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The Fit Between Task and Medium in Sending Equivocal and Unequivocal  
Messages: How Self-Reported Skill Creates Self-Reported Attitude in Using the  
Medium

A Thesis Presented to The Faculty of the Department of Communication  
Rochester Institute of Technology

In Partial Fulfillment of the Master of Science Degree in  
Communication & Media Technologies

by

Teresa Merritt

April 14, 2006



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**Dedication**

To my thesis advisors' for their support; to my daughter for her wistful insight;  
and to my husband for his patience and understanding.

## Table of Contents

Abstract .....	5
Introduction .....	6
Hypothesis .....	14
Rationale .....	18
Review of Literature .....	22
Method .....	40
Results .....	45
Discussion .....	56
Conclusion .....	58
Limitations .....	60
Future Research .....	61
References .....	64
Appendix ..	75
Survey Instrument .....	77
Tables/Figures.....	100

**Abstract**

Communication channels selected by members of an organization can have an impact on the outcome of the messages sent. The media richness theory proposes that task performance can be optimized when task information is matched with the medium's ability to convey information richness. The current study surveyed 25 support staff within the College of Imaging Arts and Sciences at Rochester Institute of Technology to evaluate the best media fit between task and medium for sending equivocal (ambiguous) and unequivocal (clear and concise) messages. The findings supported the media richness theory, and employees report positive attitudes associated with media use.

**The Fit Between Task & Medium in Sending Equivocal and Unequivocal Messages: How Self-Reported Skill Creates Self-Reported Attitude in Using the Medium**

Communication channels selected by members of an organization can have an impact on the outcome of messages shared. Which medium do workers perceive to be appropriate for communicating an equivocal (ambiguous) or unequivocal message (a clear and concise message)? What effect does the chosen medium have on the message? Was the communication channel appropriate for sending the message? Was the message easily understood? Organizations today must make sense of complex communication issues in which they have unclear information; to create an efficient and effective work environment.

Traditional channels of organizational communication consist of face-to-face conversation, the telephone, written memorandums, and numeric documentation or bulletin. For consistency in this research, face-to-face communication is considered a traditional medium. With the proliferation of new media technologies in the workplace, the Internet now provides organizations with the opportunity to utilize new approaches for internal communication. Video-conferencing, a new form of global communication, allows two or more participants to transmit voice and visual data across

computer networks. Electronic instant messaging allows users to send short text-based messages delivered almost immediately to a recipient's computer screen. According to the media richness theory this change would reduce media richness to create messages with a higher amount of uncertainty.

Along with traditional media, new digital communication technologies are providing organizations with various communication channels that employees can use when making decisions about which medium to use when sharing information with members of their work group, employees in other departments, and customers. As Daft and Lengel (1984) stated, "organizational success is based on the organization's ability to process information of appropriate richness to reduce uncertainty and clarify ambiguity" (p. 194). Currently, traditional channels of communication are being displaced by electronic media which replace richness and increase ambiguity. Changes in media richness could have a profound effect on productivity and a change in the organizational communication process.

Among the communication theories that try to explain how different communication media affect task performance in the workplace is the media richness theory (MRT). Media richness was proposed by Daft and Lengel (1984, 1986) and is based on the theory of organizational information processing



according to uncertainty and equivocality reduction. In today's organizations, most workers realize the appropriate choice of communication channel contributes significantly, along with content, to the success of a message. Four factors determine media richness: 1) the capability to incorporate multiple cues; 2) ability of the medium to provide feedback; 3) use of natural language; and 4) convergence of feelings and emotions (Trevino et al, 1990).

Immediacy of feedback, multiplicity of cues, and senses are important factors that affect communication and understanding of messages. Multiplicity of cues refers to the number of ways information can be communicated, such as text, tone of voice, or non-verbal cues. These cues also have an effect on the receiver's understanding of the message. When the receiver's body language, facial expressions, or verbal cues indicate confusion, the sender can change his/her behavior, repeat or clarify the message, or ask for feedback. Face-to-face communication is the richest channel because it provides immediate feedback, thus minimizing misinterpretation of the message. Lean media, such as e-mail, presents fewer cues, restricts feedback, and is less appropriate for resolving equivocal messages. However, an important point is that lean media, such as memorandums or bulletins, are effective for processing well-understood messages and standard data (Daft & Lengel 1986).



Feedback is important to the speed and effectiveness of communication, enabling the sender to recognize the extent to which the receiver is hearing and understanding the message. In face-to-face meetings feedback allows simultaneous observation of multiple cues. This contributes to strong effective communication; the collaboration of efforts in face-to-face communication is well worth time and money. Video-conferencing is also considered an extremely rich medium. This interactive technology allows people in different locations to see and talk with one another, an inexpensive convenience when compared to travel expenses required of distant locations. The telephone is considered a somewhat rich channel of communication that provides for immediate feedback. It transmits sound that can enrich the message's words with personal emphasis and emotion. However, some senders perceive this medium as invasive, relying on voice mail to receive messages. E-mail, used primarily for routine business contexts, is considered a leaner medium; there is no immediate feedback because there is no eye contact and few nonverbal physical cues. Letters or business documents, lean media, are appropriate channels for attempts at persuasion and to convey important non-routine business information, such as promotions, awards, or other kinds of announcements. These media involve only the visual senses, and feedback is either slow or nonexistent.

Relative to the media richness theory, messages should be communicated via channels with sufficient and appropriate media richness (Daft & Lengel, 1986). A communication medium that overcomes equivocality in a message, leading to understanding in a timely manner is considered rich. A communication medium that takes an extended time for understanding, thus creating a clear and concise message is lower in richness. The richness of the medium should be matched to the uncertainty of the task. In organizations, one issue facing managers is identifying which new medium can be used productively when communicating and which tasks are more effectively communicated using traditional face-to-face communication (Dennis & Kinney, 1998).

The communication channel is the medium that transfers the message created from the sender to the receiver. For example, talking on the telephone. You are the sender or source and the telephone is the encoder, also referred to as the transmitter, which does the job of turning your voice into electrical impulses. In face-to-face communication, the encoding process is performed by our spoken language and body language. The message is direct and focused, information for the receiver to react to. Daft and Lengel (1984) theorize that individuals choose the medium that best fulfills their task requirements.

Experience in using a communication channel has previously been measured in terms of the length of time a medium has been used (Fulk, 1993), or the number of messages sent (Rice & Love, 1987) in relation to the skill and attitude in using the medium. If there is increased media sensitivity and training, individuals can apply their level of competence and choose the appropriate medium for a specific task, which hopefully will lead to a higher richness perception of that medium (Carlson & Zmud, 1999; Fulk, 1993; Rice & Love, 1987). Regardless of the time spent using a channel, individuals who do not develop these skills will not develop capabilities for using a rich communication medium, causing an ineffective communicative environment.

Additional factors need to be considered when employees make a distinction between appropriate media choices within the work organization. Factors include media symbolism, message uncertainty, perceived media richness, the physical distance between the receiver and sender, the number of message recipients, perceived message recipients' attitudes, time efficiency and financial expenditure (Trevino et al., 1990).

Understanding how individuals develop perceptions about a particular communication channel is an important component of the medium selection process. An individual's perception about a particular communication channel is

often influenced by a number of issues: perceived media and task characteristics, attitudes toward communication media use, individual preferences, situational factors, and work environment. Studies by Tushman (1978), Van de Ven and Ferry (1980), Daft and Macintosh (1981), Randolph (1978) and Fulk and associates (1990) support a positive relationship between task variety and the amount of information processed within work organizations. Perceived media and task characteristics consist of a medium, message, and as a result—the user's perception of the message. An individual perception of a communication medium consists of the user's evaluation of the medium based on feedback from others, such as co-workers. A simple example would be when a manager learns from his or her peers that e-mail is hard to learn. A possible consequence is that the manager will develop a similar attitude and a negative perception of this medium. The individual user's preference consists of important factors shared by others, such as one's experience with a medium.

It is assumed that messages higher in equivocality are better communicated with a richer medium, such as the telephone, while unequivocal messages are better resolved with less rich or lean media, such as e-mail. Rich media, such as face-to-face conversation, has been shown in previous studies to have an affirmative consequence on the effectiveness of the message



(Hollingshead, McGarth & O'Connor, 1993). Messages easily understood should be communicated with lean media, such as written correspondence. Equivocality in processing information is identified as the absence of a clear definition (ambiguous) or meaning of a message. Weick (1979) argues that reduction of equivocality is a basic reason for effective communication within the organization. Rogert (1995) defines equivocality as an expression or term with more than one interpretation. Equivocality exists when managers need to define questions and goals, and generate alternatives. Daft and Lengel (1984) agree that uncertainty in a message, or lack of information, creates the need for more information. Equivocality is reduced by media that provide rich channels of communication; uncertainty is reduced by media that provide large quantities of information. This is in contrast to unequivocal messages where the meaning of the message is clear and concise; they should be communicated via a lean medium.

Messages communicated through channels that are inappropriate to the equivocality of a situation and the richness of information that is transmitted could be misinterpreted by the recipients and may be ineffective in achieving their intended purpose. Face-to-face communication, a richer medium, facilitates equivocality reduction because rich media allow shared meaning to be created

between communicators. According to El-Shinnaway and Markus (1998) face-to-face or telephone conversation should be preferred whenever the possibility of miscommunication is high. Because of immediate feedback, Daft and Lengel (1986) have found that richer media have a higher capacity “to change understanding within a time interval” (p. 560). When there is lack of feedback, or feedback is delayed, lean media such as written communication are thought to be more suitable for unequivocal messages and are appropriate for processing large amounts of standard, accurate, objective and quantitative data.

Given the importance of communication systems within organizations, employees need assurance that they are making wise media use decisions. In the following section, this study takes up this important aspect of media use and decision-making. It proposes hypotheses and a rationale for testing.

### **Hypotheses**

Media can vary in information richness. Building on the work of Bodensteiner (1970), Lengel (1983) argued communication media used in organizations determine the richness of the information processed. In best case scenarios, organizations process and share information to reduce equivocality, ambiguity, and uncertainty. An understanding of media richness is useful when considering the impact that different communication media have on

organizations. Media richness theory (Dennis & Valacich, 1999) predicts that performance will be improved when task needs are matched to a medium's ability to convey information.

Communication channels, such as face-to-face, telephone, e-mail, memorandums, and bulletins possess features that lead to a distinct, objective richness capacity. The adaptation of e-mail in the workplace is considered a positive form of communication both internal and external to the organization. Results from Pew Internet & American Life Project (Fallows, 2002) reported that two-thirds of those who use e-mail at work consider it a chore to use, while one quarter find e-mail productive to tasks at hand and look forward to using it. In addition, it was found that three-quarters of workers felt that e-mail use was advantageous, while less than 25 % did not like to use e-mail and believed it to be procedurally burdensome.

In studies of Fulk (1995), Rice and associates (1990) individuals described their attitudes and behaviors regarding new communication technology. Results of these studies seek to predict an individual's attitude and behavior. Fulk (1995) believes that patterns of media attitudes and use tend to converge within social networks of an organization. Rice and associates (1990) reported that workers who aggregated together had similar attitudes toward the adoption of an

electronic messaging system. Employees chose a particular medium based on how comfortable they were using the new medium, their level of skill, the social context of the message (how important it is), and their attitude towards the particular medium. In addition, it is desirable for workers to become aware of message recipients as they communicate, and able to recognize and understand the people with whom they are communicating.

In building the hypotheses to test the optimal fit between task and medium in sending a message in the work organization, the first hypothesis predicts that when a multimedia medium (e.g. e-mail) is used it will create a message that is clearly understood, an unequivocal message. The next hypothesis will predict that equivocal messages or messages of uncertainty are communicated with a lean medium, in comparison to the MRT which theorizes that equivocal messages are communicated with rich media. The final hypothesis predicts that when employees learn a new communication medium, they self-report that their behavior is positively associated with using that medium. The variables in this study will be the type of media chosen, ranging from rich media to lean media, context of the messages, new communication media and self-reported attitude when using a new media.



**Hypothesis 1a** Support staff in the College of Imaging Arts and Sciences, Rochester Institute of Technology, are more likely to report choosing a multimedia medium (e.g. e-mail) rather than a leaner medium (e.g. letters, fax) when communicating an unequivocal (clear and concise) message to their superior and/or decision-maker (faculty).

