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Organizational communication competence of public secondary school principals through utilizing WhatsApp

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Introduction: Effective communication is the heart of any organization. It is associated with employees' job satisfaction and productivity and therefore, is responsible for the institution's continuity and prosperity. In educational institutions, communication has been undergoing swift and significant changes that affected not only instructional strategies, but also administrative dimensions. The need for instant and precise information made digital mediums indispensable for school administration that helps in planning, following up, executing, and evaluating short-term and long-term goals. Since the start of the 21st century, a multitude of smartphone applications have surfaced, all designed to enhance communication. WhatsApp is one of the applications that stands as the most popular medium, which is widely spread and used on personal as well as professional basis. The question at hand is whether employing WhatsApp as a communication tool within educational institutions can effectively contribute to the development of communication competence, encompassing aspects such as communication motivation, communication knowledge, and communication skills.

Methods: Based on the indicators used to measure communication competence in institutions, this qualitative study elicited relevant information through semi-structured interviews from 14 different government secondary school principals in Jerusalem and the West Bank about the approach principals employ WhatsApp to achieve competence.

Results: The results of the study show that indicators of communication competence are achieved through the use of WhatsApp.

KEYWORDS

communication, communication competence, efficient communication, organizational communication, social networking, WhatsApp, school principals

1 Introduction

Payne (2005) defines organizational communication competence as the evaluative impression of the quality of interaction, moderated by organizational norms and rules. In simpler terms, organizational communication competence is the assessment of successful communication where the goals of those involved are achieved through messages that are

seen as suitable and effective within the organizational setting. Communication competence in organizations requires a understanding of the organization and communication, the ability to execute skilled behaviors, and the motivation to perform competently.

Communication competence and processes in organizations stand as one of the pivotal requirements that any institution must possess to maintain its functions (Alev et al., 2022; Daher et al., 2022; Daher and Salameh, 2022). The progress of operations, achievement of objectives, and adaptability to changes rely on the capacity and competency of seamless communication between the institution and the community on one hand, and among the institution's members and their administrative levels on the other (Winarso, 2018; Hamdan et al., 2021). Through competence in verbal and non-verbal communication, institutions can access pertinent information. Hence, the importance of organizational communication lies in creating a shared information communication foundation among all individuals within the institution. Effective communication has the potential to cultivate a sense of satisfaction among individuals (Alev et al., 2022), especially in organizations (Winarso, 2018). This effective communication could be guaranteed when the organizational communication is done with competence (Winarso, 2018). In this digital era, the concept of communication within institutions evolves from its traditional oral framework to a process built on technology and its communicative media (Dogan, 2019). Given the inevitability of incorporating modern technology in the educational realm, numerous studies have centered on technology-driven educational leadership and administration (Brown et al., 2016).

Winarso (2018) asserts that communication becomes effective when a well-structured plan is in place, tailored to the institution's needs and characteristics. This communicative process aims to deliver messages to recipients with the goal of creating clear understanding between the sender and receiver, aligning with the message's objective. Accordingly, the message's direction could be vertical, either top-down or bottom-up, or it could be horizontal between members of the same hierarchical level. Leaders often employ the top-down vertical communication model to communicate with their staff, setting goals, giving instructions, informing subordinates of school policies and procedures, and highlighting issues warranting special attention. The verbal face-to-face form is not a mandatory embodiment of this model. On the other hand, the bottom-up vertical communication model aids principals in obtaining feedback regarding matters such as subordinates' perceptions of their work, their colleagues, and the institution as a whole. Examples of this communication model include suggestion boxes within the staff and surveys about subordinates' opinions, or discussions between managers and subordinates. The horizontal communication style takes place among members of the same hierarchical level, like communication between teachers or between leaders of the same administrative level.

Toker Gokce and Balci (2023) contend that a school's success mirrors the leadership of its principal. Since principals are not solely responsible for achieving the school's goals, they require the support of teachers to achieve these objectives. Hence, effective communication facilitates this integrative process and the necessary coordination within the school. Pramahsari and Triatna (2021) affirm that the effectiveness of principals' communication is among

the most influential factors in teachers' performance. Therefore, school principals harness the power of communication in their leadership. Golden (2013) observes that today's communication style, based on information and communication technology, might streamline communication methods in institutions in terms of information retrieval speed, immediate feedback, and prompt issue resolution.

Electronic communication has attracted the attention of researchers since the emergence of the internet (Postigo Fuentes and Fernández Navas, 2020; Chung, 2021; Grothaus, 2022), and especially since the spread of social media (Baya'a and Daher, 2013; Daher, 2014). Specifically, electronic communication through WhatsApp, as highlighted by Toker Gokce and Balci (2023), has replaced bureaucratic communication patterns, leading to a form of direct communication between principals and teachers. Yet, excessive communication might result in disruptions in work. The extent of communication significantly impacts teachers' performance within and outside the institution.

Numerous studies underscore the necessity of employing WhatsApp groups and utilizing them to facilitate communication between administration and teachers in schools as an alternative to traditional communication methods (Cetinkaya, 2019; Dogan, 2019; Attalla et al., 2022; Toker Gokce and Balci, 2023). All the previous stresses the need to investigate the organizational communication competence of school principals. Here we do that depending on Payne (2005) who highlights indicators of communication efficiency based on Spitzberg and Cupach (1985) study in five primary categories: information sharing, feedback, relationship enhancement, clarity or reducing uncertainty, and problem-solving.

1.1 Research goals, rationale, and question

This study aims to verify the organizational communication competence of school principals in WhatsApp application for administrating and facilitating communication in government secondary schools and to delineate how the utilization of WhatsApp leads to the attainment of communication competence. It also examines whether Payne's (2005) indicators of communication competence can be effectively achieved via WhatsApp, and the mechanisms principals employ to meet the goals of their schools through the application. The study drew upon the theoretical framework of Constructivist Learning Approach, positing that reality is socially constructed, and individuals actively engage in constructing and reconstructing knowledge through their daily interactions and experiences (Bloomberg and Volpe, 2019).

