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# Lived Experiences on Data Gathering of Development Studies Graduate and Post-Graduate Students in a Hybrid Learning Environment

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A B S T R A C T

The pandemic has led researchers to reconsider traditional approaches, resulting in an increased dependence on digital platforms for data gathering, analysis, and dissemination. This qualitative study investigates the experiences and adaptations of Development Studies graduate and post-graduate students at Ateneo de Davao University in data gathering within a hybrid learning environment. The COVID-19 pandemic necessitated a shift from traditional face-to-face data collection methods to hybrid approaches, combining in-person and online learning modalities. Drawing on connectivism theory, the study explores how students navigate digital networks and adapt research methodologies to hybrid settings. Through Key Informant Interviews (KIIs), data were collected from three graduate and post-graduate students, focusing on modifications in data gathering strategies, challenges encountered, and comparisons with traditional methods. Thematic analysis revealed themes related to methodological changes, technological integration, and shifts in research experiences. While hybrid learning offers enhanced accessibility and flexibility, challenges include ensuring data reliability and addressing technological barriers.

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## INTRODUCTION

The COVID-19 pandemic challenged researchers to transition from face-to-face data collection to different data-gathering methods (e.g., mobile or computer-based) due to the imposition of social distancing mandates and the restriction of typical in-person interactions (Lobe et al., 2020). The Philippine government released directives in response to the impacts of COVID-19 on education. Curriculum amendments, the use of technology, improvised infrastructure, changes to the academic calendar, and the delivery and assessment of instruction were among the solutions applied. Until in-person instruction is permitted, these advances forced academic institutions to switch entirely to remote learning (Cuadra & Bernal, 2023). Even though remote learning negatively affects research and educational delivery, it quickly evolved into hybrid or blended learning, which combines traditional and remote learning approaches (Hrastinski, 2019).

In delivering programs to learners, hybrid learning (flexible learning, blended learning) was highlighted, consisting of traditional in-person instruction and remote learning using modules and the Internet (Koohang & Durante, 2003; Eliveria et al., 2019). Online learning was added to supplement the lack or absence of synchronous classroom sessions (Harding et al., 2012). Hybrid learning allows flexibility of time, place, and audience which may or may not involve technology (Cassidy et al., 2016) while maintaining a personal connection with teachers and students in the classroom (Eliveria et al., 2019). Previous research works have explicated how the blended-based approach gradually gained importance in education (Ma'arop & Embi, 2016; Matheos & Cleveland-Innes, 2018; Olelewe & Agomuo, 2016) leading to the rising use of blended learning in instruction and research (Alvarez Jr., 2020).

To some extent, video conference platforms enabled hybrid methods (Van Nuil et al., 2023). Computer-mediated communication made data gathering more flexible for researchers (Cater, 2011; Jankowski & Selm, 2005) while maintaining highly socialized interactions with their participants (Joinson, 2005). However, these methods can still be limiting for learning and conducting research. These options are not viable where internet or mobile connectivity is lacking or absent. Low mobile phone ownership and inadequate access to data may also lead to partiality in participant selection for research data gathering (Van Nuil et al., 2023). Moreover, the security and confidentiality of the participants' identities and responses and the logistical needs for computers, cameras, and microphones, among other gadgets, can also be matters of concern (Lobe et al., 2020) when gathering data for research.

Research is necessary in development work for a multitude of reasons. It may explore an issue to plan a program, ask specific groups of people about their living conditions and experiences, or uncover and discover information regarding particular matters to make a case for change. Research methods are also used in program monitoring, evaluation, and review. Such research studies range from small local work to significant international endeavors (Laws et al., 2013). Hence, this study was conducted to shed light on how Development Studies (DS) graduate and postgraduate students at Ateneo de Davao

University, Philippines, conduct research in a hybrid learning environment. It chronicles their experiences gathering research data amidst the unique demands of a hybrid academic framework. By focusing on this particular group of students, the research seeks to better comprehend the practical implications of hybrid learning for research-intensive courses and to generate data that may guide the formulation of strategies for optimizing the hybrid model in higher education. This investigation is especially pertinent in the Philippines, where educators and researchers have to adjust to shifts in paradigms and pedagogy brought about by the COVID-19 pandemic.

