

EFFECTIVENESS OF COMMUNICATION TOOLS IN COLLABORATIVE WORK

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ABSTRACT

This paper discusses the results of preliminary research done on the topic of communication tools. The research was done as part of a senior honors tutorial thesis and studied the effectiveness of communication tools in collaborative work among students. The study focused on the following communication tools: email, discussion database, online chat, face-to-face, phone, and fax. The subjects in the sample group were graduate students enrolled at the Ohio University College of Business. The data was collected using surveys that were distributed to the students. The survey asked the students about their communication preferences and the perceived effectiveness of the tools for various group tasks. Descriptive statistics were used to analyze the data. Differences in preference were noticed among the different educational groups and genders. This preliminary study concluded that face-to-face communication remains the most effective tool for students.

Keywords: Communication tools, collaborative work, graduate programs, distance learning

PROBLEM STATEMENT

The purpose of this study was to investigate the effectiveness of various communication tools among team members involved in collaborative group work. This study examined the preference of different communication tools in a sample of graduate students involved in team-based, problem-solving curriculum. This section includes why this topic is important and the questions intended to be answered by this study.

Effective teamwork is one key to success in today's business world. Face to face communication is the most common form of interaction between team members. However, team members may be spread throughout many buildings or the globe making face-to-face communication difficult. No matter what their situation, team members must be able to communicate effectively.

Many universities are beginning to offer distance learning programs in addition to their traditional curriculum. These online degrees must provide students with an education equivalent to their peers in the traditional classroom setting. Students must be able to communicate with their professors in a way that is as effective as if they were speaking in a face-to-face situation.

Companies and universities need to know exactly what types of communication tools are appropriate in different situations. In order to have the most productive teams and the most beneficial distance learning classes they must know the benefits and drawbacks of the various communication tools. This study was designed to provide companies and universities with the information they need to select the most efficient communication tools to suit their objectives.

Communication Tools

There are pros and cons to the use of any communication tool. The positive aspects and the drawbacks of each communication tool must be taken into account when selecting a medium for work or education related tasks. The following are the general positives and negatives associated with the communication tools selected to be in this research.

Face-to-face communication is the earliest form of communication among humans. Gestures and body language allow the recipient to interpret the information in the way that is intended, and sometimes not intended, by the speaker. However, in some settings people are involved in many different teams and it may be impossible to find a time when the entire team can meet. When team members are close friends, face-to-face communication can lead to off-task discussions.

The most common form of non-face-to-face communication is the telephone. In the beginning the telephone was ideal for one-to-one conversations. However, making lots of phone calls can be very expensive and time-consuming. It may also be difficult to reach people at a time that is convenient for all parties involved. Many business meetings take place in conference calls and while most companies have phones capable of conference calls, many households do not.

Although very basic forms of the facsimile (fax) were invented starting back in the late 1800s, people did not begin to use it for business purposes until the 1970s. The benefit to this communication tool is that hand-written documents or signed documents can be transmitted as exact copies of the original. Using faxes can be very costly to an individual or small company and include the overhead cost of the actual fax machine.

In 1976 the first, basic email system was introduced. Since then, email has become a very popular form of communication among team members. People can send messages to one another over the Internet. Messages can be saved for future reference making them a good way for teams to document their discussions. Email is also cheaper than telephone calls and usually gets a faster response than traditional mail. However, since email is so easy to use, many people send numerous messages that could lead to information overload.

Discussion databases are a form of asynchronous communication that allow team members to post documents or questions to an Intranet. Discussion databases provide a way to track documents and discussions in an organized fashion. A discussion database is also a great way to allow managers or professors to monitor the work of the team throughout the projects. Discussion databases are very helpful but the software can be expensive if workplaces or universities do not provide these services. If they are not kept current the information in the discussion database may be useless. Since it does utilize the Internet, the quality of Internet connections will also affect the ability to use this tool. Heavy email users may also forget that they could post things to the database instead of sending out emails

Since the mid-1990s online chatting has enabled people to talk to each other by sending and receiving messages instantaneously via their computers. Chat rooms can be useful for group discussions for teams that are separated by distance. Slow Internet connections can cause delays in the messages and lead to confusion. Online chatting is also more difficult than a face-to-face

conversation since it is difficult to tell when the next message will arrive or when the other user is finished discussing one topic.