Little educational research has been done on using administration theoretical framework to analyze the organizational communication competence of school principals in using social media platforms such as WhatsApp application. The present research attempts to do so. In addition, the present research will benefit school and other organizations' leaders in the utilization of social media platforms for their communication functions.

The study aims to answer the following question:

What is the organizational communication competence of secondary school principals in employing WhatsApp to achieve organizational communication?

2 Theoretical framework and literature review

2.1 Organizational communication competences

Organizational Communication is defined as the process through which an organization clearly defines the intricacies concerning the work environment and the nature of responsibilities expected from organization's staff. The purpose of this communication is to disseminate information pertaining to the job description of each employee in a timely manner, ensuring that all within the organization are aware of their exact obligations. This process symbolizes the mechanistic exchange of information within the work environment (Yildirim and Kilic, 2021; Naji et al., 2022). Thus, the organizational communication competence could be described as coordination, sharing information, problem solving and conflict resolution (Alev et al., 2022).

Brinia et al. (2022) think that assessing the effectiveness of an educational institution is a complex task. School effectiveness is viewed as the school's ability to achieve its objectives with minimal resources or its capability to provide those resources. Effective communication, which aims to transmit the message from the sender to the receiver using symbols, allows the receiver to understand the message in the same manner intended by the sender, consequently influencing their behavior (Tevfik and Ahmet, 2017). Effectiveness of educational institutions, like any other organization, relies on the efficacy of the communication system that ensures the accomplishment of their objectives (Winarso, 2018; Bahri and Arif, 2019; Alev et al., 2022; Brinia et al., 2022). Moreover, an organization's success and efficiency depend on the competence of the management. In the school context, the major role of the school principal is communication. Considering the organizational communication competence in the school, we need to consider the principal's competence to establish two-way communication with the staff as an instructional leader, to have clear and concise written and oral communicative skills to deal with conflicts and skillfully resolve them through communication, to have the competence to influence others, and to affect the direction of actions when needed, and to provide with interaction among the different levels of the school (Yildirim and Kilic, 2021).

In a world that is characterized by rapid change, clear, complete, concise, and timely communication became a must for the survival of any organization (Tevfik and Ahmet, 2017; Winarso, 2018; Bahri and Arif, 2019; Yildirim and Kilic, 2021; Alev et al., 2022; Brinia et al., 2022). Studies show positive correlations between effective communication and outputs like job satisfaction, commitment, and productivity. On the other hand, failure in communication correlates with job dissatisfaction and stress (Husain, 2013; Winarso, 2018). Brinia et al. (2022) use the term "communicative satisfaction" to refer to the effectiveness of the educational institution which pertains to teachers' perceptions regarding the flow of information, their sense of engagement within the school, the quality of the communication media, as well as forms and methods of communication. Furthermore, it encompasses their contentment with information concerning the institution as a whole, and in relation to their interaction with the principal and information relevant to feedback that concerns them (Bahri and Arif, 2019; Brinia et al., 2022).

In addition to the above, communicational competence is the knowledge of appropriate communication patterns in a specific situation and the ability to use that knowledge (Cooley and Roach, 1984, p. 25). The two main factors of communication competence present in the organizational communication literature are strategic and tactical communication (Jablin et al., 1994). Strategic communication is related to knowledge of organizational realities, the meanings that things have in the organization, and may vary among organizations. Besides, tactical communication represents the competences the leader has as tools to accomplish personal, group, and organizational goals.

Other researchers attempted to define organizational communication competence. Harris and Cronen (1979), utilized a rules-based approach to theorize communication competence. They defined strategic communication competence as an individual's ability to interpret constitutive rules and tactical communication competence as an ability to follow/manipulate regulative rules.

2.2 Digital communication

Like all other organizations, the educational system is influenced by technology, and consequently, recent technological advancements have compelled educational institutions to transition from the traditional paradigms into the digital realm across administrative, pedagogical, and communicative dimensions (Alev et al., 2022). Karakose et al. (2021) posit that a crucial factor in this digital transformation hinged on the educational leader's vision. The ability to transit to digitization was contingent upon the clarity of the digital policy employed by educational leaders in facilitating change within the school and especially among the school's community, where this change endorses new ideas and practices. Furthermore, the role of the leader was pivotal in making decisions about the feasibility of diverse forms of technology and their digital pedagogical practices in achieving the desired changes (Tevfik and Ahmet, 2017). In this process of digitization transition, educational administrators cannot distance themselves from the ongoing process of change, as they constitute the locus where change initiates. The role of school administration resides in instilling motivation among the school's community including the staff members and in successfully guiding them toward achieving the school's objectives. This transformative endeavor can only be realized through educational leaders capable of managing the entire change process (Karakose et al., 2021) and who have the competence to instill the change and innovation in the school's community. This management according to Winarso (2018) lies in the ability of leaders to create and achieve a clear communication system within the organization which aims to cultivate a sense of satisfaction among the staff. Dogan (2019) believes that communication is an indispensable tool needed for positive relations and interactions within any organization's community. He asserts that within this new face of a technological world, technology takes the lead in all forms of life including communication.

In addition to the points mentioned above, researchers tried to address the digital communication competence of the school staff.

On the other hand, Instefjord and Munthe (2017) discovered a weak positive correlation between a favorable attitude toward management, management's support for professional development, and the digital competence of teacher educators. Their research also

revealed a stronger positive correlation between teacher educators' self-reported confidence in their abilities and their digital competence.

2.3 WhatsApp as means of communication

Technological changes led school principals to employ new innovative alternatives to meet the new conditions. WhatsApp, as an informal alternative, became the major empowering option compared to traditional communication for its convenience and began to be used in the formal educational environment (Ali et al., 2019).