The increasing ubiquity and recognition of hybrid learning methods in international higher education institutions highlight the applicability and timeliness of this study. According to recent studies (Salmon, 2013; Means et al., 2013), hybrid learning environments are critical because they provide flexibility and accessibility, essential for preserving research and education amid interruptions like pandemics. The move to hybrid learning is a deliberate adjustment that keeps pace with the growing use of digital technology in the classroom, not only a short-term change. Educational bodies' policy documents and strategic plans stress the importance of adopting flexible and resilient educational frameworks for institutions and promoting digital tools to improve learning and research (Eaton, 2020; Farrow, 2020).

This study emphasizes the significance of comprehending how hybrid learning affects research procedures and outcomes by placing it within the larger framework of global educational trends. The results add to the larger conversation on maximizing hybrid learning models in higher education and offer insights unique to Ateneo de Davao University's Development Studies department. The degree to which this study informs policy and practice in academic institutions across the globe is demonstrated by its congruence with contemporary educational agendas and innovations.

Studies showing hybrid learning environments' efficacy in higher education have given rise to their popularity on a global scale. For example, the potential for hybrid learning to improve accessibility and flexibility has led to a notable growth in its usage globally, according to a report by the International Association of Universities (IAU, 2020). Additionally, the Digital Education Action Plan (2021–2027) of the European Commission promotes the use of digital technology in education and highlights the necessity of creative learning models that incorporate both online and in-person instruction (European Commission, 2020). In today's educational systems, these policy statements emphasize the strategic value of hybrid learning.

Research by Means et al. (2013) supports the effectiveness of hybrid learning. It shows that because hybrid environments include in-person and virtual interactions, students frequently achieve better results than their standard-setting counterparts. Furthermore, research by Hrastinski (2019) and Salmon (2013) highlights the pedagogical advantages of hybrid learning, including better learning outcomes, higher student engagement, and more flexibility for teachers and learners.

The Commission on Higher Education (CHED) in the Philippines has released guidelines to assist the adoption of hybrid learning in higher education institutions, acknowledging its benefits. In order to fully utilize hybrid learning environments, CHED's policies strongly emphasize the requirement for faculty training and a robust digital infrastructure (CHED, 2020). This study, which aims to give empirical data and insights on the implementation and impact of hybrid learning in the setting of Development Studies at Ateneo de Davao University, is timely and relevant since it aligns with national and worldwide educational agendas.

This study aims to evaluate the impact of hybrid learning on the quality and effectiveness of the data gathered by DS students for research. The study also seeks to explore the challenges faced by DS students in data collection during the transition to hybrid learning and how these challenges were addressed. Finally, this study aims to compare and contrast the hybrid-era data-gathering experiences with traditional approaches, highlighting significant differences in quality, accessibility, and research breadth. The findings of this study contribute data in guiding the formulation of strategies for optimizing the hybrid model, making it a significant and timely contribution to the field of Development Studies.

## THEORETICAL REVIEW

Connectivism, proposed by George Siemens and Stephen Downes, provides a theoretical framework for understanding learning in the digital age. In hybrid learning environments, connectivism emphasizes the importance of networks, connections, and distributed cognition in knowledge acquisition and learning processes (Siemens, 2005). According to this theory, learning is not solely about acquiring knowledge but rather about connecting diverse sources of information and learning resources available through digital networks. In studying how graduate and post-graduate students in Development Studies adapt their research methodologies in hybrid learning environments, connectivity offers valuable insights into the dynamic nature of learning and knowledge construction. By exploring how students navigate information landscapes, leverage digital tools for collaborative learning, and develop adaptive strategies, researchers can better understand the complex interplay between digital networks, social interactions, and knowledge construction processes (Downes, 2007).