**Hypothesis 1b** Support staff in the College of Imaging Arts and Sciences, Rochester Institute of Technology, are more likely to report choosing a lean medium (e.g. letters, fax) rather than a richer medium (e.g. face-to-face, telephone) when communicating an equivocal message (ambiguous) to their superior and/or decision-maker (faculty).

The support staff in the College of Imaging Arts and Sciences, Rochester Institute of Technology serve students by assisting them in the achievement of academic success. Information is communicated from staff to peer, superior and/or decision-maker and then back to support staff. The support staff processes the information and passes it on to the appropriate individual or individuals (including peers, superiors, or students—no matter the message content). Therefore, the delivered message needs to be unequivocal (clear and concise) with no room for misinterpretation. This process has been implemented and is constantly being refined in an effort to ensure that the message is funneled

through the correct channel and the information reaches the students in an easily understood, accurate form.

**Hypothesis 2** Self-reported skill with a new communication medium is positively associated with self-reported attitude toward that medium.

Until recently, communication channels were limited to face-to-face, telephone and/or written communication. Today however, organizations are faced with new multimedia choices, such as electronic mail (e-mail), instant messaging (IM) or video-conferencing (VC). A portion of telephone calls, faxes, and traditional mail is being replaced by the use of e-mail, but not entirely. Employees who use e-mail find that the medium is most effective for making arrangements and appointments and tend to display a composed attitude toward the use of this medium at work.

### **Rationale**

Daft and Lengel (1984, 1986) provide a theory for understanding media preferences. They define the uses of rich and lean media. Understanding how a worker chooses a medium appropriate for communicating equivocal and unequivocal messages is important in creating an easily understood, efficient, and effective message. In addition, knowing the individual's perception of a particular medium can be useful to the work environment. Fulk and associates

(1987) suggest that a senders' perception of their environment and their place within the organization will determine how they choose to communicate. For instance, people communicate differently at work than in a social environment. Regarding the hierarchy of the organization, the selection of a medium will depend on whether workers are communicating with someone on a higher, same, or lower level than themselves.

Media vary in richness, from "rich" to "lean" —from face-to-face to bulletins. MRT has been investigated in a number of ways (Daft et al., 1987; Jones et al., 1998; Kraut et al., 1992). MRT has generally been supported when tested on traditional media, such as face-to-face communication, telephone, memorandums, and bulletins. McGarth and Hollingshead (1993) found support for the importance of the fit between task and medium for communication performance. However, inconsistent empirical findings from new media communication research, such as e-mail and voice mail, have encouraged a reassessment of the validity of the media richness theory (Fulk & Ryu, 1990; Markus, 1994; Rice & Shook, 1989; Trevino et al., 1990; Webster & Trevino, 1995). Kraut and associates (1998) found that managers who had "people management" jobs did not use rich media any more than lean media.

With the use of new multimedia communication technologies in work organizations today, it is important to examine how they impact the quality of communication among employees. Communication channels have different effects on the message conveyed and received; consequently, one communication medium may be more effective than another depending on the task to be completed. Additionally, different communication media produce different outcomes in the way individuals identify with each other as they communicate.

The choice of which medium to use to communicate a message in work organizations should be made based on who the recipient is, the context of the message, the importance of the message, and the individual's skill in the use of the communication medium. Proficiency in communication includes motivation to use the communication medium, knowledge of the communication medium, level of interaction between the individuals communicating, and the level of skill needed to achieve the desired results. Employees, who are aware of the different types of communication channels available and how these media impact the message and decoding, can create a more efficient and effective work environment. Effectiveness in communication is related to the appropriate choice of a medium to deliver a specific message in a specific context.



This study examined the task characteristics that motivate the use of a specific medium, keeping in mind the social influence of the medium. Media usage patterns are the outcome of “the attitudes, statements, and behaviors of co-workers” (Fulk et al., 1990, p. 121.). It is assumed that perceptions of electronic communications vary across individuals in systematic ways and that this variance is as important for media selection as any other component identified in media richness theory (Schmitz, 1987; Fulk et al., 1987; Fulk et al., 1990). Fulk and associates (1990) proposed that social information influences how employees recognize media characteristics, perceived communication task requirements, attitudes toward communication media, and media use behavior. Trevino and associates (1990) found media choice was associated with equivocality of the message being sent, medium symbolism of the particular message, attitudes toward the medium, the recipient’s physical distance, and the number of message recipients targeted by a specific communication.

Effective communication entails knowing which communication channel is the optimal fit for the information (message) that is being communicated. The social interaction aspect of the support staff within the College of Imaging Arts and Sciences is also important in this study. Support staff needs to be cognizant of others as they exchange messages through their choice of media, the contents

of their messages, and their understanding of the people with whom they are communicating to create efficient and effective messages. When we engage in communication with another individual, we often gain information about the other person so we can interact effectively, resulting in a productive work organization.

The results of this study will assist the support staff within the College of Imaging Arts and Sciences in determining which channels of communication are more efficient and effective concerning messages that are unequivocal (clear and concise messages) or equivocal (messages of uncertainty). One of eight colleges at RIT, the College of Imaging Arts and Sciences includes 10 unique departments that communicate as a team to achieve the critical goal as directed by the Institute: to provide exceptional service to students so that they can achieve academic success. To accomplish this goal, effective communication and social influence are significant factors.

### **Review of Literature**

The approach of this study is to investigate selected dimensions concerning why employees are more likely to choose a multimedia medium when communicating an unequivocal message to a superior. One purpose of the study is to encourage positive attitudes toward these media. The most basic

assumption is that organizations are human interaction systems (Daft et al., 1987). In this transactional approach individuals are simultaneously senders and receivers, and participants are equally important. Information is visually conveyed by way of language and symbols that are used to understand situations and change behavior. Information is shared to accomplish tasks, coordinate diverse activities, and interpret the environment (Daft et al., 1987). The message acquires meaning and value as it is processed and transferred through the organization.

Traditional communication channels, such as face-to-face, telephone, and written communication have the potential to be supplemented with or replaced by electronic messaging, video displays, teleconferencing, and instant messaging. As individual skills and familiarity with technology increase it is predicted that face-to-face communication will diminish as new media influences attitude change and use, thus contributing to managerial effectiveness and efficiency. In organizations, employees are expected to be linked to the office by electronic mail (Deal & Kennedy, 1982). Teleconferencing is predicted to reduce travel and decentralize decision making (Kriebel & Strong, 1984). These predications have not come true as it has been found that managers prefer face-to-face to mediated communication within the organization.

Nonetheless, electronic mail (e-mail) has flourished within organizations owing to its asynchronous nature and time-saving advantages over the telephone. According to Pew Studies (Fallows, 2002) the number of e-mail users in the work organization has grown from under 30 million in March 2000 to over 57 million in October 2002. Using computer text processing tools and computer networks to provide a high-speed message processing and exchange service, e-mail allows people send messages to groups of people as easily as to individuals. As e-mail use grows, small electronic communities are forming within organizations.

### ***Media Richness Theory***

Based on the work of Bodensteiner (1970), Daft and Lengel (1984, 1986) and Trevino and associates (1987) the concept of information richness or media richness was developed. Daft and Lengel (1986) originally formulated media richness theory (MRT) to help address the question, "why do organizations process information?" (p. 554), and in what channel is this information processed? Media richness theory proposes that individuals choose a medium higher in richness for those organizational tasks that are higher in equivocality or uncertainty.



Daft and Lengel (1984) theorize that rich media are needed to process information about difficult organizational topics. Previous research has focused on the importance of effective communication for managers. Application of this theory requires multiple information cues, immediate feedback, and an array of language. The theory recommends that organizational goals, managerial intentions, or employee motivations be resolved through an equivocal message, where there is more opportunity for feedback. Face-to-face and telephone media help managers deal with complex issues they confront (Daft & Lengel, 1984) such as planning a new business, analyzing market and business strategies, negotiating issues, resolving business issues. For routine problems, which are clearly understood (unequivocal message), a lean medium provides sufficient information. Daft and associates (1987) suggest that managers who are more sensitive to the relationship between message equivocality and media characteristics are more likely to be rated as high performers. Likewise, Rice and associates (1990) found that the degree to which a person perceives a medium to be appropriate to the task influences the decision to use that medium.

Research presented by Trevino and associates (1990) further refined media richness theory in acknowledging that media characteristics are not entirely objective. Media also have a symbolic value, and this symbolic value can lead to

media choices that are not optimal in terms of fit between tasks and media. For instance, face-to-face communication promotes commitment and personal interest. The symbolic value is believed to be an important reason for face-to-face interaction in circumstances where another medium might have been a more optimal fit. Nonetheless the central premise of the theory is that there is an optimal fit between task and medium, and users aim to achieve this fit.

Recent research does not support previous empirical studies on the media richness theory (Valacich et al., 1994). The criticisms fall in two categories: one is the theory itself and one directed toward prior research that attempted to test the theory (Suh, 1999). Laboratory experiments (Kinney & Watson, 1992; Kinney & Dennis, 1998; Valacich et al., 1994) failed to support assumptions concerning influence of task equivocality and media richness on the completion of various communication and decision-making tasks. A similar experiment by Suh (1999) did not find any task-medium interaction effects on decision time or decision quality. Meanwhile Kinney and Dennis (1998) point out that most tests of the theory (Daft et al., 1987; El-Shinnawy, 1992; Rice, 1992) examined the perceptions toward the media fitting task by surveying the media choice of message senders, not by examining the actual performance effects of the media.

Markus (1994) observes that “information richness theory remains an individual-level rational choice explanation of behavior” (p. 523). In a study on the behaviors of managers whom she observed on her field site, Markus (1994) found that “managers used e-mail more intensively than the theory predicts and in a manner that the theory regards as ineffective and hence unlikely” (p. 518). Lee (1994) also presented evidence that managers who use e-mail are still capable of communicating with a rich medium, despite the characteristics of media richness theory. However Hollingshead and associates (1993) did not support these findings. Their research concluded that face-to-face groups outperformed computer-mediated groups for sending unequivocal (clear and concise) messages.

According to Rice (1992), there are only a few published empirical tests of media, task, and performance propositions with the media richness theory. Oshsman and Chapanis (1974) conducted tests of media arrayed along “a continuum of ten communication modes from face-to-face mode to an improvised typewriting mode” (p. 618). Results of the study showed that greater use of richer media correlated with shorter problem solution time, with more messages sent and more messages received; this was explained by differences in the richness of the medium. However, Holland and associates (1976) found weak

correlations between uncertainty in important technical information and the use of communication channels implicitly proposed as having greater media richness. However, they did not evaluate performance. In a study of 355 hypothetical communication incidents categorized into 18 common workplace situations, Trevino and associates (1987) found face-to-face communication more likely to be chosen by managers for communication tasks involving an equivocal message (message of uncertainty), rather than telephone, e-mail, written and electronic mail. E-mail was found to be used for tasks involving situational constraints with other media. Hollingshead and associates (1993) also found that face-to-face groups outperformed computer-mediated workers for negotiation and intellectual tasks. These results were previously supported by Markus (1987) who used a larger sample to rank each medium in each situation. Her findings were similar to those of Trevino and associates (1987), compared to previous studies by El-Shinnawy and Markus (1998), where 35 individuals were randomly selected from about 200 employees of a large organization. The study found when communication situations were high in equivocality (uncertainty), individuals preferred e-mail over voice mail. E-mail was perceived as the medium to use for messages with informational value, messages which could be read at their leisure and done with as they wished. The study also concluded that



individuals did not prefer voice mail for dealing with equivocal issues; voice-mail was perceived as only suitable for receiving short messages of less importance.

### ***Media Channels***

Effective communication occurs when the intended meaning of the source and perceived meaning of the receiver are the same. Organizations today use a wide variety of channels for communication, and effective communication depends on a good understanding of all these channels. In reaching the goal of effective communication, organizations process information to effectively manage uncertainty and equivocality. Uncertainty is related to the absence of information; as information increases, uncertainty decreases. An equivocal message is defined as ambiguous, or the absence of meaning in a message. When equivocality is high in a message, confusion and lack of understanding can result.

Daft and Lengel (1986) suggest that communication channels differ to the extent in which we use these two forces, that communication channels possess a set of characteristics that determine each channel's capacity to carry rich information. Media are likely to be more or less effective in conveying content, depending on the task that requires communication. Messages that are

communicated on channels that are inappropriate to the equivocality of the message may be misinterpreted by the receiver, therefore ineffective regarding the intended purpose (Trevino et al., 1987, 1990). Steinfield and Fulk's (1985) research showed how the application of new media can be tailored to match communication needs. In contrast, Markus (1994) found that e-mail was not a particularly rich medium when compared to face-to-face interaction in conveying equivocal content.

