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ARTICLE

Understanding Communication Skill during Blended Learning: A Partially Mixed-Methods Analysis

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ABSTRACT

The present study executed blended learning to develop students' communication skills. The study aimed to explore how blended learning enhances the communication skills of secondary school students. The participants were 29 secondary school students who were selected using a purposive sampling technique. The study mainly explores communication patterns collected from qualitative data. Qualitative data were collected through field notes, focus group interviews, and students' learning logs. Quantitative data on communication skills were collected using a standardised tool administered to 29 participants. The scale encompassed four key dimensions: (1) awareness of one's own communication style, (2) understanding and valuing others' communication styles, (3) practising empathy, and (4) interaction during blended learning. Responses were recorded on a 5-point Likert scale: 5 (Always), 4 (Very often), 3 (Sometimes), 2 (Seldom), and 1 (Never). The accumulated scores of each participant were quantitative in nature. The communication scale served a supplementary, exploratory purpose to triangulate qualitative findings. Hence, the study used a partially mixed sequential dominant status design. The results identified eight themes: listening to others, supporting others, accepting others' views, writing ability, online sharing, responding, encouraging others, and making gestures. Integrated findings depicted that blended learning

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enabled students to have positive experiences in improving their communication skills. Thus, blended learning should be designed to allow learners to practice what they have learned from face-to-face instruction anytime and anywhere.

Keywords: Blended Learning; Communication; Group Sharing; Collaboration

1. Introduction

The skills of lifelong learning are important for future education. These skills include creative thinking, collaboration, communication, critical thinking and digital literacy. These skills are twenty-first-century skills^[1]. Communication plays a significant role in today's learning society. Communication is the act of exchanging, expressing, and conveying information or ideas to others through written or verbal and non-verbal means. Students communicate when they want to share their knowledge with others. They will be able to communicate with others, understand their points, listen to others, and, most importantly, give importance to others through language. Pardede^[2] suggested certain features to be included in communication skills. Understanding others' key ideas involves the ability to engage in active listening. So, the quality of content and ideas included in the message is integral to communication. Valuing others' perspectives: Valuing includes the development of the capability to appreciate and acknowledge multiple perspectives of peers. Active Assertion involves giving transparent and honest statements about emotions and opinions. Shared Understanding: The ability to interpret and comprehend others' viewpoints is shared understanding.

2. Literature Review

Communication skills are essential in the twenty-first century (Partnership for 21st Century Skills, 2009). Communication includes several aspects that require synthesising the interrelationships among reading, writing, speaking, and listening skills. Hummel et al.^[3] argue that communication includes interpersonal skills, social skills, teamwork, and cultural sensitivity. Hence, elements of communication are interlinked with elements of other skills. Students with good communication skills share the following attributes: they can express opinions, discuss, reason, speculate, argue and engage in debates. Moreover, they can listen attentively and communicate in diverse environments. They are also good

at presentations using multiple media and technologies.

2.1. Communication in Learning

Twenty-first-century students need communication in both online and offline learning environments. In a regular classroom, the teacher and students converse with each other. Communication happens both inside and outside of the classroom. Teachers and students can connect outside the classroom using many tools through web-based technology. Students gain knowledge and can interact with people and exchange ideas through web-based communication. Web-based interaction offers unique benefits to student learning, even though face-to-face involvement has advantages. Blended learning provides additional benefits to students through a flexible approach. The facilitator fosters communication skills through group discussion in a blended mode. Online communication is facilitated by e-mail, mobile text messages, and many online applications^[4].

21st-century students are digital natives. The emerging need is a digital learning environment that best suits students. Students can only learn effectively in a collaborative environment. Collaboration in a blended learning environment is student-centric communication. Blended learning is a combination of face-to-face and online learning. Classroom communication occurs physically and online^[5]. The abilities to listen, speak, read, and write in multiple languages are also indispensable capacities. To be able to express oneself, both orally and in writing, in a lucid, well-articulated, and coherent manner, is very important throughout life; this also includes the skilled use of digital media^[6]. The online component becomes a natural extension of traditional classroom learning. It enables the merging of different learning environments. Thus, the approach of blended learning is adaptable.

