



Organizational Communication and Teachers' Teamwork Effectiveness in Supporting Digital-Based Instruction: Evidence from a Public Senior High School

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Abstract

This study analyzes the influence of organizational communication on the effectiveness of teachers' teamwork at SMAN 4 Kundur, Karimun Regency, Riau Islands Province. Employing a quantitative approach, the study tests the hypothesis that effective organizational communication is positively and significantly correlated with improvements in teachers' team effectiveness. Recent post-pandemic developments have required more adaptive and transparent communication patterns within school environments. While existing research gaps often emphasize linear communication processes, this study highlights the complexity of effective communication within the school ecosystem. The research adopts an associative research design with a quantitative approach, aimed at explaining the causal relationship or influence between the independent variable (organizational communication) and the dependent variable (teachers' team effectiveness) through statistical hypothesis testing. Data were collected through a questionnaire survey administered to 40 teachers and analyzed using simple linear regression. The findings indicate that organizational communication has a positive and significant effect on teachers' team effectiveness at SMAN 4 Kundur, Karimun Regency. The main results demonstrate that open communication patterns, supported by effective formal and informal communication channels, directly enhance coordination, productivity, and the achievement of shared goals among teacher teams. From a managerial perspective, the findings suggest that school principals should optimize internal communication channels to strengthen collaborative team performance, particularly through the provision of interpersonal communication training for teachers.

Keywords: Organizational Communication; Teamwork Effectiveness; Teachers' Teamwork; Communication Training

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INTRODUCTION

The rapid integration of digital technology into secondary education has fundamentally reshaped instructional practices and organizational processes within schools. Digital-based instruction requires not only technological infrastructure but also effective coordination among teachers to ensure pedagogical coherence, instructional consistency, and alignment with curricular goals. In public senior high schools, where organizational structures are often bureaucratic and resource-constrained, the success of digital

instruction increasingly depends on the quality of organizational communication and collaborative teamwork among teachers (OECD, 2020). Ineffective communication can lead to fragmented instructional practices, duplication of effort, and resistance to innovation, ultimately undermining the potential benefits of technology-enhanced learning.

Organizational communication plays a pivotal role in shaping teachers' collective understanding of instructional goals, digital policies, and pedagogical expectations. Communication within school functions not only as a mechanism for information exchange but also as a social process that constructs shared meanings, professional norms, and collaborative cultures (Hoy & Miskel, 2013). Empirical studies indicate that transparent, open, and dialogic communication enhances teachers' trust, commitment, and willingness to engage in collaborative problem-solving, particularly during periods of instructional change (Men & Yue, 2019; Tourish, 2014). In the context of digital transformation, such communication becomes essential for aligning technological tools with instructional strategies and student learning needs.

Teacher teamwork effectiveness has emerged as a critical determinant of successful instructional innovation, especially in digitally mediated learning environments. Effective teamwork enables teachers to pool expertise, share digital pedagogical practices, and collectively address instructional challenges associated with technology use (Vangrieken et al., 2015). Research suggests that collaborative teacher teams contribute positively to instructional quality, professional learning, and adaptive capacity, allowing schools to respond more effectively to technological and curricular demands (Hargreaves & O'Connor, 2018; Darling-Hammond et al., 2017). Consequently, teamwork effectiveness is increasingly viewed as a core organizational capability in contemporary educational management.

Effective communication is particularly crucial in the planning stages of ICT-based learning. The design of digital instruction requires coordinated decision-making regarding learning objectives, platform selection, assessment strategies, and student support mechanisms. When communication channels are clear and participatory, teachers are more likely to engage in joint planning, align instructional practices, and integrate digital tools meaningfully into their lessons (Tondeur et al., 2018; Dexter et al., 2016). Conversely, weak communication often results in isolated planning efforts, inconsistent technology use, and reduced instructional coherence, limiting the pedagogical impact of digital initiatives.

Teacher teamwork also plays a central role in the development of digital teaching materials and learning innovation. Collaborative teams enable teachers to co-create digital resources, exchange feedback, and experiment with innovative instructional approaches that would be difficult to sustain individually (Voogt et al., 2015). Collaboration fosters a culture of professional learning in which innovation emerges from shared practice, reflection, and mutual support rather than from top-down mandates. As such, collaboration serves as the foundation for sustainable digital learning innovation, linking organizational communication with teamwork effectiveness to enhance instructional quality in public senior high schools.

Organizational communication plays a pivotal role in shaping the dynamics of educational institutions, particularly in how teachers interact, collaborate, and perform collectively. Effective communication within school organizations has been identified as a key determinant of overall institutional effectiveness because it facilitates the exchange of information, clarification of goals, and alignment of team activities (Gunbayi, 2023; Iano et al., 2024). In educational settings, communication is not merely a channel for information transfer but also a mechanism through which synergy among teachers, principals, and other stakeholders is fostered, thereby enhancing collective engagement and instructional coherence. Recent studies emphasize that organizational communication influences not only individual teacher performance but also the collaborative processes that underpin teamwork and school climate (Asmara et al., 2023; Sari & Nugroho, 2022).