Research Questions

This paper further examined previous studies regarding the effectiveness of communication tools. This study intended to provide a current view straight from the students that are using these technologies in a day-to-day basis. . It was hoped to better able professional to use the findings to adapt the tools into their collaborative work. The main question to be answered was: How effective are various communication tools for collaborative work among team members? The following are the more detailed questions answered through this research:

1. Do different communication tools lend themselves better to specific tasks within collaborative work? The hypothesis was that the students would feel that certain communication tools are more effective for different tasks.
2. How important is face-to-face communication? The hypothesis was that students would prefer face-to-face communication as opposed to other tools.
3. Do the locations of team members affect their communication tool preferences in collaborative work? The hypothesis was that students working in the distance learning program would have more faith in forms of communication other than face-to-face communication.
4. Does gender affect collaborative tool preference? The hypothesis was that there would be similar preferences between the genders.

REVIEW OF LITERATURE

Gender Differences in Communication

Studies in 1994 revealed that the genders communicate differently online than they do face-to-face (3). The results described the typical male's online communication style to be comprised of put-downs, strong assertions, sarcasm, self-promotion, as well as lengthy and/or frequent postings. The typical women's online communication style was said to be comprised of supportiveness, attenuation, appreciation, apologies, expressions of doubt, contributions of suggestions, and hedging.

A study completed years later produced similar findings. Males continued to have a more dominant presence than women during Internet communications (4). When the females' identities were kept anonymous they were observed to participate more freely in discussions than when their identities were disclosed. The results suggested that at times the aggressive tactics used by men led women to sign-off or not participate in discussions. The study also indicated that women often typed short messages with justification while men typically wrote longer messages and stated all of their ideas as facts.

These two studies, completed over seven years apart, indicate that there is still a very different style of communication between the genders. Although both studies indicated that some people

did not exhibit the typical communication style, the majority of the subjects did follow these patterns in both face-to-face and online communications.

The Simmons Graduate School of Management Center for Gender in Organizations is one research group that concluded that women are more powerful during online communication than in face-to-face communication. This research focused on the usage of Internet-based information tools, specifically e-mail and Lotus Notes applications. The sample for this research consisted of women working in companies of 2,000 or more employees and their ages ranged from 30-57. Of the 675 women surveyed, 57% felt that their gender mattered less when communicating online. (2). Similarly two-thirds of the sample thought the following points were true when communicating online: their ideas are more likely to be heard, their co-workers were more responsive, and it was easier to express thoughts.

Graduate Programs

Many universities and colleges have investigated the use of communication tools to benefit their graduate students during collaborative work. In one study, an MBA consulting class was given the opportunity to use DocuShare, a discussion database software.

After the program was completed the students came to some conclusions regarding their preferences. Using DocuShare was the most convenient way to share documents but face-to-face was considered best for brainstorming tasks. According to the students in this study, e-mail was most effective for brainstorming when face-to-face was not possible. Synchronous communication was best for situations when immediate feedback was necessary while asynchronous communication worked best where learning was done via sharing knowledge and for building knowledge bases (5). One of the interesting comments that many students shared was feeling they had not used the DocuShare to its fullest potential. They realized that these applications are only useful if they are maintained daily. Some students also felt that it was difficult to break the habit of sending emails and many would email the whole group instead of posting something in DocuShare. Students also said that had they been in a distance program, they would have used the tool more.

Distance Learning

The effectiveness of communication tools is important to all educational programs but especially distance learning programs. Universities that are purely online exist in at least 35 states and other states have groups that promote distance learning (8). Some of the drawbacks of distance learning include dealing with slow Internet connections and problems with administering tests. Proper use of communication tools will reduce the problems associated with any distance learning program.

In graduate programs, other forms of communication are replacing face-to-face communication and some things are lost in the communication process. Tsai, Cambiano, DeVore, & Harvey reported that many graduate students participating in a distance learning program felt isolated from the university and fellow peers (9). Some students also felt that they would have enjoyed time in class to get to know other students and their professors better. If distance learning is going to succeed, a way must be found to accomplish bonding and networking among students when they cannot meet face-to-face.

There is no doubt that many of the communication tools lack the personal touch of face-to-face communication. This was also found to be true in a study done by Schweizer, Paechter, & Weidenmann (7) on distance education and communication. Face-to-face communication was found to be more insightful because it gives the listener clues to the speaker's emotional or cognitive state of mind. When people are communicating online the emotional and personal side tends to be missing and discussions tend to be more serious, depersonalized, and task-oriented. This could explain why graduate students in previous studies felt separated from other students during their distance learning program.

