

COMMUNICATION SKILLS USED BY INFORMATION SYSTEMS GRADUATES

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ABSTRACT

Communication skills are consistently ranked as the most important skills for success by top executives. Effective communication is an essential component of organizational success. One estimate is that employees spend more than 75 percent of their time communicating in interpersonal situations, as well as on a variety of other levels within the organization and externally [7]. Crucial to the future success of any business student is the preparation he or she receives in practicing and developing effective communication skills during their undergraduate studies. Information systems (IS) majors are unique in their position to provide information about necessary communication skills and needs they have experienced on the job using both traditional and technical means. Recent graduates of an IS undergraduate program were surveyed to determine what communication skills they use most in the workplace, specifically the types of on-the-job written and oral communication required of them, the importance of different communication skills needed, the tools used for communication, and the impact of these findings for teachers in IS programs and business communication courses.

Keywords: Communication skills, workplace skills, information systems graduates, business communication.

INTRODUCTION

Technological changes occurring in today's business environment often cause business educators to experience difficulty determining what specific knowledge and skills will be needed by tomorrow's employees.

A 1995 study found that executives in business organizations consider communication skills and courses very important [3]. Business school graduates, including information systems (IS) graduates, are in an excellent position to provide information about communication needs they have experienced during their years of employment, particularly during their early years of employment. Since this information can provide valuable data for teachers of information systems and business communications classes, a study was completed to determine what communication skills are used most by recent graduates of an undergraduate information systems program.

OBJECTIVES OF THE STUDY

The objectives of the study were as follows: (1) to determine the types of on-the-job written communication required of recent IS graduates; (2) to determine the types of on-the-job oral communication required of recent IS graduates (i.e., interpersonal, intragroup, intergroup, organizational, external levels, and formal or informal); (3) to determine the importance of

different communication skills needed on the job for IS majors; (4) to determine the tools (*i.e.*, hardware/software) used for communication; and (5) to determine the impact of these findings on teaching as related to the IS curriculum and business communication.

REVIEW OF RELATED LITERATURE

Surveys of employees over the years show that communication skills, or lack of communication skills, are a major source of dissatisfaction and low morale [2]. The researchers concluded that speaking with respect, listening, handling conflict, and being heard in meetings has a positive impact on the business [2]. A survey of 100 corporate communications professionals found that only one in ten believe their organization's executives "deliver corporate messages effectively while more than eight out of ten believe that the communication skills across the executive team could be improved" [6].

In order to meet the challenges for success in the business, one skill underlies all others: the ability to communicate effectively with coworkers, superiors, and subordinates.

Early studies on the most desirable workplace skills clearly indicate that executives in business organizations consider communication skills to be very important. Bowman and Branchaw surveyed business leaders and found that basic language skills, the psychology of business communication, and oral communication skills were listed as the top three skill areas needed by college business graduates [1]. In a survey of Fortune 500 industrial companies, 12 communication skills were found to be most critical, including writing, speaking, agreements and contracts, negotiating, and listening actively [8].

According to Wertheim [7] "people in organizations typically spend over 75 percent of their time in an interpersonal situation; thus it is no surprise to find that at the root of a large number of organizational problems is poor communications. Effective communication is essential component of organizational success whether it is at the interpersonal, intergroup, intragroup, organizational, or external levels."

A frequent complaint reported by employers is that job applicants lack the ability to speak and write [5]. Students are quick to utilize communication devices such as cell phones and instant messaging, yet many college graduates lack important communication skills, according to employers. According to McKay [5], when the National Association of Colleges and Employers asked employers what was most lacking in those college graduates applying for a job, good communication skills was listed first.

Today's business and industry leaders are looking for specific skills in entry-level employees according to Martin-Young [4]. In interviewing human resource managers, Martin-Young found that employers identified three skills needed by all workers: teamwork, flexibility, and communication skills. Similarly, competencies established by the U.S. Department of Labor based on workplace trends states that "today's workers need communication skills: oral, written, and technological" [4].

METHODOLOGY

This study was conducted at a Division I comprehensive public university in the Midwest. A 15-item descriptive survey instrument was administered to alumni with an undergraduate major in Management Information Systems and who had graduated during the five-year period of 2000-2004. The questionnaire was mailed to the alumni using a mailing list attained from the university’s alumni records during the month of March 2005.

