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INTERPERSONAL COMMUNICATION AND DIGITAL TECHNOLOGY IN THE ACADEMIC PRACTICES OF ISLAMIC HIGHER EDUCATION STUDENTS

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Abstract

This study examines the role of interpersonal communication and digital competence in the completion of final projects among students at IAIN Pontianak. The background of this study lies in the increasing challenges in completing final projects due to limited effective communication with academic advisors and insufficient digital skills. The research employs a qualitative approach with a case study method. Data were collected through semi-structured interviews, participatory observations, and documentation involving 15 students and 5 academic advisors. The findings reveal that intensive interpersonal communication and adequate digital competence support the timely completion of final projects. However, some students face technological limitations and communication barriers that hinder progress. The contribution of this study lies in proposing an integrated framework of interpersonal communication and digital competence as a holistic approach in academic supervision, while also highlighting the psychosocial dimension of student mental well-being. The conclusion emphasizes the importance of developing technology-based academic supervision policies and providing psychological support in Islamic higher education to enhance the quality of final project completion.



Keywords: *Interpersonal Communication, Digital Competence, Final Project, Islamic Higher Education*

Abstrak

Penelitian ini mengkaji peran komunikasi interpersonal dan kompetensi digital dalam penyelesaian tugas akhir mahasiswa di IAIN Pontianak. Latar belakang penelitian ini berangkat dari meningkatnya tantangan dalam menyelesaikan tugas akhir akibat terbatasnya komunikasi efektif dengan dosen pembimbing dan kurangnya keterampilan digital. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi kasus. Data dikumpulkan melalui wawancara semi-terstruktur, observasi partisipatif, dan dokumentasi yang melibatkan 15 mahasiswa dan 5 dosen pembimbing akademik. Temuan penelitian menunjukkan bahwa komunikasi interpersonal yang intensif dan kompetensi digital yang memadai mendukung penyelesaian tugas akhir secara tepat waktu. Namun, beberapa mahasiswa menghadapi keterbatasan teknologi dan hambatan komunikasi yang menghambat kemajuan mereka. Kontribusi penelitian ini terletak pada usulan kerangka kerja terpadu antara komunikasi interpersonal dan kompetensi digital sebagai pendekatan holistik dalam pembimbingan akademik, serta menyoroti dimensi psikososial terkait kesejahteraan mental mahasiswa. Kesimpulan menekankan pentingnya pengembangan kebijakan pembimbingan akademik berbasis teknologi dan penyediaan dukungan psikologis di perguruan tinggi Islam untuk meningkatkan kualitas penyelesaian tugas akhir.

Kata kunci: komunikasi interpersonal; kompetensi digital; tugas akhir; perguruan tinggi Islam.

A. Introduction

The rapid advancement of information and communication technology (ICT) has profoundly transformed various sectors of life, including the domain of higher education. In this increasingly digital academic environment, the successful completion of a final thesis a crucial academic milestone demands more than just cognitive and analytical capabilities. Students are now expected to possess strong interpersonal communication skills to establish effective academic interactions, particularly with supervisors, as well as sufficient digital competence to access, evaluate, and utilize relevant digital tools and resources (Qomar,2013). However, despite the critical role these competencies play in academic achievement, many students in Islamic higher education institutions still struggle with both aspects, resulting in delays and reduced quality in thesis outcomes.

Preliminary findings at IAIN Pontianak reveal a clear gap between the expected student performance and actual conditions on the ground. A survey conducted with 150 students indicated that 63% reported difficulties in communicating effectively



with their academic supervisors, while 57% acknowledged a lack of mastery over digital tools essential for research. These findings were reinforced by in-depth interviews with 10 academic supervisors, who noted the need for more intensive student guidance in both areas. Field observations further confirmed that insufficient interpersonal communication and limited digital competence are key contributors to delays in thesis completion.

Existing literature over the past decade has increasingly highlighted the importance of these two skill sets. Crespi, et al (2022) through a study published in Education Sciences, emphasized the effectiveness of Project-Based Learning (PBL) in enhancing students' interpersonal abilities. Vázquez-Cano et al (2020) also underscored the critical role of communication skills when engaging with ICT tools in higher education settings. In Indonesia, the study of Lukman and Wijayani (2023) examined interpersonal dynamics in long-distance academic interactions, grounded in Islamic educational psychology, reinforcing the notion that cultural and religious contexts significantly influence communication efficacy among students.