2.2. Blended Learning Context

Students actively participate in both forms of instruction in a blended learning setting. Learning activities are as-

signed to the learning theory of constructivism, which states that learners' interest and open-ended inquiry drive learning. The activity is problem-oriented, and students explore materials and processes^[7]. Group engagement is iterative. Hence, learning is considered a cyclic process. Peer collaboration is among the most important factors influencing communication in a blended learning environment. Collaborative workspaces and analytical tools during blended learning support students to get their content, communicate with each other and take tests. When peers exchange their thoughts and ideas independently and come to a common solution, they can achieve better results^[8]. Peer collaboration deals with sitting together, dividing work, sharing resources, and communicating viewpoints honestly. The students work together to reach the goals of the group. Working together facilitates building their communication skills. It encourages small group work, group projects, group presentations, and pair work^[9]. Blended learning is set in a small group. The participants in the small group develop rapport before the start of the work. They know each other in the group. They value others' viewpoints. They receive support from one another while working on the task. The more knowledgeable member of the group assists the other. Slow learners are encouraged to be involved in those activities. Hence, there exists sustainable motivation for work. Results indicate the importance of teachers' and peers' support, and the sense of belonging during group exercises and self-efficacy among other factors for increasing students' motivation^[10]. Instructors use various blended learning tools to facilitate learning, such as blog chats through WhatsApp, Google Meet, etc. Students prefer to interact in such settings where they are at ease and have access to communication tools. So, the accessibility of online communication tools is one of the factors influencing a blended learning environment. Synchronous blended learning scenarios involve mediation of technology where students can complete the learning tasks virtually, and demand real-time actions to monitor, support and assess individuals and groups during the classroom^[11]. Blended learning can widen participation in education, can have positive effects on students' engagement in deeper learning and foster autonomy by allowing students to work at their own pace and in their own time^[12]. Face-to-face lacks flexibility for individual pacing and personalisation. It struggles with scalability for large groups and immediate resource access be-

yond class hours. Studies revealed that blended approaches improve academic performance, retention, and personalised pacing through self-study modules and interactive elements, and significant gains in pronunciation and accuracy through blended instruction. Such outcomes highlight the importance of aligning the blended learning environment with targeted pedagogical goals^[13].

2.3. Blended Learning and Communication

Blended learning provides an adequate learning opportunity for communication. It successfully provides a platform for the teaching-learning process through student-student engagement, student-teacher contact, and student participation with the subject matter and with themselves. There is student-content interaction when the students reflect on content and ask questions to analyse, synthesise, and evaluate it. Students can share knowledge using the discussion feature and communicate using messenger apps with their peers. The student's ideas for expressing and sharing knowledge are developed in blended learning^[14]. It supports the development of peer collaboration within and outside the classroom. As a result, it is an effective way to enhance collaborative task performance^[8]. The benefit of blended learning for communication skills is shown by Banditvilai^[15], wherein online learning is beneficial in improving students' language skills. More interaction will result in more learning attainment by the students. Teacher explanation, teacher feedback and interaction discourse offer the major source of input to attain learning by students^[16].

There is a dialogue between the student and the teacher during question-answer time. The teacher seeks to stimulate the students' curiosity and engage them in conversation while answering their questions. This is a student-teacher interaction. It improves the degree of dialogue in the classroom between teachers and students^[9]. Students discuss the course material and exchange ideas, knowledge, and information among their peers. This is student-student interaction^[17]. Interaction during blended learning helps with problem-solving, mutual support, and forming social relationships^[16]. It promotes student autonomy, communication, and motivation in the learning process^[18].

Blended learning meets the challenge of the teaching-learning process through student-student interaction, student-teacher interaction, and student interaction with content and

self. Communication enhances the quality of ideas and suggestions to realise the learning goals. The teacher who executes more interaction during blended learning receives positive results in developing communication skills^[19]. Sometimes, the teacher facilitates learning through educational videos. At that time, students exchange information in social ways. Google Classroom is an effective online tool offering efficient communication in the learning process^[20–22]. It was found that Google Classroom is more interactive. It involves students in learning at home, allows them to review learning at home, access learning resources at home, and encourages students to use higher-order thinking skills^[23]. It develops self-directed learning among the students^[24]. When students are actively involved in notetaking, explanation, and record-keeping, the learners' interaction with themselves helps them accomplish their learning goals. Students who use mobile devices for studying are motivated, involved, and interested in all they do^[13]. Students are socially engaged in higher-order learning at home by using digital tools. They are engaged with their learning by questioning, defending, and analysing the information, boosting their cognition levels^[25].

