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From classroom interaction to academic success: tracing the mediating role of effective communication in faculty-student dynamics

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ABSTRACT

This paper aimed to determine the impact of faculty communication style, student proactiveness, and academic discipline on student academic performance and student-faculty relationship quality in the United Arab Emirates (UAE) higher education context. This study also aimed to contribute to the literature by verifying the mediating impact of communication effectiveness between the selected factors. Using a cross-sectional survey design, the study sample comprised 193 university students, and it was analyzed using partial least squares structural equation modeling (PLS-SEM). The results revealed that academic discipline and the professor's communication style enhanced communication effectiveness, whereas student proactiveness had a minimal effect. The results also show that effective communication significantly influences students' academic success and the quality of faculty-student interactions. The mediating role of communication effectiveness has also been proven. These findings underscore the importance of robust communication in the faculty-student dynamics and its impact on academic performance in higher education. This research provides valuable strategies for higher education institutes to develop a high-interaction learning environment to ensure a high level of performance for both professors and students.

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Introduction

There are many challenges in putting a student-centered approach into practice and building true partnerships with students to help them become independent learners (Al-Ali et al., 2024). In the higher education context, managing power dynamics is made more difficult because faculty members are reluctant to work with students on an equal basis, which could result in power disputes (Poon et al., 2022). There is a dual benefit of proactivity for academic achievement (Nagahi et al., 2022). Academic achievement and student self-discipline correlate positively, underscoring the complex interplay between several elements that affect academic performance (Chhetri & Baniya, 2022; Parker & Trolan, 2020; Snijders et al., 2020; Wallace, 2022). In a study by Chachar et al. (2023), academic excellence was assessed based on leadership practices and overall performance. The study was conducted in the Secondary schools of Pakistan. The results showed that enhanced leadership practices had a statistically significant impact on academic excellence (Chachar et al., 2023). J. C. Wang et al. (2023) examined the impact of using smartphones on the perceived academic performance of the students of elementary schools. Based on the results, it was unveiled that using smartphones excelled the academic performance of the students and ameliorated the quality of learning. Comparing students with high smartphone use had higher academic success than those with low use of smartphones which implied inequalities for the students in terms of

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learning opportunities (J. C. Wang et al., 2023). The study of Mattanah et al., (2024) focused on investigating the extent of student-faculty communication and its role in originating students' engagement and their choice of approaches to learning in higher education. The findings of the study unveiled that faculty-student communication had a positive correlation with student engagement and deep learning. Whereas, it was negatively associated with surface learning. Deep learning was found to be positively linked with student engagement but there was a negative correlation between surface learning. The studies are focused on investigating the role of faculty-student interaction for greater student engagement in the classroom. In the meantime, any likelihood of probable association between classroom interaction and academic success, along with the influence of effective communication as a mediator has been unexplored. To bridge this gap, the present study aims to study an interplay between classroom interaction and academic success. It aims to investigate the role of effective communication between faculty and students as a mediator.

This research provides a comprehensive understanding of the complex interactions between these elements and how they influence each other through effective communication. The significance of this study lies in offering valuable insights to educators, administrators, and policymakers, concerning classroom interaction and academic brilliance. The findings of the study will serve to improve academic achievement, promote positive student-faculty relationships, and enhance interactions between students and faculty.

The rest of this paper is structured as follows. The theoretical background is represented in Section 'Literature review', and Section 'Methodology' presents the research methodology. The findings of this study are discussed in detail in Section 'Results', followed by Section 'Discussion', which presents the discussion, conclusion, and recommendations.

Literature review

Understanding the role of the negotiations

Negotiation originates from the Latin terms 'otium', which means 'ease' or 'leisure', and 'neg', which means 'not' or 'to deny'. Therefore, negotiating physically takes away ease, necessitating a conscious effort to preserve balance (Castro, 2023). Speakers use negotiation, which is seen as a vital social interaction for human existence in all societies, to accomplish their objectives, especially when making illocutionary acts, such as directives (Deveci et al., 2023). In its secondary sense, negotiation refers to navigating challenges or obstacles to solving conflicts or difficulties. Consequently, negotiation is an essential communication skill that contributes to successful classroom interactions (Castro, 2023; Kusuma et al., 2023). Overman et al. (2019) pointed out that negotiations between teachers and students were essential for resolving minor disagreements and ensuring the smooth progression of planned activities. It allowed educators to teach and model good communication skills and use conflicts between students and/or teachers as teachable moments for enlightening the students' minds. However, under typical circumstances, there is limited freedom for the students to have ample time to interact with their peers and teachers. Students often acquire authority and accept presented situations (Overman et al., 2019). Faculty-student negotiations for improved pedagogical practices could significantly benefit students and faculty through research.

Understanding the role of negotiation in student-faculty interactions

Faculty-student interaction is defined as the interactions between faculty and students in the classroom setting which are usually more focused on academics. Such interaction reflects the relational aspects of the relationship between students and faculty. Cognitive growth is inherently linked to relationships, as it occurs through mutual understanding between individuals, rather than being solely associated with one person or the other (Rogoff, 1990).