On the other hand, digital competence has also been recognized as a determinant of academic performance. Rakhmawati et al (2020) explored how digital literacy projects improve intercultural communication among English learners, while Muammar et al (2023) in a study guided by the DigCompEdu framework, found that lecturers' digital competencies directly affect students' learning experiences in universities across the United Arab Emirates. In the Indonesian Islamic education context, Sholeh and Yaqien (2022) emphasized the role of mentor-mentee communication patterns in enhancing student motivation and academic readiness in pesantren-based institutions.

Despite these developments, existing studies tend to treat interpersonal communication and digital competence as separate variables and often lack a focused discussion on their combined effect within the thesis supervision process (Veter,2019). For instance, Adrian et al (2023) addressed the influence of communication skills on thesis completion but did not integrate digital competence into their framework. Similarly, while earlier works by Sari (2020) touched upon communication issues in academic advising, and Ramadhan and Nurhayati (2024)



discussed the academic benefits of digital skills, the specific context of Islamic higher education remains largely underexplored.

This study addresses that research gap by holistically examining the roles of interpersonal communication and digital competence in the thesis completion process at IAIN Pontianak. It contributes to the academic discourse by offering an integrated analysis rooted in the lived realities of students and supervisors within an Islamic higher education setting. Furthermore, it leverages primary data sources questionnaires, interviews, and field observations to provide an empirically grounded and contextually rich understanding of the issue.

The novelty of this study lies in its integrative approach to two critical variables interpersonal communication and digital competence within the context of thesis completion in Islamic higher education institutions. Unlike previous studies that tend to examine these aspects separately, this research explores their interrelation simultaneously and in depth, particularly in the supervisory relationship between students and academic advisors. Furthermore, the study enriches existing literature by focusing on institutions grounded in Islamic values, a context that remains relatively underexplored in global academic discourse.

The implications of these findings are highly relevant for policymakers in Islamic higher education, academic supervisors, and students. This study highlights the importance of simultaneously strengthening soft skills and digital literacy training through both curricular and extracurricular programs. Practically, the research findings can serve as a foundation for designing more effective supervision strategies that are grounded in Islamic values while optimally utilizing digital technologies to support students' academic success. Additionally, the study provides a basis for developing institutional policies that are more responsive to the academic challenges of the digital era.

B. Methods

This study employed a qualitative approach with a case study design to explore in depth the influence of interpersonal communication and digital competence on the thesis completion process among students at IAIN Pontianak. This approach enabled the researcher to capture the real-life, contextualized experiences of participants,



particularly focusing on how these two key variables communication and technological proficiency affect academic supervision and student progress during the thesis writing process. The central focus of the study was on students' lived experiences, patterns of interaction between students and supervisors, and the actual use of digital tools throughout the final project period.

The participants of this study consisted of 15 final year undergraduate students from various academic departments who were actively working on their theses, along with 5 academic supervisors directly involved in guiding them. Participants were selected through purposive sampling based on specific criteria, including their active participation in the supervision process, availability for data collection, and willingness to share in-depth perspectives. This sampling strategy aimed to ensure that the collected data would be rich, meaningful, and reflective of the actual challenges and practices encountered during thesis supervision.

Data collection was carried out through three primary techniques: semi-structured interviews, participant observation, and document analysis. The interviews were designed to gather detailed narratives about students' communication experiences with their supervisors, as well as the extent to which they engaged with digital tools during the thesis process. Each interview lasted approximately 30 to 60 minutes and was conducted either in person or online, depending on the participant's preference and availability. Observations were conducted during ten supervision sessions, both face-to-face and virtual, focusing on interaction patterns, communication effectiveness, and the integration of digital tools in real-time. To support and contextualize the interview and observation data, relevant documents such as supervision notes, annotated thesis drafts, and digital communication records (e.g., WhatsApp chats and emails) were also reviewed.

All interview data were audio-recorded, transcribed verbatim, and analyzed using thematic analysis. The coding process involved three key stages: open coding to identify initial concepts, axial coding to group related categories, and selective coding to construct core themes that directly addressed the research objectives. The analysis was conducted manually using tables and codebooks to ensure consistency and traceability throughout the process. Key themes that emerged from the data included



communication responsiveness, digital anxiety, flexibility in supervision, and students' adaptability to digital tools.

To ensure credibility and trustworthiness, data triangulation was applied by comparing findings from interviews, observations, and document analysis. In addition, member checking was conducted with several participants to validate the accuracy of the interpretations, and peer debriefing sessions with fellow researchers were held to review the analytical process and reduce potential bias.

The entire research procedure from participant selection and data collection to analysis and reporting was conducted with a strong emphasis on transparency, ethics, and methodological rigor. Each phase was thoroughly documented to allow for replication and to provide a clear methodological reference for future research, particularly those exploring similar issues within the context of Islamic higher education institutions in Indonesia.