Communication media are projected to fit along a five-step continuum describing their comparative richness. The explanation of the characteristics of media richness is contained in table 1 below. Each medium offers: 1) feedback capability, 2) communication channels utilized, 3) a source, and 4) a type of language (Bodensteiner, 1970; Holland, Stead & Leibrock, 1976).

Table 1

*Characteristics of media that determine richness of information processed*

Information Richness	Medium	Feedback	Channel	Source	Language
High	Face-to-face	Immediate	Visual, Audio	Personal	Body, Natural
	Telephone	Fast	Audio	Personal	Natural
	Written, Personal	Slow	Limited visual	Personal	Natural
	Written, Formal	Very Slow	Limited visual	Impersonal	Natural
Low	Numeric, Formal	Very Slow	Limited visual	Impersonal	Numeric

Richer media, such as face-to-face communication, provides a multiplicity of cues, immediacy of feedback among workers, and use of natural and body language. A message can be adjusted, clarified, reinforced and acted upon instantly. Other media do not allow for timely adjustments and clarification of the message. Studies have shown that differences in group decision-making come together when communicating face-to-face in comparison to computer-mediated communication (Kiesler et al., 1984).

Webster and associates (1996) place video-conferencing below face-to-face in the hierarchy of richness. Video-mediated conferencing or video-conferencing is a synchronous (real-time) communication system that transmits both video and audio, generally transmitted through computer networks. Oschmann and

Chapanis (1974) found that video had no significant advantages over audio regarding communication times or behavior. The majority of video-conferencing studies concentrate on face-to-face and video-mediated communication, and almost all of them agree that face-to-face communication is a richer medium than video-conferencing.

The telephone, considered less rich than face-to-face, is used for social and personal reasons and uses natural language which makes it relatively rich. Feedback capability is fast, but visual cues, including nonverbal elements, are filtered out. The telephone supports aural paralinguistic cues and lacks nonverbal elements. Paralinguistic cues include pitch, tone, intensity, rate, voice quality and other vocal signs that people use to communicate a message.

Most studies are limited to examining face-to-face, telephone communication, formal and personal written messages, and formal numeric messages. Sitkin, Sutcliffe and Barrios-Choplin (1992) expanded media rankings to include e-mail and video-conferencing. Like written media, e-mail uses natural language but lacks linguistic cues such as voice inflection and tone. In one study (Steinfeld & Fulk, 1985), e-mail had many similar characteristics to the telephone such as the capacity for rapid feedback and speed in reaching an audience. Schmitz and Fulk (1991) found that perceived e-mail richness varies



with individuals in relation to social influences and with media experience factors. Even though e-mail may not be considered a rich medium, the medium is a carrier of meaning; it is the meaning given to e-mail messages that contributes to media richness (Trevino et al, 1987). Lee (1994) stresses that information richness is not just a function of the communication medium, but a function of the interaction between the communication medium and the organizational context or environment.

Daft and associates (1987) and Rice (1993) theorize that due to lack of nonverbal cues, written media or electronic substitutes can not replace face-to-face communications in many managerial communications since they are considered lower in richness. Written media may use natural language but have limited cues and are particularly slow to generate feedback. Visual cues are limited to what is written on paper; however, formality of language and additional cues maybe communicated through the message. Feedback is slow and only the message that is written on the paper is conveyed by selection of typeface and formatting. Due to lack of nonverbal cues, electronic communication is said to be low in richness in comparison to face-to-face communication (Rice, 1993).

The lowest form of media richness is numeric documents. These written communications generally involve numbers that are useful in communicating quantifiable information but do not have the information carrying capacity of natural language. Formal numeric documents provide no opportunity for visual observations, feedback or personalization (Daft & Lengel, 1984).

For effective communication to occur, the richness of the medium should match the level of ambiguity. Uncertainty and equivocality represent two forces identified in the literature that influence the information processing required for organizations to achieve adequate performance. When the message contains well defined issues and information, equivocality is low. Precise written and quantified data can be communicated through media on the low end of the hierarchy. Lean information media are said to reduce uncertainty. On the other hand, equivocal messages demand rich media to facilitate understanding of the message being conveyed. Rich media reduce what Daft and Lengel (1984) term equivocality. The content in a message is not the only factor influencing media choice; attitude, and perception toward a medium is another factor.

### ***Media Attitudes***

Studies conducted on organizational behavior and social influences (Rice, 1991; Trevino et al, 1987; Fulk, 1993; Fulk et al., 1990, 1987; Fulk & Boyd, 1991)

have shown that media influences attitudes in the work organization. However, little research was found on self-reported attitude in using a new communication medium. In media richness theory, communication media characteristics and task features are largely subjective and determined by the social context of the user (Fulk et al., 1987). Media characteristics such as asynchronicity, channel capacity, and opportunities for providing feedback are grouped in an attempt to determine social presence or richness of the medium (Fulk & Steinfield, 1990). As found by research, media-related behaviors are acquired through processes of behavior modeling, symbolism of the media, knowledge, media skill, ease of use, and length in time of using the medium.

Human technology interaction factors should be considered when studying attitudes toward new media. King and Xia (1997) found that media choice was correlated with experience in using the medium. In another study Trevino and associates (2000) found that perceived richness and perceptions of the human/technology interaction were most important for understanding attitudes toward new media. Trevino and associates (2000) proposed that flow was the most important influence on e-mail attitudes consistent with Trevino and Webster's findings (1992), but flow was not associated with ease. Rice and associates (1990) found that individuals were more likely to adopt e-mail if

others in their social network were using it with a positive attitude toward the medium. Schmitz and Fulk (1991) found that the perceived usefulness of e-mail by an individual's five most frequent communication partners predicted an individual's perceived e-mail richness. In addition to individual technology skill, objective factors, social factors, and person/technology interaction may also have an impact on attitude when using a new medium.

New media can present new challenges for coping with increasingly complex work environments in today's organizations. Individuals may differ in the amount of experience or skill they have with a particular medium (King & Xia, 1997). Individuals who have little or no experience or skill with e-mail may develop negative attitudes toward that medium and may avoid using it as a result. In addition, individual's perceptions of the capabilities of the medium and their perceptions of their interaction with the medium may influence outcomes. The literature has suggested that the different styles, preferences, skills, and experiences can influence attitudes, and can facilitate or constrain choice and general use of new media (King & Xia, 1997; Rice & Case, 1983; Sitkin et al., 1992; Trevino et al., 1990).

Researchers also proposed that media choices have symbolic meaning in social settings (Sitkin et al., 1992; Trevino et al. 1987). To support these findings,



research presented by Trevino and associates (1990) added additional definition to the media richness theory. Media also have a symbolic value, and this symbolic value can lead to media choices that are not optimal in terms of the fit between tasks and medium. For instance, face-to-face communication symbolizes commitment and personal interest. The symbolic value is believed to be an important reason for face-to-face interaction in circumstances where another medium would have been a more optimal fit. Trevino and associates (2000) found that media symbolism was associated with attitudes toward meetings and use of written communication, but it did not influence attitudes toward or use of new media. "The recognition that letters represented formality, legitimacy, and status decreases their use in organizations, suggesting that individuals may avoid certain media that they think will send the 'wrong' symbolic message" (p. 179). Nonetheless, the central premise of the theory is that there is an optimal fit between task and medium, and users aim to achieve this fit.

Social influences are clearly important to our understanding of media attitudes and behaviors. Trevino and associates (2000) found that perceptions of relevant attitudes of others toward a medium were associated with media choice and influenced the use of e-mail and written communication. Rice (1993) argued that these perceptions of others' attitudes may represent social projection rather



than social influence, that they do not represent social information processing (which relies upon others' actual attitudes and behaviors). On the other hand, Bandura (1986), found that knowing others' actual attitudes and behaviors does not guarantee that the respondent has noticed them and processed the information. Future research could help managers understand how real and perceived attitudes influence attitudes and behaviors.

In summary communication is the primary process through which employees' share information in the workplace. Managers must communicate to motivate and lead employees, to learn about and manage the environment, and to make decisions. Communication is also integral to the role of staff employees to disseminate information, especially equivocal and unequivocal messages. Mintzberg (1973) noted that a majority of managerial time was spent in verbal communication—in meetings and on the telephone. His research suggested that managers seem to prefer a rich media, face-to-face communication rather than lean media to effectively and efficiently communicate the message.

Today employees have more communication options than ever before. Communication media can be characterized as "rich" or "lean" based upon their capacity to facilitate shared meaning. Face-to-face, a rich medium is capable of handling equivocal messages. An equivocal richness match should mean more

effective communication (Fulk & Steinfield, 1990) in comparison to lean media which is used more with unequivocal messages. In addition new communication technologies are available. Electronic messaging allows employees to instantly send messages to recipients with the option of immediate feedback and without the frustration of telephone tag or voice mail. This technology is also used to disseminate formal information such as reports and memos. By providing asynchronous communication in a timely fashion, electronic messaging systems are replacing face-to-face and telephone channels. Video-conferencing offers the possibility of group meetings without the need for long-distance travel to meet face-to-face in one geographic location. Media choice is not simple, although it may seem obvious at first glance. Staff must make the right choice in sending a message of high importance while keeping in mind the equivocality of the message. Appropriate media choice can make the difference between effective and ineffective communication.

The purpose of this study is to learn more about the extent to which a person perceives a medium to be appropriate for communicating an equivocal and unequivocal message and the effect that the choice of particular medium has on the individual in creating an easily understood, efficient, and effective message in the organization.

## Method

### *Process*

*Background.* The subjects for this study included a census of 25 surveys sent to support staff in the College of Imaging Arts and Sciences, Rochester Institute of Technology. Respondents were asked to answer questions on a survey questionnaire about media channels they used daily, their perception of the medium used, whether the message communicated was ambiguous or clear, message content, self-reported skill, and self-reported attitude. The study focused on five communication choices, face-to-face, telephone, e-mail, written memos and bulletins. A copy of the survey instrument is attached. To insure the protection of the human subjects in this research, as well as to comply with IRB policies, proper paperwork was submitted to the Institutional Research Board, Rochester Institute of Technology.

In the survey instrument participants were asked to define an ambiguous message (equivocal), and a clear and concise message (unequivocal). Respondents were asked a series of questions in relation to their choice of medium in sending equivocal and unequivocal messages. This provided a realistic context and point of reference for the survey questions and allowed us to investigate the variables that differentiate choices of multiple media. In addition

respondents answered questions about media use, attitude, perceptions, and the uses of the medium in question. The survey concluded with questions about media skill and demographic questions.

*Sample.* Following Dillman's (2000) process, self-report questionnaires were mailed to 25 support staff in the College of Imaging Arts and Sciences. A letter explaining the nature of the study, urging their participation, and assuring respondents of confidentiality was included. The sample included individuals from a variety of support positions within the college, with an overall response rate of 66.67% for the study. Follow-up steps (e.g. letters and e-mails) were taken to assure a response rate. The survey instrument was returned to a third party to ensure confidentiality on the part of the participant.

*Materials.* The questionnaire was designed in five sections: questions related to media channels, message content, communication environment, new media and demographics. Questions on media channels and message content, with regard to communication channels and the medium used in using specific content, are measured on an ordinal level. Questions connected to the communication environment are rated on a five-point scale with two questions on an ordinal level. In learning how the participants felt about new media,



participants were asked to choose an answer that best fit their thoughts. The last section included questions on social demographics related to work employment.

The respondents were told the study was aimed at understanding media choice in the organization; sending messages they thought were considered equivocal (ambiguous), and unequivocal (clear and concise), and how self-reported skill of using new media is associated with a positive attitude toward that medium. The measured variables included media choices, media skill, and media attitude. Unequivocal messages and equivocal messages were calculated on the message content by asking specific questions to the respondents regarding which medium they would use in sending message information. Media skill was determined by years of use, the respondent's skill base, and proficiency.

### ***Measures***

*Media Channels.* Media channels were manipulated by ranking on a scale from 1 to 5, with 1 as first choice and 5 as least choice. Six questions asked what source of communication media the respondents rely on most to communicate in the work organization, how useful the media is to them and what source they rely on most for sending equivocal and unequivocal messages to a superior, faculty member, or co-worker. Media choices included face-to-face, telephone, e-



mail, memorandums, and bulletins. From this we learned which medium the participants used in relation to communicating on the job.