Scholars investigated the transformative potential of negotiation in the classroom and found that it could improve learning outcomes by allowing students to participate actively in decision-making (Governor et al., 2021). Indirect teaching techniques are employed by teachers to initiate productive talk

in the classroom while approaching the situation from a position of strength. These strategies allowed educators to foster a cooperative and empowered learning environment by providing students with an outstanding education agency (McEntyre et al., 2020).

Sökmen (2021) also found a positive relationship between student negotiation and self-efficacy, while shared control predicted scientific self-regulation. According to Cirocki et al. (2019), deference to authority figures or those of higher status was the norm in society outside school, and this hierarchical structure was frequently reflected in the classroom. Eshuis et al. (2019) asserted that communication revolved around collaborative ideas, choices, and decisions jointly made by teachers and students in the classroom which resulted in a mutual understanding between teachers and students about how to structure a specific course. Komarraju et al. (2010) endorsed that faculty-student relations, characterized by effective negotiations, served as a strong motivator and indicator of learning. Students explore multiple viewpoints which originate in the capacity to cultivate reasoning and critical thinking abilities among them (Bossér & Lindahl, 2019).

Ticheloven et al. (2021) underscored the value of creating a shared vision for educational development and emphasizing learner-initiated practices in academic research. In the words of Kavanagh et al. (2020), despite some teachers involving students in sharing and negotiating their evolving ideas about content, classrooms typically operated according to a teacher-centred approach, where teachers predominantly spoke, and students primarily had to listen.

An alternative assumption rooted in sociocultural research and theory proposed that learning transpired through active engagement in socially embedded activities and discussions of specific communities of practice. Thus, learning was referred to as a dynamic process. Shifting the focus to the degree of negotiation, as highlighted by Ovbiagbonhia et al. (2019), had combined influence of students and teachers in designing and managing learning activities, assessment criteria, and social norms within the classroom. Collaborative negotiation of instructional goals and objectives with students carried the significance of their involvement in the learning process. Highly effective instructors usually adopt negotiation strategies such as humour and disclosure to capture students' attention and facilitate learning.

The negotiation context between students and faculty through a cultural lens enabled a more active educational interface and enhanced student psychosocial development (Picton et al., 2018). This was considered a dynamic approach to understanding the interrelations in the educational context. In this regard, Henrie et al. (2015) investigated longitudinal measures of student negotiation in the e-learning environment. They pointed out that clarity of instruction and relevance of activities were required to maximize the influential negotiation, which influenced student satisfaction and academic performance. In this context, negotiation had higher significance because it emphasized the dynamic and continuing relationships among educators, students, and institutions—relationships and attaining the best possible learning results.

Participatory and collaborative learning

Collaborative learning entails the strategies of teaching and learning to encourage interaction and participatory learning among students. This way necessitates an optimized thinking and learning pattern among them (Johnson & Johnson, 1999). For achieving the level of engaged learning, the role of teachers is pivotal as they need robust planning and organizing efforts to initiate collaborative learning in the classroom (Yang, 2023). In the view of Johnson et al. (2007), through collaborative and participatory learning, both students and teachers can attain social and academic educational outcomes. However, this learning method is not deemed to be adequate in classroom learning practice. For instance, teachers adopt a different style of grouping students i.e. heterogenous or homogenous groups or students but such grouping styles do not warrant effective collaboration (Baker & Clark, 2010) due to prevailing challenges, faced by students i.e. unequal individual participation in group tasks (Freeman & Greenacre, 2010), students possess inadequate collaborative and interpersonal skills (Li & Campbell, 2008). Challenges are also faced by teachers in organizing effective collaborative activities, delegating group tasks, forming groups, managing all the activities in the given or restricted class timing (Gillies & Boyle, 2010), and improving and controlling productive collaboration (Van Leeuwen et al., 2013). Collaborative learning is central to teachers and students and aims to instil real-life complex problem-solving and decision-making skills (Popov et al., 2012). Collaborative learning's other form is think-pair-share (TPS)

cooperative learning which is practiced to encourage higher student participation and greater performance milestones in their range of subjects Ismail et al. (2022). It is widely recommended to turn most of the classroom learning into vocational training for the students as part of practical learning. Ismail et al. (2022) asserted that TPS as a form of collaborative learning accelerated the students' performance as well as their participation while making the elements of confidence, courage, active learning, collaboration, and motivation among them. The study further suggested emphasizing other factors such as critical thinking, complex problem solving, and ensuring that there is equal participation of every student. Building soft skills among the students is also integral in TPS collaborative learning (Ismail et al., 2022).