C. Results and Discussion

Results

Interpersonal Communication in the Thesis Supervision Process

Out of the 15 students interviewed, 12 students (80%) stated that intensive and open communication with their academic supervisors positively influenced the smooth progress of their thesis completion. Conversely, 3 students (20%) encountered challenges due to infrequent feedback or unclear guidance. This finding is reinforced by 4 out of 5 academic supervisors who acknowledged the importance of open communication in encouraging students' progress.

Interview results indicate that the intensity and quality of communication with academic supervisors significantly influence the smooth progress of thesis completion. Most students stated that open and responsive communication had a positive impact on their motivation and understanding of the thesis process. One respondent remarked,

"Kalau pembimbing saya cepat merespons dan jelas arahannya, saya jadi lebih semangat dan tahu apa yang harus saya kerjakan selanjutnya" (S1). Another student added, "Setiap saya tanya, beliau menjawab dengan detail dan tidak menghakimi. Itu membuat saya merasa nyaman dan percaya diri" (S4).



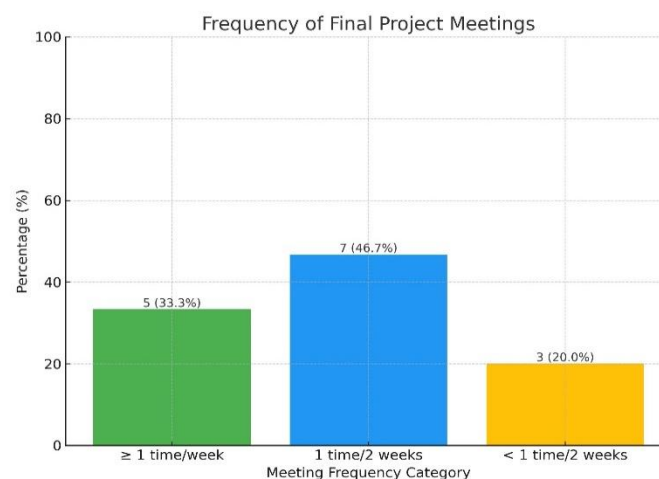
In contrast, some students who experienced communication barriers reported negative consequences. One student expressed frustration, saying,

"Kadang saya menunggu balasan sampai lebih dari seminggu. Akhirnya saya bingung harus lanjut dari mana, dan itu bikin saya kehilangan semangat" (S10).

These testimonies reinforce the earlier quantitative findings, highlighting that constructive and timely communication plays a crucial role in maintaining students' motivation and academic direction during the final project supervision process.

Observations conducted during 10 thesis supervision sessions revealed that students who actively asked questions and responded positively to their supervisors' guidance tended to complete their supervision more efficiently. The frequency of interaction and the quality of direct communication appeared to be key contributing factors. Some sessions also showed delays resulting from minimal interaction, aligning with the findings from the interviews. Documentation data in the form of supervision notes were analyzed to examine the frequency of meetings and supervisors' response times, which varied among students. Below is a summary of the documentation data presented in tabular form:

Graphic 1. Frequency of Final Project Meetings

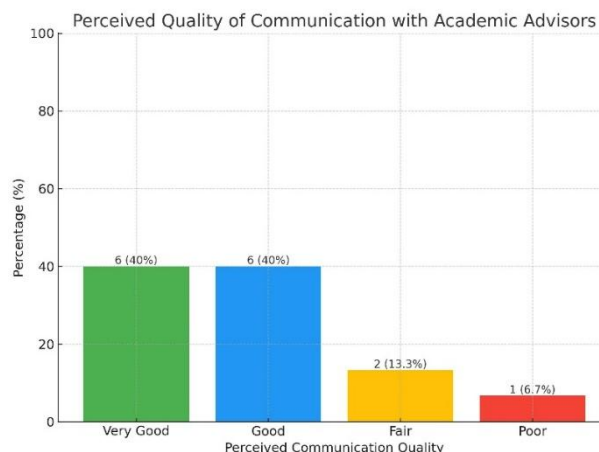


Graphic 1 presents the distribution of supervision meeting frequency between students and their academic supervisors. The majority of students (46.7%) attended supervision sessions once every two weeks, while 33.3% had meetings at least once a week. Only 20% of students reported a supervision frequency of less than once every two weeks. This data indicates that most students received supervision meetings with relatively regular frequency, although a small portion experienced infrequent

interactions. More frequent supervision ($\geq$ once per week) has the potential to support faster thesis completion, as it allows students to receive continuous guidance and feedback. In contrast, infrequent meetings may slow down the supervision process and pose a risk of creating a gap in understanding between students and supervisors.