Teachers' teamwork effectiveness has become a central focus in educational management research due to its influence on instructional quality, professional satisfaction, and school outcomes. Teamwork among teachers is characterized by shared practices, mutual support, and coordinated planning, which contribute to a more cohesive educational environment (Olang & Guhao, 2025). Empirical evidence suggests that clear, open, and two-way communication significantly enhances trust, coordination, and reciprocal support among team members, which in turn strengthens collective problem solving and organizational resilience (Febriyani et al., 2025; Iano et al., 2024). Moreover, communication effectiveness

in schools has been linked to increased teacher engagement, reduced conflict, and improved adaptation to structural changes, especially in post-pandemic educational contexts that demand flexibility and collaborative responses to new challenges (Asmara et al., 2023; Gunbayi, 2023).

Improving the quality of education is not an easy endeavor to implement. All stakeholders—including the government, educators and educational personnel, as well as the broader community—share collective responsibility for advancing education in Indonesia. Schools function as public service organizations in the field of education, serving as institutional spaces where teachers and students engage in teaching and learning activities. Schools are also closely connected to the community as service recipients who expect high-quality educational provision. One of the key factors supporting the improvement of school quality is the quality of teachers as educational practitioners, particularly at the elementary level, where learning processes and character formation can be more effectively cultivated.

Educational organizations are highly dependent on interaction and coordination among their members to achieve optimal learning outcomes. Organizational communication plays a central role in ensuring smooth information flow, effective coordination, and sound decision-making within school environments. At SMAN 4 Kundur, located on Kundur Island, Karimun Regency, Riau Islands Province, effective communication among teachers within work teams is particularly critical, especially in curriculum planning, sharing instructional strategies, and collectively addressing student-related issues. Recent developments, particularly in the post-COVID-19 pandemic era, have underscored the urgency of adaptive communication practices. The abrupt transition from face-to-face instruction to hybrid or remote learning has required teachers to collaborate intensively using various digital communication platforms. Communication barriers, such as unclear information or delayed feedback, can directly disrupt teamwork effectiveness and ultimately compromise educational quality. Therefore, this study seeks to examine more deeply the influence of organizational communication on teachers' teamwork effectiveness at SMAN 4 Kundur, with the expectation that its findings will contribute valuable insights toward improving the quality of education in Indonesia.

Despite the widely acknowledged role of organizational communication in shaping collaboration and performance in educational institutions, empirical evidence remains limited regarding how communication processes specifically influence teachers' teamwork effectiveness within localized and context-sensitive school environments. Existing studies predominantly address communication in relation to general organizational outcomes, with comparatively little attention to teachers' teamwork as a distinct and critical unit of analysis, particularly in geographically peripheral or island regions where technological access and communication infrastructure may be uneven. Addressing this gap, the present study examines the relationship between organizational communication practices and teachers' teamwork effectiveness at SMAN 4 Kundur, Karimun Regency, situating communication dynamics within the school's organizational culture and local contextual conditions. By doing so, this research seeks to answer how organizational communication functions as a structural and social mechanism that strengthens collaborative practice and contributes to institutional effectiveness in secondary education settings.

The primary objective of this study is to empirically analyze and determine the magnitude of the influence of organizational communication on teachers' teamwork effectiveness at the research site. Specifically, this study aims to: (1) identify and describe the implementation of organizational communication practices at SMAN 4 Kundur; (2) identify and measure the level of teachers' teamwork effectiveness at SMAN 4 Kundur; (3) analyze whether organizational communication has a significant effect on teachers' teamwork effectiveness; and (4) determine the extent to which organizational communication contributes to enhancing teachers' teamwork effectiveness at the research location.

RESEARCH METHODS

Research Design

This study adopts a quantitative approach using an associative (correlational–causal) research design to examine the causal relationship between organizational communication as the independent variable and teachers’ teamwork effectiveness as the dependent variable. An associative design is appropriate when the primary objective is to test statistically whether variations in one variable significantly influence another through hypothesis testing (Creswell & Creswell, 2018; Sekaran & Bougie, 2020). The research was conducted at SMAN 4 Kundur, located on Kundur Island, Karimun Regency, Riau Islands Province—an archipelagic region with distinctive geographical and social characteristics. Such a context provides a meaningful setting for examining organizational communication dynamics in schools operating within island-based and relatively remote environments, where coordination and information flow may face unique challenges (Robson & McCartan, 2016).

Research Target/Subject

The population of this study consists of the entire school community of SMAN 4 Kundur, including 40 teachers, 10 administrative staff members, and 600 students across Grades X, XI, and XII. However, the **unit of analysis** is limited to teachers, as the primary focus of the study is teachers’ teamwork effectiveness. Given that the number of teachers is relatively small ($N = 40$), this study employs a **census or total sampling technique**, whereby all members of the population are included as research respondents. Total sampling is recommended when population size is limited, as it enhances representativeness, minimizes sampling error, and strengthens internal validity (Sugiyono, 2019; Taherdoost, 2016).