## METHODOLOGY

### *Research Design*

This study utilized a descriptive-qualitative phenomenological approach to explore the experiences, perceptions, and adaptations of Development Studies graduate and post-graduate students at Ateneo de Davao University within the context of hybrid learning paradigms. This approach is well-suited for capturing the lived experiences and responses to the evolving landscape of academic research practices. By conducting Key Informant Interviews (KIIs), the study aims to address key research questions regarding modifications in data gathering strategies, the efficacy of data gathered, encountered challenges,

and comparisons with traditional research methods. Thus, this design provides a systematic framework for understanding the impact of hybrid learning on data gathering in Development Studies.

***Locale of the Study***

The study was conducted at Ateneo de Davao University, located in Davao City, Philippines. This institution is the primary site due to its significance as a premier institution in the region and its commitment to academic excellence. The university's diverse student body and hybrid learning initiatives make it an ideal setting to explore the manner of data gathering in a hybrid learning environment.

***Unit of Analysis***

This study consists of students in the graduate and postgraduate levels of Ateneo de Davao University enrolled in the Master of Arts (MA) and Doctor of Philosophy (PhD) programs in Development Studies who have engaged in data gathering for research within the hybrid learning framework. These students serve as the focal point for investigating the impact of hybrid learning paradigms on their research endeavors.

***Participants and Manner of Selection***

The study used a purposive sampling technique, in which participants were purposively selected based on their enrollment status in the MA and PhD programs in Development Studies at Ateneo de Davao University. The selection criteria ensured representation from diverse backgrounds and levels of experience within the graduate and postgraduate student population. Efforts were made to include participants with varying levels of exposure to hybrid learning and data-gathering processes.

***Research Instrument***

This study utilized an interview guide designed specifically for conducting Key Informant Interviews (KIIs). KIIs are deemed appropriate for exploring complex topics and fostering interactive discussions with individual participants, thereby enabling the exploration of nuanced experiences, diverse perspectives, and emergent themes (Morse, 2015). The interview guide has been meticulously crafted to elicit detailed responses from participants concerning their experiences, perceptions, and adaptations to hybrid learning paradigms within the context of Development Studies graduate and post-graduate programs at Ateneo de Davao University. It comprises open-ended questions intended to encourage participants to express their thoughts freely, thus providing rich insights into their encounters with hybrid learning.

***Method of Data Collection***

The data collection method involved conducting Key Informant Interviews (KIIs) with three graduate and post-graduate students from the Ateneo de Davao University Development Studies program. The decision to

interview three participants was based on data saturation, which occurs when additional interviews fail to yield new information relevant to the research questions (Guest, Bunce, & Johnson, 2006). Given the homogeneity of the participant group—all were graduate and postgraduate students engaged in similar academic activities within the same program—it was expected that saturation would be reached with a smaller sample size. Previous research revealed that data saturation could be achieved after a few interviews, especially when dealing with a focused research question and a relatively uniform participant group (Guest, Namey, & Mitchell, 2017). KIIs offer the advantage of allowing in-depth exploration of individual experiences and perspectives, thereby providing rich qualitative data for analysis (Patton, 2015).

The KIIs were conducted online, allowing in-depth exploration of individual experiences and perspectives, yielding rich qualitative data for analysis (Patton, 2015). Conducting the interviews online ensured flexibility and convenience for the participants, who could join from any location, thus maintaining continuity in the research process despite potential logistical constraints. This approach also safeguarded the privacy and comfort of the participants, as they could choose the most conducive setting.

### *Plan for Analysis*

The data analysis process involved thematic analysis, following the steps outlined by Braun and Clarke (2006). Initially, the transcripts were read and re-read to familiarize the researcher with the data. Then, codes were generated to identify patterns, themes, and categories within the dataset. These codes were refined and organized into overarching themes representing the key findings of the study. The analysis was iterative and collaborative, involving multiple researchers to ensure the rigor and reliability of the results. A thematic analysis following Collaizi's framework was utilized to analyze the data. It involved the process of transcribing, coding to identify the significant statements, formulating meaning from the text segment, clustering/ organizing the meanings/concepts into clusters of themes, exhaustively describing the investigated phenomenon, and validating the exhaustive description by participants.

