Analyzing Email Communication Patterns Among Bachelor of Information and Communication Technology Education (BICTE) Students: A Case Study

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Abstract
This study explores the difficult scenery of email communication between undergraduate students enrolled in the Bachelor of Information and Communication Technology Education (BICTE) program within the university. The research explores various facets of email usage, including structure, literacy, and performance, shedding light on the prevalent challenges faced by students in effectively conveying messages. Significant findings encompass issues such as inapt structure, the absence of vital information, empty subjects, casual language, and the tendency to send multiple emails at once. Through the analysis of 175 actual emails exchanged between students and department heads, the study seeks to unravel patterns, trends, and deficiencies in email communication. The identified challenges underscore the importance of enhancing digital literacy and communication skills among BICTE students, addressing the delicate balance between formality and informality in academic emails, and promoting organized correspondence to facilitate a positive and efficient learning environment. The insights gleaned from this research aim to inform strategic improvements in communication training within the BICTE program, ultimately fostering a more effective and professional email communication culture.

Introduction

In an era of, a digital world higher education institutions student department communication is dominated by digital communication. Students utilized email as a computer-based messaging system to communicate using text, numbers, images, and computer programs(Updegrove, 1991). Email support of academic performance acknowledges that communication is essential to creating a positive learning environment. The purpose of this case study is to examine the details of email usage among Bachelor of Information and Communication Technology Education (BICTE) students, analyzing trends, Literacy, and Performance related to this widely used medium of communication. By thoughtfully examining email usage, the researcher aims to discover valuable insights that can guide strategic enhancements and support the communicative framework for the BICTE Program. Email is a medium of formal communication but is generally deemed inappropriate and unprofessional, an increasing number of students are incorporating these nonverbal communication tools into their email messages to instructors (Baggia et al., 2022). A more

effective email Communication is based on a Simple Approach to Improving Email Communication identifying the problems and creating specific training(Jackson et al., 2006). communication is a fact of life on being humans and twenty-first-century human beings converse by text, email, and messaging apps. In today's world, the writing style of higher education is different with different digital media such as electronic mail, and instant messaging apps (including Facebook, WhatsApp, Viber, and others)(Lewin-Jones & Mason, 2014). Email is a communication method used by teachers and students to satisfy academic requirements, such as inquiries concerning assignments, tests, grade sheets, or other academic topics. Formal emails must follow certain writing conventions including a message, notification, and request, in polite language(Crystal, 2001). The trend in higher education institutions toward electronic communication is quite evident, however in developing nations, institutions and faculty do not acknowledge this form of communication. In email communications between students and teachers in the educational field, greetings and closings are essential. Email provides methods to bridge the communication gap formed by face-to-face begins and ends, just like other kinds of greetings and farewells (Waldvogel, 2007). E-mail can play a significant function in an educational program that emphasizes interactive learning (de Vries & van der Meij, 2003). Faculty and students use initiation, response, and follow-up to provide effective communication through the Internet which helps us to teach and learn dialogues using e-mail (Giordan, 2003).

Digital literacy refers to the ability to find, evaluate, and communicate effectively and responsibly. Digital literacy encompasses a range of competencies, including understanding digital tools, critically assessing online information, and engaging in digital communication. An innovative novel digital literacy helps educators minimize the digital skills gap between students and administrators. Digital literacy includes a framework and tools(Reddy et al., 2023). The context of digital literacies includes both academic and digital literacy considerably but not exclusively relating to information literacy in this case practice with technology(Simpson & Obdalova, 2014). According to Connecting Classrooms through Global Learning (CCGL) /Digital Literacy Baseline Study, the British Council Nepal majority understand digital literacy through multimedia projectors, laptops, and the internet (Prem Phyak et al., 2019).

Literature review

In 1971, Ray Tomlinson used the ARPANET to send the first network email. With the emergence of the internet in the early 1980s, email communication became widely available. Beginning of the Internet in Nepal Mercantile in collaboration with Royal Nepal Institute of Science and Technology provided e-mail service based on dial-up technology in 1995. Tribhuvan University Electronic Communication Management Guidelines 2020, provided students an official email address for academic and administrative activities as well as establishing effective student-teacher communication(Tribhuvan University, 2020).