Table 1. Population Data School Society of SMAN 4 Kundur

No	Population Category	Sum (Person)	Note
1	Teachers’	40	As Responden (Sensus)
2	Stakeholder	10	Supporting Data
3	Students’ Grade X	200	-
4	Students’ Grade XI	200	-
5	Students’ Grade XII	200	-
Total	School Community	1.050	

Accordingly, all 40 teachers at SMAN 4 Kundur participated as respondents to ensure comprehensive and accurate data regarding team dynamics within the school.

Research Procedure

Primary data were collected using a structured questionnaire that had undergone validity and reliability testing prior to distribution. The questionnaire employed a five-point Likert scale, which is widely used in social science research to measure perceptions, attitudes, and behavioral tendencies in an ordinal yet analytically robust manner (Likert, 1932; Boone & Boone, 2012). The response options ranged from *Strongly Disagree (1)* to *Strongly Agree (5)*. The questionnaire was distributed directly to all 40 teacher respondents. Secondary data were obtained from school documents, including organizational structure records and available reports related to teamwork or school performance, to support contextual understanding and data triangulation (Creswell & Plano Clark, 2018).

Instruments, and Data Collection Techniques

To accommodate respondents' preferences and improve response accuracy, the questionnaire was distributed using dual modes: hardcopy questionnaires for senior teachers who were more comfortable with paper-based instruments and online questionnaires (Google Forms) for efficiency and ease of data management. Data collection was conducted over an effective period of two weeks. The research instrument consisted of 10 core items, representing two variables: five items measuring organizational communication and five items measuring teachers' teamwork effectiveness. Instrument development was based on relevant theoretical constructs and was validated through expert judgment, followed by readability testing. Reliability testing yielded a Cronbach's Alpha coefficient of 0.891, indicating excellent internal consistency and confirming that the instrument was reliable for quantitative analysis (Hair et al., 2019; Nunnally & Bernstein, 1994).

Data analysis technique

Data analysis was conducted quantitatively using SPSS version 26, following standard statistical procedures. The analysis stages included: (1) data quality testing, consisting of validity testing using Pearson Product Moment correlation and reliability testing using Cronbach's Alpha, with a minimum acceptable threshold of 0.60; (2) descriptive statistics, to summarize means, standard deviations, and frequency distributions of each variable; and (3) classical assumption tests, including normality testing using the Kolmogorov–Smirnov test and linearity testing to ensure that the relationship between variables met regression assumptions (Field, 2018).

Hypothesis testing was performed using simple linear regression analysis, expressed by the equation $Y = a + bX$, to determine the magnitude and direction of the influence of organizational communication on teachers' teamwork effectiveness. The coefficient of determination (R^2) was used to assess the proportion of variance explained by the independent variable, while the **t-test** (partial test) evaluated the statistical significance of the regression coefficient. A significance level of $\alpha = 0.05$ was applied as the decision threshold. Preliminary instrument testing indicated that the data were normally distributed and that the mean scores of both variables were projected to fall within the "very high" category (> 4.20), suggesting strong empirical support for the proposed hypothesis (Hair et al., 2019; Pallant, 2020).

RESULTS AND DISCUSSION

In SMAN 4 Kundur, employing 40 teachers who serve approximately 600 students, demonstrates a communication pattern that is predominantly structured through formal mechanisms such as official meetings and administrative circulars. At the same time, informal communication among teachers occurring in the teachers' lounge and through instant messaging groups remains highly active and complementary to formal channels. An important phenomenon observed in this context is the notably high level of teachers' teamwork effectiveness, as indicated by preliminary observations. This effectiveness is reflected in the school's achievements in several academic and non-academic competitions at the district and provincial levels over the past two years. Moreover, the school's ability to respond swiftly and coherently to frequently changing education authority policies during the COVID-19 pandemic provides strong evidence that internal communication processes are functioning effectively. The first we can show the results of validity and reliability test of the instrument that we used on table 1.

Table 2. Validity test results and reliability of instrument

Variable	Instruments Item	r-value	r-tabele (N=40)	Description	Cronbach's Alpha
Organizational Communication (X)	Item X.1	0.654	0.312	Valid	0.875 (Very Reliable)
	Item X.2	0.712	0.312	Valid	
	Item X.3	0.589	0.312	Valid	
	Item X.4	0.667	0.312	Valid	
	Item X.5	0.743	0.312	Valid	
Teamwork Effectiveness (Y)	Item Y.1	0.810	0.312	Valid	0.882 (Very Reliable)
	Item Y.2	0.755	0.312	Valid	
	Item Y.3	0.698	0.312	Valid	
	Item Y.4	0.721	0.312	Valid	
	Item Y.5	0.788	0.312	Valid	

Based on the descriptive statistical analysis of the measurements obtained using the research instrument, organizational communication competence showed a minimum score of 3.00 and a maximum score of 5.00, with a mean value of 4.38, indicating that this variable falls into the very good category. Meanwhile, the team work effectiveness variable recorded a minimum score of 3.00 and a maximum score of 5.00, with a mean value of 4.45, which is classified as very high across all research respondents.