*Message Content.* The second part of the survey included nine questions measuring the respondent's perception of the symbolic meaning he/she was attempting to express by their choice of a particular medium in a particular situation. This allowed us to learn what type of medium was used in relation to the content of a message and the decision to use a particular medium for sending a specific type of message. In this study it is important to understand how the respondents define an unequivocal message, in comparison to an equivocal message. Next the respondents were asked to identify which medium they felt would best describe a specific type of message, for example "Which one medium would you choose that best conveys confidential, private and delicate information?"

*Communication Environment at Work.* For identifying preferences, social and environmental influences were measured more broadly to tap co-workers' attitudes. This captures the social context and the self-reported attitude for using a particular medium to send a message. Three questions were asked in relation to how the respondents perceive the medium. Responses ranked their answers on a five-point scales ranging from 'strongly agree' to 'strongly disagree'. Two

questions asked how the respondents perceptions of co-worker and superior perceived usefulness of the medium. The responses for these questions were on a five-point scale ranging from, 'very useful' to 'not at all useful'.

*New Media.* Questions related to new media technology in the workplace. Three categories of media were included; e-mail, video-conferencing, and instant messaging. The same questions were asked in each category, "do you use [medium] at work to communicate?", "who do you communicated with?", "how did you learn this technology?", "how long have you been using this [medium]?", "how do you rate your skill with this [medium]?", "how many messages do you send with this [medium]"? , "do you use this [medium] to send ambiguous messages?", and "do you feel it is an effective way to communicate? The response scale was multiple choice. These questions measured the self-reported skill of the participants with a particular medium.

*Demographics.* General questions were asked in relation to the respondent's employment at RIT, job position, and length of service. This information was used to describe the sample.

### ***Procedure***

Questionnaires were placed in self-addressed stamped envelopes and sent through the RIT interoffice mail to the support staff in the College of Imaging

Arts and Sciences. Each mailing included the following sections: a) cover letter, explaining the purpose of the experiment, directions for completing the survey; b) the survey instrument; c) self-addressed stamped envelope. Participants were given the choice of returning through the US Postal Service or RIT interoffice mail service. Participants that chose to return their survey through the RIT interoffice mail service were instructed to cross off the previous name on the interoffice envelope (to assure confidentiality) and hand deliver to a third party, the CIAS Dean's office staff assistant.

A second mailing package, letter, survey, self-addressed envelope, was sent out two weeks after the first, encouraging the participants to respond. At the same time the second mailing was sent out, an e-mail was sent to the support staff reminding them to complete the survey. A third follow-up mailing was sent four weeks after the first survey distribution to the participants. Copies of the letters sent to the participants are attached.

## **Results**

Twenty-five surveys were distributed to the administrative staff in the College of Imaging Arts and Sciences, Rochester Institute of Technology; 16 were completed, returned, and analyzed as part of this research. Levels of education for this sample included five (31%) completing a graduate degree, four (25%) an

undergraduate degree, five (31%) a high school diploma and two (12%) a trade school diploma. The individual group's average years of employment at RIT ranged from six to 10 years in comparison to the average years of employment within CIAS of one to 10 years. In addition, three of the 16 respondents have been employed in CIAS between 11 and 15 years; one person has been employed 16 to 20 years, and an additional person has been employed more than 20 years. Two-thirds have been employed less than 11 years.

The survey instrument asked the staff to select from three multimedia used in the work organization; e-mail, video-conferencing and instant messaging. All chose e-mail as the medium they use to communicate with superiors and co-workers in their job, with six (38%) participants choosing instant messaging as an alternative medium. Although video-conferencing was one of the choices, results showed that it was not selected as a communication medium; this may be due to a lack of access to the medium. The respondents in the survey rated their experience using the computer as good to very good, and the same for their keyboard skills with 56% rating themselves as very good, and 44% rating their keyboard skills as good. In evaluating their communication skills in relation to the clarity in the messages they send, 50% rated themselves as good to very good.



The participants were asked two questions in regards to five communication media that employees use in the workplace: face-to-face, telephone, e-mail, written memorandums and bulletins. Respondents ranked their preference of media using "1" as first choice, and "5" as their least choice. Ten (63%) of the staff ranked e-mail as their first choice of medium most often used at work, four (25%) ranked face-to-face as their first choice, and three (12%) chose the telephone. Written memorandums and bulletins were not selected.

Table 2 identifies types of messages communicated in the work organization and the medium preferred in communicating those messages. Media richness theory holds that "richer" media are used for equivocal messages, and "leaner" media are used for equivocal messages. Face-to-face (81%) was used most often when conveying confidential information in comparison to written memos (13%). By contrast, the telephone was used 50% of the time as the medium considered most effective in helping to understand others in comparison to a slightly lower percentage choosing face-to-face communication (48%). The results of this study are inconsistent to the findings in communicating numeric information; 45% of the staff selected e-mail, where 40% of the staff chose written memorandums with no one selecting bulletin documents.



Table 2

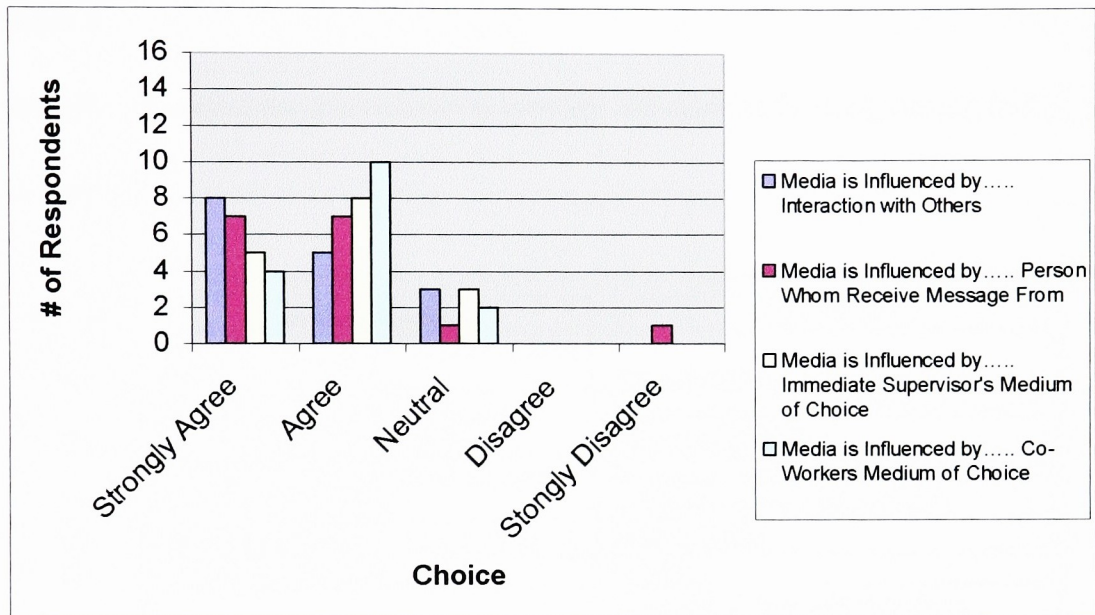
*Medium preferred when sending specific types of messages*

Types of Messages	f-f	telephone	email	written memorandums	bulletins
Medium that best conveys confidential, private, or delicate information	81.25%	0%	6.25%	13%	0%
Medium that is most effective in expressing feeling and/or emotion	93.75%	6.25%	0%	0%	0%
Medium that best influences, persuades or sells an idea to another person	87.50%	0%	0%	13%	0%
Medium that best describes a complicated situation	53%	0%	27%	20%	0%
Medium of choice to send a message that includes numerical values	25%	0%	45%	40%	0%
Medium of choice to follow up on an earlier communication	40%	34%	50%	0%	25%
Medium that is most effective in the helping of understanding others	48%	50%	25%	0%	0%

Participants were asked what factors influence the selection of media used in the workplace. Figure 1 shows the results. Eight staff believed that the medium they preferred was influenced by the interaction with others, while seven staff strongly agreed that media selection was influenced by the person for whom the message was intended. Ten of the 16 participants agreed that the medium they used was influenced by co-workers. Interestingly, only five staff strongly agreed that selection of media was influenced by the immediate supervisor and eight just "agreed." Staff members were more likely to respond to a message using the same medium in which it was sent.

Figure 1

*Media is influenced by others within the organization.*



### *Hypotheses*

Hypothesis 1a predicted that the staff within CIAS would more likely choose a multimedia medium (e.g. e-mail, instant messaging or video-conferencing) rather than a leaner medium (e.g. memorandum, fax or bulletin) when communicating an unequivocal message to their superiors and/or decision-makers (faculty). Hypothesis 1b predicated that the staff in CIAS would be more likely prefer a lean medium (e.g. written memorandums) to a richer medium (e.g. face-to-face) when communicating equivocal messages to their superiors and/or decision-makers (faculty).

Staff members were asked to define unequivocal and equivocal messages.

Table 3 lists their responses.

Table 3

*Identifies the definition of unequivocal message and equivocal message as described by the staff*

Respondent	Unequivocal Message	Equivocal Message
#1	statement of facts - precise and to the point; no doubt about the message	broad or general meaning - fact finding
#2	message that gives you complete sense of who, what, why, when, where & how	vague, undecided lack of all details, who, what, why, when, where, how
#3	a message containing specific information that can not be misunderstood	a message containing information that could be construed a couple of different ways
#4	absolute fact, no doubt	doubtful content
#5	no two ways about it, fact	doubtful
#6	"the meeting will be from 12-2 in room 2570"	"the faculty will meet either Monday or Wednesday June 20 or 22nd. Please let me know your availability"
#7	no reply	no reply
#8	"can you come to a meeting?" "do you have this file?" "I have a report/file, etc."	problem with student's file/registering; if this involves more than one person/dept; not sure who to send message to
#9	expressing my thoughts in few words	doubtful
#10	A communication with a specific focus or or question that demands a specific response	random communication that may or may not warrant a response
#11	no reply	no reply
#12	gets across what the dictator was trying to relay with no confusion	tends to render the listener confused and unable to answer the question
#13	"I know what I need to tell the person or I have a quick easy response question; set up an appointment	One that may need discussions to hammer out the issues or many questions
#14	no "wiggle" room, clear quantitative info and/or clear direction	things that do not obtain a clear directive or information shared
#15	no reply	no reply
#16	definite, to the point	vague, unclear

The results of the survey showed that 50% of respondents preferred the medium of e-mail most often when sending unequivocal messages, 31%

preferred face-to-face, and 12% preferred the telephone. These results were consistent with the responses to the question of which medium they rely on most often when sending equivocal messages as shown in Figure 2. When sending an equivocal message, 44% of the staff preferred e-mail, 31% face-to-face, and 19% the telephone. Six percent preferred written memorandums and bulletins when sending equivocal and unequivocal messages (see Figure 3).