Qureshi et al. (2023) highlighted the prerequisites for collaborative learning which included i.e. interaction with peers and teachers, social presence, and usage of social media positively impacting active collaborative learning and student involvement. These factors were found necessary to augment the learning and performance of the students. Lee and Yang (2023) conducted their study to investigate the perceptions of undergraduate students to assess the way active and collaborative learning and engagement are supported in groups. The findings showed that by adding key elements of constructive learning environments in the classroom, students supported collaborative learning (Lee & Yang, 2023). Bjelobaba et al. (2023) in their study formulated and proposed a blockchain-enabled framework named the Collaborative learning and student work evaluation model. It was featured with a multi-frontal teaching method as well as the scientific peer-review standards which was useful to bring autonomy and automation for teachers as well as students to practice collaborative learning (Bjelobaba et al., 2023). Classroom interaction which is one of the fundamental elements of collaborative learning is closely linked with academic success. Xiao et al. (2023) concluded in their study that teacher-student interaction, sound richness, sound pleasure, perceived ease of use and perceived usefulness appreciably were the most important factors in achieving the outcome of classroom well-being.

Hypothesis development

Faculty communication styles and student-faculty relationship quality

Within the academic setting, there is growing recognition of the need to improve communication channels between instructors and students. A two-step solution has resulted from this recognition. First, a comprehensive comprehension of the institutional purpose statement. Second, a continuous maintenance of mutual respect. Various faculty members' communication styles assisted in achieving diversity and equality objectives and had a potential impact on students and faculty for engaging in various academic settings (Umbach & Wawrzynski, 2005). It implied that different student learning preferences could be addressed by adopting faculty communication methods and customized pedagogy, which could impact communication effectiveness and instructional delivery (Romanelli et al., 2009). Other studies in higher education have focused on the relationships between students and faculty, including the frequency of interactions and the distinction between formal and informal interactions (Snijders et al., 2020). These complex assessments emphasized how different parts of these connections could affect the overall learning process and have helped improve the knowledge of the numerous facets of faculty-student dynamics in higher education (Snijders et al., 2020).

Studies also highlighted the vital impact of mentorship programs and interactions between faculty and students on fostering academic success. Enhancing student performance primarily depends on the beneficial effects of faculty-student communication outside the classroom (Dingel & Puntì, 2023). According to earlier research on learning styles, pedagogical theories, and implications for educational practices, faculty communication styles could differ depending on how well they understand these concepts. This could explain how educational content was delivered and how students interacted (Engels & De Gara, 2010; Romanelli et al., 2009; Willingham et al., 2017).

Tyszkiewicz-Bandur et al. (2017) pointed out that emotional intelligence and attachment styles could influence faculty communication styles, and the quality of communication and student relationships. Various studies explored different styles, such as conflict resolution, avoidance, compromise, accommodation (Alshoraty, 2023), and mentorship models (Bang Jensen et al., 2023). There was a deficiency in the literature concerning targeted investigations into the various communication styles employed by faculty members and their impact on the quality of relationships with students, even though the references

supplied cover a wide range of topics related to learning styles, student-faculty interactions, and educational outcomes. It was essential to comprehend the subtleties of various communication styles and how they affected learning outcomes, happiness, and student engagement to facilitate productive student-faculty interactions and improve the educational process. This research has been conducted to close this knowledge gap and offer a more thorough understanding of how teacher communication styles affect student-faculty interactions and academic results.

Student proactiveness and student-faculty relationship quality

A crucial area of research that attracted much attention in academic studies is the relationship between student proactiveness, the quality of student-faculty interaction, and student achievement in higher education. The positive effects of regular and high-quality engagement between students and faculty on student outcomes, such as academic performance, cognitive skills, career advancement, and subject expertise, have been consistently demonstrated in numerous studies (Aldosari, 2022). Research linked increased faculty teaching and tutoring with improved student academic performance (Patel et al., 2022). Faculty practices and interactions with students were identified as influential factors in shaping students' attitudes toward diversity, underscoring the significance of faculty-student interactions in student development and outcomes (Trolan & Parker, 2022). Duong et al. (2019) highlighted the critical impact of favorable student-teacher connections on students' behavior and involvement. While the existing literature has focused on individual elements, such as mentorship, diversity, and program culture, there is a clear need for more comprehensive studies that integrate these elements to understand their collective influence on student performance. Further research is required to explore how student proactiveness and faculty-student relationships interact to shape student outcomes, considering factors such as mentorship, diversity, and program culture. Understanding these dynamics is crucial for developing effective strategies to enhance student's success in higher education.

Academic discipline and student-faculty relationship quality

Managing difficult situations, such as provocation or unjustified aggression, is deemed challenging, bringing about conflict and psychological harm for students and teachers. The influence of coercive discipline was found more disruptive than that of sensitive discipline, and aggressive disciplinary strategies tend to worsen student misbehavior toward teachers. Research confirmed that coercive and aggressive punishments negatively affected students' well-being and motivation. This highlighted the need to explore how disciplinary approaches and the quality of the student-faculty relationship influenced student behavior and well-being (Agyekum, 2023). A study by Craig et al. (2023) revealed that students learned better in a safe and supportive environment. However, harsh discipline practices compromised student safety and support. Easing discipline measures positively impacted safety, student-teacher relationships, and test scores, providing empirical support for the effectiveness of such reforms.