With the emergence of smart phones and social media, it became a fact that educational administrations need to utilize the media for a better system of communication in an increasingly fast paced world, allowing for limitless span of communication that mirrors the needs of the school's environment. Students, teachers, instructors, and administrators use networks to keep pace with the emerging technologies (Yildirim and Kilic, 2021; Harb and Al-Zou'bi, 2022). Among all other social media, WhatsApp stands as the most suitable and convenient media for instant messaging (Bouhnik and Deshen, 2014; Costa-Sánchez and Guerrero-Pico, 2020). It has been in the market since 2010 as a Smartphone application that operates on almost all types of devices with different operating systems. It appeared as a means of sending and receiving messages among individuals and groups and included a variety of functions over SMS messaging such as the ability to attach images, audio, and video files. It is a free application that is used for instant messaging between a group of people via text or multi-media (Bouhnik and Deshen, 2014).

The use of WhatsApp group application in school management presents several benefits (Hana and Muassomah, 2021). It allows for seamless and timely exchange of information between principals, teachers, students, and parents. It could be used for announcements, updates, and important notice. Through its groups, it facilitates communication within the different levels of the educational environment including administrative communication and collaborative learning (Daulay and Damanik, 2022). This is the case in the schools and regarding school principals who need to take advantage of the new digital devices and platforms in order to communicate with the school's community. School principals need to show competence to do that.

One of the potential alternatives of the WhatsApp group application in school management is to hold virtual meetings, to discuss important issues and make decisions, among members of the school administration (Hana and Muassomah, 2021; Yildirim and Kilic, 2021). In addition, the application can be used to send notifications and reminders to teachers, students, and parents regarding important events, deadlines, or any changes in schedules (Yildirim and Kilic, 2021). Furthermore, the WhatsApp group application can be utilized for parent-teacher communication. This allows for seamless and real-time communication between parents and teachers, enabling them to discuss students' progress, address concerns, and collaborate on supporting their educational journey. Another potential use of the WhatsApp group application in school management is for professional development. Teachers can create groups where they share relevant articles and resources and participate in discussions related to their teaching practices (Hana and Muassomah, 2021; Daulay and Damanik, 2022).

WhatsApp Group can be utilized in school management in communication platforms, virtual meetings, notifications and reminders, schedule changes, upcoming events, professional development, crisis management, and important deadlines can be relayed immediately to everyone involved (Hana and Muassomah, 2021). It can also be incorporated in the educational processes between teachers and students by communicating with students; using it as a learning platform; fostering the social atmosphere; encouraging information sharing among students (Bouhnik and Deshen, 2014).

Social media is indispensable in our life nowadays where almost every teacher and every student use social media during daily professional educational interaction. It can be used for both administrative and instructional purposes. Nevertheless, it is not expected to be without problems (Yildirim and Kilic, 2021).

Compared to other social media, WhatsApp stands as the best and common used medium for many reasons: free cost compared to SMS messaging; accessibility allows to change text size compared to face book groups and Twitter where the text size is fixed; WhatsApp provides full information about the user availability which is not allowed by an Email, SMS, Twitter, and Facebook groups; in WhatsApp, it is easy to add or remove members, compared to other types of mass-media; It also provides with a relatively high privacy; It is easy to share contents within WhatsApp groups; Teachers' and students' use of WhatsApp is relatively high; and it enables collaborative learning (Bouhnik and Deshen, 2014).

3 Methodology

This qualitative study aims to identify the effectiveness of using WhatsApp Group technology in organizational communication among government secondary school principals from their perspectives. Indicators of communication efficiency will be examined, utilizing both inductive and deductive approaches. The selection of the topic was based on its novelty, significance, and rapid spread.

3.1 Research context and participants

The importance of communication effectiveness lies in creating a common information foundation among all members, fostering contentment (Tevfik and Ahmet, 2017; Winarso, 2018; Bahri and Arif, 2019). In today's digital era, communication in organizations has moved beyond physical inter-personal interactions, embracing technology and its media (Dogan, 2019). With technological progress, integration of technology in education became inevitable (Brown et al., 2016).

3.2 Research participants

This study explores how school principals enhance communication efficiency in government secondary schools using WhatsApp Groups. Effective organizational communication, according to Winarso (2018), requires efficient communication across levels. Payne (2005) highlights indicators of communication efficiency based on Spitzberg and Cupach (1985) study in five primary

categories: information sharing, feedback, relationship enhancement, clarity or reducing uncertainty, and problem-solving.

A Convenient, purposive sample was employed, involving 14 principals from the West Bank and Jerusalem (Blackstone, 2012). Semi-structured interviews, conducted face-to-face or on Zoom, collected rich and deep descriptive data on communication indicators via WhatsApp (Creswell, 2013; Flick, 2018). Additional interviews refined research direction. The study focuses on how principals employ WhatsApp for the purposes of efficient communication. The final sample consisted of 14 principals representing diverse genders, backgrounds, qualifications, and experience levels (Table 1).

3.3 Study tool

To allow a deeper delve into the information obtained, and to provide the interviewee with some flexibility during the interview to yield valuable insights, individual semi-structured interviews were employed (Ryan et al., 2009).

After reviewing the relevant literature on the subject, researchers developed an interview guide to identify the most suitable questions that would answer the research questions. The guide consisted of very specific procedures to conduct interviews trying as much as possible to achieve parallelism among researchers.

The interview guide consisted of three parts: the opening part included salutation, introduction to elicit demographic information, consent, and ethical considerations; the second part comprised twenty inquiries derived from the study’s questions about uses and employments of WhatsApp as an organizational communicative tool such as:

1. How do you evaluate the use of WhatsApp in facilitating communication with the school staff?
2. How do you manage disputes among the staff through WhatsApp?
3. How do you think WhatsApp communications affected the relationship between teachers? Can you give a specific example?
4. What is the major area of your administrative work that benefited most from WhatsApp? How?
5. How do you provide with or seek feedback through the use of WhatsApp in the frame of your communication with the school’s community?
6. Throughout your experience, how can you be clear to the staff about the daily routine through WhatsApp? Can you provide examples?