Email Communication

Student-teacher and student-administration communication is an important aspect of the educational process. Email communication is essential for 21st-century learners to establish a pleasant learning environment and help students in their academic journey. Effective email communication includes a variety of verbal and nonverbal forms and is essential for student engagement, comprehension, and success in general. Aspects of email communication involving teachers and students are as follows formal email and informal email.

Formal Email: Always polite language in formal emails is a key factor in maintaining a positive professional relationship (Hill & Griswold, 2013) Studies suggest that polite expressions contribute to a more constructive and collaborative work environment. Formal communication must be organized email structure is essential for clarity and coherence. Research by Renani et al., (2017) indicates that a well-structured email improves the recipient's understanding of the message and facilitates a more efficient response Researchers assert that consistent formatting contributes to an elegant and professional appearance. Formal emails seem better when formatted professionally, using standard fonts and alignment. Adopting a professional format enhances the visual appeal of communication materials, including emails, assignments, and instructional documents. This involves adhering to standardized fonts, appropriate font sizes, and consistent alignment to present information in a polished and organized manner (Aguilar-Roca et al., 2009). Formal emails demand official signatures to verify the sender's identity. Research indicates that a consistent signature enhances the communication's authenticity(Giménez-Moreno & Skorczynska, 2013). Emails begin with greetings and end with closure remarks. Email has a clear subject line, background data, and communication that is easy to understand(Al-Khatib, 2021).

Informal Email: Friendly greetings and informal language were utilized throughout the student-teacher and student-administrator email exchanges. Emojis were also used, along with casual closings and a few abbreviations like TQ and TTYL(Stephens et al., 2009). The casual email was captured comfortably, incorporating text messaging shortcuts commonly seen in informal communication like messenger apps. subject line serves as a vital tool for capturing recipients' attention in both formal and informal email contexts(Miller et al., 2022). Special keywords help to understand email subject matters such as results, fees, and assignments.

Subject Line

An email's subject line or subject matter is one short phrase providing an overview or description of the message inside. It is exposed to the receiver before opening the message and operates as the email's title or heading(Miller et al., 2022). According as research by Sappleton & Lourenço, (2016) examines email subject lines' impact on research participant reactions and responses, highlighting the challenge of using blank subjects compared to those designed to provoke comments. It calls for further research to identify factors enhancing positive response rates.

Privacy and Confidentiality

Information privacy concerns people's desires to control or exercise authority over their data (Johns, 2021). According to the research article Piracy in the Digital Age: A Review of Information Privacy Research in Information Systems by Bélanger & Crossler, (2011) Information technology advancements have raised concerns about information privacy and its implications. Also reflect on email communication information privacy-related problems, including technical solutions to address these concerns. The size of many email collections, the proprietary nature of email systems, and the complexity connected with accessing password-protected material are among the challenges. While managing email including personal and professional information has always resulted in worries about privacy, secrecy, and access control, these challenges are exacerbated by broad digital collections(Denardis, 2014). Belief in the privacy of email communication was deemed unreasonable so email must be secure by end-to-end encryption which established policies in matters of electronic communications privacy within the workplace(Johns, 2021).

Follow-up and Closure

In terms of educational email norms and propriety allow straightforward communication and effective closings based on elements of e-mail style: Communicate effectively via electronic mail by Angell & Heslop (1994). guide to describe how to structure follow-up communications. According to a research article email greeting and farewell by Al-Sayyed & Rabab'ah (2020) assist significant purposes in Follow-up and Closure for academic propose which enables professionalism.

Methodology

The research sample consisted of the results of 175 actual e-mails that undergraduate students sent to their department heads to inquire about their final semester results. Those students were enrolled in different academic years of Information and Communication Technology Education (BICTE) taught in English. In this research BICTE first, second, fourth, fifth, and seventh semesters were included. Out of 175 emails, 86 were female and 89 were male students.

Email exchanges between the students and the department were collected to obtain the final examination results of various semesters of 2023. Students' email has been used for research to identify various writing styles such as structure, grammar, communication skills, and problematic aspects in student-department email communication. In the sample emails used in this research, their identity and details have been hidden so that the researcher is confidential and ethically conscious. The e-mails received from the students are examined and analyzed under the headings of subject, body text, structure, greetings and closing, language, and essential features of email.