Graphic 1 illustrates the distribution of supervision meeting frequency between students and their academic supervisors during the thesis completion process. The data shows that 46.7% of students attended supervision sessions once every two weeks, while 33.3% met with their supervisors at least once a week. The remaining 20% of students reported meeting less frequently than once every two weeks. This indicates that the majority of students received relatively regular supervision, although a small portion experienced limited interaction. Based on interview and observation data, a higher frequency of supervision appears to have a positive correlation with the smooth progress of thesis completion. Students who met regularly with their supervisors tended to better understand guidance, were more proactive in responding to feedback, and demonstrated greater motivation and confidence throughout the thesis process. In contrast, students with infrequent meetings often experienced confusion in determining research direction, delays in implementing revisions, and decreased motivation. Irregular meetings also posed risks of miscommunication and potential delays in thesis completion. Therefore, it can be concluded that not only the quality but also the intensity of communication reflected in the frequency of supervision meetings plays a critical role in supporting students' academic success during the final stages of their studies.

Graphic 2. Perceived Quality of Communication with Academic Advisor



Graphic 2 illustrates students' perceptions of the quality of communication with their academic supervisors. The majority of students gave positive assessments, with 40% rating the communication as "very good" and another 40% as "good." Only a small proportion of students rated it as "fair" (13.3%) and "poor" (6.7%). This suggests that, in general, interpersonal communication during thesis supervision at IAIN Pontianak is functioning well and is perceived as adequate. However, there remains a segment of students who feel that the quality of communication is suboptimal, which may indicate obstacles such as unclear feedback or time constraints on the part of supervisors.

These two tables complement each other and provide important insights into the dynamics of interpersonal communication in the thesis supervision process at IAIN Pontianak. Adequate meeting frequency and high-quality communication collectively support the smooth progression of thesis completion. Nevertheless, the data also indicate disparities in student experiences, both in terms of supervision frequency and perceived communication quality. Irregular meeting schedules and negative perceptions of communication quality can hinder student motivation and progress in completing their final projects.

Therefore, efforts to enhance the quality of communication and ensure more consistent supervision scheduling are crucial to optimizing learning outcomes and accelerating thesis completion. These gaps represent a critical point that opens up opportunities for the development of a more responsive and adaptive supervision system such as by leveraging digital technologies to facilitate communication and ensure adequate meeting frequency.

Students' Level of Digital Competence

Based on interviews with 15 students, there was a notable variation in their level of digital technology proficiency, particularly in relation to the tools required for academic writing and data processing. Out of the total respondents, 9 students (60%) reported feeling confident in using essential academic software such as Microsoft Word, Excel, SPSS, and Zotero to support their thesis work. One student shared,

"Saya sudah terbiasa menggunakan Zotero untuk mengatur referensi, jadi penulisan kutipan dan daftar pustaka jadi lebih cepat" (S3, wawancara, April



2025). Another student noted, *“Excel dan SPSS sangat membantu untuk olah data, tapi memang butuh latihan dulu supaya tidak salah”* (S5, wawancara, April 2025).

However, 6 students (40%) admitted to encountering various challenges, especially when dealing with software for statistical analysis or citation management. These difficulties often resulted in delays and increased reliance on supervisors for technical guidance. For example, one student stated,

“Saya belum paham cara pakai SPSS, jadi sering minta bantuan pembimbing untuk input data dan analisisnya” (S10, wawancara, April 2025). Another explained, *“Kalau harus edit tabel atau format sesuai aturan kampus, saya bingung sendiri dan butuh waktu lama”* (S12, wawancara, April 2025).

These student accounts were corroborated by academic supervisors. One supervisor observed,

“Mahasiswa yang paham teknologi biasanya lebih mandiri dan cepat dalam menyelesaikan tugas akhirnya. Tapi yang belum terbiasa, sering kesulitan bahkan untuk hal-hal teknis sederhana” (D1, wawancara, April 2025).