A total of 362 alumni were surveyed. Six questionnaires were returned “undeliverable” and 91 usable questionnaires were returned and analyzed for a response rate of 25.6 percent. A nearly identical number of female (45) and male (46) alumni responded to the survey. Table 1 shows what year respondents completed their undergraduate IS degree. The largest number of respondents (24) graduated in 2002 (26.4 percent), followed by 22 in 2000 (24.2 percent), 21 in 2003 (23.1 percent), and 18 in 2001 (19.8 percent). Only two respondents (2.2 percent) graduated in 2004.

Table 1. Gender (n=91) and Year Completed Undergraduate IS Degree (n=87)

Year Degree Completed	Number Responses	Percent of Responses
2000	22	24.2%
2001	18	19.8%
2002	24	26.4%
2003	21	23.1%
2004	2	2.2%
Total	87	100.0%

FINDINGS

The largest number of respondents (38 or 41.8 percent) have been employed in their current position for 1-2 years. As shown in Table 2, more than 35 percent of respondents have been employed in their current position for 2-4 years.

Table 2. Number of Years in Current Position (n=91)

Years in Current Position	Number Responses	Percent of Responses
< 1 year	11	12.1%
1-2 years	38	41.8%
2-4 years	32	35.2%
> 4 years	10	11.0%
Total	91	100.0%

Respondents were also asked to identify the type of company they are employed with from a list provided that included education, manufacturing, retail, information systems/IT, pharmaceutical, and “other”. Information systems/IT was selected by 22 percent of the respondents and manufacturing was selected by 15.4 percent. The remaining categories each received five or fewer responses. Nearly half of the respondents indicated “other” for their response. The most frequent types of “other” companies were as follows: financial institutions/banks (8 or 8.7 percent); insurance (7 or 7.7 percent); and health insurance/health care (6 or 6.6 percent).

Respondents were asked to identify the type of position they currently hold. Table 3 shows that the largest percentage of respondents are employed in some type of technical position. The second most common response was “other” which included business analyst/project manager, consultant, auditor, program/analyst, network security, project manager/technician, analyst, and advanced systems analyst.

Table 3. Type of Position Held (n=89)

Type of Position	Number of Responses	Percent of Responses
Administrative	8	8.8%
Technical	42	46.2%
Management	19	20.9%
Other	20	22.0%
Total	89	100.0%

Respondents were asked to indicate (from a list provided) the extent to which they use a variety of types of written communication by using a scale of 0 – 4 with 0 = never, 1 = rarely, 2 = occasionally, 3 = regularly, and 4 = extensively. Table 4 shows the types of written communication used most and to what extent. For three forms of written communication the largest percent of responses for extent of use was “4” (extensively): email (87.9 percent); policy/procedures manual (28.9 percent); and memos (32.2 percent). The forms of written communication with the largest percent of responses for extent of use being “3” (regularly) were progress reports (34.8 percent), graphics/charts/visuals (27.0 percent), and proposals (24.4 percent). Proposals were also rated as “1” (rarely) by 24.4 percent of the respondents.

Table 4. Extent and Type of Written Communication Used

Type of Written Communication	Extent of Use (Rating 1-4)	Number of Responses	Percent of Responses
Email	4 - Extensively	80	87.9% (n=91)
Memos	4 – Extensively	29	32.2% (n=90)
Policy/Procedures Manual	4 – Extensively	26	28.6% (n=90)
Progress Reports	3 – Regularly	31	34.8% (n=89)
Graphics/Charts/Visuals	3 – Regularly	29	32.2% (n=90)
*Proposals	3 – Regularly	22	24.4% (n=90)
Informational Reports	2 – Occasionally	21	31.3% (n=67)
*Proposals	1 – Rarely	22	24.4% (n=90)

* = tied rankings

The forms of written communication with the largest percent of responses for extent of use being “0” (never) consisted of the following eight forms of written communication: position papers, annual reports, travel reports, writing for media, letters of recommendation, favorable (good news) letters, unfavorable (bad news) letters, and sales letters.