Received email categories structured, inappropriate structure, and blank in this research any greetings or closing included in communication is considered as structured email. Similarly inappropriate structure email is only simply text and no formatting and a blank email is considered as having no text in the body part of the email. Also, based on email messages are categorized into two parts complete message and Incomplete message. On the other hand, the researcher categorized subject lines had Empty subjects or specific subjects. Based on email text define casual email or formal email from student department email communication.

Findings and Discussion

A small representative sample of student-department communication e-mails was used in this study. The conclusion from the analysis of the emails received is that the messages do not have proper email structure and layout, in this study, the researcher focused on the following five topics Inapt structure, No crucial message, Empty subject, Casual email, and Many emails at once discussion.

Inapt structure

Email correspondence between BICTE students in higher education was analyzed, and the results showed a serious problem with the inappropriate message structure. A number of the examples showed a deficiency in structural consistency, making the information less clear and less effective. A few emails were unclear about their core goal or request since they lacked an organized structure. Elements such as greetings, subject lines, and body text were often disorganized, impeding a smooth flow of communication.

Table 1 Gender-wise Distribution of the structure of Email communication

Gender	Structure %	Blank %	Inappropriate Structure %
Male	14.29	6.29	30.29
Female	8.57	16.00	24.57
Total	22.86	22.29	54.86

Table 1 presents the gender-wise distribution of the structure of email communication, showcasing the percentage distribution for structured email content, blank emails, and those with inappropriate structures. For males, 14.29% of their emails exhibit a structured format, 6.29% are blank, and 30.29% are deemed to have an inappropriate structure. On the other hand, females show 8.57% structured emails, 16.00% blank ones, and 24.57% with inappropriate structures. The overall distribution indicates that 22.86% of the emails have a structured format, 22.29% are blank, and 54.86% are considered to have an inappropriate structure. This table provides insights into the gender-specific patterns in email communication structures, highlighting areas where improvement or attention may be needed. This ineffective structure not only made it difficult for receivers to understand the communications, but it also demonstrated a need for greater standardization of email usage and formatting for BICTE Students. It is essential to address this issue to improve the overall quality of email communication in educational institutions. The finding is illustrated by the example presented in Figures 1 and 2.
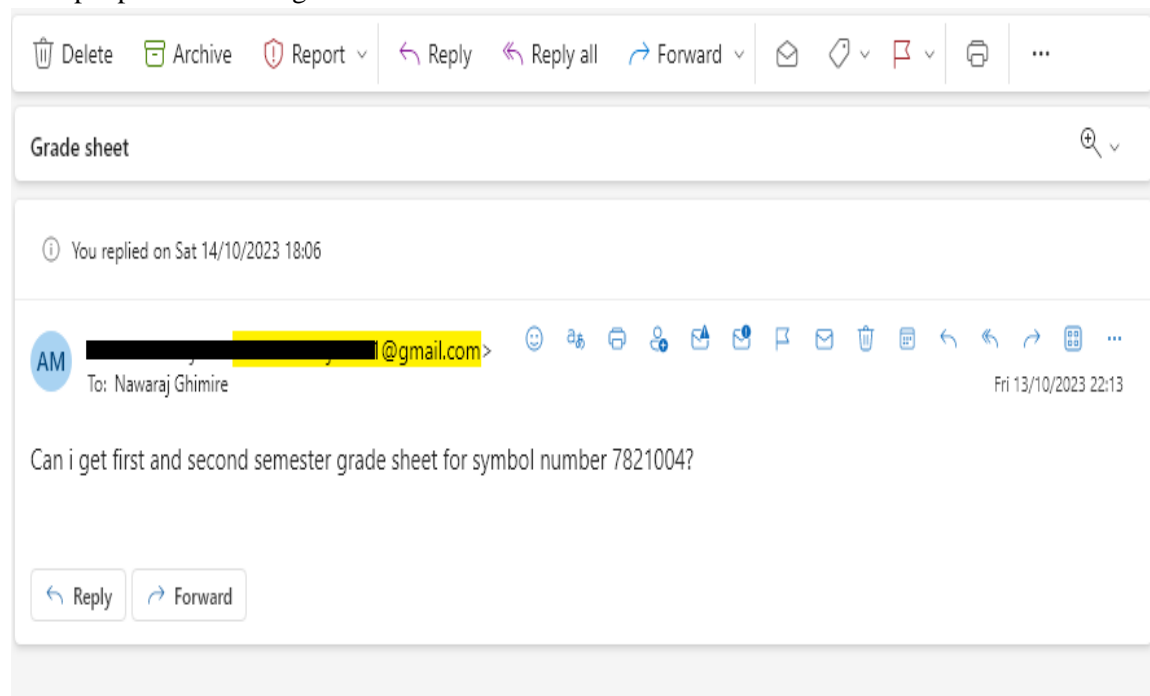

