing, Actuating, Controlling) provide a systematic framework for improving teacher competence in designing co-curricular programs that support holistic learning. The planning stage allows for the identification of teachers' real needs so that training is targeted and relevant, encouraging teachers to be actively and reflectively involved in the learning process. The organizing function aligns the roles and responsibilities of the principal, K3S, KKG, and teachers, creating effective collaboration that strengthens a sense of togetherness and mutual learning among teachers. Actuating, with a participatory approach and hands-on practice, provides space for teachers to experiment, think, and reflect on the results of their work with colleagues, thereby enhancing critical and innovative attitudes. The controlling function ensures continuous feedback that helps teachers recognize their strengths, weaknesses, and opportunities for competency development, making the learning process dynamic and sustainable.

Thus, the application of the POAC functions not only manages training activities administratively but also transforms teachers into reflective and collaborative learners who focus on continuous professional development. This is in line with modern educational management theory, which places people at the center of organizational development and emphasizes that effective educational management must encourage active participation and collaboration in the learning environment. Ultimately, the POAC function is an important foundation for creating teacher training that not only improves technical skills but also builds a holistic, integrated, and sustainable learning culture. The results of this study reinforce (A et al., 2023) theory that good educational management must place people at the center of organizational development. In this context, teachers are not only implementers of policy but also key actors in designing and implementing co-curricular programs that are in line with student characteristics and the school's vision.

The implementation of the teacher competency improvement program through reflective and participatory training has had a tangible impact on improving teachers' skills in designing co-curricular programs. This significant improvement not only illustrates the success of the training process, but also the effectiveness of the program management that was implemented. These results are in line with the opinion (Mulyasa, 2022), who emphasizes that the success of teacher competency development is greatly influenced by the quality of educational management, from the planning stage to implementation and evaluation. Furthermore, these findings also support (Yusnita et al., 2025) view that improving teacher professionalism can be achieved through a training process that is reflective, collaborative, and applicable to the needs of the participants.

Furthermore, this study expands on the findings of Bush and Middlewood (2013) by emphasizing the importance of distributed leadership in teacher training management (Down et al., 2024). The active involvement of K3S, KKG, and school principals shows that improving teacher competence is more effective when done through a collaborative approach rather than a top-down approach. From a holistic learning perspective, the results of this study are also in line with (Widyastono, 2012) and (Damaiyanti et al., 2020), who emphasize that holistic education requires the integration of knowledge, skills, and values. Through this training, teachers learn to integrate cognitive, social, and spiritual dimensions into co-curricular activities, which ultimately strengthen the character and profile of Indonesian students.

The evaluation results show that participating teachers experienced a significant improvement in understanding holistic learning concepts, designing co-curricular activities that are appropriate for student characteristics, and integrating character values into school activities. This improvement

reflects the effectiveness of training that is designed to be reflective and participatory in strengthening teachers' professional competencies. Thus, this study not only confirms the importance of applying management functions in teacher professional development but also proposes a collaborative and reflective teacher training management model as an alternative for strengthening teacher competencies in the context of the Merdeka Curriculum.

CONCLUSION

Based on the findings of this study, several recommendations are proposed for policy makers and practitioners in the field of educational management. For the Batam City Education Office, it is recommended to adopt the collaborative-reflective POAC-based training model as a standard framework for designing teacher professional development programs, ensuring that every training activity begins with a participatory needs assessment, involves clear role distribution among K3S and KKG, implements practice-based and reflective learning strategies, and includes continuous evaluation mechanisms that produce feedback for program improvement. For school principals, it is recommended to foster a professional learning community culture at the school level by facilitating regular collaborative discussions among teachers to share best practices in designing co-curricular programs and by providing administrative support for teachers to implement holistic learning-based activities. For K3S and KKG administrators, this study recommends shifting from reactive, ceremonial training approaches to systematic, sustainable mentoring models that include pre-training needs analysis, ongoing facilitation during program implementation, and post-training follow-up to ensure the transfer of competencies into classroom practice. For teachers, it is recommended to actively engage in collaborative reflection sessions, to continuously develop their skills in designing integrated co-curricular programs, and to document their best practices as learning resources for peers. For future researchers, it is recommended to expand the geographic scope of similar studies, employ quasi-experimental designs with control groups, and include post-training longitudinal observations to measure the sustainability of teacher behavioral changes and the direct impact on student learning outcomes. Finally, for higher education institutions and teacher education programs, the findings suggest the integration of POAC-based collaborative-reflective management models into pre-service teacher training curricula to better prepare future educators for the demands of the Merdeka Curriculum.

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