Another supervisor emphasized the importance of digital literacy by stating,

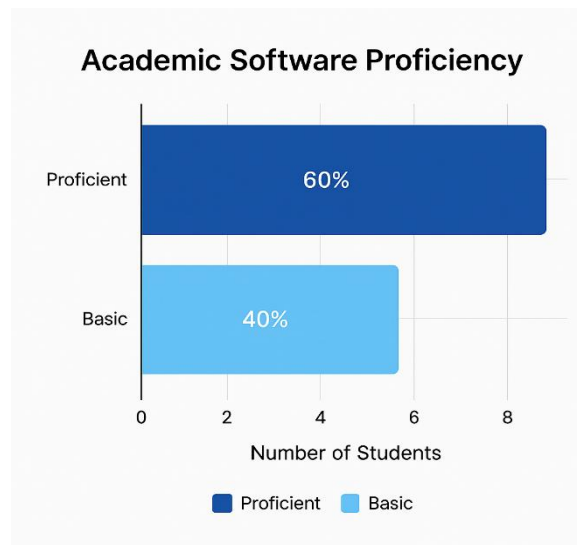
“Saya sering harus mengulang penjelasan karena mahasiswa belum bisa mengoperasikan software seperti SPSS atau bahkan Word dengan benar” (D3, wawancara, April 2025).

Direct observation during thesis supervision sessions also highlighted a clear contrast between students with varying levels of digital competence. Those who were proficient could navigate software independently, apply proper formatting, and analyze data with minimal instruction. Conversely, students with lower levels of digital literacy frequently experienced technical setbacks and required prolonged supervision to accomplish basic academic tasks. These patterns suggest that digital competence plays a central role in shaping the efficiency and autonomy of students during the thesis completion process.

Documentation in the form of software usage records during the supervision process showed that 60% of students had used at least two types of academic software in completing their thesis, while the remaining 40% relied solely on basic software such as Microsoft Word and PowerPoint. A summary of this data is presented in the following table:



Graphic 3. Academy Software Mastery Level



The integrated analysis of interview, observation, and documentation data indicates that the level of digital competence among students at IAIN Pontianak varies significantly and has a direct impact on both the smoothness and quality of thesis completion. Adequate technological proficiency not only facilitates data processing and academic writing but also enhances the efficiency of supervision, as digitally competent students tend to be more independent. This gap presents both a challenge and an opportunity for the institution to develop technology-based support services aimed at comprehensively improving students' digital skills.

Graphic 3 provides an overview of students' proficiency in using academic software relevant to thesis preparation and completion. The data shows that 60% of students demonstrated the ability to use at least two types of academic software—such as SPSS for statistical analysis, Zotero for citation management, and Excel for data organization in addition to basic tools like Microsoft Word. These students generally showed higher levels of autonomy, requiring less technical assistance from supervisors and progressing more efficiently through key stages of their thesis. On the other hand, 40% of students relied mainly on basic software such as Word and PowerPoint, indicating a more limited range of digital skills. This group often faced challenges when dealing with formatting rules, data analysis, or referencing systems, which in turn led to delays and greater dependence on supervisory support. The disparity highlighted by the graphic reflects the broader trend observed in interviews and direct supervision sessions, where students' digital literacy was a determining factor in their overall academic performance. These findings underscore the need for targeted digital literacy

training, particularly in the early stages of thesis planning, to ensure all students are equipped with the necessary tools and skills to complete their final projects independently and effectively.

Obstacles and Strategies in Completing the Final Project

Interviews with 15 students uncovered several major challenges encountered during the thesis completion process. The most prominent issue, reported by 10 students (66.7%), was the lack of effective communication with their academic supervisors particularly delays in receiving feedback and the limited availability of in-person consultations. One student remarked,

“Saya sering menunggu sehari-hari untuk mendapat balasan dari dosen pembimbing. Revisi jadi tertunda terus” (S7, wawancara, April 2025).

Another student expressed a similar frustration, stating,

“Kalau saya ingin konsultasi langsung, seringnya jadwalnya bentrok atau dosennya sedang sibuk, jadi komunikasi jadi lama” (S9, wawancara, April 2025).

In addition to communication barriers, eight students (53.3%) reported difficulties with digital tools, particularly in data processing and using academic applications like SPSS, Mendeley, or referencing software. One student explained,

“Saya kesulitan menggunakan SPSS, jadi waktu analisis data saya lebih lama dan sering minta bantuan teman” (S2, wawancara, April 2025). Another noted, *“Saya belum terbiasa pakai Mendeley, jadi bagian sitasi saya sering salah dan harus direvisi”* (S8, wawancara, April 2025).

Technical infrastructure also posed challenges, with several students highlighting issues related to unstable internet connections especially those living in rural or remote areas.

“Kalau koneksi internet jelek, saya jadi susah ikut bimbingan online atau kirim file ke dosen” (S11, wawancara, April 2025).

Observations during online supervision confirmed such issues, as some sessions were disrupted by poor connectivity, affecting the continuity of academic discussions.