By utilising various technologies, such as forums, chat, journals, and discussion boards, students are actively encouraged to debate, verbalise, and write out their comprehension of ideas in blended learning^[9]. However, an empirical study is needed on how students use Google Classroom as an online tool in conjunction with face-to-face instruction to share ideas and information, develop feelings of empathy for others, and develop listening skills. Banados^[26] argued that blended learning highlights the use of group work to facilitate oral, listening, and writing skills in both online and face-to-face learning modes. Therefore, communication skills can be improved in group work. There are scanty empirical studies on the communication process during engagement, working together, and identifying a solution to the problem in blended learning situations. Therefore, studying communication skills through a blended learning process is a felt need. To this end, this study aims to respond to the following questions:

Research Questions:

RQ 1. How do participants share on-task behaviour during blended learning?

RQ 2. How does blended learning enhance communication skills among participants?

3. Study Context

Thirty instructional sessions through blended learning were conducted for 9th-grade students. Each class was 60 min in duration. The learning materials and resources were provided online. The online learning platforms were Google Classroom, WhatsApp, and Google Meet. Group discussion and interaction were held through both modes. WhatsApp is a smartphone application used for texting messages and sharing audio and video files, images, and links to any documents. Students accessed those messages, gave replies, and received instructions anytime, anywhere. Also, it could create the possibility of learning at any time and place^[27]. Continued discussion through Google Meet is a good learning application that develops students' interest in learning and makes them feel comfortable participating^[28]. Discussion sessions were followed by question-answer sessions in the face-to-face mode.

4. Methodology

The researcher explored communication skills among secondary school students during blended learning using qualitative tools, i.e., observation, field notes, and focus group discussions and quantitative tool, i.e., communication scale. The study focused on students' events, activities, and behaviour during blended learning to understand communication skills among secondary school students. The study primarily explores communication patterns collected from qualitative data obtained through focus group discussions and field notes. The sample size ($n = 29$) supports rich, in-depth insights into learning dynamics, as is standard in mixed-methods educational research^[29]. The communication scale served a supplementary, exploratory purpose to triangulate qualitative findings, rather than to test hypotheses or claim population-level significance. We report confidence intervals with p -values but avoid generalisation. The study combined qualitative and quantitative techniques to a small extent. So, the study is a partially mixed design. In this study, the qualitative research represented the dominant phase. Qualitative data has the greater emphasis. Focus group discussions and observations provided valuable qualitative data from the privileged participants' perspectives. Quantitative data on communication skills were collected using a standardised tool. Both types of data sets were anal-

ysed separately, and mixing took place at the stage of data interpretation. This class of mixed research involved content analysis (qualitative analysis) and Paired-Samples *t*-Test (quantitative analysis) within this study. Hence, the study used a partially mixed sequential dominant status design^[30].

4.1. Sample

For qualitative studies, purposive sampling is the most acceptable procedure^[31]. The target population was 9th-grade secondary school students (aged 13–15 years). The investigator drew a homogeneous sample of size 29, consisting of 17 boys and 12 girls. The investigator informed all participants about blended learning during orientation. They voluntarily agreed to participate in this study. The investigator determined the inclusion criteria independently.

Inclusion Criteria:

- Blended Learning Criteria: Implemented only in schools with advanced technology and students experienced in online learning.
- School Selection: CBSE-affiliated school in Bathinda, Punjab, India, equipped with necessary technological facilities.
- Sample Composition: Mixed-gender groups of boys and girls from the selected CBSE-affiliated schools and a homogeneous sample in the age group of 13–15 years.

4.2. Data Collection

The investigator observed the participants closely to collect the data. The data were analysed to select and structure the ideas and make themes from that data. Informed consent for exposure to blended learning was taken from the subject teacher and the participants to facilitate the learning

process. The investigator obtained their consent before collecting data from the participants. The investigator tried to avoid mentioning any concrete personal information about the participants. The investigator maintained confidentiality by not discussing data information with anyone and by storing data (audio and video) in a safe and completely secure place so that no one could access the data^[32].