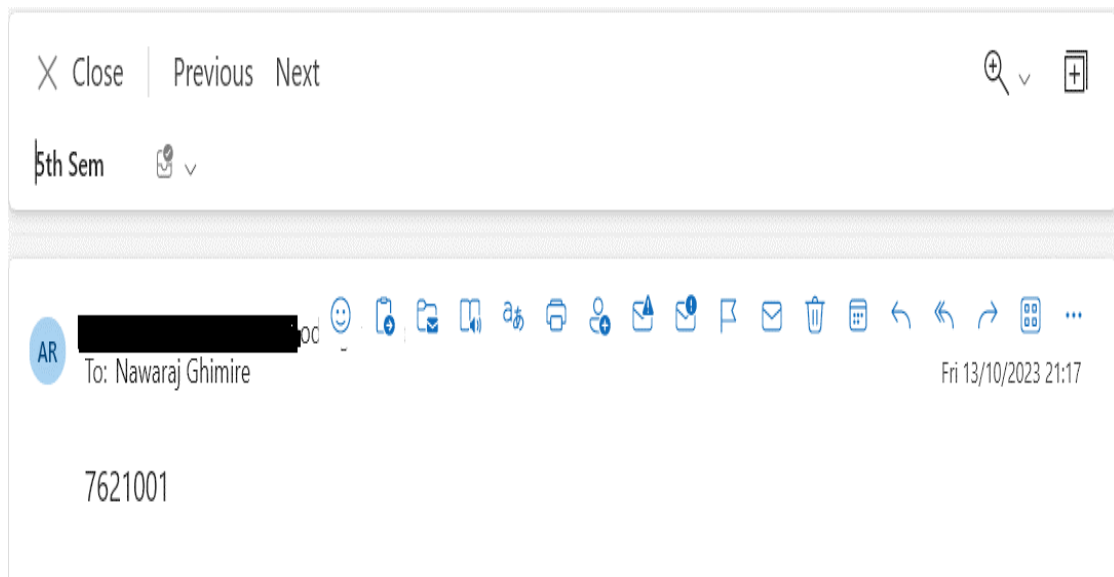*Figure 1 depicts an email featuring a non-standard format.*

Figure 2 depicts an email featuring a non-standard format.

Incomplete message

The findings indicate that certain email messages are deficient in crucial information, making it challenging for the recipient to grasp the message's meaning or identify the sender. Email communication habits among BICTE students in higher education were investigated, and the results revealed a remarkable concern classified as "No crucial message." This aspect highlights instances where email content lacked essential and pertinent information, resulting in a lack of clarity and purpose. In numerous cases, messages failed to convey a central message or failed to provide critical details necessary for the recipient to comprehend the communication fully.

Table 2 Batch-wise message distribution in email communication.