### *Ethical Considerations*

Ethical considerations were paramount throughout the research process. The participants provided informed consent. Confidentiality and anonymity were strictly maintained. Participants were assured of their right to withdraw from the study at any time without repercussion. Additionally, efforts were made to minimize any potential harm or discomfort to participants during the KIIs.

### *Reliability and Validity*

Several crucial steps were taken to guarantee the study's validity and dependability. In order to ensure that their viewpoints were pretty represented, participants were asked to examine the data collected and preliminary conclusions as part of the member verification process (Birt et al., 2016).

Furthermore, native speakers checked the writing structure for grammatical and linguistic quality, which improved the research documents' correctness and intelligibility (Van Nes et al., 2010). Triangulation increased the study's validity by cross-verifying results utilizing various data sources and techniques, including questionnaires, interviews, and document analysis (Patton, 1999). All of these steps worked together to guarantee the validity and reliability of the study results.

## RESULTS AND DISCUSSION

This section presents and interprets the data gathered from the participants who experienced data gathering in a hybrid learning environment. The results are analyzed to provide a comprehensive understanding of the adaptation, challenges, and opportunities associated with hybrid learning, drawing on relevant literature to contextualize the findings.

### *1. Adaptation to Hybrid Learning*

The researchers identified recurring themes in how participants adapted to data collection in a hybrid learning setting. Three main themes emerged: Methodological Changes, Technological Integration, and Transition of Experience

#### *1.1. Methodological Changes*

Participants highlighted significant shifts in their research strategies to accommodate the transition from conventional to hybrid learning environments. This shift necessitated a greater reliance on digital tools and online platforms for gathering data. For instance, participants mentioned that web-based surveys and remote interviews had become integral to their research methods. Furthermore, adopting artificial intelligence (AI) has enhanced their data-gathering processes, enabling more effective data management and analysis. These changes underscore the necessity of revisiting and revising research methodologies to stay abreast of the technological advancements facilitated by hybrid learning. Findings of this study are consistent with literature suggesting that hybrid learning environments demand innovative approaches to research methodology to maintain data integrity and quality (Eaton, 2020).

#### *1.2 Technological Integration*

Participants emphasized their efforts in integrating various online platforms into their research processes. The critical role of digital technologies, including online surveys and virtual interviews, was highlighted in maintaining research continuity. The ease and accessibility provided by these technologies were appreciated, noting that hybrid learning environments have expanded their access to a more diverse pool of participants. Collecting data remotely has minimized geographical barriers, allowing for broader data collection. This aligns with existing research indicating that digital platforms enhance the scope and inclusivity of data collection (Farrow, 2020).

***1.3*** *Transition of Experience*

The shift to a hybrid learning environment has significantly impacted participants' data collection experiences. They emphasized the need for substantial changes, particularly in adapting technology to new research modalities. Participants' experience with digital tools facilitated a smoother transition, enabling them to manage the hybrid system efficiently. However, some participants noted that face-to-face interactions remain essential for collecting reliable data, particularly in capturing non-verbal cues and contextual subtleties. Despite these limitations, participants demonstrated adaptability by using accessible digital methods to gather data within the constraints imposed by the hybrid learning environment. These insights resonate with studies highlighting the importance of adapting research methodologies to effectively utilize digital tools while acknowledging the limitations of remote data collection (Harasim, 2017).

## 2. *Effect of Hybrid Learning*

This section explores the impact of transitioning to hybrid learning on research methodologies, focusing on three main areas: Enhanced Accessibility to Resources, Impact on Research Outcomes, and Ensuring Data Reliability.