5. Results

Qualitative analysis was made to understand the participants’ communicative behaviour scientifically. The analysis was in three phases: data condensation (transcript of the data, levelling the important words, developing codes, recognising the importance of codes), data display (dialogue illustration and matrix), and data conclusion and verification (analysis, synthesis, evidence, and reporting the results). Quantitative data collected through a communication scale were analysed using paired *t*-tests.

5.1. Qualitative Result

5.1.1. Field Notes and Field Observations

The students’ communicative behaviours were evidenced during the blended learning process. These were the themes of communication skills. These themes were the outcomes of the study on communication skills. Each theme was identified through a three-step approach: (1) describing the observed behaviours, (2) synthesising those descriptions into behavioural categories, and (3) confirming the theme through critical review. The following illustrations portray their analysis, synthesis, and critiques of these themes, along with evidence. Accordingly, a content analysis summary matrix is developed (**Table 1**).

Table 1. Content Analysis Summary Matrix.

Themes	Characteristics
Accepting Others’ Ideas	• They acknowledged others’ ideas by nodding, smiling, and considering their points.
Gestures	• Nodding heads, laughing and smiling, and making eye contact were the gestures while explaining viewpoints to others and giving consent to work on those ideas.
Listen to Others	• Listening to others without disrupting with eye contact was the participants’ behaviour during the discussion.
Writing Responses	• Participants responded to assignments in written form on Google Classroom and in their notebooks, noting important points.

Table 1. Cont.

Themes	Characteristics
Encouraging Peers	<ul style="list-style-type: none"> Peers encouraged others to let them speak first to do the task.
Supporting Others	<ul style="list-style-type: none"> Participants participated in discussions by supporting others, such as agreeing and adding more points.
Sharing of Views	<ul style="list-style-type: none"> Participants shared their opinions on Google Classroom by expressing their points during dialogue, keeping responses in a WhatsApp group, and taking online quizzes.
Keep Responding	<ul style="list-style-type: none"> Participants' one-to-one responses to their peers' questioning and adding more points to reach answers were continuous.

• **Theme 1: Accepting Others' Ideas**

Description

Group members agreed with the responses of their peers. Some were saying yes, smiling, and nodding their heads. Others appreciated one's viewpoint(s). One of the members voluntarily noted the viewpoints. It demonstrated their acceptance.

For example, a female participant asked how agriculture is a big problem. Then M (peer) replied that he was getting INR 50 only during the rainy season from agriculture. After this season, the work was finished, and he became unemployed. One participant said unemployment is also a big problem in her family. When one of the participants mentioned that the R (peer) family's father and mother were both suffering from the same disease, another participant pointed out that this might be due to no medical facility. All nodded their heads and agreed to this problem. Another participant said that a lack of medical facilities also prevails due to a shortage of money. The members agreed with each other's points of discussion.

Synthesis

Participants honoured the ideas of others while working in groups. Accepting ideas resulted in positive changes among the group members. The group members recognised one another while working together. It indicated that they were aware of other members' viewpoints. Additionally, it helped group members to maintain healthy relationships with one another. Accepting other points of view fostered feelings of gratitude for one another. Moreover, ideas from other participants helped to solve the issues. Thus, this acceptance stimulated positive changes among the students.

Critique

There were certain situations where participants did

not accept each other's ideas. One of the participants denied this and wished to do the task individually. In a face-to-face classroom, participants sometimes did not like others' ideas quickly. There was a lack of getting each other's views. But in a blended classroom, all were eager to listen to each other. All ideas were being accepted. They shared others' ideas to find a solution to the problem. Working together and intending to accept others positively impacted students' learning, and they learnt things from each other while contributing their knowledge towards a group task. A sense of belongingness among participants emerged in the classroom.

• **Theme 2: Gestures**

Description

Participants were sharing views with others through gestures and postures. They had eye contact with others while conveying the message. Participants nodded their heads, smiling to receive the idea. It ensured their acceptance of views. Sometimes, they were silent.