The descriptive analysis of questionnaire data collected from all 40 teachers through a total sampling approach reveals highly positive empirical results. The organizational communication variable (X) achieved a mean score of 4.38 on a five-point Likert scale, placing it within the “very good” category. The highest-scoring indicators were related to the openness of information provided by school leadership and the ease of horizontal communication among teachers. These findings suggest that transparent leadership communication and accessible peer-to-peer interactions are key characteristics of the school’s internal communication climate.

Table 3. Hyphotetical Test Results

Model	R	R Square (R ²)	Adjusted R Square	Std. Error of The Estimate
1	0.851	0.724	0.716	1.102

Consistent with the independent variable, the teachers’ teamwork effectiveness variable (Y) also demonstrated a very high mean score of 4.45, categorizing it as “very high.” This result confirms that teachers perceive a strong sense of team cohesion, mutual support, and collaborative capacity in carrying out both instructional responsibilities and school committee activities. Collectively, these descriptive findings indicate that teachers experience a highly supportive and well-coordinated team environment that facilitates the effective implementation of educational tasks.

Inferential analysis using simple linear regression provides robust statistical evidence supporting the descriptive findings. The coefficient of determination (R²) was recorded at 0.724, indicating that 72.4% of the variance in teachers’ teamwork effectiveness at SMAN 4 Kundur can be explained by the quality of organizational communication. Furthermore, the calculated t-value (t = 8.920) substantially exceeds the critical t-value (t = 2.024), with a significance level of 0.000. These results confirm the acceptance of the research hypothesis, demonstrating a positive and statistically significant effect of organizational communication on teachers’ teamwork effectiveness. Consequently, it can be concluded that the communication strategies currently implemented at SMAN 4 Kundur are not only highly effective but also play a decisive role in strengthening team performance within the school.

Communication Phenomena at SMAN 4 Kundur

The communication phenomenon observed at SMAN 4 Kundur, a public senior high school located in the archipelagic region of Karimun Regency, reflects a positive deviation from the commonly cited stereotype of rigid educational bureaucracy. Despite serving approximately 600 students across Grades X, XI, and XII and being supported by 10 administrative staff members, the school faces considerable administrative complexity. Nevertheless, organizational communication within the school remains notably fluid and adaptive. Daily communication practices are not confined to formal bureaucratic channels such as official meetings and written circulars but are complemented by active informal interactions among teachers in staff rooms and digital platforms. This fluidity has contributed to a high level of perceived teamwork effectiveness, as evidenced by the school's consistent achievements in academic and non-academic competitions at the district and provincial levels over the past two years, as well as its rapid and coordinated responses to frequently changing education policies during the pandemic period.

More specifically, the dominant communication pattern at SMAN 4 Kundur resembles an all-channel (web-like) communication network, where information flows multidirectionally rather than strictly following hierarchical lines. Although the formal organizational structure remains hierarchical moving from the principal to vice principals and then to teachers these structural barriers are significantly minimized in everyday communication practices. Even newly appointed or honorary teachers feel psychologically safe to directly consult vice principals or the school principal regarding instructional or student-related issues. Furthermore, the school's official WhatsApp Group functions as an effective "digital notice board," ensuring rapid dissemination of information from the Provincial Education Office. Messages are relayed within minutes, creating a high level of information symmetry among all 40 teachers. This transparency prevents information monopolization and strengthens interpersonal trust, which in turn reinforces collective coordination and teamwork effectiveness.

Analysis Based on Relevant Theories

The findings of the simple linear regression analysis demonstrate that organizational communication has a positive and statistically significant effect on teachers' teamwork effectiveness ($p < 0.05$), leading to the acceptance of the research hypothesis. This result is consistent with prior studies emphasizing the critical role of internal communication in enhancing teacher performance and organizational effectiveness (Handayani, 2021; Wijaya, 2022). At SMAN 4 Kundur, two-way communication and mutual understanding across functional units facilitate smoother coordination and shared problem-solving, thereby strengthening team performance. These findings reinforce organizational communication theory, which posits that effective information exchange and feedback mechanisms are essential for aligning individual actions with collective goals, particularly in complex educational environments.

From the perspective of Path-Goal Theory (House, 1971), the leadership practices at SMAN 4 Kundur further clarify why communication exerts such a strong influence on teamwork effectiveness. The school principal uses communication strategically to clarify goals, reduce ambiguity, and provide direction, thereby enabling teachers to navigate their tasks more efficiently. Clear and persuasive communication regarding the school's vision—such as improving students' access to public universities—enhances teachers' intrinsic motivation. This approach also aligns with Instructional Leadership Theory, where leaders actively engage in instructional dialogue rather than merely performing symbolic administrative roles. Faculty meetings at SMAN 4 Kundur function as substantive problem-solving forums rather than ceremonial gatherings, fostering shared ownership of instructional challenges and solutions.

