

**Enhancing Communication Success: A Hermeneutic Phenomenology of Communication
Patterns Among Virtual Team Members with Funded Projects**

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Introduction

As technological advancements continue to sweep through every organizational sector in the world, virtual teams implementing virtual communication strategies are becoming more prevalent (Marlow et al., 2017). The last decade alone has presented a great increase in the prevalence of these teams (Handke et al., 2018). Virtual teams present organizations with the unique ability to work across diverse geographical boundaries, and for that reason, among others, they are becoming more common in modern organizational structures, including academia (Laitinen & Valo, 2018). The COVID-19 pandemic forced students, employees, and employers of all kinds to become comfortable with technology if they were not already, but this new way of working presented a rather unfamiliar way of communicating (Hikameh et al., 2021). While research has proven remote working and learning to be convenient and advantageous when conducted properly (Hikameh et al., 2021; Chang et al., 2012), research regarding effective communication strategies in a remote environment is lacking.

Conceptual Framework

After an extensive literature review, the Virtual Communication Framework (VCF) was constructed to serve as the conceptual framework for this study. The VCF is built partially upon Marlow et al.'s (2017) conceptual framework of communication among virtual teams. Their model is centered around the input-mediator-output-input framework described by Ilgen, Hollenbeck, Johnson, and Jundt (2005). Shannon-Weaver's (1949) linear model of communication also influenced the construction of the VCF used in this study. The VCF illustrates the ideal flow of communication between message sender and receiver, while also illustrating the inputs (e.g., degree of virtuality and diversity), outputs (e.g., productivity and success), and noise that takes place throughout the channel. Each component of the VCF could positively or negatively impact communication effectiveness.

Theoretical Underpinnings

Along with using well-renowned conceptual frameworks to guide this study, media richness theory (MRT) was evaluated, too. This theory, originally developed in the mid-1980s but since modified by scholars, is a theory used to describe a communication channel's ability to transmit a message without loss or distortion of that message (Sheer, 2020). The complexity of the message or task which is being communicated also plays a vital role in MRT and theory analysis (Ishii et al., 2019).

Methodology

The purpose of this study was to evaluate and understand the communication strategies used among TxARM AGEP teams that did or did not result in productivity and success, with hopes to use the information gathered to aid in improving virtual communication among diverse fields. With the purpose in mind, a fixed, sequential mixed methods (Merriam & Tisdell, 2016) approach was chosen for this study to allow for analysis of statistical, descriptive data as well as participant's thoughts and ideas regarding the subject of study. To gather our sample, purposive

sampling was used to ensure participants were diverse individuals working predominately virtually.

For the quantitative portion of the study, survey methodology that followed Dillman et al's (2014) tailored design method was used. An instrument with reliability and validity was built and put into Qualtrics, and a link for completion was then emailed to potential participants. For the qualitative portion of the study, a basic, interpretive approach was used rather than other types (i.e., grounded theory, phenomenology, case study). If participants indicated in the survey their willingness to participate in a 30-minute interview, a date and time was set up for a semi-structured interview via Zoom. Interview data was then transcribed and put into Dedoose for coding using Glaser and Strauss' (1997) three-phase process.

Results

Quantitative findings from 70 surveys showed that virtual communication quality and team productivity and/or success have a significant correlation with one another ($p=0.035$). Frequency of that communication also had a significant correlation with team productivity ($p=0.032$). When survey results were analyzed to understand the most important qualities of communication, the adjusted r-squared value (0.533) showed that team trust and team interdependence were large parts of the best fit model. A similar analysis was used to analyze the best fit model for communication productivity and effectiveness, and results with a r-squared value of 0.647 suggests degree of diversity, shared cognition among communicators, communication frequency, and closed-loop communication are predictors of productivity and effectiveness of communication.

Most of the qualitative results from 12 interviews reflected the above quantitative findings. Four themes emerged once data saturation was reached: (1) virtuality does not affect perceived communication quality, (2) diversity presents challenges that are outweighed by benefits, (3) virtual teams excel in the areas of trust, and (4) foundational relationships are important. Participants believed the pandemic caused people to value and even prefer virtuality. One respondent stated, "Working online became more valuable and it's a lot easier for people to meet virtually." Regarding theme two, participants spoke about challenges with geographical diversity and time zones but reported that the diversity within ideas and experience made up for the challenges. Nearly every participant noted that trustworthiness and personable relationships were essential to working online. One participant claimed, "...[relationship-oriented communication] shows a mutual sense of caring that helps us succeed."

Conclusions and Recommendations

From an extensive literature review and the results of the study, it can be concluded that a virtual work environment, particularly in academia and research, can be productive and effective if quality communication is present. It is recommended that the above communication areas and strategies be employed, and that this research be conducted within other fields for generalizability and transferability of results.

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