Figure 2

*Comparison of a preferred medium when sending equivocal vs unequivocal messages*

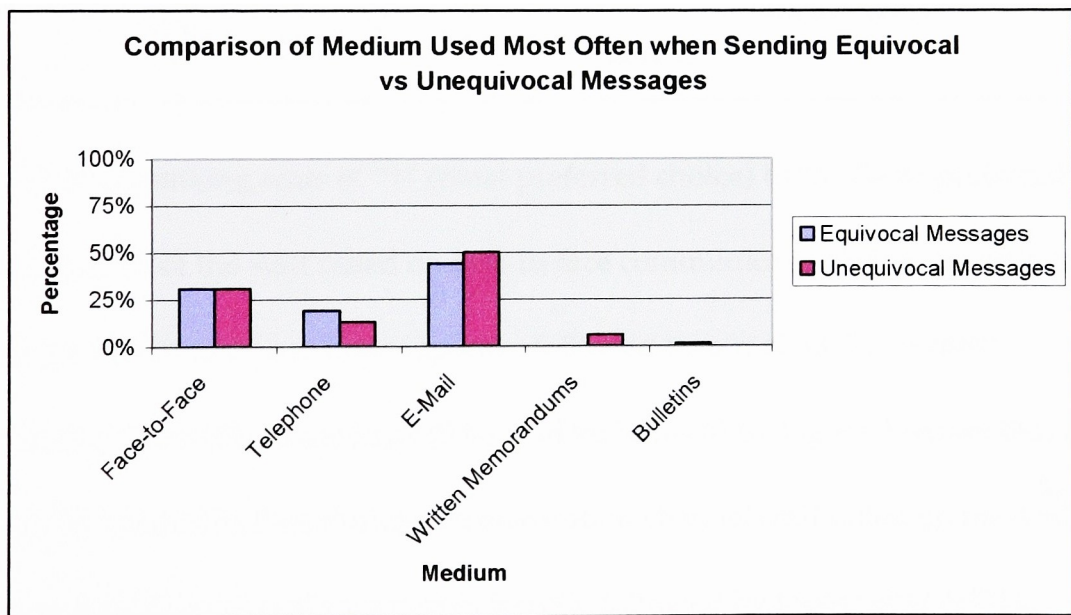
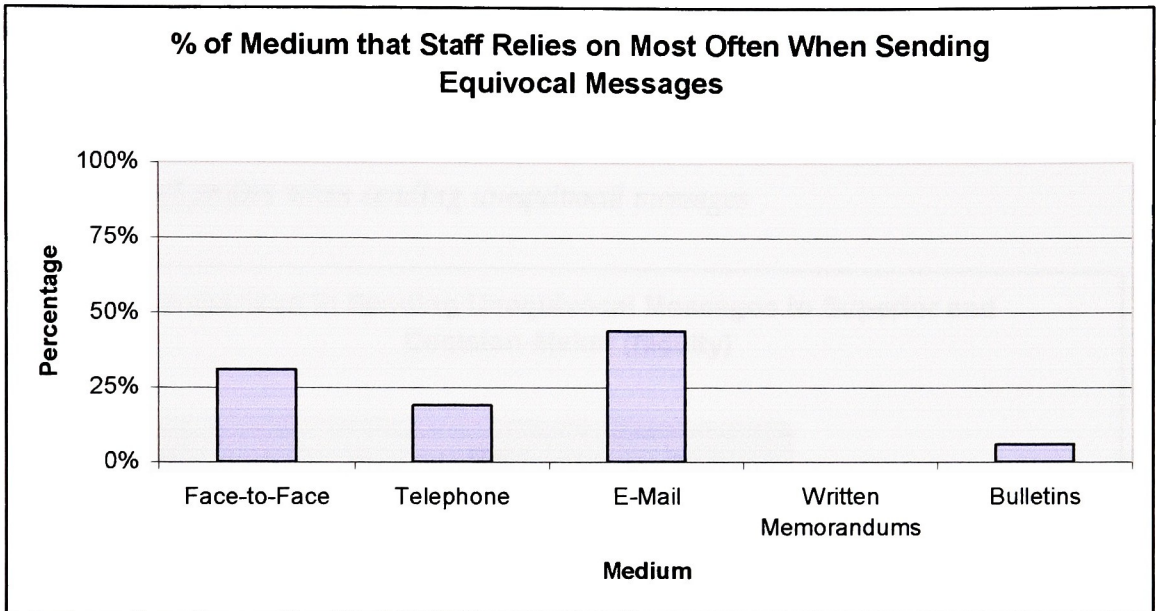




Figure 3

*Comparison of preferred medium used when sending equivocal messages*



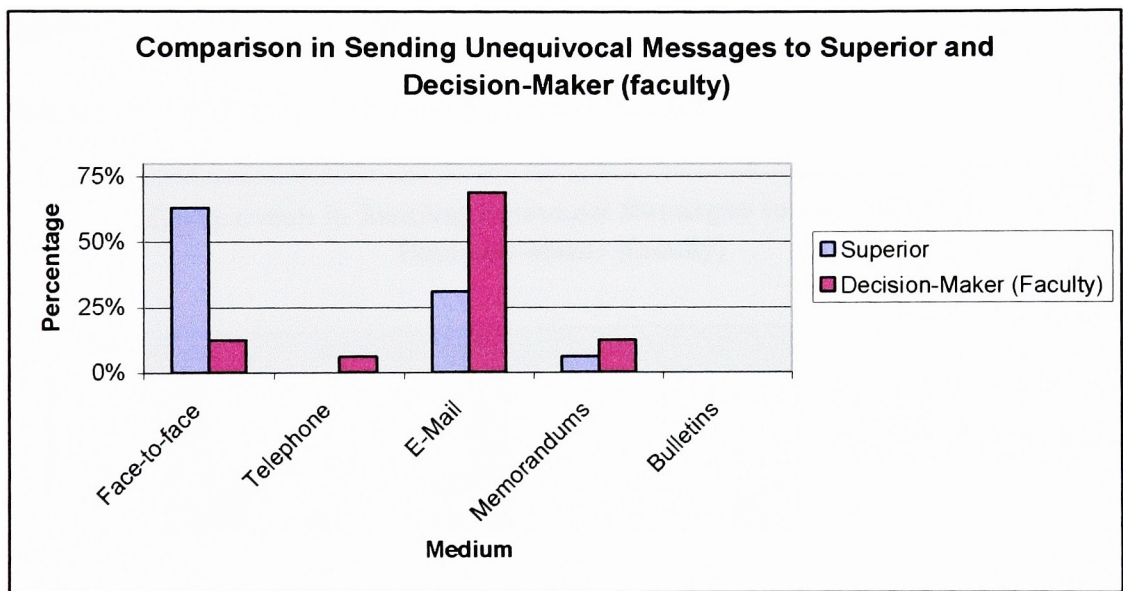
Using a ranking scale of "1" (most preferred choice) to "5" (least preferred choice), 63% of the staff relied on face-to-face communication when sending an unequivocal message to their superior, followed by e-mail (31%), written memorandums (6%), telephone (0%), and bulletins (0%). Figure 4 shows that e-mail (50%) was the first choice communication channel staff relied on most when sending an unequivocal message to faculty, followed by face-to-face (13%), written memorandums (13%), telephone (6%), and bulletins (0%). These results do not support the hypotheses that staff chose a multimedia medium when communicating an unequivocal message to a superior (face-to-face); however,



the results do support the prediction that staff was more likely to report using a multimedia, a leaner medium (e-mail) in communicating an unequivocal message to a decision-maker (faculty).

Figure 4

*Medium staff prefers when sending unequivocal messages*

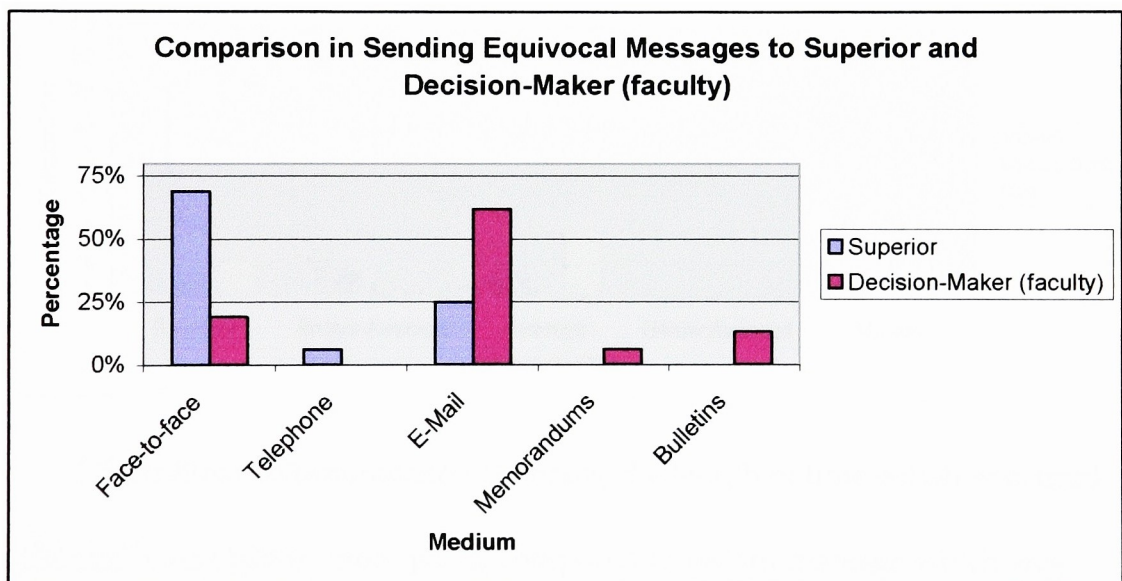


Using the ranking scale of "1" to "5", 69% of the staff preferred face-to-face communication in sending unequivocal messages to a superior, followed by e-mail, (25%), telephone (6%), written memorandums (0%), and bulletins (0%). When sending unequivocal messages to faculty, figure 5 shows that staff ranked their use of media in the order of e-mail, 62%, face-to-face (19%) written memorandums (6%), the telephone (0%), and bulletins (13%). These results do

not support the hypothesis 1b, that staff chose a leaner medium when communicating an equivocal message to a superior. However, the results do support the prediction that staff are more likely to report using a lean communication media (e-mail) when sending an equivocal message to a decision-maker (faculty).

Figure 5

*Medium staff prefers when sending equivocal messages*

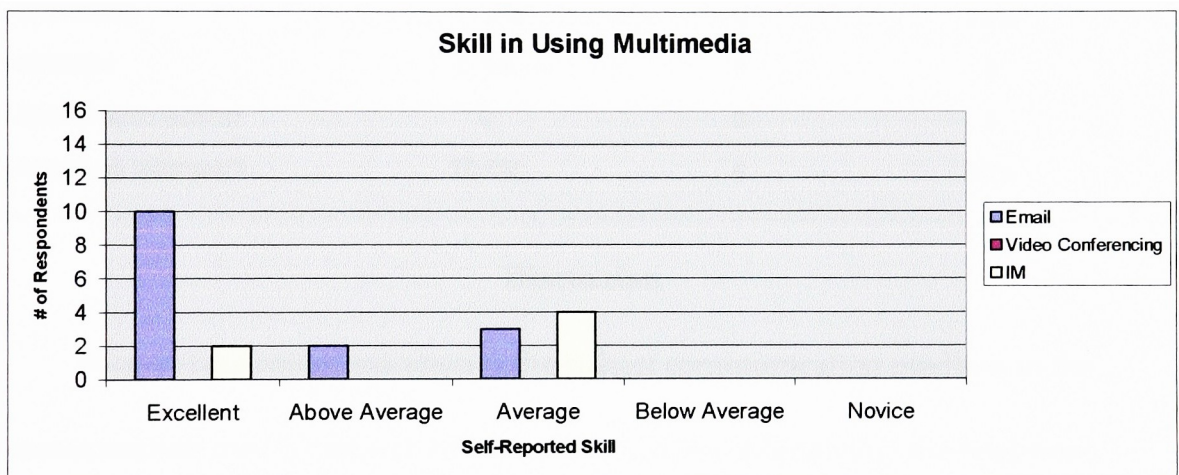


The second hypothesis predicted that the self-reported skill with a new communication medium is positively associated with self-reported attitude toward that medium. To understand the participants' attitude of communication media, survey questions were asked regarding three specific multimedia used in the work organization today: e-mail, video-conferencing, and instant messaging.

Figure 6 shows that ten of the 15 respondents self-reported that their skill was excellent in using e-mail, two above average and three with an average skill. Four of the six respondents felt their skill level for instant messaging was average. There were no responses regarding video-conferencing.

Figure 6

*Self-reported skill in using multimedia*



Of the three communication channels, the length of time e-mail was used by the staff was eight or more years, compared to instant message which was four years (N = 16). Fifteen respondents felt e-mail was a more accessible communication medium. Furthermore e-mail was considered more useful on the job, 56% followed by face-to-face with 44%. Of the six staff that felt instant messaging was a more accessible communication medium, table 4 shows that 80% felt this communication channel improved teamwork, while compared to

e-mail with 78%. E-mail was considered a distraction by 11% of the staff compared to instant messaging with 20%.

Table 4

*How staff perceive multimedia*

Feeling	Email	Video Conferencing	Instant Messaging
misunderstanding	5.5%	0	0
distracting	11.0%	0	20%
stressful	5.5%	0	0
encourages gossip	0	0	0
improves teamwork	78.0%	0	80%

### Discussion

Face-to-face communication is the richest communication medium in the communication media hierarchy followed by video-conferencing, the telephone, e-mail, instant messaging, written memorandum, and bulletin/numeric documents. According to the media richness theory, face-to-face communication is preferred for sending equivocal messages and leaner media for sending unequivocal messages. The reasons for the difference in richness include the medium's capacity for feedback, the number of cues, and the channel utilized. Miscommunication can occur if the communicators do not possess the same communication awareness, skill, and knowledge as their peer's and colleagues.



In addition where there is a cultural gap, miscommunication can be greatly compounded. Therefore with richer media, uncertainty is reduced and effective communication is more likely (Daft & Lengel, 1984).