Academic discipline and student academic performance

A meta-analysis covering 1986–2012 found a significant negative relationship between academic discipline and academic achievement. Out-of-school discipline exhibited a stronger association than in-school discipline, although this difference was not emphasized because of limited separate assessments. Student-level studies have indicated a negative discipline-academic achievement relationship after considering demographic and contextual factors, yet baseline achievement control has often been omitted (Anderson et al., 2019). However, according to Stephen (2023), a positive correlation existed between increased discipline and improved academic performance. Learning and teaching processes were impeded without discipline. While a meta-analysis suggested a negative correlation, recent research by Stephen (2023) indicated a positive association. This inconsistency highlighted the need for more nuanced studies to understand the specific impact of discipline on academic performance, considering contextual and demographic factors.

The mediation role of communication effectiveness

Open communication was one of the determinant factors in forming positive relationships; thus, fostering a conducive learning environment. This enhanced communication facilitates students seeking

clarification and expressing their concerns, improving learning outcomes (Miao et al., 2022). When teachers were aware of the needs of their students, they were found better able to meet those needs, encourage academic commitment, and report a positive impact on students' happiness and academic performance. Increased engagement was linked to improved attentiveness and course completion, which could lead to great academic success, especially when combined with improved interactions between faculty and students. (Al-Ali et al., 2024).

The quality of faculty-student interaction was found to influence various individual-level outcomes, according to earlier research in higher education (Kim & Sax, 2011). This includes academic achievement, social connections, motivation, and attitudes. According to González-Romá et al. (2023), the quality of faculty-student connections and several variables, including student happiness, interest, dedication, and overall academic achievement were correlated. Based on the above discussion, the following hypothesis is proposed.

- H1: Faculty communication style has a direct impact on communication effectiveness.
- H2: Student proactiveness has a direct impact on communication effectiveness.
- H3: Academic discipline has a direct influence on communication effectiveness.
- H4: Communication effectiveness has a direct influence on student academic performance.
- H5: Communication effectiveness has a direct influence on the quality of the student-faculty relationship.
- H6: Communication effectiveness mediates the relationship between faculty communication style and students' academic performance.
- H7: Communication effectiveness mediates the relationship between students' proactiveness and academic performance.
- H8: Communication effectiveness mediates the relationship between academic discipline and student academic performance.
- H9: Communication effectiveness mediates the relationship between faculty communication style and student-faculty relationship quality.
- H10: Communication effectiveness mediates the relationship between student proactiveness and student-faculty relationship quality.
- H11: Communication effectiveness mediates the relationship between academic discipline and student-faculty relationship quality.

Methodology

Study design and sampling

This study aims to understand better how students and professors engage in UAE universities during negotiations. Implementing a cross-sectional survey methodology fully evaluated the negotiation dynamics between teachers and students in higher education settings. This approach was chosen because of its ability to collect data from many participants in a short time. For the study, a random sampling technique was adopted to recruit teachers and students. Under this sampling method, a subset of participants from a population is selected in a way that each sample has an equal probability of being selected. Through this sampling, an unbiased representation of the total population was ensured by the researcher (Berndt, 2020).

A-priori sample size calculator software Soper (2021) to ascertain the minimum sample size for the study. the alpha probability level at 0.05 was set, desired statistical power was at 0.80, number of latent variables at 6 (corresponding to the six-factor model tested), number of observed variables at 20 (corresponding to the total number of items in the model), and effect size at 0.3 (medium effect size). The calculator recommended a minimum sample size of 161 which was very close to the 193 participants used in the study, showing adequate power for the study sample. With a set sample size of 193, this study covered the population of higher education students from different universities in the UAE. The data was collected from 6 international universities in the Dubai academic city through an online questionnaire.

Study tool

This study employed an online survey to collect data. This allowed for the efficient distribution of the survey and gathering of replies, considering university students' varied schedules, as noted by Wright (2006). After the literature review, the researcher constructed the questionnaire and sought the services of two academic experts to review and amend it to the facial validity of the study questionnaire. A 5-point Likert scale was used to create the survey instrument i.e. questionnaire (Appendix A) and subtly graded responses between strong agreement and disagreement. This scale is particularly well suited for gauging attitudes and perceptions, serving as a robust tool for capturing the subjective experiences of the respondents, as emphasized by Boone and Boone (2012).

Data collection

The survey was developed based on prior studies and evaluated by three senior academics to ensure face validity, relevance, and clearness. The survey details including brief information, research purposes, confidentiality conditions, and the survey link were emailed to all respondents. Data collection took place during the autumn semester of the 2023–2024 academic year to ensure timely participation and relevance of the data gathered. The researcher sent the questionnaire to 200 individuals; however, 193 were completed responses. Thus, the response rate was 96.5%. 7 responses were excluded as they were incomplete.