Despite these obstacles, students and supervisors reported employing a range of adaptive strategies. A total of 12 students (80%) relied on instant messaging

applications like WhatsApp and Telegram to maintain ongoing communication. One student shared,

“Saya lebih sering kirim pesan lewat WhatsApp karena lebih cepat dibalas daripada email” (S5, wawancara, April 2025).

Another noted,

“Kalau pakai Telegram, saya bisa kirim file besar dan diskusi juga lebih fleksibel waktunya” (S14, wawancara, April 2025).

Supervisors also responded to these challenges with greater flexibility. As one supervisor explained,

“Kami atur jadwal bimbingan lewat video call supaya tetap bisa pantau perkembangan mahasiswa, walaupun tidak bisa ketemu langsung” (D3, wawancara, April 2025).

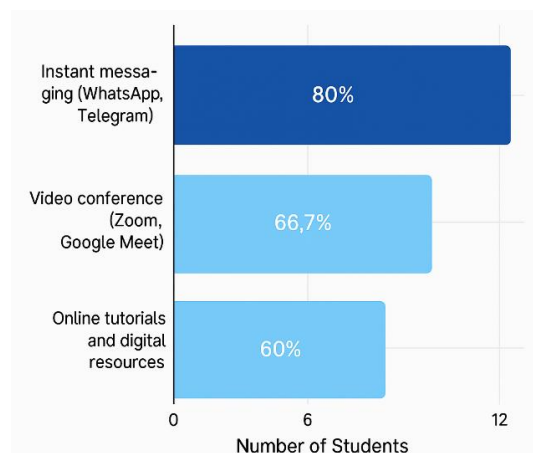
Another added,

“Dengan kondisi sekarang, kita harus menyesuaikan cara komunikasi. Yang penting mahasiswa tetap merasa didampingi” (D4, wawancara, April 2025).

These findings suggest that while technical and interpersonal barriers persist, many students and supervisors are actively developing practical solutions to ensure the continuity and quality of the thesis supervision process.

Furthermore, students independently leveraged online tutorials and digital learning resources to improve their technological competence, enabling them to resolve technical problems on their own. Documentation of supervision notes also indicated increased use of online platforms as a medium for communication and thesis submission.

Graphic 4. Student Communication Media



The triangulation of data from interviews, observations, and documentation underscores that communication and technology barriers are significant challenges in the completion of final projects at IAIN Pontianak. These obstacles not only slow down the academic process but also cause stress among students. However, adaptive strategies implemented by both students and supervisors particularly the utilization of digital communication technologies and flexible supervision scheduling have provided effective solutions.

The data from interviews, observations, and documentation reveal that the completion of final projects at IAIN Pontianak is shaped by a complex interplay of challenges and adaptive strategies. The most pressing obstacles namely limited supervisor availability, delayed feedback, digital skill gaps, and unstable internet access have been shown to hinder student progress and contribute to academic stress. However, these challenges have also prompted the emergence of creative and responsive strategies. The widespread use of instant messaging platforms, flexible supervision via video calls, and the proactive search for digital learning resources demonstrate a growing adaptability among students and supervisors alike. Graphic 4 highlights the dominant role of digital communication tools in maintaining supervisory engagement and ensuring that academic support continues despite logistical or technical constraints. These findings point to the importance of institutional support in strengthening digital infrastructure and communication systems, as well as fostering a responsive supervision culture. By recognizing both the barriers and the resilience strategies, the institution can better tailor interventions to enhance student success in the thesis completion process.

Discussion

The Symbiosis of Digital Competence and Interpersonal Communication in Completing the Final Project

The results of this study demonstrate that the successful completion of final academic projects among university students is shaped not solely by cognitive ability, but also by their level of digital competence and the effectiveness of their interpersonal communication. These two skill sets appear to be interrelated and mutually reinforcing, serving as essential components in supporting students' overall academic



performance. This aligns with the findings of Crespi et al (2022) who note that project-based learning environments promote the development of interpersonal skills, particularly in collaborative and adaptive educational contexts. Similarly, Muammar et al (2023) emphasize the importance of digital competence among educators, highlighting through the DigCompEdu framework that technological proficiency directly contributes to the quality of academic instruction and student success.

This interpretation is in agreement with the study by López-Meneses et al (2020) who reported that students with stronger digital abilities tend to excel in academic activities that rely on technology. Complementary evidence from Glazunova et al (2024) further supports this notion, showing that platforms such as Microsoft 365 significantly enhance students' ability to manage tasks, organize academic work, and improve productivity. Taken together, these findings suggest that digital and interpersonal skills should be viewed not as isolated domains but as integrated, complementary competencies that equip students to meet complex academic demands (Silber et al, 2019).