This study shows that individual differences can affect one's preferences in matching medium to message. Unequivocal messages and equivocal messages have a powerful influence on media choice process. Staff in CIAS selected the richest communication medium (face-to-face) for posing clear and concise inquiries to their superior. This does not support the media richness theory where it is predicted that unequivocal messages will be communicated with a leaner medium. However staff in CIAS did select a leaner medium when sharing clear and concise inquiries to their faculty. E-mail was preferred for messages that are simple and unequivocal. This supports the media richness theory because when there is reduction of equivocality there is less misinterpretation; therefore, there is less need to use a rich medium.

Media richness theory predicted support staff's choice of face-to-face communication in sending equivocal messages with their superior. The results do support the hypothesis predicted that staff would choose a leaner medium when communicating equivocal messages to faculty. The findings are consistent with those of Markus (1987) where individuals preferred e-mail when a situation



was high in equivocality. E-mail was perceived as the medium to use for messages with informational value which could be read at leisure.

The medium most often used at work was e-mail, followed in order by telephone, and face-to-face. Ten of the 16 staff felt they had "excellent" (67%) skill in using e-mail, in comparison to four staff who felt they had average skill in using instant messaging. One possible explanation is the amount of experience and degree of skill in using the medium. With e-mail being the main communication medium used in the college, feedback is asynchronous and timing can be critical.

Eight workers "strongly" felt that their interaction with others influenced their decision in the medium they used at work. The staff had a 78% confidence that e-mail improves teamwork. Consistent with these findings, e-mail, 56%, was considered the medium most useful in the job. Two-thirds of the staff had an above average confidence in using new communication media; therefore, it can be assumed that their self-reported skill toward a new communication medium is positively associated with self-reported attitude toward that medium.

### **Conclusion**

There is no simple relationship between message and medium. Certainly, the choice of medium is driven by media characteristics, message content, a

person's skill, and attitude in using the medium; however other factors also play important roles. Modern organization's must constantly adapt their practices to survive in today's rapidly changing environment, and the communication processes that shape the organization play a critical role in these issues (Chang & Johnson, 2001).

The results of this study did support the media richness theory; providing empirical support for new media communication in regards to the media richness theory. Daft and associates (1987) suggest that new communication and information technologies may be most appropriately used in low-equivocality communication and decision-making situations. Media are assumed to possess an objective characteristic called "richness", whereas messages possessing a similarly objective characteristic called equivocality. The effective communicator matches media richness and equivocality. The theory predicts that individuals will dramatically prefer face-to-face interactions for high equivocal messages and prefer e-mail or the telephone for low-equivocal situations, again supporting the media richness theory.

The results of this study may have implications for organizational and decision-making. Media preferences can influence the information

communicated, therefore affecting decision-making outcomes. Staff may exercise personal preferences when sending high and low-equivocality messages.

### **Limitations**

The sample in this study represented only the support staff within the Dean's office in the College of Imaging Arts and Sciences. Perhaps a larger sample size may be more appropriate in representing the characteristics of the entire support staff at Rochester Institute of Technology and in comparing the different media used in the eight colleges at RIT.

The second limitation is that self-administered surveys rely on the respondent's memories to complete the questionnaire and return. There are several benefits of a self-administered questionnaire: it can be filled out at the convenience of the respondent and the surveys can reach a large group of people quickly and there is no control over who actually fills out the questionnaire. The respondent may not read the entire questionnaire before filling it out, thus potentially biasing his/her responses. Self-administered surveys may also generate low response rates.

A third limitation is that I did not consider the job responsibility or role of the respondent and social influence upon job satisfaction. It is possible that some of the respondents were dissatisfied in their work position within the

organization and this may have had an effect on their responses to the questionnaire. Future research should continue to examine these possibilities.

### **Future Research**

Future research should consider other factors that could impact media choice, including such factors as how well the sender and respondent know each other when communicating messages as well as job characteristics and tasks. One way to capture this data would be to conduct an experiment with actual office workers in which all of the media choices are available to subjects for sequential as well as situational choices (Saunders & Jones, 1990). Such an experiment could also allow subjects to select multiple media such as the World Wide Web. This could help managers understand the real and perceived attitude toward media influence attitudes and behavior in the workplace.

Social interaction and social influence are significant factors in the workplace when deciding which medium to choose in sending a message of importance. A wide range of symbolic and situational factors influence both media use and media evaluation. These include social influence on which medium to use when sending a low or high equivocal message: the user's role in the organization; the status of the organization, public or private; status of the medium in the workplace; and the culture of the organization.

In addition, although there is some consistency in the hierarchy of media according to media richness theory, both social presence and media richness are perceptions dependent upon intrinsic characteristics of the medium, as well as the message context, the individual's experiences, attitudes and preferences. An underlying question still exists: to what extent are media choice, use and skill, intentional, conscious or expected? Research must also look at the ways in that individual media use instances can be influenced by prior media experiences with a medium. To develop predications about behavior rather than preferences or dispositions to use a medium.

An interesting aspect of this research showed that the individuals within the population chose e-mail as the medium of choice in sending messages to superiors and/or decision-makers. A future research question might be "why do people choose e-mail over the telephone in today's organization?" "Is this because the Internet is more convenient, or are there other factors involved?" More and more people carry cell phones making all more accessible. Where in the hierarchy of media richness are cell phones placed?

Finally the particular sample used in the study suggests the need for empirical data from other areas within the organization. Although the sample



concentrates on one group of employees who work together closely, there maybe other areas of the Institute that would benefit from an extension of this research.

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## Appendix

### Sources Searched/Literature Research

#### **Where information was searched**

Information was searched in the Wallace Memorial Library at RIT through the Databases:

Academic Search Elite, American Humanities Index, Business Source Elite, Communication and Mass Media Complete, ERIC, PsycARTICLES, PsycINFO, ProQuest ABI Inform Global Database, ABI/Inform Dateline, ABI/Inform Global, ABI/Inform Trade & Industry

Additional information was retrieved from the Web; WorldCat for PhD Dissertations and published papers; Library – Einstein; Connect NY for books relating to the subject; microfilm for those articles not found in the databases and bound periodicals

#### **Sources searched**

Academic Management Journal, 1978; Academy of Management Journal, 1980, 1993, 1995; American Psychologist, 1984; Communication Research 1987, 1990; Human Communication Research, 1992, 1993; Human-Computer Interaction, 1992; IEEE Transactions on Professional Communication, 1976, 1998; Information Management, 1999; Information Systems Research, 1998; International Journal of Man-Machine Studies, 1974; Journal Business Resources, 1978; Journal of Management, 1991; Journal of management Information Systems, 1998; Management Communication Quarterly, 1990; Management Science, 1986, 1989; MIS Quarterly, 1974, 1987, 1994; Organization Science, 1992, 1994, 1998, 2000; Research in Organizational Behavior, 1984; Small Group Research, 1993; Social Networks, 1990

#### **Time frame**

The range of years on research for this paper with the first article found in 1970. Few articles were found in the early 1970's, and then a few more in 1984, 1986 & 1987. There was a gap in research until the early 1990's, when a majority of the articles were found. Since 2000 there has been little research on the topic.

**Keywords searched**

Media richness theory, lean media, social presence theory, social interaction, new media technology, organizational communication, organizational information, media choice, electronic mail, computer-mediated-communication, message equivocality, information processing, communication technologies, interpersonal communication, communication & technology

**Limitations**

The first article found on MRT was in 1978, and then there is a gap of information until the early 1980's. Most of the studies were conducted in the early 1990's with the development of new media technologies, little research found within the past few years. Little research was found in relation to H2, self-reported skill on new communication medium and the behavior associated with that medium.

**Survey Instrument**



# **Your Use of Media at Work Survey**



In this survey we are interested in which communication media you use when sending messages. In addition we would also like to find out your skill and attitude toward using these media.

**Part I: Media Channels**

Please help us by ranking which medium you use in relation to communicating on the job. Using the scales provided, please rank the medium you use with the questions asked. Rank your first choice number with a 1, second choice number 2, and so forth until you have ranked all five sources. There is no right or wrong answer. Many of the statements are similar to other statements; please do not be concerned about this.

1. Which kind of communication do you use at work most often?

Rank 1 to 5, 1 as most often to 5 as least often.

- ☐ Face-to-face
- ☐ Telephone
- ☐ E-mail
- ☐ Written memorandums, addressed (memos and letters)
- ☐ Bulletins, unaddressed (flyers and computer reports)

2. Generally speaking how do you feel the following medium channels are useful in your job?

Rank 1 to 5, 1 as most useful to 5 as least useful.

- ☐ Face-to-face
- ☐ Telephone
- ☐ E-mail
- ☐ Written memorandums, addressed (memos and letters)
- ☐ Bulletins, unaddressed (flyers and computer reports)

3. Generally speaking which source of communication do you rely on most when sending a clear and concise (unequivocal) message? Rank 1 to 5, 1 as most often to 5 as least often.

- ☐ Face-to-face
- ☐ Telephone
- ☐ E-mail
- ☐ Written memorandums, addressed (memos and letters)
- ☐ Bulletins, unaddressed (flyers and computer reports)

4. Generally speaking which source of communication do you rely on most when sending an ambiguous message (message of uncertainty)? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
5. Generally speaking which source of communication do you rely on most when sending a clear and concise message (unequivocal) to your superior? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
6. Generally speaking which source of communication do you rely on most when sending an ambiguous message (message of uncertainty) to your superior? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
7. Generally speaking which source of communication do you rely on most when sending a clear and concise (unequivocal) message to faculty? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)

8. Generally speaking which source of communication do you rely on most when sending an ambiguous message (message of uncertainty) to faculty? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
9. Generally speaking which source of communication do you rely on most when sending a clear and concise (unequivocal) message to co workers? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Paper memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
10. Generally speaking which source of communication do you rely on most when sending an ambiguous message (message of uncertainty) to co workers? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Paper memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
11. Generally speaking which source of communication do you rely on most when sending a clear and concise (unequivocal) message to friends and family? Rank 1 to 5, 1 as most often to 5 as least often.
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Paper memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)

12. Generally speaking which source of communication do you rely on most when sending an ambiguous message (message of uncertainty) to friends and family? Rank 1 to 5, 1 as most often to 5 as least often.

- ☐ Face-to-face
- ☐ Telephone
- ☐ E-mail
- ☐ Paper memorandums, addressed (memos and letters)
- ☐ Bulletins, unaddressed (flyers and computer reports)

### Part II: Message Content

Next we would like to find out how you define clear and concise (unequivocal) messages and ambiguous message (message of uncertainty).

13. Please describe how you would define an ambiguous message (an unequivocal message)?

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14. Please describe how you would define a clear and concise message (message of uncertainty)?

---



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Next we would like to learn which one medium you feel best fits the question asked regarding message content. Please check one of the following answers from the choices given. There is no wrong or right answer. Many of the statements are similar to other statements; do not be concerned about this.

15. Which one medium would you choose that best conveys confidential, private or delicate information?

- ☐ Face-to-face
- ☐ Telephone
- ☐ E-mail
- ☐ Written memorandums, addressed (memos and letters)
- ☐ Bulletins, unaddressed (flyers and computer reports)



16. With which one medium would you choose to describe a complicated situation or proposal to another?
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
17. Which one medium would you choose to best influence, persuade or sell an idea to another person?
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
18. Which one medium is most effective in expressing your feelings or emotions?
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
19. Which one medium would you choose to send a message including numerical figures?
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)
20. Which one medium would you choose to follow-up on an earlier communication?
- ☐ Face-to-face
  - ☐ Telephone
  - ☐ E-mail
  - ☐ Written memorandums, addressed (memos and letters)
  - ☐ Bulletins, unaddressed (flyers and computer reports)



**Part III: Work Environment**

For your answers in this section please choose the media that you felt was the most effective in communicating messages. The statements are ranked on a five-point scale. There is no right or wrong answer. Many of the statements are similar to other statements; please do not be concerned about this. Please use your answer to question #4 above to answer the following questions.

21. When I communicate with a media that I feel is most effective it helps me in understanding others that I communicate with.

			Neither		
Strongly			Agree or		Strongly
Agree	Agree		Disagree	Disagree	Disagree
1	2		3	4	5

22. My interaction with others influences my decision to use a specific medium.

			Neither		
Strongly			Agree or		Strongly
Agree	Agree		Disagree	Disagree	Disagree
1	2		3	4	5

23. Do you feel that the person who is receiving your message influences your choice of medium in a particular communication situation?

			Neither		
Strongly			Agree or		Strongly
Agree	Agree		Disagree	Disagree	Disagree
1	2		3	4	5

24. How useful do you think your immediate supervisor considers your choice of a medium relative to other forms of communication media used in the workplace?