Additionally, six supplementary questions were incorporated. The final part aimed to close the interview by asking the interviewee if he’d like to add anything to the discussion, and was followed by the interviewer’s gratitude, and appreciation for the interviewee’s cooperation and agreement to the interview.

The interview was designed to encompass all types of questions as outlined in Qu and Dumay (2011), with the purpose of systematically delineating the topics in an interconnected manner. This approach facilitates obtaining more detailed responses, affording the interviewee the freedom to expound upon the posed question and allowing flexibility to delve into secondary inquiries contingent on the context. Each question is geared toward eliciting comprehensive knowledge necessary to address the study’s questions (Saunders et al., 2018).

A training session was conducted among the authors with the aim of ensuring the accuracy and validity of the interview questions.

Furthermore, the final version of the questions was presented to experts in the fields of organizational communication and qualitative research, as well as interview specialists, for validation.

In addition to the above, the interviewers kept in mind that the organizational communication competence is related to communication among the school’s community, especially the staff including the school’s teachers. This made them address the school’s community communication in the interview process. Saying that, special consideration was given to the communication between the principal and teachers.

3.4 Data analysis

The authors individually gathered and categorized data, then met to compare and adjust subcategories, and to discuss new themes. A consensus was achieved on 4 out of 5 categories of Payne’s (2005). The category ‘problem-solving’, being confusing for principals whose answers were focused on conflict resolution, was changed into ‘conflict resolution’ and formed our inductive category. Data analysis employed descriptive coding (Greenberg, 2011; Saldiana, 2013), entailing thorough data reading and precise labeling. This yielded numerous codes organized under thematic categories (Saldaña, 2016).

3.5 Coding process

The initial coding employed a deductive approach, targeting main categories from Payne (2005), informed by definitions from Sriussadaporn-Charoengnam and Jablin (1999). *In Vivo* coding extracted interviewee statements, followed by brief descriptions using descriptive coding. Researchers met to compare results, agreeing on the recurrence of four indicators: *information sharing, feedback, clarity, and enhancing relationships*. “Problem-solving” was refined to “conflict resolution” with specific subcategories. The coding revealed instances

TABLE 1 Demographic information of school principals (the initials are fictive).

Principal	Qualifications	Experience	Number of classes
A. H.	MA	5	42
H. G.	MA	2	16
H. S.	MA	12	34
H. A.	MA	8	21
A. Z.	BA	22	22
M. H.	BA	8	25
H. E.	BA	9	22
M. A.	BA	6	12
O. T.	MA	14	32
R. A.	MA	7	19
M. M.	MA	3	11
R. R.	MA	3	16
A. R.	BA	8	10
S. K.	MA	12	9

of WhatsApp usage by principals for conflict resolution at school levels. Therefore, Final categories encompassed an additional inductive primary category: Conflict Resolution.

The second stage of the coding process was a combination of deductive and inductive approaches, aimed at deriving subcategories from the aforementioned primary categories, while also arriving at inductively determined subcategories for the primary category “Conflict Resolution.”

In the final stage, the primary deductive and inductive coding categories and their corresponding subcategories were coded. This stage involved the exploration of “Conflict Resolution” as an indicator of communication efficiency in secondary schools, not specifically mentioned by Payne (2005). Consequently, the last phase of the coding process became a blend of inductive and deductive methodologies. Table 2 illustrates the primary categories and their sub-categories.

The data analysis was conducted using content analysis and following the deductive-inductive approach, aiming to identify codes related to the studied educational administration phenomenon. Performing the deductive content analysis, we depended on the indicators outlined by Payne (2005) (See above). Performing the inductive content analysis, we explore new categories that emerged from the data as indicators of communication efficiency in secondary schools through WhatsApp applications. The goal of the coding was organizing the data into general categories based on the descriptive coding process, followed by attempts to interpret them within their contexts (Elliott and Timulak, 2015; Saldaña, 2016).

The unified unit of analysis for coding was on the sentence or the phrase level, given its focus on interviews to explore principals’ uses of organizational WhatsApp application. Thus, the selected unit of analysis is optimal for conveying the meaning or significance that can be inferred from the sentence or phrase (Milne and Adler, 1999).

Table 3 describe the themes of the sub-categories and gives examples on these themes. These details informed the coding and analysis process.

Table 4 describes an example of the analysis.

Table 4 shows that we arrived, regarding the presented interview texts, at 3 themes related to two sub-categories.

3.6 Reliability and validity

For the study to ensure reliability and validity, the Holisti’s Method showed 86.6% agreement among the seven researchers in the process of coding where the 13 categories out of 15 total categories were agreed upon, and after discussion, the coders agreed on the two other categories, which establishes content analysis reliability according to Mouter and Vonk Noordegraaf (2012).

Credibility verification was also sought, where the study results were assessed through the researchers’ perspectives. Researchers enhanced the validity of the findings by ensuring researcher objectivity, defining data collection goals, and providing a transparent and clear presentation of definitions and analytical units constituting the research nature to keep aware of biased judgments. Transferability through quotations and comparisons, and continuous validation of interpretations ensured quality according to (Lincoln et al., 1985) and Chowdhury (2015). Dependability was achieved through detailed methodology description, and authenticity through follow-up interviews and independent data work (Chowdhury, 2015). Triangulation according to Denzen (2014) involved seven researchers collecting and coding data independently, enhancing credibility (Carter et al., 2014).

The aim of the study was to investigate the effectiveness of government secondary school principals in utilizing WhatsApp groups to competently facilitate organizational communication. The research question aimed to identify primary categories of communication competence according to Winarso (2018), and to check whether principals employ WhatsApp groups to achieve them or not, and whether there are other areas of organizational communications achieved by WhatsApp.