***2.1*** *Enhanced Accessibility to Resources*

Participants observed a notable improvement in their research foundations due to more accessible access to digital resources, enabling a more profound understanding through readily available scholarly content. This shift has benefited empirical research and literature reviews by overcoming previous access limitations. The increased accessibility to digital libraries, online databases, and academic journals has enriched their research's theoretical framework and empirical foundations. This finding aligns with the literature emphasizing the transformative potential of digital resources in enhancing research capabilities (Means et al., 2013).

*2.2 Impact on Research Outcomes*

While recognizing the benefits of hybrid learning, some participants expressed concerns about the quality and depth of collected data, citing the absence of in-person interactions as a significant limitation. This gap, they argued, affects the richness of qualitative analyses, requiring further methodological adjustments. The lack of in-person interactions can prevent the capture of non-verbal cues and contextual nuances, essential for comprehensive qualitative research. These concerns highlight the need for innovative methodological strategies to ensure the depth and richness of data in a hybrid learning environment. Existing studies corroborate these findings, suggesting that hybrid methodologies must address the limitations of remote data collection to maintain research quality (Salmon, 2013).

***2.3.*** *Ensuring Data Reliability*

A key concern was the legitimacy and reliability of remotely collected data. Participants emphasized the importance of stringent validation techniques to mitigate biases and ensure data accuracy, highlighting the critical nature of maintaining data quality in hybrid learning contexts. The reliance on digital tools for data collection introduces data integrity and authenticity challenges. Respondents consistently highlighted the need for rigorous validation protocols, such as triangulation and cross-referencing, to verify the accuracy of the data collected. These findings are supported by the literature, which underscores the importance of robust data validation mechanisms in ensuring the reliability of research findings in hybrid learning environments (O'Flaherty & Phillips, 2015).

***3. Challenges in Hybrid Learning Environment***

Participants identified four main challenges: Ensuring Data Reliability, Overcoming Technological Barriers, Addressing the Lack of Data Depth, and Lack of Engagement Participants.

*3.1 Reliability and Validity of the Data*

Concerns were raised about the authenticity and reliability of remotely collected data, with particular emphasis on the limitations inherent in the absence of direct observation and the biases of self-reported data. Participants noted that the lack of personal interaction necessitated a reliance on self-reported data, which inherently poses risks of biases and inaccuracies. This issue underscores the importance of developing robust data validation protocols to ensure data reliability and validity. These findings are consistent with research indicating that remote data collection methods must incorporate stringent validation techniques to maintain data quality (Eaton, 2020).

*3.2 Technological Barriers*

Differences in technological proficiency among participants affected their ability to collect data efficiently, with poor internet connectivity exacerbating these challenges. The varying levels of digital literacy and inconsistent internet access created significant obstacles to effective data collection. These technological barriers highlight the need for comprehensive training and support to enhance participants' digital skills and ensure reliable internet connectivity. The literature emphasizes the critical role of technological infrastructure and training in supporting hybrid learning environments (Farrow, 2020).

*3.3 Lack of Depth of Data Gathered*

The absence of face-to-face interactions compromised the depth of data, particularly in qualitative studies where contextual and non-verbal cues are crucial. Participants noted that they needed more than just digital communication to capture the richness and complexity of the data. This limitation is particularly pronounced in qualitative research, where in-depth

interactions are essential for comprehensively understanding the subject matter. These findings emphasize the need for innovative strategies to improve the depth of data gathered in hybrid learning environments, as supported by existing research (Harasim, 2017).

*3.4 Lack of Engagement*

The lack of direct interaction was perceived to reduce engagement levels during data collection, highlighting the unique insights and veracity provided by in-person interactions. Participants emphasized that face-to-face encounters foster a higher degree of engagement, critical for building rapport and trust with participants. The reduced engagement in hybrid settings necessitates the development of interactive and engaging digital tools to enhance participant involvement. The literature suggests that fostering engagement through innovative digital strategies can mitigate the limitations of remote interactions and enhance data quality (Means et al., 2013).

## *4. Opportunities in Hybrid Learning*

The hybrid learning environment offers several advantages, including enhanced data analysis capabilities, increased flexibility in data collection, participant diversity, and technology integration in research processes.