Very					Not at all
Useful					Useful
1	2	3	4	5	

25. How useful do you think your coworkers consider your choice of a medium relative to other forms of communication media in the workplace?

Very					Not at all
Useful					Useful
1	2	3	4		5

#### **Part IV: New Media**

In this next part we would like to learn about your feelings about new media; e-mail, video-conferencing and instant messaging. Please answer the questions by choosing the answer or answers that best fit your thoughts. There is no right or wrong answer. Many of the statements are similar to other statements; please do not be concerned about this.

#### **E-mail**

For the following questions please choose one answer that best fits your thoughts.

26. Do you feel that communicating with e-mail would make you more accessible to other RIT employees?

☐ No

☐ Yes

27. Do you use e-mail at work to communicate with other RIT employees?

☐ No

☐ Yes

**If you answered 'no' please skip to question #42, if you answered 'yes' please continue.**

28. How long, if at all, have you been using e-mail at work?

☐ not at all

☐ 0-1 years

☐ 2-3 years

☐ 4-5 years

☐ 6-7 years

☐ 8+ years

29. If you are using e-mail at work do you feel that the volume of the e-mail you have received has increased over the past year?

☐ No

☐ Yes

30. Please estimate the number of messages you send by e-mail during each workday.

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7-8

☐ 8 or more

31. Please let us know how many times you check your e-mail during each workday.

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7-8

☐ 8 or more

32. Does e-mail provide relief from your other tasks at some point during the day?

☐ No

☐ Yes

33. Do you use e-mail at work to discuss your personal life?

☐ No

☐ Yes

34. Please tell us what type of messages you send to family and friends communicating by e-mail?

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35. Do you respond by the end of the day to the messages that you received during that workday?

- ☐ No
- ☐ Yes

36. Please tell us how you feel about e-mail.

- ☐ e-mail causes misunderstandings
- ☐ to me e-mail is distracting
- ☐ to me e-mail causes stress on the job
- ☐ e-mail encourages gossip
- ☐ to me e-mail improves teamwork

37. How to do you rate your skill in using e-mail at work?

- ☐ excellent
- ☐ above average
- ☐ average
- ☐ below average
- ☐ novice

38. Do you use e-mail to send, by your definition of clear and concise, messages at work?

- ☐ No
- ☐ Yes

→(If yes)

Do you feel that the clear and concise messages you send at work to your superiors convey the message intended?

- ☐ No
- ☐ Yes

39. Do you use e-mail to send, by your definition of ambiguous, messages at work?

☐ No

☐ Yes

→(If yes)

Do you feel the ambiguous messages you send at work to your superiors convey the message intended?

☐ No

☐ Yes

More than one answer can apply to the following two questions, please choose all answers that are relevant to you:

40. Who do you send e-mail messages to while you are at work?

☐ staff

☐ faculty

☐ superior

☐ administrators

☐ family

☐ friends

☐ other

41. How did you learn how to use e-mail?

☐ self-taught

☐ reading a manual

☐ tutor

☐ attending a workshop

☐ other, please specify: \_\_\_\_\_

### **Video-conferencing**

For the following questions please choose one answer that best fits your thoughts.



42. Do you feel that communicating by videoconferencing would make you more accessible to other RIT employees?

☐ No

☐ Yes

43. Do you use video-conferencing at work to communicate with other RIT employees?

☐ No

☐ Yes

**If you answered 'no' please skip to question #57, if you answered 'yes' please continue.**

44. How long, if at all, have you been using videoconferencing at work?

☐ not at all

☐ 0-1 years

☐ 2-3 years

☐ 4-5 years

☐ 6-7 years

☐ 8+ years

45. If you are using videoconferencing at work do you feel that the volume of videoconferencing has increased over the past year?

☐ No

☐ Yes

46. Please estimate the number of messages you send by videoconferencing during each workday.

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7-8

☐ 8 or more

47. Does videoconferencing provide relief from your other tasks at some point during the day?

☐ No

☐ Yes

48. Do you use videoconference at work to discuss your personal life?

☐ No

☐ Yes

49. Please tell us what type of messages you send to family and friends communicating with videoconferencing?

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50. Do you respond by the end of the day to the videoconferencing messages that you received during that workday?

☐ No

☐ Yes

51. Please tell us how you feel about videoconferencing.

☐ videoconferencing causes misunderstandings

☐ to me videoconferencing is distracting

☐ to me videoconferencing causes stress on the job

☐ videoconferencing encourages gossip

☐ to me videoconferencing improves teamwork

52. How to do you rate your skill in using videoconferencing at work?

☐ excellent

☐ above average

☐ average

☐ below average

☐ novice

☐ N/A

53. Do you use video-conferencing to communicate your definition of clear and concise messages at work?

☐ No

☐ Yes

→(If yes)

Do you feel the clear and concise messages you communicate to your superiors at work with video-conferencing convey the message intended?

☐ No

☐ Yes

54. Do you use video-conferencing to communicate your definition of ambiguous messages at work?

☐ No

☐ Yes

→(If yes)

Do you feel the ambiguous messages you communicate to your superiors at work with video-conferencing convey the message intended?

☐ No

☐ Yes

More than one answer can apply to the following two questions, please choose all answers that are relevant to you:

55. Who do you video-conference with while you are at work?

☐ staff

☐ faculty

☐ superior

☐ administrators

☐ family

☐ friends

☐ other

56. How did you learn how to communicate using video-conferencing?

- ☐ self-taught
- ☐ reading a manual
- ☐ tutor
- ☐ attending a workshop
- ☐ other, please specify: \_\_\_\_\_

### **Instant Messenger (IM Chat)**

For the following questions please choose one answer that best fits your thoughts.

57. Do you feel that communicating with instant messenger would make you more accessible to other RIT employees?

- ☐ No
- ☐ Yes

58. Do you use instant messenger at work to communicate with other RIT employees?

- ☐ No
- ☐ Yes

**If you answered 'no' please skip to question #77, if you answered 'yes' please continue.**

59. How long, if at all, have you been using instant messenger at work?

- ☐ not at all
- ☐ 0-1 years
- ☐ 2-3 years
- ☐ 4-5 years
- ☐ 6-7 years
- ☐ 8+ years

60. Please tell us the instant messenger service you use.
- ☐ AOL
  - ☐ Yahoo
  - ☐ other \_\_\_\_\_
61. If you are using instant messenger at work do you feel that the volume of online chats has increased over the past year?
- ☐ No
  - ☐ Yes
62. Please estimate the number of messages you send by instant messenger during each workday.
- ☐ 1-2
  - ☐ 3-4
  - ☐ 5-6
  - ☐ 7-8
  - ☐ 8 or more
63. Please let us know how many times you check instant messenger during each workday to see who is on-line.
- ☐ 1-2
  - ☐ 3-4
  - ☐ 5-6
  - ☐ 7-8
  - ☐ 8 or more
64. Do you use instant messenger at work to communicate with other RIT employees?
- ☐ No
  - ☐ Yes
65. Do you feel that instant messenger makes you more accessible to other RIT employees?
- ☐ No
  - ☐ Yes



66. Does instant messenger provide relief from your other tasks at some point during the day?

☐ No

☐ Yes

67. Do you use instant messenger at work to discuss your personal life?

☐ No

☐ Yes

68. Please tell us what type of messages you send to family and friends when communicating by instant messenger.

---

---

69. Do you respond by the end of the day to the messages that you received during that workday?

☐ No

☐ Yes

70. Please tell us how you feel about instant messenger.

☐ instant messenger causes misunderstandings

☐ to me instant messaging is distracting

☐ to me instant messaging causes stress on the job

☐ instant massaging encourages gossip

☐ to me instant messaging improves teamwork

71. How to do you rate your skill in using instant messenger at work?

☐ excellent

☐ above average

☐ average

☐ below average

☐ novice

72. Do you use instant messenger (IM Chat) to communicate your definition of clear and concise messages at work?

☐ No

☐ Yes

→(If yes)

Do you feel the clear and concise messages you communicate to your superiors at work with instant messenger (IM Chat) convey the message intended?

☐ No

☐ Yes

73. Do you use instant messenger (IM Chat) to communicate your definition ambiguous messages at work?

☐ No

☐ Yes

→(If yes)

Do you feel the ambiguous messages you communicate to your superiors at work with instant messenger (IM Chat) convey the message intended?

☐ No

☐ Yes

More than one answer can apply to the following two questions, please choose all answers that are relevant to you:

74. Who do you instant message with while you are at work?

☐ staff

☐ faculty

☐ superior

☐ administrators

☐ family

☐ friends

☐ other

75. How did you learn how to use instant messenger (IM Chat)?

- ☐ self-taught
- ☐ reading a manual
- ☐ tutor
- ☐ attending a workshop
- ☐ other, please specify: \_\_\_\_\_

76. Who do you instant message (IM Chat) with while you are at work?

- ☐ staff
- ☐ faculty
- ☐ superior
- ☐ administrators
- ☐ other

Next are three additional questions in relation to your experience in using the computer to communicate. Answers are ranked on a five-point scale; 1 as very poor to 5 as very good. Please choose one answer that is relevant to your experience. There is no wrong or right answer.

77. In general please rank your computer experience.

Very Poor	Poor	Neutral	Good	Very Good
1	2	3	4	5

78. In general please rank your expertise on keyboard skills.

Very Poor	Poor	Neutral	Good	Very Good
1	2	3	4	5

79. In general please rank your communication skills in relation to the clarity in the messages you send.

Very Poor	Poor	Neutral	Good	Very Good
1	2	3	4	5

**Group V: Demographics**

Next we would like to some information from you. Please choose the answer that is most appropriate for you.

80. What is your level of education reward?
- ☐ High School Diploma
  - ☐ Trade School Diploma
  - ☐ Undergraduate Degree
  - ☐ Graduate Degree
  - ☐ Other
81. How long have you been employed at RIT?
- ☐ 1-5 years
  - ☐ 6-10 years
  - ☐ 11-15 years
  - ☐ 16-20 years
  - ☐ 20+ years
82. What is your current position at RIT?
- ☐ administrative staff assistant
  - ☐ academic coordinator
  - ☐ records assistant
  - ☐ scheduling
  - ☐ facilities
  - ☐ other
83. How long have you been in this position?
- ☐ 1-5 years
  - ☐ 6-10 years
  - ☐ 11-15 years
  - ☐ 16-20 years
  - ☐ 21+ years
84. Do you work 7 hours a day?
- ☐ yes
  - ☐ no

85. If you do not work 7 hours a day, please let us know how many hours you work each day?

\_\_\_\_\_hrs/day



Please use these last two pages for your comments:

Please use these last two pages for your comments:

## Figures and Tables

### Tables

Table 1

*Characteristics of media that determine richness of information processed*

Information Richness	Medium	Feedback	Channel	Source	Language
High	Face-to-face	Immediate	Visual, Audio	Personal	Body, Natural
	Telephone	Fast	Audio	Personal	Natural
	Written, Personal	Slow	Limited visual	Personal	Natural
	Written, Formal	Very Slow	Limited visual	Impersonal	Natural
Low	Numeric, Formal	Very Slow	Limited visual	Impersonal	Numeric

Table 2

*Medium preferred when sending specific types of messages*

Types of Messages	f-f	telephone	email	written memorandums	bulletins
Medium that best conveys confidential, private, or delicate information	81.25%	0%	6.25%	13%	0%
Medium that is most effective in expressing feeling and/or emotion	93.75%	6.25%	0%	0%	0%
Medium that best influences, persuades or sells an idea to another person	87.50%	0%	0%	13%	0%
Medium that best describes a complicated situation	53%	0%	27%	20%	0%
Medium of choice to send a message that includes numerical values	25%	0%	45%	40%	0%
Medium of choice to follow up on an earlier communication	40%	34%	50%	0%	25%
Medium that is most effective in the helping of understanding others	48%	50%	25%	0%	0%

Table 3

*Identifies the definition of unequivocal message and equivocal message as described by the staff*