Analysis tool

PLS-SEM was used to analyze the survey data. This tool was used for many reasons, it can represent complex interactions between latent and observable variables and is appropriate for exploratory research (Hair et al., 2019), it enables better clarifications and explanation of the interrelation among research constructs (Henseler, 2017; Sarstedt et al., 2022). Two stages were included in this analysis. The measurement model is first assessed for validity and reliability to ensure that the constructs appropriately represent the variables they are meant to measure and follow the guidelines provided by Fornell and Larcker (1981). Then, as Sarstedt et al. (2022) suggested, the structural model is subjected to hypothesis testing using the bootstrapping approach. This non-parametric methodology permits inferences regarding the population from the sample data. This methodology, distinguished by its systematic data collection and analysis, is intended to provide a thorough understanding of the negotiation processes between students and faculty members. As a result, it is expected to provide significant insights into the most effective ways to improve educational practices in the context of education in the United Arab Emirates.

Results

Measurement model assessment using Partial Least Squares (PLS) involves several steps. First, the reliability and validity of the measurement model were assessed. This includes evaluating the composite reliability (CR), with a recommended cut-off value of 0.70 or higher, indicating acceptable reliability. The average variance extracted (AVE) should exceed the threshold of 0.50, ensuring that, on average, the construct explains more than half of the variance in its indicators (Hair et al., 2017). Partial Least Squares (PLS) measurement model assessment involves several steps. First, the measurement model was evaluated in terms of validity and reliability. This consists of assessing the average variance extracted (AVE), which should be greater than the 0.50 threshold to guarantee that, on average, the construct explains more than half of the variance of its indicators and composite reliability (CR), with a suggested cut-off value of 0.70 or higher, indicating acceptable reliability (Hair et al., 2017).

Cronbach's alpha was used for internal consistency reliability, with a value above 0.70, indicating acceptable reliability; however, it has been criticized for its conservative estimates. Therefore, the composite reliability is preferred. A more recent criterion for evaluating discriminant validity is the hetero-trait-monotrait ratio (HTMT), where a threshold value of 0.85 or below is generally seen as suggestive of appropriate discriminant validity (Hair et al., 2017). Finally, PLS prediction is a gauge of the out-of-sample

predictive power, with larger values denoting improved accuracy. Consequently, the data in Table 1 and Figure 1 demonstrate that all these requirements were satisfied.

The reliability and validity of the measurement model were confirmed, and the structural model was evaluated using different criteria. The model's fit was examined using the Standardized Root Mean Square Residual (SRMR), with a 0.059 value below the recommended threshold of 0.08 (Hair et al., 2017), indicating a good fit. The d_{ULS} (Unweighted Least Squares discrepancy) and d_G (geodesic discrepancy) values of 0.721 and 0.601 further support the model's fit. The PLS model demonstrates robust explanatory power with R -squared values of 0.644 or higher, suggesting that the predictors included in the model account for a significant portion of the variation in Communication Effectiveness, Student Academic Performance, and Student-Faculty Relationship Quality. The high R -squared values confirm the model's predictive accuracy, especially for the student-faculty relationship quality (0.703), highlighting the importance of this construct in the university setting.

Table 2 and Figure 2 show that faculty communication style and academic discipline provide positive effects on communication effectiveness (0.246 p -values 0.000; 0.602 p -values 0.000, respectively); these results show evidence in favor of hypotheses H1 and H3, which indicates that the variety of faculty communications styles with students and the specific academic field in which they work, contribute to the quality and efficacy of communication within the educational environment. However, student proactiveness did not impact communication effectiveness (0.017 p -values 0.835), providing evidence against hypothesis H2. Communication effectiveness also has a positive effect on student academic performance (0.806; p -value 0.000) and student-faculty relationship quality (0.838; p -value 0.000), which shows evidence in favor of hypotheses H4 and H5, indicating that effective communication between faculty and

Table 1. The measurement model assessment.

Constructs	Alpha Cronbach's	Composite reliability (CR)	AVE
Academic_Discipline	0.812	0.831	0.723
Communication Effectiveness	0.956	0.956	0.883
Faculty Communication Style	0.903	0.905	0.775
Student Academic Performance	0.847	0.851	0.766
Student Proactiveness	0.791	0.823	0.703
Student Faculty Relationship Quality	0.838	0.843	0.755