*4.1 Diversity of Participants*

The ability to reach a broader demographic has been a significant advantage, enriching the data and contributing a more comprehensive understanding of the research topic. Participants highlighted that online platforms enabled them to collect data from individuals across different geographical locations, broadening the demographic scope of their research. This diversity is particularly beneficial for Development Studies, where understanding various socio-cultural contexts is crucial. Including participants from varied backgrounds enriches the data, providing a more comprehensive and representative understanding of the research topic. This expansion of the participant pool aligns with the literature emphasizing the benefits of diverse and inclusive research designs (Salmon, 2013).

*4.2 Flexibility in Data Collection*

Hybrid learning has facilitated more adaptable data collection methods, improving response rates and enabling more efficient longitudinal studies. Participants reported that the ability to schedule virtual interviews and online surveys at convenient times for both the researcher and participants significantly improved response rates. This flexibility also allowed researchers to conduct longitudinal studies more feasibly, as follow-up interactions could be scheduled more efficiently than traditional face-to-face methods. Additionally, asynchronous data collection methods, such as online questionnaires, enabled participants to respond conveniently, reducing the time constraints typically associated with data gathering. This adaptability facilitates more comprehensive data collection and accommodates the varied schedules of participants, ultimately leading to more prosperous and more varied data sets.

These findings are consistent with research indicating that flexibility in research design enhances data collection efficiency and participant engagement (Eaton, 2020).

*4.3 Integration of Technology in Research*

The adoption of digital tools has streamlined research processes from data collection to analysis, enhancing the efficiency and productivity of research endeavors. Participants noted that using digital tools and platforms has enhanced their research capabilities. For example, adopting sophisticated data management and analysis software has allowed more efficient handling of large data sets. Tools such as NVivo and SPSS have enabled respondents to conduct complex data analyses that would have been more time-consuming and cumbersome using traditional methods. Additionally, virtual collaboration tools have facilitated real-time data sharing and collaborative analysis among research teams, fostering a more dynamic and interactive research process. This technological integration has streamlined various aspects of research, from data collection to analysis, significantly enhancing overall research efficiency and productivity. These data are consistent with the literature indicating that the integration of advanced digital tools in research processes enhances the quality and efficiency of data analysis (Harasim, 2017).

*4.4 Enhanced Data Analysis Capabilities*

Digital data collection methods have simplified data processing and analysis, allowing for more sophisticated and rigorous research outcomes. Participants emphasized that using digital tools for data collection has produced data that is easier to process and analyze. For instance, online surveys automatically compile data into structured formats, reducing the need for manual data entry and minimizing the risk of errors. Furthermore, the availability of advanced data visualization tools has enabled respondents to present their findings in more engaging and comprehensible ways. These tools facilitate the identification of patterns and trends within the data, allowing for more nuanced and sophisticated analyses. The ability to quickly and accurately analyze large volumes of data enhances the rigor and depth of the research, leading to more robust and credible findings. These insights are supported by literature indicating that digital data analysis tools significantly improve research outcomes by enhancing data processing efficiency and analytical capabilities (Means et al., 2013).

## *5. Comparing Hybrid and Traditional Data Gathering Methods*

The comparative analysis between hybrid and traditional data-gathering methods highlighted differences in data quality, accessibility, scope of research, and engagement levels, each offering unique advantages and challenges.

*5.1 Quality of Data*

The data quality collected under hybrid learning conditions was a primary comparison to traditional methods. Respondents acknowledged that

hybrid methods facilitated more convenient data collection processes but expressed concerns about the depth and richness of the data. Traditional face-to-face methods allow for capturing non-verbal cues and contextual subtleties often lost in virtual interactions. The absence of physical presence in hybrid methods can lead to a lack of immediate feedback and deeper probing, potentially compromising the nuanced understanding of participants' responses. However, respondents noted that using advanced digital tools in hybrid methods can enhance the accuracy and organization of data, providing detailed logs and records that can be revisited for analysis, thus offering a different but complementary form of data quality. These findings are consistent with research indicating that while hybrid methods offer convenience, maintaining data depth and richness requires innovative strategies (Farrow, 2020).