For example, Davinder (Anonymous name) informed Vilas (Anonymous name) that he suffers a lot; Davinder said he has arthritis. Yes, there is neither a health care facility nor the availability of good food. How can they care for their health? Davinder said to friends that his father had passed away due to the non-treatment of his health. They discussed his lack of money required for medical treatment in the group. The role of 'poverty' was explained from real-life examples. The issue was of grave concern for all participants. They remained silent, waiting for others to reply and think of a solution.

Synthesis

Participants used non-verbal cues during their conversation. It was understood from their conversation that they

agreed with the views of others and accepted the same. This was one of the important ways one communicated with others. Participants' non-verbal cues during group tasks, eye contact during the discussion, nodding when they agreed with others, remaining silent, and laughing smiles during blended learning are evidence of communication. These signs supported healthy interaction in the classroom.

Critique

Participants expressed their feelings with gestures toward others. Positive gestures involved smiling, nodding the head, and making eye contact. Hostile gestures included staring, ignoring, and making fun of others through facial expressions. During blended learning, students used gestures to recognise others' views and to keep supporting others, which built confidence among the group members. Thus, non-verbal communication was an important aspect of interactions. Facial expressions and non-verbal signs conveyed the group's attitude toward blended learning.

- **Theme 3: Listen to Others**

Description

When group members were trying to find a solution to the problem, they all shared their views. They listened to the views of others. They had eye contact, participated in conversation with their fellow mates, listened carefully to others without interrupting, and attentively listened to the views of others to take notes on important points.

For example, members of the groups discussed the third question: who is responsible for poverty in India? All the members of the group are open to discussing this question. They all make eye contact during the discussion and listen to the views of the others openly. One girl from this group said that the government is responsible for this. Another girl said, "Do you think the government is responsible for this?" She said, "Because they have no good policies for removing poverty in India." Another girl immediately responded. She said the government is responsible because they do not have good policies to remove India's poverty. Then, a third girl responded that the government is responsible because the government is corrupt, so all agreed with each other and said the government's ineffective policies are a significant reason for poverty in India. This way, they understand each other's views and listen to others without interrupting.

Synthesis

Participants actively listened to the opinions of others by maintaining eye contact, taking notes, and participating in the discussion. A discussion was practical when participants listened carefully to one another. This fostered respect for others and created a strong bond between the sender and receiver of information. As a result, participants' conceptual understanding was improved. This could also build their strong listening skills.

Critique

There were specific ways in which students were recognised while listening to others. Participants used both verbal and nonverbal cues. Verbal expression during the conversation with others was accepted in the classroom. They refrained from using negative language. Nonverbal signs like smiling, making eye contact, nodding, and making notes indicated that peers were aware of others' viewpoints. Teachers fostered a passion for learning in their classrooms when students were active listeners.

- **Theme 4: Writing Responses**

Description

Participants posted responses during Google Classroom Meet. An open discussion with their fellow mates was initiated while working on a group task. Participants were noted down in their learning logbooks. Those who faced language in terms of grammatical sentence framing sought support from others. The online assignments were attempted during Google Classroom Meet, which enabled participants to complete their writing.

Synthesis

Writing responses allowed students to communicate their messages to others. They shared responses on Google Classroom during blended learning. This supported others to write the assignments of others. It helped students to complete their work and understand the concepts.

Critique

When they find difficulties in arranging words and translating sentences, they take the help of others. They were encouraged to read and practice writing. Writing skills, as one of the important means of communication, were de-

veloped with the cooperation of fellow mates.

- **Theme 5: Encouraging Peers**

Description

Participants greet each other. They kept saying in a local language, “Oye tu bol pahle.” It prompted me to ‘come first.’ Other members grabbed a chance to come forward to speak. Members were encouraged to give their opinions.

Synthesis

Some members encouraged others to speak, and others listened carefully to their points and noted them. They found situations free to think about the solutions to the problem. They summarised the key points that were discussed. It was clear to them. It encouraged me to work further on completing the task. Students were encouraged to participate in the discussion.

Critique

The group members were given a chance to discuss with each other. When members encouraged each other, they developed a strong friendship. It helped them to come closer to understanding the points. Their ideas were discussed when solving the group task. Members who were quiet could even speak, and members who were outspoken spent more time listening to what other members said. There was no dominance over others. Everyone enjoyed an equal chance to convey their thoughts and ideas.