Batch wise Email	72	73	75	76	77	78	79	Total
Incomplete message %	1.14	0.00	13.71	9.71	14.86	26.29	13.14	78.86
Complete message %	0.00	0.57	2.86	2.86	5.14	5.14	4.57	21.14

Table 2 illustrates the batch-wise distribution of messages in email communication, presenting the percentage breakdown of incomplete and complete messages across different batches (72 to 79). Incomplete messages range from 0.00% to 26.29%, with batch 78 having the highest percentage, contributing to an overall incomplete message rate of 78.86%. Meanwhile, complete messages range from 0.00% to 5.14%, with batch 77 having the highest percentage, resulting in an overall complete message rate of 21.14%. This table provides a comprehensive view of how message completeness varies across different batches, offering insights into potential areas for improvement in the email communication process. This deficiency not only hinders effective understanding but also emphasizes the need for students to enhance their ability to communicate important information clearly and concisely within

the context of academic email exchanges. This issue must be resolved to promote an email communication climate among BICTE students that is more effective and meaningful. Illustrating this point are Figures 3 and 4
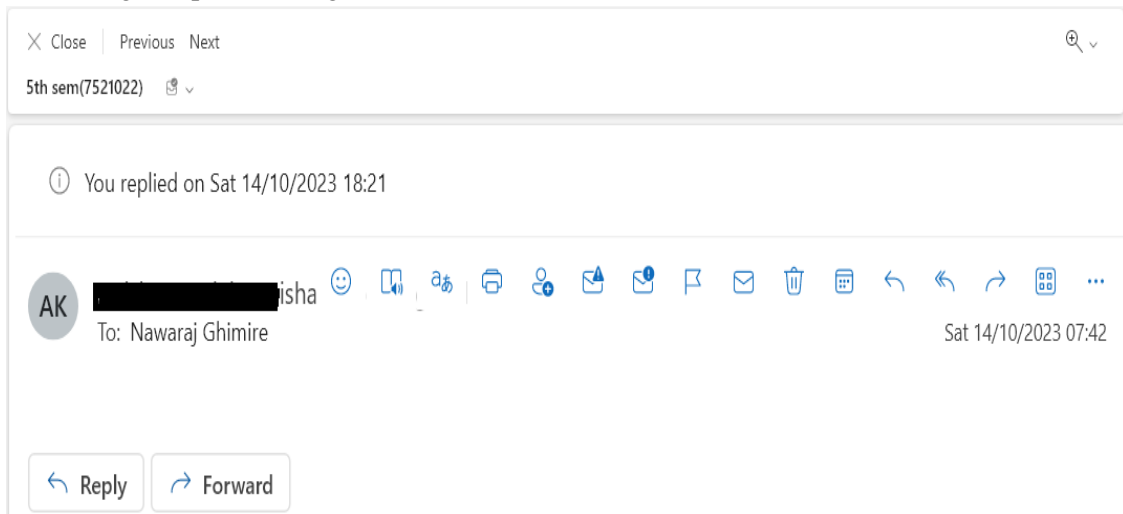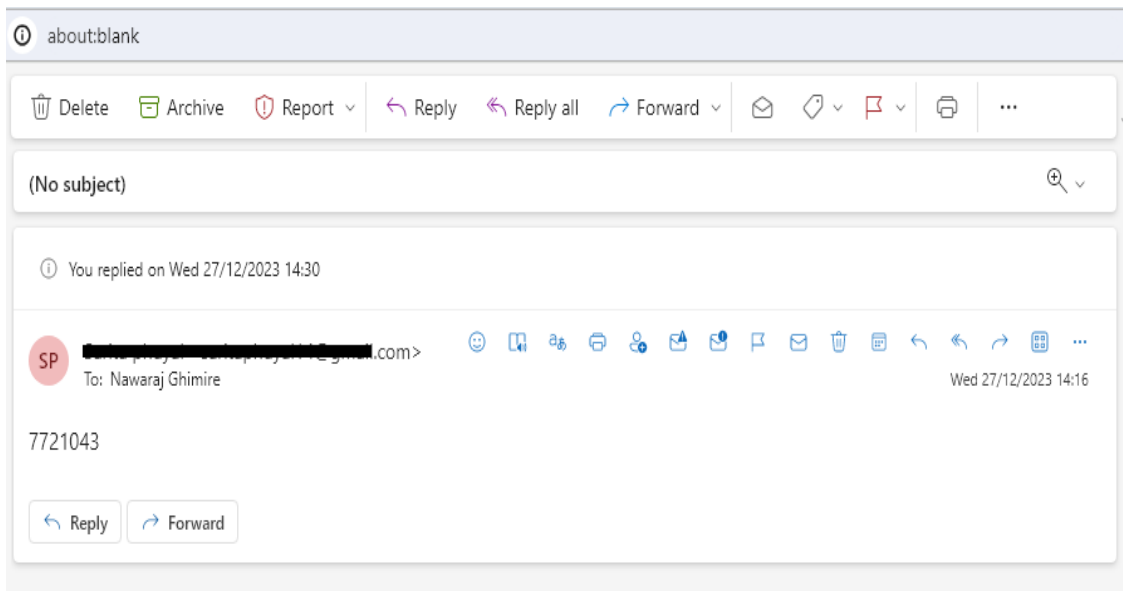