Within the specific context of Islamic higher education institutions like IAIN Pontianak, the integration of these competencies is particularly crucial in addressing persistent delays in thesis completion. However, data from this study show that around 40% of students still exhibit only basic proficiency in digital tools, and many continue to face barriers in effective academic communication with their supervisors. These challenges underscore the importance of adopting a more comprehensive mentoring approach. A promising solution lies in the implementation of blended mentoring strategies that merge face-to-face supervision with digital platforms, offering both synchronous and asynchronous modes of interaction.

Such a blended approach may offer greater flexibility and accessibility, enabling supervisors to provide more timely, personalized support while also promoting students' development in both digital literacy and interpersonal engagement. By fostering these dual capabilities, institutions can better support students throughout the final project process and improve overall academic outcomes (Daniel, 2024).

Building on these insights, it becomes evident that fostering students' digital and interpersonal competencies requires not only responsive supervision practices but also institutional commitment to skill development through structured programs



(Alkhalaf, 2024). Integrating digital literacy training into the academic curriculum particularly in the early stages of students' undergraduate journey could serve as a proactive measure to minimize the technical challenges observed during final project completion. Furthermore, professional development opportunities for academic supervisors should emphasize digital pedagogy and effective communication strategies, as their role is central in mediating students' learning experiences. In the context of IAIN Pontianak and similar Islamic higher education institutions, this dual focus is especially relevant given the growing demand for technology-enhanced learning models that are both inclusive and contextually grounded. Institutional investment in infrastructure, such as reliable internet access and user-friendly learning management systems, will also be crucial in ensuring that digital tools are not only available but also optimally utilized. By aligning supervision practices, student support services, and technological infrastructure with the evolving demands of academic work, institutions can create a more equitable and effective environment for thesis completion. This holistic approach supports a shift from reactive problem solving to a more anticipatory, skill-based academic ecosystem that prepares students not only to finish their projects but to thrive in increasingly digital and collaborative professional landscapes.

Digital Divide and Communication Adaptation: Challenges and Opportunities in the Era of Islamic Higher Education Technology

The findings of this study indicate that students exhibit varying levels of digital technology proficiency, with 60% reporting a sense of digital fluency while 40% are limited to basic software skills. Furthermore, inadequate internet access particularly among students residing in areas with poor network coverage emerges as a significant barrier that hampers timely completion of final projects.

This may be explained by the uneven distribution of digital infrastructure and differing levels of technological exposure among students, which directly impact their ability to engage effectively with digital tools and supervisory platforms. These findings are consistent with Muammar et al (2023) who reported that digital competency disparities remain a persistent challenge in higher education, especially in facilitating effective adaptation to digital learning environments.



However, this study expands on previous research by introducing the lens of digital equity, particularly within the Islamic higher education context. Unlike earlier studies that focus primarily on readiness, this research highlights the institutional responsibility to ensure equitable access not only to training but also to devices and stable internet connections. This approach aligns with the broader goals of social inclusion and educational justice, as discussed by Wadi et al (2023) who advocate for systemic efforts to bridge technological gaps in the academic landscape.

In line with this, Islamic education management strategies grounded in value-based leadership as proposed by Tasbih (2023) offer a relevant framework for designing responsive and context-sensitive supervision systems. His study on strategic leadership in pesantren settings underscores the importance of adaptive educational governance that centers student welfare. Similarly, Arsalan (2024) emphasizes the moral foundation of justice and social well-being as embedded in Surah An-Nahl verse 90, which provides ethical direction for developing educational systems that prioritize equity and student empowerment.

Despite the challenges, the study reveals that students have developed adaptive strategies, including the use of WhatsApp (80%), video conferencing tools (66.7%), and online tutorials (60%) to overcome communication and technological constraints. These behaviors reflect a growing inclination toward self directed learning, suggesting that institutions should capitalize on this potential by offering structured digital learning resources and implementing responsive mentoring models.

These findings suggest the need for data driven supervision policies that incorporate tools such as Learning Management Systems (LMS) to facilitate real-time monitoring, streamline meeting schedules, and identify students requiring targeted intervention. One limitation of this study is its focus on a single institution, which may affect the generalizability of the results to other contexts with different digital ecosystems and institutional capacities. Future studies could explore the scalability of blended and data-informed mentoring approaches across diverse higher education settings, particularly in rural or underserved regions.

Given these insights, it becomes increasingly clear that addressing the digital divide in Islamic higher education is not merely a matter of improving access to technology, but also involves cultivating an inclusive digital culture within the



academic environment (Adima et al, 2025). Institutions like IAIN Pontianak must go beyond short-term, reactive solutions and instead implement long-term strategic planning that integrates digital equity into core academic policies and leadership models. This includes not only investing in digital infrastructure but also promoting digital literacy as a foundational academic competency on par with critical thinking or writing skills.