In addition to the above, after analyzing 12 interviews, we arrived at the saturation of the categories and their properties. This means that

TABLE 2 The primary categories and their sub-categories.

	Primary categories	Definition	Sub-categories
1	Sharing information	Principals’ involvement in transmitting workflow details and school regulations across school levels, using methods like presentations or receiving information. They adeptly acquire and distribute pertinent school-related information to advance the school’s objectives.	a. Workflow b. School Regulations
2	Feedback	Asking for and providing feedback, typically between the principal and the administrative staff, as well as the teachers. This includes taking necessary actions based on the feedback to achieve the educational institution’s desired objectives.	a. Obtaining b. Providing
3	Clarity and Reducing Uncertainty	Principals’ ability to communicate with the academic staff, leveraging prior knowledge of teachers’ thought processes. This involves the principals’ capacity to express their perspective through their authorities and duties, as well as their skill in posing appropriate questions to discern the needs of their staff	a. Communication with Staff b. Expressing Perspectives c. Ability to Pose Questions
4	Enhancing Relationships	Principals’ capacity to cultivate positive social relationships within the various levels of the school structure, achieving harmony between these levels to foster an effective scholastic environment that encourages cooperation through continuous positive communication.	a. Social Relations b. Achieving Harmony c. Continuous Positive Communication
5	Conflict Resolution	Principals’ ability to employ communication in resolving professional conflicts by clarifying desired goals and the extent of their proximity or divergence in achievement, as well as elucidating the differing perspectives of the conflicting parties.	a. Identifying Conflicts b. Taking Actions c. Persuasion Skills

TABLE 3 Subcategories, themes and examples in the analysis process.

Sub-categories	Themes	Example
Workflow	<ol style="list-style-type: none"> To communicate with the teachers. To present information. To obtain information. To disseminate information among the work teams To share information. 	S.K: "...and recently, we have been using WhatsApp for communication, which makes it easy for me as a principal to communicate with the teachers. This is done through presenting information, obtaining it, and disseminating it among the work teams, making WhatsApp a means of sharing information to organize workflow in schools."
School Regulations	<ol style="list-style-type: none"> To enforce school regulation To inform about new school regulations. To ensure achievement of goals according to the policies. 	H.A: "Any new law or recent instructions that I receive as a principal from any formal side, I transfer them immediately via WhatsApp to reach all teachers directly. I recommend them to adhere to these instructions and confirm receipt with the word 'done.' This ensures that everyone is aware of the school's regulations."
Obtaining Feedback	<ol style="list-style-type: none"> To make decisions. To achieve consensus or majority on proposals. To ensure that everyone is aware of a decision. To ensure mission processing and completion. 	A.R: "...and I also wait for responses from the teachers, hoping that their opinions are clear and free from ambiguity so that I can make decisions based on that feedback."
Providing Feedback	<ol style="list-style-type: none"> To ensure clarity of instructions. To provide evaluation and assessment. To motivate teachers. To increase concentration on specific tasks. to clarify expectations regarding job responsibilities, performance standards, and professional conduct 	M.A: "...this indicates that providing feedback through the use of WhatsApp groups has facilitated communication between the administration and the teaching staff in terms of effort and time."
Communication with Staff	<ol style="list-style-type: none"> To follow up with the implementation of plans. For instant modification under emergencies. When instant action is needed. To reduce ambiguity and misunderstanding. 	A.Z: "WhatsApp facilitates quick and constant communication with the teachers. Since we are currently living in unstable environment, I find WhatsApp to be the optimal way to communicate with the teachers at any time and under any circumstances."
Expressing Perspectives	<ol style="list-style-type: none"> To clarify procedures. To justify decisions. To clarify performance criteria. To provide with constructive criticism. To ensure unity and cohesion toward school vision. To achieve harmony with teachers. 	O.T: "Often, when I notice a sense of frustration among the teachers, due to workload pressure for example, I send a clear message explaining the reason behind the pressure and expressing appreciation for the teachers' efforts in their perseverance. This way, I present my viewpoint clearly and quickly without the need for the time and effort of a traditional face-to-face meeting."
Ability to Pose Questions	<ol style="list-style-type: none"> To allow teachers' reflection on their actions. To ensure precise data for needs assessment. To enhance teachers' responsibility. For fostering trust and collaboration. 	M.M: "In many cases, instead of waiting for face-to-face meetings, I pose questions and inquiries on the WhatsApp group to gather responses from the teachers."
Social Relations	<ol style="list-style-type: none"> To the social relationships of the school environment. To show interest in teachers' social life. To ensure belongingness for every teacher. 	R.A: "Today, I also see WhatsApp as responsible for shaping social and professional relationships among the team members."
Achieving Harmony	<ol style="list-style-type: none"> To establish transparent communication channels with teachers. To show interest in the teachers' well-being. 	R.R "Through teachers' conversations in WhatsApp groups, many close and harmonious relationships between team members emerge, which also helps new teachers to quickly adapt with others."
Continuous Positive Communication	<ol style="list-style-type: none"> To define roles and expectations clearly. To encourage collaboration to achieve goals. To build trust. To foster an inclusive environment where everyone feels valued, respected and welcomed in the institution. 	H.Z: "Through WhatsApp, teachers congratulate each other, offer condolences, and inform others about their well-being, thereby strengthening intimate and enduring relationships among themselves on one hand, and with their administration on the other hand. Even when one of them is busy or out of the country, they can still participate, even if with a small part, in the joys and sorrows of their colleagues."
Identifying Conflicts	<ol style="list-style-type: none"> For early detection of conflicts. For precise identification of the conflict nature. To precisely define parties of the conflict. 	A.H: "Often, signs of conflicts emerge on WhatsApp through the responses of teachers to each other. From here, I can discover and identify the nature of the conflict and work early on resolving it"

(Continued)