- **Theme 6: Supporting Others**

Description

The participants were involved in a discussion on ‘economic vulnerability’. One of the participants informed us that when one is unemployed and not getting a job, they have no source of income. They struggle to get food, shelter, and clothes. They failed to fulfil their basic needs. As a result, they become poor and vulnerable. Participants appreciated her viewpoints. In another example, the participant informed the group that caste-based job opportunities exist. Another said yes; the unemployed are not getting good food. This led the unemployed towards physical vulnerability.

Synthesis

They acknowledged each other. Participants created

a democratic atmosphere by agreeing on each other’s viewpoints. It was such a situation where everyone accepted each other’s views. It strengthened their relationship with others, and they found better ways to work together. One’s work was identified in the group.

Critique

Sometimes, conflict over an idea was observed during the discussion among participants. These conflicts were due to differences in ideas about the solution. However, a common agreement was reached to accept the idea(s). During the blended discussion, each member was valued. Someone’s point of view was accepted. It contributed to the discussion, motivated them to think more, and made it more productive. Members were participating. It created a learning environment.

- **Theme 7: Sharing of Views**

Description

Participants shared both written and verbal viewpoints online.

a) Written Response on Google Classroom

Videos and PPTs related to the content were posted on Google Classroom. All students were connected, attended that classroom, and watched videos there. The facilitator assigned homework on Google Classroom Meet, and the responses were sought immediately. The responses were collected.

b) Verbal Sharing

A Google meeting each Saturday was conducted for the online class. All had joined the class. A facilitator conducted an open discussion. All openly shared their views with the facilitator and other members. Whenever the facilitator asked questions, most participants shared their views openly and presented them to the group.

Analysis

Participants shared their views when they met on online and offline platforms. The online mode facilitated participants to express their ideas freely in both written and verbal form. When participants expressed their views in writing, it encouraged others to work in the online mode. After answering one, others eagerly expressed their views on that question. They could know each other’s views and appreciate each other’s answers. Views in written form were the discussion

points in Google Meet. Students got the opportunity to share their views online. Each one added their views. So, the discussion was engaging. Thus, the online platform facilitated improving students' writing and expression abilities.

Critique

Blended learning was a situation where students expressed their views offline and online. This situation was an opportunity to develop both their writing and speaking skills. Sharing views on Google Classroom enhanced students' writing and speaking skills. Participating in a Google Meet discussion allowed members to improve their speaking skills. The interaction between the facilitator and participants was also enriched.

- **Theme 8: Keep Responding**

Description

Participants were responding to their fellow mates during group tasks. When others shared one point, the response was good. The back-to-back response was linked, and all group members could conclude.

Synthesis

During the group's problem-solving session in blended learning, members shared diverse viewpoints. Through discussion, they recorded these viewpoints and compiled them as a list of potential solutions to the posed problem. Participants benefited from collaborating with peers during blended learning. They participated in the discussion by taking one another's viewpoints at a time. The group leader made the list of ideas coming from the members. They shared the solutions that were agreed upon. It was a collective effort. It demonstrated that students' speaking and learning abilities were improved.

Critique

Giving and receiving feedback from others was a crucial component of communication. It was indeed reciprocal communication. Communication was vital. In the blended classroom context, the students discussed video stories among themselves in such a way that they kept responding to other students' questions. The students themselves engaged in mutual communication, which resulted in finding a solution to the problems. The teacher provided engaging

tasks to the students to improve their speaking ability and to ask questions.

5.1.2. Focus Group Discussion

A focus group discussion was conducted to determine how students' communication skills were built during the blended learning approach. The following extract from the collected Focus Group Discussion (FGD) data illustrates participants' communicative behaviours. An illustration:

- Facilitator: How do you share your views with others?

S₁: Ma'am, I am sharing verbally during a group task.

S₂: I answered the questions via Google Classroom.

- Facilitator: How did Google Classroom help you to share views?

S₃: I watched videos and PPT via Google Classroom and shared views on pertinent questions.

- Facilitator: How did videos and PowerPoint presentations help?

S₂: I was able to exchange ideas with others.

S₄: Yes, I watched videos. It contained information related to the topic, which I could answer the questions.

S₁: Ma'am, I prepared notes from viewing those video materials.

S₁: I discussed those noted points with my friends in the classroom.