Furthermore, supervision models need to evolve by incorporating flexible, student-centered approaches that acknowledge varying digital realities (Handayani, 2024). For example, differentiated digital mentoring where supervisors adapt their communication style, tools, and pacing according to each student's digital capacity may serve as a practical and ethical framework for ensuring equitable learning outcomes.

The study's findings also point to the importance of institutional data analytics in identifying students at risk of falling behind due to technological or communication barriers. By embedding these insights into academic planning and quality assurance mechanisms, Islamic higher education institutions can move toward a more responsive, just, and future oriented educational model. Ultimately, the challenge of digital disparity must be reframed as an opportunity to innovate supervision practices and reinforce the moral and social values that lie at the heart of Islamic educational philosophy.

Psychosocial Dimensions in Completing Final Projects: Bridging Communication and Digital Competency Limitations

The findings of this study reveal that communication challenges and digital limitations significantly influence students' mental health, a factor often underrepresented in existing literature. Key stressors identified include delayed supervisor responses, ineffective communication dynamics, and students' struggles in adapting to digital tools all of which contribute to heightened academic pressure.

This may be attributed to the psychological impact of inconsistent support systems during the supervision process, especially in environments where students rely heavily on digital communication and autonomous learning. These findings are consistent with Sholeh and Yaqien (2022) who underscore the importance of effective interpersonal



communication in fostering academic preparedness, particularly within the framework of Islamic higher education institutions.

Expanding on this perspective, Lukman and Wijayani (2024) argue that the quality of interpersonal relationships in academic settings not only facilitates smoother learning processes but also plays a protective role in maintaining students' mental health especially in remote or field-based academic programs like community service initiatives (KKN). Likewise, Animah (2020) emphasize the role of educators' personality traits in shaping students' discipline and learning disposition, suggesting that supervisors' communication style and personal attitude directly affect students' psychological resilience and motivation.

The congruence across these studies highlights the need for mentoring approaches that are grounded in empathy, adaptability, and psychological sensitivity. Within this context, the application of communication and management models rooted in Islamic values becomes particularly relevant. As suggested by Sholeh (2022) and Sholeh & Baharuddin (2022) educational leadership embedded in humanitarian and Islamic ethical principles can contribute to the development of human resources and foster supportive academic ecosystems that promote mental well-being.

These findings suggest that universities, particularly those with an Islamic educational orientation, should prioritize the integration of counseling and psychosocial support services into their academic supervision systems. Doing so not only presents a novel approach in education management but also reinforces the notion that student well-being is foundational to academic achievement. One limitation of this study is its qualitative scope, which may limit the generalizability of the psychological impacts identified. Future research would benefit from quantitatively examining the interplay between digital competence, interpersonal communication, and mental health, with the aim of informing more holistic and equitable higher education policy frameworks.

D. Conclusion

The most significant findings of this study reveal that barriers in interpersonal communication and limitations in digital competence not only affect the smooth completion of final projects but also potentially cause significant academic stress



among students. A surprising and novel insight identified in this research is that the integration between effective interpersonal communication and adequate digital competence has a greater impact than academic ability alone. This relational pattern emerged uniquely through the combination of in-depth interviews, observations, and documentary analysis, aspects that have been underexplored in similar prior studies.

Theoretically, this research both confirms and expands previous findings regarding the importance of interpersonal communication¹ and digital competence in supporting academic success. However, it contributes a new perspective by proposing a mutualistic symbiosis concept between these two aspects, along with a psychosocial dimension linking digital and communication barriers to students' mental health. Additionally, this study offers a framework for managing academic supervision that is both digitally responsive and adaptive, while emphasizing the necessity of interventions grounded in digital equity and psychological well-being.

The limitations of this study lie in its narrow scope, focusing solely on one institution (IAIN Pontianak) with a relatively small sample size (15 students and 5 supervisors), and not accounting for educational level or broader demographic variables. Furthermore, the qualitative case study approach limits the generalizability of the findings to wider contexts. Therefore, future research employing multi-site designs, larger sample sizes, and mixed-method approaches will be necessary to provide deeper, more comprehensive insights that can better inform policy-making in the management of technology-based academic supervision in Islamic higher education.

E. References

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¹ Sholeh, A., & Yaqien, N. (2022). Interpersonal communication model and learning readiness among santri in achieving the success of study at higher-educational institutions. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 6(01), 118-131.



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