Figure 3 Lack of greeting and closure

Figure 4 without subject greeting and closure

Empty subject

The study of BICTE students in higher education revealed a significant issue with email communication, characterized by "Empty subject" and "Empty email." This can lead to confusion and difficulty in discerning the purpose of the email. It emphasizes the importance of adhering to email conventions and recognizing the role of subject lines and content in effective communication. Figures 5 and 6.
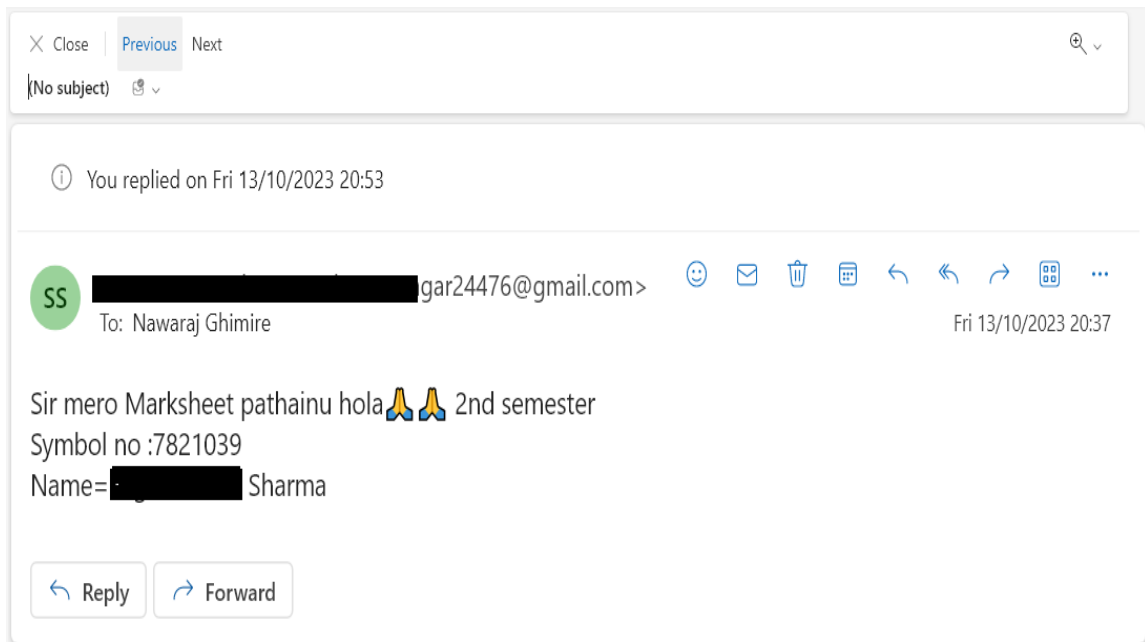
Figure 5 An email communication without including a subject line.
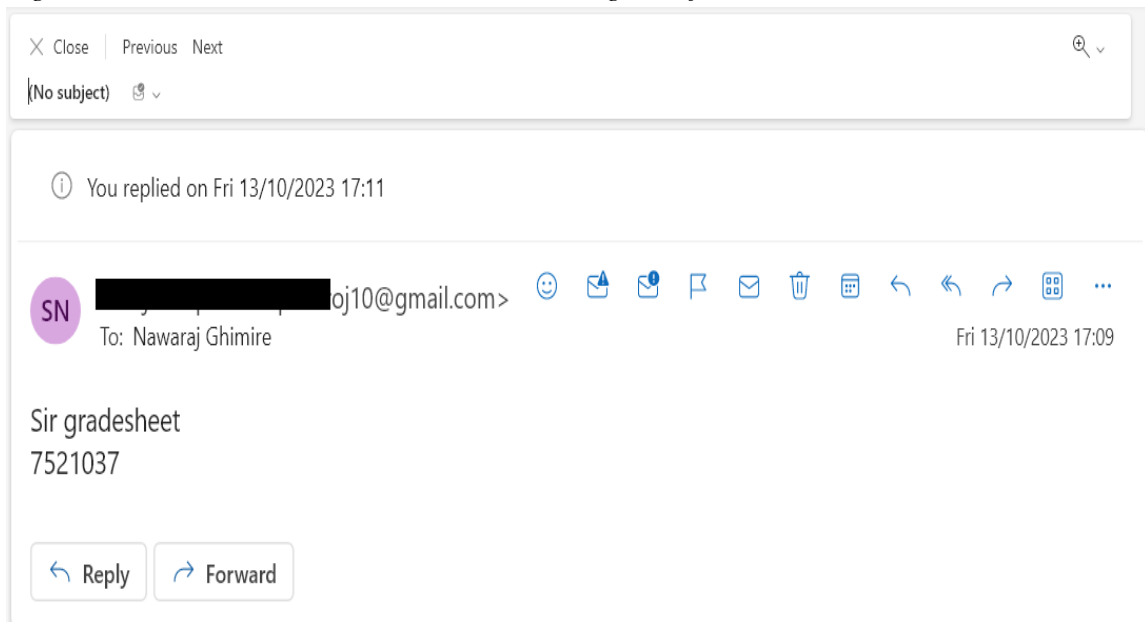