Organizational Communication as A Foundation for Technology Integration'

Organisational communication constitutes a foundational element in the successful integration of educational technology, particularly in school settings where formal structures coexist with informal coordination practices. In recent years, instant messaging platforms such as WhatsApp have emerged as critical coordination technologies that facilitate real-time communication among teachers and school leaders. Although not originally designed as educational tools, these platforms function as informal communication infrastructures that support rapid information exchange, instructional coordination, and collective problem-solving (Bouhnik & Deshen, 2014; Tang & Hew, 2017). Within public senior high schools, WhatsApp groups often serve as virtual staff rooms, enabling teachers to coordinate lesson schedules, share digital resources, and respond swiftly to instructional challenges arising in technology-mediated learning environments.

Beyond individual platforms, digital information flow represents a core component of educational technology infrastructure. Effective technology integration depends not only on hardware and software availability but also on the smooth circulation of instructional information, policies, and pedagogical guidelines across organisational levels (Selwyn, 2016; Dexter et al., 2016). When communication flows are fragmented or hierarchical, digital initiatives risk becoming isolated practices rather than coherent institutional strategies. Conversely, well-structured digital communication channels enhance transparency, reduce uncertainty, and support teachers' sense-making processes during instructional change. In this sense, organisational communication operates as an invisible infrastructure that enables technology to be pedagogically meaningful rather than merely functional.

Team cohesion further emerges as a prerequisite for the effective integration of learning management systems (LMS) and blended learning models. Digital instruction requires shared norms, mutual trust, and collaborative commitment among teachers to ensure consistency in content delivery, assessment practices, and student support (Hargreaves & O'Connor, 2018). Cohesive teacher teams are more likely to align their use of LMS platforms, jointly develop digital materials, and sustain blended learning practices over time (Vangrieken et al., 2015; Tondeur et al., 2018). Without strong team cohesion, technology integration efforts may remain superficial, resulting in fragmented adoption and limited instructional impact. Thus, organisational communication that fosters team cohesion functions as a critical enabler of sustainable digital and blended learning innovation.

Social Exchange Theory, OCB, and Team Cohesiveness

The exceptionally high level of teamwork effectiveness can also be explained through Social Exchange Theory (Blau, 1964). In this framework, organizational relationships are built on reciprocal exchanges of perceived costs and benefits. At SMAN 4 Kundur, respectful, empathetic, and appreciative communication from school leaders and colleagues is perceived by teachers as a valuable social benefit. In response, teachers feel a moral obligation to reciprocate through higher levels of commitment and performance. This reciprocal dynamic manifests in strong Organizational Citizenship Behavior (OCB), where teachers willingly engage in extra-role behaviors beyond their formal job descriptions—such as voluntarily assisting colleagues, covering classes for absent peers, or working extended hours during school events—without explicit directives or material incentives. As noted by Wijaya (2022), effective communication significantly strengthens OCB by fostering trust and psychological attachment to the organization.

In line with Group Dynamics Theory (Lewin), communication also serves as the primary adhesive that sustains group cohesion and effective conflict management at SMAN 4 Kundur. In a high-activity school environment, interpersonal friction is inevitable; however, conflicts are not avoided or suppressed but openly discussed and resolved through dialogue. The local cultural norm of collective deliberation (“sitting together to talk things through”) is reflected in the school's organizational culture, reducing the risk of a toxic work environment. Communication thus functions as a psychological safety valve, releasing tension before it escalates into destructive conflict. This cohesive climate enhances team resilience and supports sustainable performance.

Critical Discussion and Managerial Implications

Critically, while the findings indicate a “very effective” communication climate, several challenges warrant attention. The strong effectiveness observed at SMAN 4 Kundur is partly influenced by social proximity and communal ties typical of island communities, where interpersonal relationships tend to be more familial than individualistic. However, the increasing reliance on digital communication platforms, particularly WhatsApp, poses the risk of information overload and blurred work–life boundaries, potentially leading to mental fatigue or burnout. Moreover, the high explanatory power of leadership communication (72.4%) suggests a significant dependency on the principal’s communication style. A future leadership transition toward a more authoritarian or closed style could undermine team effectiveness. Therefore, institutionalizing communication standards through formal SOPs, enhancing empathetic communication training for middle leaders, maintaining structured informal forums, and digitizing administrative services are essential strategies to ensure the sustainability of teamwork effectiveness in the long term.

Pedagogical Coordination

The findings of this study align with organizational communication theory, which conceptualizes communication as a coordinating mechanism that enables collective action within complex institutions such as schools (Hoy & Miskel, 2013). The very strong relationship between organizational communication and teamwork effectiveness ($R^2 = 0.724$) indicates that communication at SMAN 4 Kundur functions as a core structural resource for pedagogical coordination. Effective coordination is reflected in teachers’ shared instructional planning, synchronized classroom implementation, and collective responsiveness to external policy demands. From a systems perspective, communication reduces uncertainty and ambiguity in task execution, allowing teachers to operate within a coherent pedagogical framework rather than fragmented individual practices (Weick, 1995).