TABLE 3 (Continued)

Sub-categories	Themes	Example
Taking Actions	<ol style="list-style-type: none"> 1. To address teachers who are involved in the conflict. 2. To address the conflict constructively. 2. Intervening to solve the conflict. 3. To make decisions or agreements about the conflict. 	A.R: “When conflicts arise, I assess the situation and try to resolve it directly in a timely manner. However, sometimes conflicts can be deep-rooted and involve a level of privacy. In such cases, I either create a WhatsApp group specifically for those involved in the conflict or ask them to attend a face-to-face session to resolve the conflict and clarify their perspectives.”
Persuasion Skills	<ol style="list-style-type: none"> 1. To use communication skills to persuade. 2. To provide space and time for self-expression. 4. Building trust 2. To find a compromise or a resolution. 	“WhatsApp provides me with the opportunity to initiate comfortable dialogs where I can employ persuasive and calming techniques to resolve conflicts among team members, or even between them and members of the administration.”

TABLE 4 An example of the analysis.

Raw data	Theme	Subcategory
<p>Interviewer: Can you give me a specific example where WhatsApp facilitated communication more effective than face-to-face?</p> <p>Interviewee: Sometimes WhatsApp is the only way to communicate with teachers, especially in the afternoon or during holidays, or if the instructions arrive late. In our current political situation, for example, one day we were supposed to go on a trip.</p> <p>Interviewer: Yes</p> <p>In the afternoon, we were informed that due to security reasons, the trip was prohibited.</p> <p>Interviewer: I understand.</p> <p>So, I had to send a message to all the teachers that tomorrow’s trip is canceled because we did not have permission to go on that trip tomorrow. This saved my time by immediately sharing the information with all the staff; saved the efforts of the teachers who were preparing for that trip, and saved a learning day when each teacher forwarded the information to the groups of the parents. It took only few minutes to re-plan a regular day.</p>	<p>To communicate with the teachers</p> <p>When instant action is needed</p> <p>To present information.</p>	<p>Workflow</p> <p>Communicating with the staff</p> <p>Workflow</p>

the analysis of the twelfth interview showed neither a new sub-category nor a new property of the sub-category (Daher, 2023).

4 Results

Data was collected through interviews with 14 principals to address the research questions. The data was then analyzed using deductive coding to derive sub-categories from the main categories identified by Payne (2005) as indicators of organizational communication effectiveness from the administrative perspective, including: information sharing, feedback, clarity and uncertainty reduction, problem-solving, and relationship enhancement.

The analysis revealed five primary categories: information sharing, feedback, clarity and uncertainty reduction, relationship enhancement, and conflict resolution. The first four primary categories are deductive, while the final primary category (conflict resolution) emerged as an inductive category that replaced Payne’s category of ‘problem-solving’. The deductive category ‘problem solving’ seemed to be confusing for most of the interviewed principals, and usually expressed as ‘conflict resolution’. The primary categories follow.

4.1 Information sharing

Two subcategories emerged under information sharing. The first subcategory relates to ‘workflow’ and signifies all actions undertaken

by the principal to facilitate work tasks and processes among the school staff. For instance, one principal (A. H.) stated:

“WhatsApp is a recent technological tool that greatly assisted us, especially during the COVID-19 period. I communicate with teachers and clarify matters extensively to manage various school affairs and make sure everyone is doing his job as required.”

This reflects the principal’s commitment to communicate with staff and share important information for the sake of efficient school management and to make sure that the flow of work goes smoothly, particularly in emergency situations.

The second subcategory of information sharing pertains to school regulations, emphasizing the principal’s responsibility to maintain order and discipline within the school and ensure adherence to these regulations. As principal (H. G.) noted, “Regulations are a vital part in our professional lives. It’s necessary for all teachers to be aware of the school’s rules and follow them promptly. This way, we do not deviate from the path.” This illustrates the principals’ focus on preserving the school’s integrity by enforcing its rules and, consequently, achieving its goals.

4.2 Feedback

Feedback emerged as an indicator of communication effectiveness in schools. Principals’ responses were centered around

two subcategories of feedback: Subcategory 1: Obtaining feedback from staff, serving objectives ranging from daily work routine assessment to larger goals such as pre-dissemination planning, decision-making, or immediate retrieval during emergencies for corrective measures. For instance, Principal H. E. remarked, “For example, as a principal, when I want to gather feedback on WhatsApp, I might ask, for instance, ‘Please write the word ‘done’ or give a signal that you have read, such as a ‘like’ or something similar.” This underscores the significance of feedback acquisition for the principal and how it is important for the principal to analyze the information received and takes actions or makes decisions based on it.

The second subcategory focused on providing feedback. Interviews revealed principals’ interest in supplying their teams with feedback to keep them informed about school affairs and the extent of goal achievement and to achieve satisfaction. Principal H. E. stated: “This is considered an email for the school; it is an official group with no discussions or informal conversations. We are discussing how to interact within this group.” This is emphasized by the statement of M. A.:

“The purpose of this group is to convey what I want in my own way, which means it is very easy to specify that I want certain things from certain teachers or students, for example, I want to reach out to them.”

This indicates the principal’s utilization of WhatsApp as a communication tool for providing feedback to teachers, aiming to enhance their performance and foster responsibility toward goal achievement within the team.

4.3 Clarity and reducing uncertainty

Analysis of interviews revealed three subcategories for this category: First, communication with academic staff, representing the principal’s ability to communicate clearly and appropriately with academic staff at all levels. For instance, principal A. R. stated: “Any piece of information, be it administrative, organizational, or related to decision-making, or general news, can now be easily conveyed through WhatsApp.” This highlights the various interactive processes within the organizational levels of the school. It also shows how WhatsApp has facilitated communication with the academic staff. The speed of communication between the principal, administrative staff, and teaching staff depends on the principal’s ability to convey information clearly and in a manner that aligns with the varying levels of the school’s members and eliminates any uncertainty.