Figure 6 Email lacking subject line

Out of a total of 175 emails, 41 of them, constituting approximately 23.43% of the emails, are identified as having no subject. The absence of a subject line in these emails may pose challenges in quickly understanding the content and purpose of the communication, potentially leading to inefficiencies in information retrieval and organization. This observation underscores the importance of emphasizing the inclusion of informative subject lines in email communication to enhance clarity, facilitate quick comprehension, and streamline the overall communication process. Addressing this aspect may contribute to more effective and organized email exchanges within the dataset.

Casual email

The analysis of several inboxes has "casual email." In this context, students displayed an inclination towards incorporating informal language, friendly greetings, and even emojis in

their email exchanges with teachers and administrators. The use of casual language in emails, such as abbreviations like " Plz" , "Rzlt" and "Tq' for "thank you" and repetitions like "sir.sir sir," may reflect an informal tone and a sense of familiarity. While it can convey a friendly and approachable communication style, it's essential to consider the context and recipient to ensure appropriateness, as overly casual language might not be suitable in professional or formal settings.

Additionally, the use of text messaging shortcuts commonly found in messenger apps was observed. While informal communication has its place, its integration into academic emails requires careful consideration. This practice may impact the professional tone expected in educational settings and potentially compromise the clarity of conveyed messages. Striking a balance between friendliness and maintaining a level of formality is crucial to ensuring that email communication remains effective, respectful, and aligned with the professional expectations of higher education environments. Figures 7 and 8.
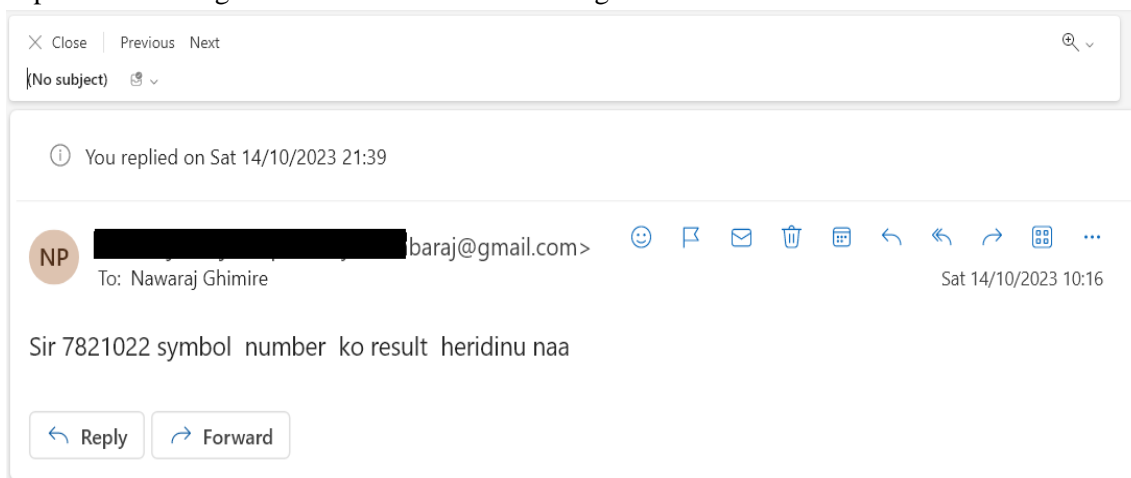