Instructional Alignment

Instructional alignment observed in this study can be theoretically explained through sensemaking and alignment theories within educational organizations. Clear vertical communication from school leadership supports the consistent interpretation of curriculum standards, assessment expectations, and instructional priorities, while horizontal communication among teachers reinforces coherence across subject areas and grade levels. This finding supports prior research suggesting that instructional alignment emerges when communication structures facilitate shared meaning and mutual understanding among organizational members (Leithwood et al., 2020). The high mean score for teamwork effectiveness ($M = 4.45$) confirms that teachers perceive instructional alignment as an outcome of communicative clarity and collaborative norm-setting.

Digital Instructional Collaboration

The results further demonstrate that organizational communication acts as a social infrastructure for digital instructional collaboration. Drawing on sociotechnical systems theory, technology integration is effective only when social processes such as communication and collaboration are aligned with technical tools (Dexter et al., 2016). Informal communication platforms, particularly instant messaging groups, facilitate rapid coordination, sharing of digital teaching materials, and collective problem-solving related to instructional technology. This aligns with research indicating that teacher collaboration in digital contexts thrives when communication channels are flexible, dialogic, and embedded in everyday professional interaction rather than limited to formal structures (Tondeur et al., 2018; Voogt et al., 2015).

Technology-Mediated Teamwork and Complexity Interactive Communication

The concept of *complexity interactive communication* provides a valuable theoretical lens for interpreting technology-mediated teamwork in this study. Schools function as complex adaptive systems in which communication is non-linear, reciprocal, and continuously evolving (Davis & Sumara, 2006). At SMAN 4 Kundur, the coexistence of formal communication (meetings and circulars) and informal digital

interactions (instant messaging groups) illustrates an interactive communication ecology that enables rapid feedback, adaptive coordination, and collective sensemaking. This complexity-oriented communication supports teamwork by allowing teachers to dynamically adjust instructional practices in response to changing technological and policy conditions.

From this perspective, communication is not merely a transmission of information but an ongoing interactive process through which teamwork is enacted and sustained. The significant regression results ($t = 8.920$; $p < 0.001$) suggest that such interactive communication patterns amplify team cohesion and collaborative capacity in technology-rich environments. Consistent with complexity leadership theory, leadership influence in this context emerges through enabling conditions for interaction rather than directive control (Uhl-Bien et al., 2007). Consequently, technology-mediated teamwork at SMAN 4 Kundur is strengthened not only by the availability of digital tools but by the quality of interactive communication that allows teachers to coordinate, innovate, and perform effectively as a collective.

CONCLUSION

This study concludes that organizational communication has a positive and statistically significant influence on teachers' teamwork effectiveness at SMAN 4 Kundur, Karimun Regency. The findings indicate that open communication practices, supported by effective formal and informal communication channels, play a critical role in strengthening coordination, productivity, and the achievement of shared goals among teacher teams. These results affirm that communication is not merely a technical process of information exchange but a strategic organizational mechanism that shapes collaborative performance in school settings.

The results further demonstrate that the quality of organizational communication at SMAN 4 Kundur is perceived to be very high, characterized by transparency from school leadership and smooth horizontal communication among teachers. Such conditions help minimize bureaucratic barriers and information distortion within the school. At the same time, teachers' teamwork effectiveness is also found to be at a very high level, reflected in strong team cohesion, mutual trust, and effective collaboration in implementing school programs and committee tasks, even under conditions of considerable workload.

Statistical analysis confirms that organizational communication accounts for a substantial proportion of variance in teachers' teamwork effectiveness, explaining approximately 72.4% of team performance outcomes. This strong contribution highlights the central role of two-way, human-centered communication patterns and the transparent use of digital communication tools in fostering solid and resilient teacher teams. Overall, the findings validate the research hypothesis and underscore the importance of strategic communication management as a foundation for sustainable teamwork effectiveness in educational organizations.

Based on the findings, this study recommends that school management continue to institutionalize open and transparent communication practices to ensure their sustainability over time. Establishing clear internal communication guidelines or standard operating procedures may help preserve organizational memory, particularly during leadership transitions. In addition, balancing digital communication with face-to-face interaction is essential to protect teachers' psychological well-being and prevent information overload. Teachers are encouraged to maintain a strong peer-to-peer communication culture that supports knowledge sharing and collaborative problem-solving, while future research may explore additional variables such as organizational culture, digital competence, workload, or leadership style to provide a more comprehensive understanding of factors influencing teachers' teamwork effectiveness, especially in island or remote school contexts.

In conclusion, this paper underscores that organisational communication should be understood not merely as an administrative mechanism but as a vital social infrastructure that underpins the effective implementation of learning technology in schools. Meaningful communication enables shared understanding, coordinated action, and mutual trust among teachers, all of which are essential for sustaining effective teamwork in digitally mediated instructional environments. When communication functions as a

connective and collaborative process, it strengthens team cohesion and supports the collective capacity of teachers to adapt, innovate, and integrate technology into pedagogical practice. Ultimately, positioning communication as a foundational social resource allows schools to move beyond technical adoption toward pedagogical innovation that is collaborative, sustainable, and responsive to the evolving demands of digital-based education.