### *5.2 Accessibility*

Accessibility emerged as a significant advantage of hybrid data-gathering methods. Respondents highlighted that the ability to conduct research remotely removes geographical barriers, allowing for the inclusion of a more diverse and widespread participant base. This expanded reach is particularly advantageous in Development Studies, where diverse perspectives enrich the research outcomes. Traditional methods often face logistical challenges, such as travel constraints and scheduling difficulties, which limit the accessibility of participants. Hybrid methods, by contrast, offer flexible scheduling and reduce the time and cost associated with physical travel, thereby enhancing the inclusivity and breadth of research. These insights are supported by literature emphasizing the benefits of hybrid methods in expanding research accessibility (Eaton, 2020).

### *5.3 Scope of Research*

The scope of research is significantly influenced by the data-gathering methods employed. Respondents reported that hybrid methods allow for a broader scope of research due to the ability to engage with a more extensive and varied participant pool. Traditional methods, while providing in-depth and contextual data, are often constrained by logistical and temporal limitations. The flexibility and efficiency of hybrid methods enable researchers to collect data from multiple locations simultaneously, increasing the volume and diversity of data. This expanded scope facilitates more comprehensive and generalizable findings, enhancing the overall robustness of the research. Additionally, hybrid methods enable longitudinal studies and continuous data collection, further broadening the research scope. These findings align with the literature indicating that hybrid methods enhance the scope and inclusivity of research (Harasim, 2017).

### *5. 4 Engagement and Interaction*

The critical differences between hybrid and traditional data-gathering methods were engagement and interaction levels. Respondents observed that traditional methods foster a higher degree of personal engagement and

interaction, critical for building rapport and trust with participants. These interactions often lead to more prosperous, more detailed data. In contrast, while offering convenience and flexibility, hybrid methods can sometimes lack face-to-face interactions' personal touch and immediacy. Virtual environments may impede the natural flow of conversation and the ability to pick up on non-verbal cues, which are essential for qualitative research. However, respondents also pointed out that hybrid methods encourage innovative engagement strategies, such as interactive digital tools and multimedia, which can enhance participant involvement and data richness in different ways. These insights are consistent with research suggesting that innovative engagement strategies can mitigate the limitations of remote interactions and enhance data quality (Means et al., 2013).

## CONCLUSIONS AND RECOMMENDATIONS

To enhance data collection and research practices in hybrid learning settings for Development Studies, several key steps are recommended. First, improving technological infrastructure is essential, requiring upgrades to internet access, digital devices, and technical support to ensure all students can fully participate in research activities. Training on digital research tools is also critical, aiming to familiarize students with online data collection and analysis software to boost their research capabilities.

Moreover, developing rigorous data validation protocols is vital for ensuring the reliability and validity of research findings, employing strategies like triangulation and digital verification tools to minimize biases. Enhancing student engagement through interactive hybrid learning strategies and promoting flexibility and inclusivity in research design are also suggested to make research more comprehensive and adaptable to changing conditions.

Finally, strengthening institutional support and encouraging interdisciplinary collaboration are identified as pivotal steps. Enhanced support includes access to digital resources and advice on hybrid research best practices, while fostering interdisciplinary work can lead to innovative research methods and richer data collections. These measures collectively aim to improve the quality and efficiency of research in hybrid learning environments for students in Development Studies.

## FURTHER STUDY

***Evaluating Technological Infrastructure Improvements***:
Conduct research to assess the effectiveness of technological infrastructure upgrades in enhancing student participation and research quality in hybrid learning environments. This could include case studies of institutions that have implemented significant technological improvements and their impact on student research outcomes.

***Digital Research Tool Training Efficacy:***
Investigate the impact of comprehensive training programs on digital research tools and techniques. Future research could explore how different training

approaches affect students' proficiency in using online data collection and analysis software and their overall research capabilities.

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