S₃: Ma'am, I prepared notes for the examination.

S₂: Ma'am, I found answers in those videos.

S₁: I discussed with my friends relating to one case study.

S₂: Friends listened to me and wrote points in their notebooks.

S₄: Sometimes, they are directed to retain those points discussed at the class's end.

S₂: I responded at any time.

S₁: I took notes from the responses of others.

S₄: I took notes on important points and discussed them later in class.

Finding:

It was evident that students found online learning materials interesting. The online materials were helpful for their

examination. They had prepared notes from online learning resources. They discussed notes with their friends in the classroom. They learnt through online mode at their own pace. Students enjoyed learning through Google Classroom. There was a comfortable situation in finding content and information via Google Classroom. They completed their assignments by watching videos. They were comfortable giving responses online. They shared their views on questions and learned new information. It demonstrated that sharing between participants was facilitated through online mode.

5.2. Quantitative Result

Quantitative data on communication skills were collected using a standardised tool administered to 29 participants. The scale encompassed four key dimensions: (1) awareness of one’s own communication style, (2) understanding and valuing others’ communication styles, (3) practicing empathy, and (4) interaction during blended learning, through which the following five constructs were operationalized to measure communication skills.

The communication scale comprised 18 items, as shown in **Table 2**, each in statement form. Content validity was established through expert review. Reliability was assessed via test–retest correlation coefficient ($r = 0.77$, indicating stability) and Cronbach’s alpha ($\alpha = 0.71$, indicating internal consistency). Responses were recorded on a 5-point Likert scale (5 = Always; 4 = Very often; 3 = Sometimes; 2 = Seldom; 1 = Never), yielding a minimum score of 18 and a maximum of 90. The accumulated scores of each participant were quantitative in nature. Quantitative data analysis was

done to determine the mean difference between pre-test and post-test on communication skill scores. The mean value of the pre-test and post-test scores was calculated. The mean value of the pre-test is 66.66, and the post-test is 71.97. The mean of the post-test score was found to be greater than the pre-test score on communication skills (**Table 3**). This indicates that participants improved their communication skills through exposure to a blended learning approach.

The average difference between paired pre-test and post-test scores is 5.310 (**Table 4**). It is observed that the average paired difference is not equal to zero. Therefore, it can be argued that there is a significant difference between the mean value of the pre-test and post-test scores of communication skills. The difference between the two means (t -value) was 2.39, more significant than the table value (0.24) at 0.05. So, it can be inferred that there is a significant improvement in communication skills during blended learning among secondary school participants.

5.3. Mixed Methods Result

The investigator analysed both qualitative and quantitative data. Different themes on communication skills were found in qualitative analysis (**Table 1**). Quantitative analysis resulted in a significant change in the participants’ communication skills. The various dimensions of communication skills, such as listening carefully, building rapport, having discussions, sharing information, and showing empathy, were measured through this scale. These dimensions were also consistent with the themes that emerged through qualitative analysis. The convergence of both findings is shown in **Table 5**.

Table 2. Number of Items per Construct in the Communication Scale.

SN.	Construct	Number of Items
1	Building a Rapport	4
2	Listening Carefully	5
3	Sharing Information	2
4	Discussion	4
5	Showing Empathy	3
Total		18

Note: SN = Serial Number.

Table 3. Summary of Statistics.

Communication Skill	N	M	SD
Pre-test	29	66.6	8.0
Post-test	29	71.9	10.8

Note: N = Sample Size; M = Mean; SD = Standard Deviation.

Table 4. Results of the Paired-Samples *t*-Test.

Pair	Paired Differences					
	Mean	Standard Deviation	Standard Error of Mean	95% Confidence Interval of the Difference		<i>t</i> -Value
Pre-test and Post-test	5.3	2.8	2.2	Lower 9.9	Upper 0.76	2.39*

Note: * $p < 0.05$.

Table 5. Mixed Methods Findings on Communication Skills.