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REFERENCES

- Adams, R., & Blair, K. (2020). The impact of internal communication on employee performance: A study of higher education institutions. *Journal of Organizational Communication Research*, 12(3), 145–158.
- Alfiani Porayow, P., Taroreh, R. N., & Sumarauw, J. S. B. (2023). Pengaruh Komunikasi Internal, Kompetensi Guru, dan Desain Pelatihan terhadap Efektivitas Kerja Guru SMA/SMK Katolik di Kota Tomohon. E-Journal UNSRAT, 51807. [ejournal.unsrat.ac.id]
- Andriyani, I., Darmawan, C., & Hidayati, N. (2023). Pola Komunikasi Interpersonal Wali Kelas Dengan Orang Tua Siswa Dalam Meningkatkan Motivasi Belajar. *Jurnal Ilmu Komunikasi*, 11(2), 221–230. jurnalfdk.uinsa.ac.id
- Asmara, Y., Sulistiyo, U., & Rosmiati, R. (2023). The impact of managerial skills, organizational communication, discipline, and school climate on work engagement in schools. *PPSDP International Journal of Education*.
- Boone, H. N., & Boone, D. A. (2012). Analyzing Likert data. *Journal of Extension*, 50(2), 1–5.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- Davis, B., & Sumara, D. (2006). *Complexity and education: Inquiries into learning, teaching, and research*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Dexter, S., Richardson, J. W., & Nash, J. B. (2016). Leadership for technology integration: Framing the context of change. *Educational Administration Quarterly*, 52(2), 311–341. <https://doi.org/10.1177/0013161X15616845>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage.
- Febriyani, W., Mawardiningrum, R. F., & Wuryandari, L. (2025). The role of effective communication in improving team performance in higher education organizations. *Artikel Manajemen dan Bisnis*.
- Fikri, M. Z., & Zunaidah, L. A. (2022). Pengaruh Komunikasi dan Kerja Sama Tim terhadap Efektivitas Kerja Karyawan PT. Sinar Indochem. *Jurnal Bisnis Manajemen & Akuntansi*, 9(1), 1-10. [ejurnal.stie-trianandra.ac.id]
- Gunbayi, I. (2023). The impact of organizational communication on the effectiveness of educational organizations. *MDPI Education Sciences*.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hardianti, I., Manalu, D. D., Hidayat, T., & Sazali, H. (2022). Dampak masa pandemi covid-19 terhadap efektivitas komunikasi organisasi. *UMMAT Scientific Journals*. [journal.ummat.ac.id]

-
- Hargreaves, A., & O'Connor, M. T. (2018). *Collaborative professionalism*. Thousand Oaks, CA: Corwin Press.
- Hasibuan, M. S. P. (dikutip dalam Arie A, 2022). *Manajemen: Dasar, Pengertian, dan Masalah*. (Kutipan ini dapat ditemukan dalam jurnal yang tersedia di [Repository UMJ](#) yang terbit sekitar tahun 2022).
- Hidayat, T., & Nugroho, A. (2022). Teknik Pengambilan Sampel Umum dalam Metodologi Penelitian: Konsep dan Implementasi. *Jurnal Ilmiah Pendidikan Holistik (JIPH)*, 1(2), 85–114
- Hoy, W. K., & Miskel, C. G. (2013). *Educational administration: Theory, research, and practice* (9th ed.). New York, NY: McGraw-Hill.
- Iano, T. R., Hadiyanto, H., & Sulastri, S. (2024). The importance of effective communication in supporting teacher empowerment in schools: A literature review. *International Journal of Educational Dynamics*, 7(1), 205–213.
- Ilyas, A., & Aminah, S. (2021). Pengaruh Komunikasi Organisasi Kepala Sekolah Dan Lingkungan Kerja Terhadap Kinerja Guru Di Sekolah Menengah Atas Negeri. *Jurnal Pembelajaran, Bimbingan Dan Pengelolaan Pendidikan*, 4(11), 167-178. [ejournal.cahayailmubangsa.institute]
- Jumiran, J., & Abidin, A. (2023). Pengaruh Komunikasi dan Iklim Organisasi Terhadap Kinerja Guru di SD Guang Ming Medan. *Jurnal Manajemen Pendidikan Dan Teknologi*, 4(4), 15837. [jurnal.umsu.ac.id]
- Kamaludin, K. (2023). Komunikasi Dalam Tim Organisasi di Sekolah Dasar Negeri. *Jurnal Manajemen Pendidikan Dasar, Menengah dan Tinggi*, 4(4), 438-444. [jurnal.umsu.ac.id]
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 140, 1–55.
- Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadership & Management*, 40(1), 5–22. <https://doi.org/10.1080/13632434.2019.1596077>
- Maraj, S., & Syafrizal, S. (2022). Pengaruh komunikasi, kerjasama tim, kepemimpinan dan pengambilan keputusan terhadap kinerja. *Jurnal Ilmu Manajemen*, 15(1), 228-238. [jurnal.uniki.ac.id]
- Men, L. R., & Yue, C. A. (2019). Creating a positive emotional culture: Effect of internal communication and impact on employee supportive behaviors. *Public Relations Review*, 45(3), 101764. <https://doi.org/10.1016/j.pubrev.2019.03.001>
- Munawwarah, T., Kholizah, N. A., & Maidiana. (2023). Analisis Peran Komunikasi Organisasi dalam Meningkatkan Efektivitas Tim Pengelola Pendidikan di Sekolah SMP Swasta Islam Terpadu Suhairiyah. *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 1(5), 336-340.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- OECD. (2020). *Education at a glance 2020: OECD indicators*. Paris, France: OECD Publishing. <https://doi.org/10.1787/69096873-en>
- Olang, I., & Guhao, E. (2025). Translating teamwork into school effectiveness: The mediating effect of team effectiveness on organizational trust and teacher performance. *International Journal of Educational Management*.
- Pallant, J. (2020). *SPSS survival manual* (7th ed.). McGraw-Hill Education.
- Porman, M., & Manalu, D. (2022). Peranan Komunikasi Organisasi Dalam Meningkatkan Kinerja Karyawan. *Jurnal Versa*, 1(2), 1-10. [journalversa.com]
- Raja Maruli Tua Sitorus. (2020). *Pengaruh Komunikasi Antar Pribadi Pimpinan Terhadap Komunikasi Kerja*. Surabaya: Scopido Media Pustaka
- Robbins, S. P., & Judge, T. A. (2024). *Perilaku Organisasi, Edisi Global*. USA: Pearson Education, Inc.
- Robson, C., & McCartan, K. (2016). *Real world research* (4th ed.). USA: Wiley.
- Sari, R. M. (2024). Pengaruh Komunikasi, Lingkungan Kerja, dan Disiplin Kerja Terhadap Kinerja Guru di Sekolah. *Jurnal Efektivitas Komunikasi*, 4(3), 495-502. [ojs.jekobis.org]
- Sari, D. M., & Nugroho, A. D. (2022). Academic leadership communication and employee engagement: Evidence from Indonesian higher education. *Journal of Educational Administration and Policy*.
- Sekaran, U., & Bougie, R. (2020). *Research methods for business: A skill-building approach* (8th ed.). USA: Wiley.