Subcategory 2 pertains to the principal’s ability to present his perspective, irrespective of others’ opinions. As expressed by principal A. Z.:

“Sometimes, we have to voice our opinions... the tone of voice, the sharpness of the voice reflects the importance of the conveyed information more than written communication. You get quick and clear answers to your questions.”

This is aimed at achieving a comprehensive understanding of the discussion topic and arriving at optimal solutions.

Subcategory 3 involves the principal’s questioning ability, enabling them to clarify matters by eliciting staff responses and resolving them. Principal R. R. commented:

“In general, the principal should establish a mechanism where a teacher can ask if something is unclear or ambiguous. Usually, if there are ambiguous issues for teachers, they are allowed to ask any question through WhatsApp that helps them understand better. I also often ask them questions which I know its answers, to see if they truly understand or not.”

This reflects the principal’s commitment to dispel ambiguity in daily work matters through questioning and assessment.

4.4 Conflict resolution (the inductive category)

The analysis of interview results highlighted three subcategories within the conflict resolution category. The first subcategory involves acting or taking actions, indicating the principal’s familiarity with crisis analysis and the necessary measures to address them. Principal H. S. for example stated, “At times, conflicts arise among teachers on a personal level, and this is where the role of the principal comes into play to institute group cohesion.” This underscores the importance of taking appropriate actions to manage and mitigate conflicts. Second, the principal’s capacity for persuasion, manifested in their ability to intervene in conflicts and persuade the involved parties to resolve the conflict. As expressed by principal A. S.:

“When a conflict arises, we engage in discussions. After discussing an issue, I feel that as a principal, I must intervene when conflicts become intense, whether between teachers, or between a teacher and a parent. Sometimes, in certain open forums involving educators and parents, I mediate and propose alternative solutions.”

This serves the purpose of curbing negative conflicts, preventing escalation, and preserving the school’s well-being. Third, ‘crisis identification’ pertains to the principal’s ability to recognize the nature, type, and dimensions of crises. As articulated by O. T., “In case any conflicts arise within the school, through this very small group, we discuss and identify them, and suggest alternative solutions.” This facilitates appropriate decision-making and the resolution of conflicts in a win-win situation as much as possible.

4.5 Enhancing relationships

Analysis of the results pointed to three subcategories within the relationship enhancement category. The first subcategory involves positive social relations, encompassing all forms of communication aimed at nurturing intimacy and cooperation among individuals within the school. As principal H. G. remarked, “Overall, positive communication has increased among teachers through WhatsApp.” This underscores the commitment of principals to foster social relationships founded on goodwill within the school staff.

The second subcategory is achieving harmony, which entails achieving balance and concord within the school system to facilitate the attainment of objectives smoothly. As described by principal R. A.:

“In terms of impact on communication and social interaction among teachers, there is a reduction in reliance on face-to-face

interaction, replaced by the application of WhatsApp. This generates a positive atmosphere among teachers and creates a sense of harmony within the school.”

This contributes to the creation of an effective and productive school environment.

The third subcategory, “continuous positive communication”, pertains to the principal’s ability to engage in effective communication within an atmosphere of respect and mutual understanding. Principal R. R. stated:

“Ultimately, we function as part of a group; they are within this group, they are individuals, but they are also humans, possessing social relations and links... matters that pertain to the existing social relationships among the staff. I, too, am one of them, a principal who believes that the success of any school hinges on the staff.”

This emphasizes the principal’s belief in fostering social relationships and collaborative work.

5 Discussion

The present study aimed to verify the organizational communication competence among principals of government secondary schools through their perspectives on using the WhatsApp application in the organizational communication. Organizational communication competence stands as a pivotal need for any institution, preserving its coherence, functionality, and continuity. It influences workflow, goal attainment, and adaptability to change, relying on smooth communication between the institution and the community, as well as communication within the institution itself and its hierarchical levels. Leveraging verbal and nonverbal communication, institutions access crucial information. Hence, the significance of organizational communication lies in creating a shared information communication base among all institution members, enhancing satisfaction (Winarso, 2018).

The results of our study show that information sharing in schools was facilitated by the participating principals by using WhatsApp application. This emphasizes the importance of social mobile platforms, as WhatsApp application, for the creation of a shared information communication foundation in the schools, which could encourage a sense of satisfaction among staff members (Winarso, 2018; Alev et al., 2022). The study’s findings align with prior research, substantiating the efficacy of WhatsApp in enhancing organizational communication within educational institutions. A study by Alev et al. (2022) on “The Assessment of WhatsApp Groups Established for Academic Management Purposes” found that the communicative goals within academic institutions encompass coordination, problem-solving, information sharing, and conflict resolution. In addition, sharing information is vital for a smooth workflow in the school and helps make school regulation clear for everyone and achieves job satisfaction and achieve effectiveness for the school (Husain, 2013; Winarso, 2018; Brinia et al., 2022).

The findings of our study also showed that school principals employ the WhatsApp application for the sake of giving and receiving

feedback as pillars of educational administrations. The results support what Golden (2013) observed about principals’ ability to streamline communication methods for the sake of information retrieval speed, immediate feedback, and prompt issue resolution. Moreover, the results of the study showed that the participating principals use WhatsApp for clarifying and reducing uncertainty among members of the staff instantly. WhatsApp enabled school principals and leaders to easily and instantly communicate with the staff, express their perspectives and ask and answer questions immediately. This agrees with what (Toker Gokce and Balci, 2023) highlighted about how WhatsApp has replaced bureaucratic communication patterns, leading to a form of direct communication between principals and teachers.