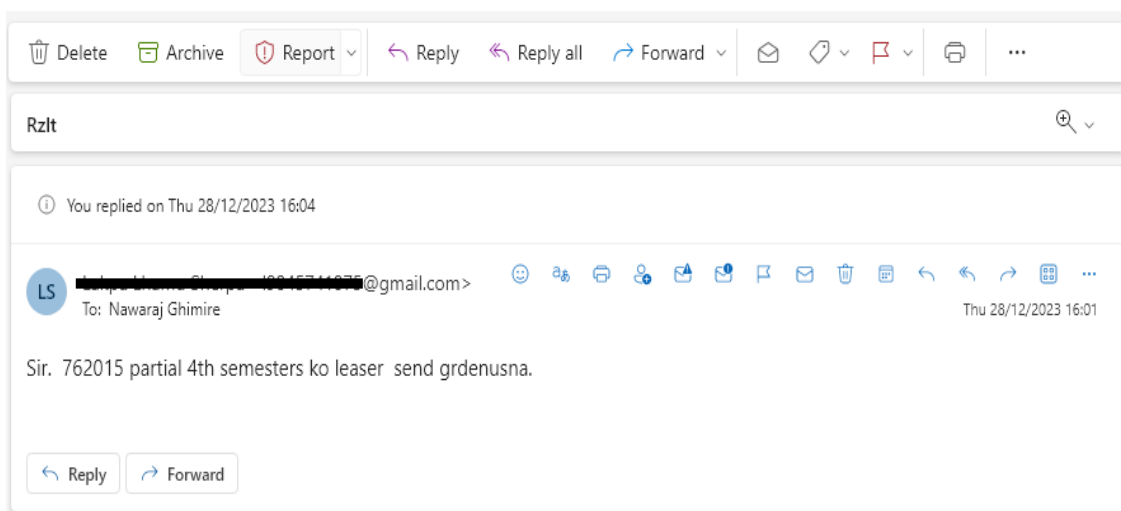*Figure 7 Casual email communication by student*

Figure 8 Informal email communication to the department.

Many emails at once

This problem highlights situations in which students bombard the recipient typically department heads with several emails sent quickly after one another. This approach may overload the receiver, making it difficult for them to keep track of and reply to every email promptly. An overabundance of emails might also make the communication environment congested, which could cause crucial communications to go unnoticed (Vassallo, 1998). It's

vital to strike a balance between thoughtful letters and efficient communication, encouraging students to combine facts and questions into one thorough email instead of bombarding recipients with a ton of unrelated messages. Figure 9

Conclusion

In this case, study on email communication patterns among BICTE students in higher education reveals several significant challenges and areas for improvement. The findings indicate prevalent issues such as inappropriate email structure, incomplete messages, empty subjects, casual language, and the tendency to send multiple emails at once. These challenges underscore the need for strategic enhancements in digital literacy and communication skills among BICTE students, emphasizing the delicate balance between formality and informality in academic emails. The study also highlights the importance of promoting organized correspondence to create a positive and efficient learning environment. Addressing these issues is crucial for fostering a more effective and professional email communication culture within the BICTE program. The insights gained from this research can inform targeted improvements in communication training, contributing to a more seamless and meaningful exchange of information among students and faculty.

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