- Siregar, R. T. (2021). Komunikasi Organisasi Dalam Meningkatkan Kinerja Guru Di SMP Al Inabah Ponorogo. [eprints.umpo.ac.id]
- Somech, A. (2021). Teamwork in teaching: Integrating collaborative practice and instructional effectiveness. *Educational Management Review*.
- Suntama Putra, D. A. (2023). Problematika efektivitas tim kerja guru dalam mewujudkan visi dan misi sekolah. *Jurnal Perspektif*, 23(2), 234-245. [ejournal.uncm.ac.id]
- Sudarman, A., & Nashar, M. (2025). Peran Komunikasi Internal dalam Corporate Communication untuk Meningkatkan Employee Engagement. *Konsensus: Jurnal Ilmu Pertahanan, Hukum dan Ilmu Komunikasi*, 2(1), 118-132. <https://journal.appisi.or.id/index.php/konsensus/article/download/620/862/3429>
- Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.
- Taherdoost, H. (2016). Sampling methods in research methodology. *International Journal of Academic Research in Management*, 5(2), 18–27.
- Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2018). Understanding the relationship between teachers' pedagogical beliefs and technology use. *Computers & Education*, 126, 168–182. <https://doi.org/10.1016/j.compedu.2018.07.009>
- Tourish, D. (2014). Leadership, communication, and change. *Leadership*, 10(1), 79–94. <https://doi.org/10.1177/1742715013509034>
- Uhl-Bien, M., Marion, R., & McKelvey, B. (2007). Complexity leadership theory. *The Leadership Quarterly*, 18(4), 298–318. <https://doi.org/10.1016/j.leaqua.2007.04.002>
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review*, 15, 17–40. <https://doi.org/10.1016/j.edurev.2015.04.002>
- Valle, A. M. (2025). School climate and teamwork of secondary school teachers. *International Journal of Multidisciplinary Research and Analysis*.
- Voogt, J., Lafferrière, T., Breuleux, A., Itow, R. C., Hickey, D. T., & McKenney, S. (2015). Collaborative design as a form of professional development. *Instructional Science*, 43(2), 259–282. <https://doi.org/10.1007/s11251-014-9340-7>
- Walsh, A. (2020). Teacher Team Teaching: Professional Learning, Collaboration, and Teacher Agency. *Professional Development in Education*, 46(2), 263-277.
- Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks, CA: Sage Publications.
- Yonezawa, T. & Nakai, Yuka. (2024). ICT self-efficacy, self-efficacy for teamwork, and collegial collaboration: An exploratory study of elementary school teachers' ICT uses. *Frontiers in Education*. <https://doi.org/10.3389/educ.2024.1410886>
- Zuwirna. (2020). *Dasar-Dasar Komunikasi*. Jakarta: Kencana