Respondent	Unequivocal Message	Equivocal Message
#1	statement of facts - precise and to the point; no doubt about the message	broad or general meaning - fact finding
#2	message that gives you complete sense of who, what, why, when, where & how	vague, undecided lack of all details, who, what, why, when, where, how
#3	a message containing specific information that can not be misunderstood	a message containing information that could be construed a couple of different ways
#4	absolute fact, no doubt	doubtful content
#5	no two ways about it, fact	doubtful
#6	"the meeting will be from 12-2 in room 2570"	"the faculty will meet either Monday or Wednesday June 20 or 22nd. Please let me know your availability"
#7	no reply	no reply
#8	"can you come to a meeting?" "do you have this file?" "I have a report/file, etc."	problem with student's file/registering; if this involves more than one person/dept; not sure who to send message to
#9	expressing my thoughts in few words	doubtful
#10	A communication with a specific focus or or question that demands a specific response	random communication that may or may not warrant a response
#11	no reply	no reply
#12	gets across what the dictator was trying to relay with no confusion	tends to render the listener confused and unable to answer the question
#13	"I know what I need to tell the person or I have a quick easy response question; set up an appointment	One that may need discussions to hammer out the issues or many questions
#14	no "wiggle" room, clear quantitative info and/or clear direction	things that do not obtain a clear directive or information shared
#15	no reply	no reply
#16	definite, to the point	vague, unclear

Table 4

*How staff perceive multimedia*

Feeling	Email	Video Conferencing	Instant Messaging
misunderstanding	5.5%	0	0
distracting	11.0%	0	20%
stressful	5.5%	0	0
encourages gossip	0	0	0
improves teamwork	78.0%	0	80%

*Figures*

Figure 1

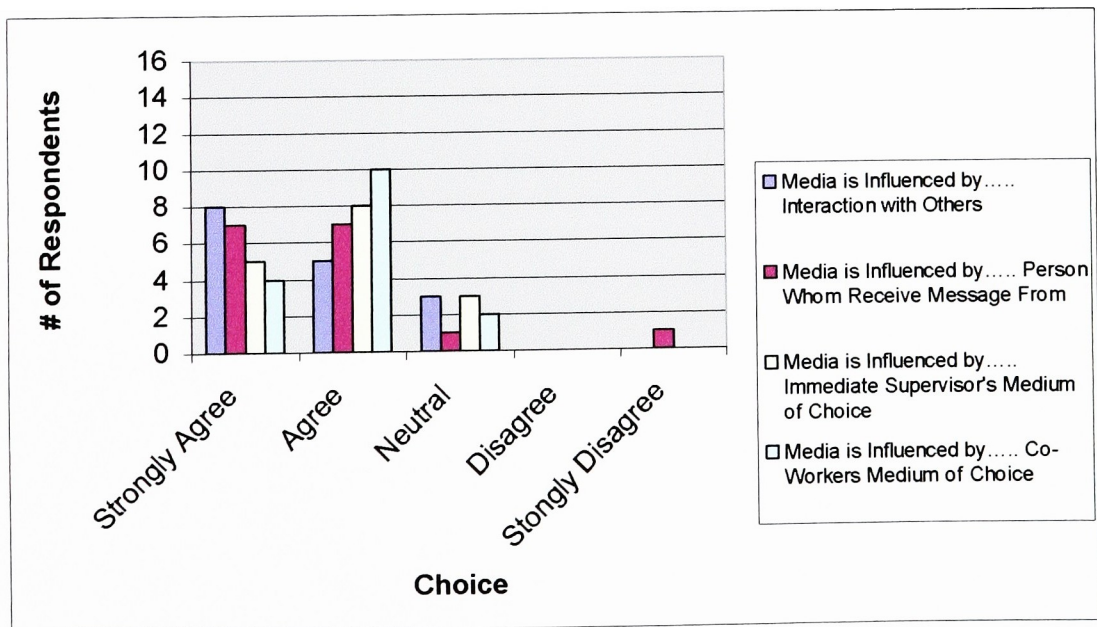
*Media is influenced by others within the organization.*



Figure 2

*Comparison of a preferred medium when sending equivocal vs unequivocal messages*

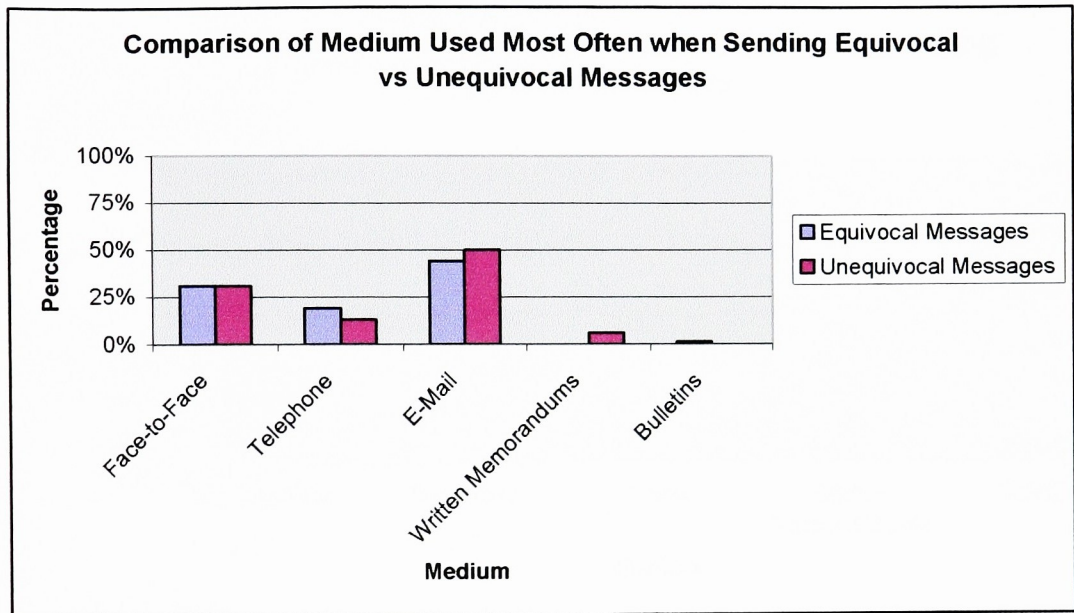


Figure 3

*Comparison of preferred medium used when sending equivocal messages*

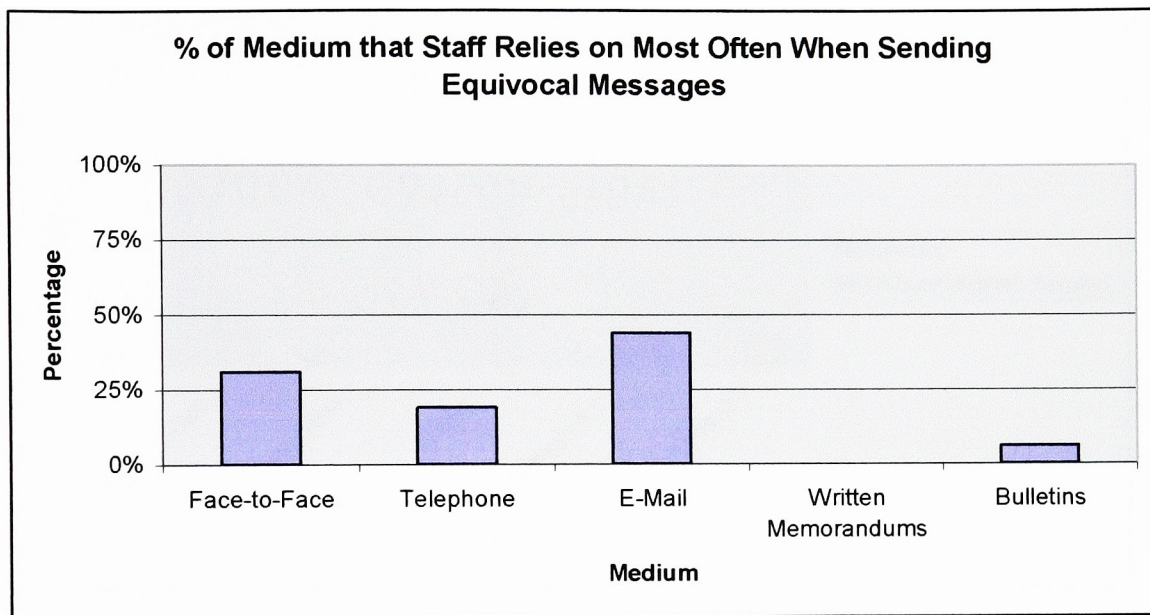


Figure 4

*Medium staff prefers when sending unequivocal messages*

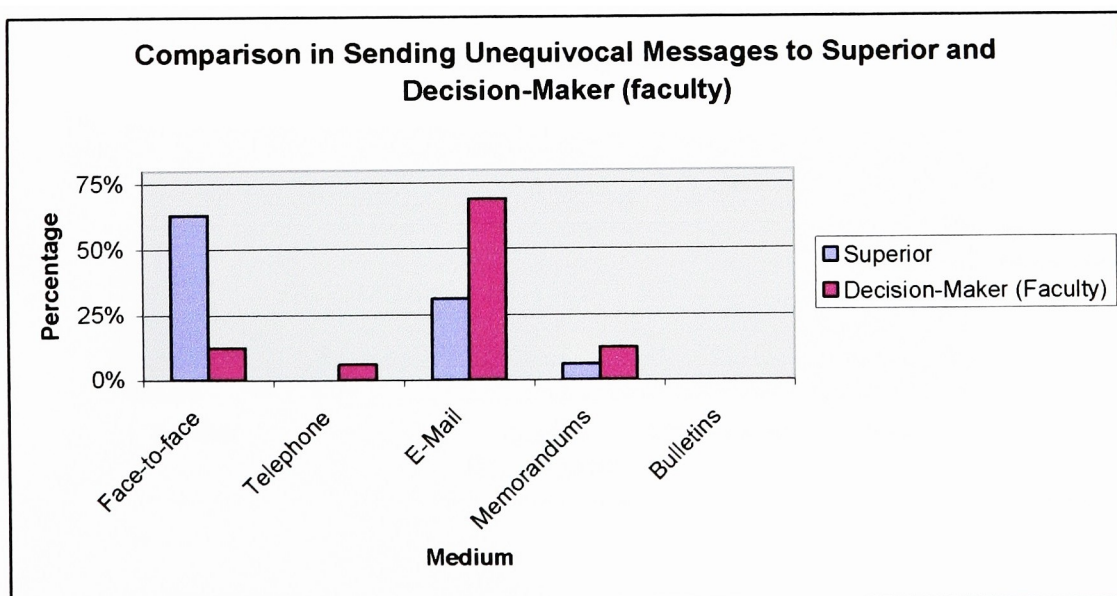


Figure 5

*Medium staff prefers when sending equivocal messages*

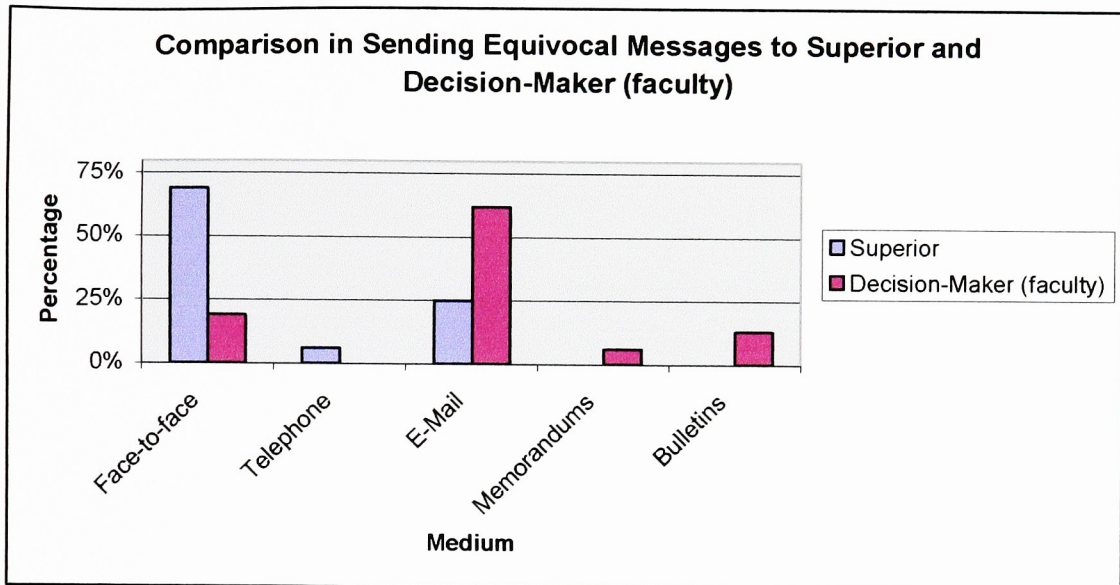


Figure 6

*Self-reported skill in using multimedia*