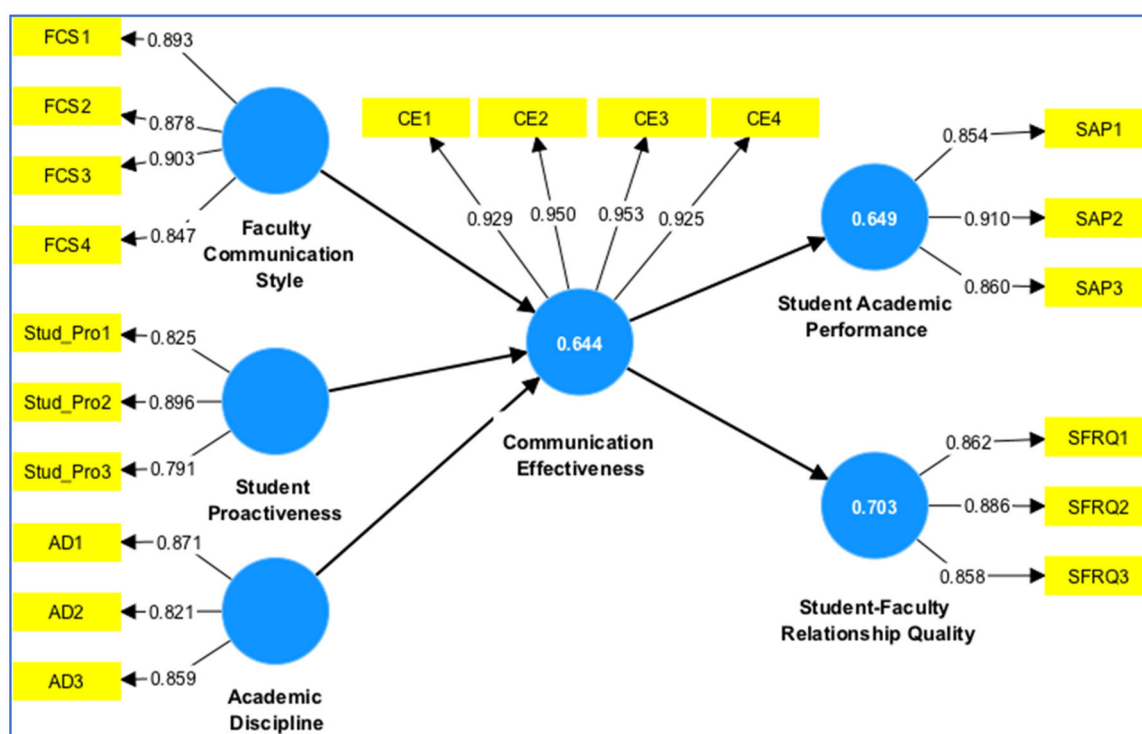
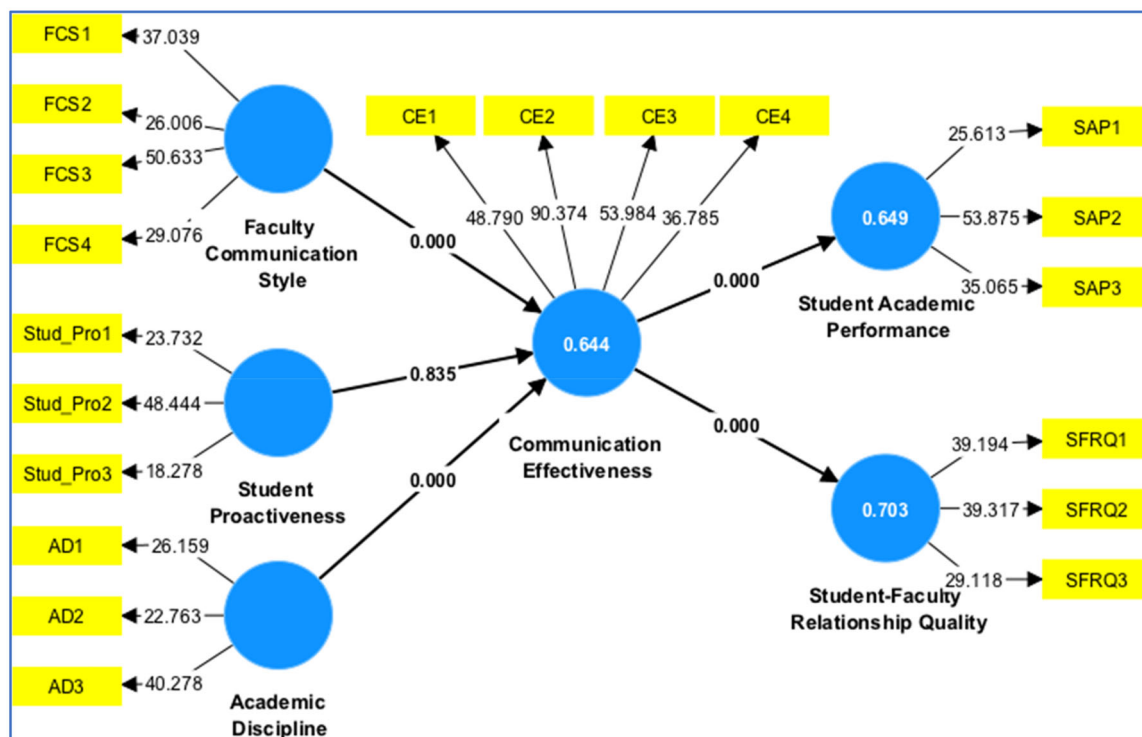


Figure 1. The measurement model.