We also found that conflict resolution is facilitated by the participating principals for successful organizational communication. This supports what researchers suggested about the role of communication in resolving conflicts within organizations (Golden, 2013; Alev et al., 2022). Furthermore, the findings suggest that the participating principals employ WhatsApp application to enhance social relations, achieve harmony, and preserve continuous positive communication. All interviewed school principals agreed that positive relations among the staff members themselves and with their leaders is a healthy sign of the organization. This goes in line with what Ahmad (2018) stated about the necessity that principals’ communication needs to develop and support positive attitudes among leaders and the subordinates which enhances understanding, cooperation, and healthy environment. It also goes with what Halawah (2005) concluded that effective communication that aims to foster good relations among the staff usually results in a positive school climate that enhances productivity and improves goal achievement.

In general, most of the cases in this study support the importance of communication for making decisions, whether relating to information sharing, feedback or conflict resolution, the principals’ effort for gaining information was always aimed at making decisions. This fact supports Saraih et al. (2022) who investigated communication practices of school principals in Malaysia and concluded that all principals utilized social media for communication with staff, students, and the external community. WhatsApp groups were highlighted due to their distinct advantages. The study highlighted the necessity of using WhatsApp as an efficient communication tool among school principals. It also suggested examining the extent of principals’ reliance on WhatsApp in decision-making.

The study’s results denote that the derived indicators are authentic representations of organizational communication competence. Additionally, WhatsApp, as a social electronic intermediary, can effectively achieve communication competence. Maes et al. (1997) examined the importance of verbal communication among business administration students in workplaces, identifying 16 communicative competence attributes, including problem-solving, decision-making, teamwork, human relations, feedback provision, conflict resolution, and negotiation. These 16 categories can fit in the five major categories found by our study.

The results of the study found that secondary school principals employ WhatsApp to achieve almost the same categories suggested by Payne (2005) for competent communications: information

sharing, feedback, clarity and reducing uncertainty, enhancing relationships and problem solving. This study found that school principals employ WhatsApp to achieve almost the same categories highlighted by Payne (2005), adding conflict resolution as an inductive category. Hence, to answer the research question: whether communication competence according to Payne (2005) can be achieved by secondary school principals through WhatsApp communication? The results of our research assert that WhatsApp is an effective tool for the purpose.

6 Conclusions and recommendations

Digital communication at institutions is attracting the attention of educational researchers [56–57]. The present research suggests WhatsApp as a communicational tool for school management. We investigated the organizational communication competence of government secondary school principals in Jerusalem and the West Bank in using social networks, specifically WhatsApp as a tool in school management. It turned out that the previous tool is an effective communicative tool for school leaders in educational institutions. It can effectively contribute to the development of institutions in both the short and the long terms. Employing WhatsApp provides with all necessary tools for the achievement of communication competence measured by its indicators of communication efficiency based on Spitzberg and Cupach (1985). Below, we give some recommendations related to using WhatsApp for organizational communication.

For school principals and administrators:

Formalize WhatsApp usage: Develop clear guidelines and protocols for using WhatsApp for official school communication. This can include aspects like appropriate group creation, communication etiquette, data security, and handling confidential information.

Promote active participation: Encourage all staff members to actively participate in relevant WhatsApp groups and utilize the platform for constructive communication, collaboration, and problem-solving.

Integrate with other communication channels: While WhatsApp offers valuable benefits, recognize that it should complement, not replace, other formal communication channels within the school.

Provide training and support: Offer training sessions for staff and principals to effectively utilize WhatsApp features and functionalities for educational purposes. This can include navigating group settings, utilizing polls and file sharing, and ensuring data privacy. For Educational Policymakers: Acknowledge the potential of WhatsApp: Recognize the potential of WhatsApp as a cost-effective and efficient tool for communication and collaboration in educational settings.

Develop supportive policies: Formulate policies that encourage and guide the appropriate use of WhatsApp and other communication technologies within schools.

Invest in infrastructure and training: Provide schools with the necessary infrastructure and resources to support digital communication tools like WhatsApp, including internet access, devices, and training for staff.

Address potential challenges: Acknowledge and address potential challenges associated with using WhatsApp in schools, such as data privacy concerns, cyberbullying, and information overload.

For future research:

Longitudinal studies: Conduct longitudinal studies to assess the long-term impact of WhatsApp usage on organizational communication and school performance.

Comparative studies: Compare the effectiveness of WhatsApp with other communication tools used in educational settings.

Qualitative research: Explore the experiences and perceptions of teachers, students, and parents regarding the use of WhatsApp in schools. Focus on specific uses: Investigate the effectiveness of WhatsApp for specific purposes, such as crisis communication, parent-teacher communication, and student engagement.

6.1 Limitations of the present research

In the present research, the participants were government secondary school principals in Jerusalem and the West Bank. This is one limitation of the present research. Future research is needed to verify the organizational communication competence of school principals in using social networks, whether these principals were in other school levels or in private schools.

The present paper used qualitative research methods in examining the organizational communication competence of school principals in using social networking sites. Future quantitative research is needed to examine such competence. The quantitative research would complement qualitative studies in giving significant results regarding this phenomenon.

In addition to the above, considering organizational communication competence while utilizing WhatsApp, special attention was given to the communication between the principal and teachers. This is also a limitation of the study. Future attention should be given to the communication with parents and other educational professionals like the ministry of education officials.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for the study involving humans because the study involved interviewing adults who are school principals. The participants were given the right not to answer any question that they did not want to answer. They signed a formal consent form concerning their agreement to participate in the research. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

NN: Writing – review & editing, Writing – original draft, Software, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. AA: Writing – original draft, Formal analysis, Data curation, Conceptualization. RD: Writing

– original draft, Funding acquisition, Formal analysis, Data curation, Conceptualization. EK: Writing – original draft, Formal analysis, Data curation, Conceptualization. DB: Writing – original draft, Formal analysis, Data curation, Conceptualization. JZ: Writing – original draft, Formal analysis, Data curation, Conceptualization. BS: Writing – original draft, Formal analysis, Data curation, Conceptualization. WD: Writing – review & editing, Validation, Supervision, Conceptualization.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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