Qualitative Findings	Quantitative Findings	Mixed Findings
<p>Participants were able to:</p> <ul style="list-style-type: none"> Accept others' ideas by nodding, smiling, and considering their points. Listen to others without being interrupted, making eye contact. Participate in the discussion and take notes on key points. Give responses to assignments in written form on Google Classroom. Encourage peers by allowing them to speak first. Contribute to Google Classroom discussions by providing feedback on questioning. Continue to respond to the online quiz in the WhatsApp group. Give one-to-one responses to questions and add more points for reaching the answers. 	<p>There was a significant difference between the mean value of the pre-test and post-test scores of communication skills. It is inferred that the participants improved their communication skills when exposed to blended learning. Listening carefully, building rapport, having discussions, sharing information, and showing empathy were the dimensions of measuring communication skills.</p>	<p>The communication skills were listening to others, making gestures, writing responses, encouraging others, supporting peers, sharing online views, continuing to respond, building rapport, initiating discussions, accepting others' ideas, and showing empathy.</p>

6. Discussion

Specific communication skills such as accepting other participants' points of view, participating in discussions, writing responses and assisting others in completing tasks were developed during the blended learning approach. Interaction with participants and interaction with content (online videos) were processed. By connecting participants, they possessed maximum information about their peers and the contents transacted in the group. It could broadly promote an individual's well-being, freedom and rights, societal cohesion, harmony and trust in collaboration. Blended promotes learning by sharing, helping, and encouraging others^[18]. These were synthesised as follows:

- Build communication skills with peers and teachers.
- Promote positive interaction.
- Build strong relationships among the students.
- Enjoy working with others.

Students' writing skills were improved. The study found the possibility of students' competencies in expressing and transferring knowledge in writing and sharing it with others. When peers exchanged views and ideas with each other,

they were able to reach a solution. Such activity developed their critical view on a task, which helped to develop their writing ability^[9, 33]. Sriarunrasme et al.^[34] supported the idea that blended learning improved students' communication abilities through writing and oral presentations. Thus, the blended learning context encouraged participants to express their views, actively participate in the discussion, appreciate others' views, and be considerate during the group task. Participants improved their interpersonal relationships with peers while considering others' points of view^[14, 15, 35]. Thus, blended learning was effective for active learning and peer-to-peer learning. Zahedi et al.^[36] argued that blended learning is a learner-centred strategy for developing communication skills. Blended learning examined a shift from a learner-centred approach to a learning-centred approach to education.

Online learning tools such as e-mail, Facebook, Skype, Wikis, Discussion Forums, quick resource access and expediting assignment submission and evaluation facilitated their learning. Online tools and multimedia supported student learning outcomes by conceptualising the subject matter in face-to-face classroom learning situations. Participants' sharing behaviour occurred in relationships when they were introduced to a blended learning situation. The study's find-

ings showed that participants' group members' familiarity with and engagement in the group to construct knowledge brought teamwork satisfaction. Group collaboration fostered learning activities. Learning activities were used as problem-based for conceptual understanding. Such activity emphasised systematic thinking back to the learning process. Such reviewing helped participants to strive for improvement and learn from others. Reflection was considered to take place during learning. Schon^[37] explained this as reflection-in-action in the learning domain.

7. Conclusions

Blended learning practices in the classroom fostered collaborative work and positive acceptance of others, significantly enhancing students' learning. Nonverbal cues during group tasks, such as eye contact in discussions, nodding in agreement, attentive silence, and shared laughter, were the skills for effective communication. Equal opportunities for everyone to share thoughts and ideas ensured that each member's viewpoint was valued and integrated into discussions. Active listening and student engagement in mutual communication developed their conceptual understanding. Therefore, teachers should focus on using blended learning modes to improve students' communication skills.

Author Contributions

Reviewing the literature, P.J.; Tool development, P.J.; Data collection, P.J.; data analysis, P.J. and B.B.; visualisation, P.J.; conceptualisation, B.B.; methodology, B.B.; Tool validation, B.B.; data interpretation, B.B.; writing—original draft preparation, P.J. and B.B.; review and editing, P.J. and B.B.; supervision, B.B. Both authors have read and agreed to the published version of the manuscript.

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Informed Consent Statement

Informed consent was obtained from all participants involved in the study.

Data Availability Statement

The data are not publicly available at this time. However, data are available from the authors upon reasonable request.

Conflicts of Interest

The authors declare no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

AI Use Statement

The authors declare that no artificial intelligence (AI) tools were used in the preparation of this manuscript.

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