Table 2. Structural model.

Paths	Path	t-Value	p-Value	Support
Faculty Communication Style → Communication Effectiveness (H1)	0.246	30.822	0.000	Yes
Student Proactiveness → Communication Effectiveness (H2)	0.017	00.209	0.835	No
Academic Discipline → Communication Effectiveness (H3)	0.602	50.979	0.000	Yes
Communication Effectiveness → Student Academic Performance (H4)	0.806	220.145	0.000	Yes
Communication Effectiveness → Student Faculty relationship quality (H5)	0.838	270.019	0.000	Yes
Indirect path				
Faculty Communication Style → Communication Effectiveness → Student Academic Performance (H6)	0.199	3.785	.000	Yes
Student Proactiveness → Communication Effectiveness → Student Academic Performance (H7)	0.014	0.209	0.835	No
Academic Discipline → Communication Effectiveness → Student Academic Performance (H8)	0.485	5.545	0.000	Yes
Faculty Communication Style → Communication Effectiveness → Student Faculty Relationship Quality (9)	0.207	3.753	0.000	Yes
Student Proactiveness → Communication Effectiveness → Student Faculty Relationship Quality (H10)	0.015	0.209	0.834	No
Academic_Discipline → Communication Effectiveness → Student Faculty Relationship Quality (H11)	0.505	5.535	0.000	Yes

**Figure 2.** The structural model.

students can lead to improved academic performance among students and foster a positive and productive relationship between students and faculty members. Table 2 and Figure 2 show that communication effectiveness mediates the relationship between faculty communication style and student academic performance (0.199; p -value 0.000) and between academic discipline and student academic performance (0.485; p -value 0.000). The results also indicate the mediating impact of communication effectiveness between faculty communication style and student-faculty relationship quality (0.207; p -value 0.000) and academic discipline and student academic performance (0.505; p -value 0.000).

Discussion

The importance of adapting communication strategies to particular educational contexts is demonstrated by the beneficial impacts of academic discipline and faculty communication styles on communication effectiveness. This emphasizes the importance of faculty members adapting their communication styles to align with the needs of diverse academic disciplines, thereby improving the quality and efficacy of communication within the educational context (Dhillon & Kaur, 2021; Gelles et al., 2020). Although proactive student engagement is essential, it may not directly impact the general efficacy of communication between staff and students, as evidenced by the lack of a correlation between student

proactiveness and communication success. This highlights educators' need to use various communication techniques to successfully involve every student, irrespective of their initiative (Courtner, 2014). The field of education will be significantly impacted by the discovery that effective communication has a favorable impact on student academic performance and the quality of the student-faculty relationship. This research supports the inclusion of effective communication in faculty development and curriculum design because it highlights its critical role in improving educational outcomes. This underlines the significance of building solid relationships between students and teachers through better communication, as this can promote a more encouraging and stimulating learning environment.

This study argues for a comprehensive educational strategy that values conventional academic knowledge and soft skills such as communication. Research indicates that interactions between students and faculty have a significant impact on student's educational well-being (Yao et al., 2022). Positive support from faculty members in the form of individual counseling has a positive impact on student's academic performance, which builds strong relationships and interactions with students (Q. Wang et al., 2022).

The effectiveness of communication in the present study was assessed through enhanced learning experiences of the students and the role of communication or interaction between the students and teacher to resolve problems or conflicts constructively. It was also examined through teachers' role in clarifying the course content and clarity of pedagogical instructions along with their role in shaping a positive and encouraging learning environment for them. Regarding the mediating role of communication effectiveness, these results encompass academic performance and the quality of student-faculty relationships. It signifies a transformative shift in educational paradigms, highlighting the critical role of effective communication not only as a direct contributor but also as a pivotal mediator in educational processes. This insight necessitates re-evaluating faculty development programs, curriculum design, and academic policies to prioritize communication skills. This underscores the significance of how subjects are taught and communicated, expanding the focus of education from mere content delivery to the manner of faculty-student interaction. Therefore, this is the first study to examine these relationships and to determine the critical role of understanding this mechanism.

The results offer insights into complex classroom communication dynamics and how they affect student performance. This study has several practical implications for educational institutions and faculty members. First, the influence of academic discipline and faculty communication style on communication efficacy underscores the importance of promoting efficient communication techniques in educational contexts. This underlines the necessity for faculty development initiatives that prioritize enhancing communication abilities and customizing communication approaches across various academic fields (Darby & Willingham, 2022; Khukhlaev et al., 2022).