Successful distance learning programs tend to incorporate communication tools that emphasize participation and interaction. Discussion database and e-mail are two ways that professors can make sure their classes are interactive. Being interactive may decrease the feelings of isolation and non-emotional impacts of distance learning. In a finding similar to the graduate students utilizing Docushare, Mariani (6) found that discussion databases are best for posting questions that other students may have or working on group projects while email was most effective for individual questions or problems addressed to the professor.

METHODOLOGY

Subjects

The subjects used in this study were graduate students of the Ohio University College of Business. Ohio University is an accredited university with approximately 20,000 students. The College of Business has selective acceptance requirements due to the high number of students applying each year. Students were selected for this sample because they were involved in a team-based environment requiring a high amount of communication among team members.

Students were selected from graduate level College of Business programs. The full-time MBA program at Ohio University is a one-year program with four quarters of intense work. A required study abroad project emphasizes the global perspective of this program. The students do much of their work in teams to solve real business problems for surrounding organizations. The distance learning group in the sample were students involved in the Without Boundaries MBA program (MBAWB). One of the entry requirements is that applicants have a minimum of two years of managerial or professional experience. Throughout the two-year program the students have nine residencies, which are mandatory times when the entire program assembles to work at Ohio University. Most of the work is done via the Internet, except for the residencies. The MBAWB is ranked as one of the top distance MBA programs in the country by U.S. News & World Report (1).

Instruments Used

A survey was developed and used to gather data regarding participants' experiences and preferences for communication tools in collaborative work. Descriptive statistics were used to analyze the data collected in this research because sample size did not permit the use of other statistical tools. The means of the responses for individual questions were calculated. The means of the total sample were compared to the means of sub-groups in order to draw conclusions from this research.

Results

The response rate for this research was very low. The full-time graduate students were given access to the surveys in their Discussion Database. Out of the possible 75 full-time graduate students, 7 students participated in the research. The response rate for this group was 9.33%. The MBA WB students had a similarly low response rate to the surveys that were emailed out to them. Out of the 45 students, 5 students emailed back completed surveys. The response rate for this group was 11.11%. One factor believed to have contributed to the low response rate was Ohio University's human subject's policy that requires completely voluntary participation on the part of the students. The lack of physically and directly seeking the participation of students also contributed to the low response rate.

Many hypotheses were proposed during the early stages of this research. However, due to the limitations of the sample size, it was not possible to accept or reject the hypotheses. The following discussion lists the hypotheses and briefly describes the limited research results related to each.

1. **Students will feel different communication tools are more effective for different tasks:** The results showed that the students as a whole did prefer different tools for different tasks. Although the results indicated that face-to-face communication was usually the most effective tool, student preferences for the tools did vary with the different tasks.
2. **Students will prefer face-to-face communication as opposed to other tools:** The majority of the respondents selected face-to-face as the most effective tool. On very few occasions was another communication tool selected as more effective than face-to-face communication.
3. **Students working in distance learning programs had more faith in forms of communication other than face-to-face:** The study was intended to include over 75 graduate students involved in a distance learning program. However, as stated earlier only five of these students completed a survey for this research. With such a low number of students in the sample involved in distance learning, no conclusions could be made.
4. **There will be similar communication tool preferences between the genders:** The results of the study reported slightly different communication tool preferences between the genders. Although male and female means were similar, there were times when the tools were ranked in different orders. Males ranked face-to-face higher than the females in many occurrences. Females preferred discussion database as opposed to email while the males felt the opposite.

CONCLUSION

A future study is planned to follow in the direction of the preliminary research discussed in this paper. The subjects for this research will be graduate students involved in traditional and distance learning environments. It is thought that graduate students would have had more experience with communication tools in various settings than would the undergraduate students. Gaining higher response rates from the participants will also be another focus of the study. Higher response rates can be achieved by showing universities with distance learning programs

the value of this type of information. The hope is that they will be interested in this area of research and encourage their students to participate.

The results from the preliminary research have created a foundation from which plans for future studies can be based. More research is necessary to provide statistically supportable results in this area of study concerning communication tools in collaborative work. The data collected from the participants provided insight into the preferences of the students surveyed. The descriptive statistics used during the analysis were not sufficient to make any conclusions regarding the entire population. Further research in this area will allow people to better use communication tools effectively in their school, work, and personal communications.

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