Second, while proactive conduct may be advantageous in other contexts, the study's findings suggest that it may not directly impact communication success within the academic setting, as evidenced by the lack of an effect of student proactiveness on communication effectiveness. This implies that efforts to enhance communication efficacy should focus on faculty communication techniques and academic disciplines rather than student initiatives (Zanbar, 2020).

Third, the correlation between the quality of student-faculty interactions and academic success underscores the significance of effective communication in improving student outcomes and fostering healthy relationships between students and faculty members. Instructors must prioritize clear and effective communication to enhance students' academic achievement and well-being (Benson-Greenwald & Diekman, 2022; Xia et al., 2020). Interventions to improve communication effectiveness can significantly impact students' academic performance and the quality of the relationship between students and faculty. This underscores the importance of providing faculty members with communication training and support programs to improve student achievement and satisfaction (Jung et al., 2017; Mestdagh et al., 2018).

The findings suggest the practical application of proactive advising strategies and encourage student involvement. This underscores the importance of educational institutions taking proactive measures to promote the well-being and success of their students, as well as to foster a welcoming and stimulating learning environment. The results indicated that positive educational environments are largely fostered through proactive conduct and effective communication, emphasizing the importance of supporting student performance and well-being in educational institutions by cultivating proactive engagement cultures and promoting effective communication techniques.

Conclusion

The research provides insights into how proactive student behavior and effective communication dynamics impact student outcomes and relationships with teachers. It emphasizes the importance of effective communication strategies in academic settings, highlighting the positive effects of academic discipline and faculty communication style on communication effectiveness. It also underscores the mediating role of communication effectiveness in the relationship between academic discipline, student outcomes, and faculty communication style. Cultivating effective communication is essential for improving student achievement and fostering strong student-faculty relationships, as evidenced by its favorable effects on student academic performance and the quality of student-faculty relationships. Most existing research on faculty communication style, academic discipline, student proactiveness, and communication effectiveness on student academic performance and student-faculty relationship quality has been exploratory, providing conceptual predictions about how they affect the higher education environment. This study addresses a gap in the academic literature.

Recommendations

Future studies could examine the specific methods by which academic discipline and faculty communication styles affect communication efficacy. Additional research on the elements that influence student initiative and its possible influence on the efficacy of communication may yield insightful results. Further research that examines the long-term impacts of effective communication on student academic performance and student-faculty relationships may provide a more thorough understanding of these interactions. Investigations into how technology might improve communication efficacy and how it affects student results could lead to insightful findings in instructional design.

Limitations

While the study provides valuable insights, it's important to acknowledge its limitations. The findings may not be widely applicable to other academic settings due to the specific context in which the study was conducted. The study may not have considered other factors that could influence student outcomes and interactions between students and faculty, as it focused primarily on communication effectiveness and student proactiveness.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Appendix A: Survey items (formulated by the researcher)

Faculty communication style (FSC)	Faculty members at this university communicate their expectations.	FCS1
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	Faculty members are approachable and open to student questions and concerns.	FCS2
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
Faculty communication style (FSC)	Faculty members use a variety of communication methods to engage with students effectively.	FCS3
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	Faculty members provide timely feedback on assignments and exams.	FCS4
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
Student proactiveness (Stud.Pro)	I take the initiative to seek additional learning resources	Stud_Pro1
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	I am proactive in participating in class discussions and group activities.	Stud_Pro2
Student proactiveness (Stud.Pro)	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	I am motivated to take on leadership roles in student organizations and projects.	Stud_Pro3
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
Student academic c performance	I am eager to explore new opportunities for academic and personal growth.	SAP1
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	I am persistent in pursuing my academic goals and do not easily get discouraged.	SAP2
Student academic c performance	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
	I feel comfortable challenging or questioning authority figures, such as faculty members.	SAP3
	i. Agree ii. Fully Agree iii. Neither Agree nor Disagree iv. Disagree v. Fully disagree	
Student-faculty relationship quality (SFRQ)	Power imbalances between faculty and students affect the classroom environment.	SFRQ1
	i. Agree	

(continued)

	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	Faculty members promote a sense of equality and respect among students, regardless of their status or background.	SFRQ2
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	Students' opinions and input are valued and considered in decision-making processes at the university.	SFRQ3
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
Communication effectiveness (Comm_Eff)	Effective communication between faculty and students enhances the overall learning experience.	Comm_Eff1
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree,	
	iv. Disagree	
	v. Fully disagree	
	Clear communication helps constructively resolve issues and conflicts.	Comm_Eff2
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	Communication plays a crucial role in understanding course content and assignments.	Comm_Eff3
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	Effective communication fosters a positive learning environment.	Comm_Eff4
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
Academic discipline (AD)	I am committed to managing my time effectively to meet academic deadlines.	AD1
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	I follow a structured study schedule to stay on track with my coursework.	AD2
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
	I try to avoid academic dishonesty and plagiarism.	AD3
	i. Agree	
	ii. Fully Agree	
	iii. Neither Agree nor Disagree	
	iv. Disagree	
	v. Fully disagree	