Table 5 shows the top ranking for each type of oral communication respondents were asked to rank (from a list) their extent of use. Nearly 73 percent of the respondents ranked their extent of use for 8 of the 11 forms of oral communication skills listed as “extensively” (listening, interpersonal communication, informal, intragroup, intergroup, intercultural communication,

persuasion strategies, and formal communication). More than 50 percent of respondents rated their use of listening skills, interpersonal communication, informal communication, and intragroup as extensive. Only one form of oral communication – interviewing, was ranked as “0” (never) for the largest percent of responses for extent of use.

Table 5. Extent and Type of Oral Communication Used (n=91)

Type of Oral Communication	Extent of Use (Rating 1-4)	Number of Responses	Percent of Responses
Listening Skills	4 – Extensively	66	72.5%
Interpersonal Comm.	4 – Extensively	59	64.8%
Informal Comm.	4 – Extensively	56	61.5%
Intragroup (within a group)	4 – Extensively	59	54.9%
Intergroup (among groups)	4 – Extensively	37	40.7%
Intercultural Comm.	4 – Extensively	34	37.4%
Persuasion Strategies	4 – Extensively	34	37.4%
Formal Comm.	4 – Extensively	32	35.2%
*Presentation Skills	3 – Regularly	26	28.6%
*Presentation Skills	2 – Occasionally	26	28.6%
Public Speaking	2 – Occasionally	29	31.9%

* = tied rankings

Respondents were asked to rank the extent to which they use communication devices from a list of six communication devices. Table 6 shows the top rankings for each communication device. Nearly all respondents ranked the computer (93.4 percent) and email (91.2 percent) as a communication device they use extensively. The largest percent of respondents (52.7 percent) also ranked their use of cell phones as “4” (extensively). Although the largest percent of respondents ranked their use of video conferencing as “0” (never); 38 respondents (41.8 percent) ranked their use of video conferencing as either “1” (rarely) and “2” (occasionally) and 8 respondents (8.8 percent) ranked their use as “3” (regularly).

Table 6. Extent and Type of Communication Devices Used (n=91)

Communication Device	Extent of Use (Rating 1-4)	Number of Responses	Percent of Responses
Computer	4 – Extensively	85	93.4%
Email	4 – Extensively	83	91.2%
Cell Phone	4 – Extensively	48	52.7%
Audio Conferencing	3 – Regularly	24	26.4%
Fax	2 – Occasionally	31	34.1%
Video Conferencing	0 – Never	38	41.8%

Respondents were also asked to rate the importance of writing, speaking, and teamwork skills in their job as “1” – very important; “2” – somewhat important; and “3” – not important. The largest percentage of respondents ranked each of these skills as “1” (very important) as shown in Table 7. Teamwork skills were rated as “very important” by the largest number of respondents with 81 (89 percent), followed by speaking skills (69.2 percent) and writing skills (51.6 percent).

Only a very small percentage of respondents (2.2 percent) indicated teamwork skills to be “not important” followed by 5.5 percent for speaking, and 6.6 percent for writing.

Table 7. Importance of Writing, Speaking, and Teamwork Skills in Your Job

Skill	Very Important		Somewhat Important		Not Important	
	Number	Percent	Number	Percent	Number	Percent
Writing	47	51.6%	38	41.8%	6	6.6%
Speaking	63	69.2%	23	25.3%	5	5.5%
Teamwork	81	89.0%	8	8.8%	2	2.2%

Respondents were asked to rate the extent they use the computer for composing written material and to what extent they compose written materials in longhand to be typed later by someone else as “0” – never; “1” – rarely; “2” – occasionally; “3” – regularly; and “4” – extensively. The vast majority (84.6 percent) of respondents indicated they use the computer “extensively” for composing written material and 67 percent indicated they “never” use longhand in composing written material to be typed later by someone else.

Respondents were also asked to rate their ability to use correct grammar and punctuation as “1” – very well; “2” – reasonably well; and “3” – not well. The largest percentage of respondents (56 percent) rated their ability to use correct grammar as “1” (very well) and 49.5 percent rated their ability to use punctuation as “1” (very well).

SUMMARY AND CONCLUSIONS

The findings of the study impact teaching and learning for those in the IS area, business communication, and as it relates to the IS curriculum. Crucial to the future success of any business student is the preparation he or she receives in practicing and developing effective communication skills during their undergraduate studies. The importance of preparing students with the necessary skills to succeed in the work place is essential for any institution of higher education. The findings of this study indicate the importance of the need for IS graduates to possess a variety of communication skills. Particularly, the importance of teamwork skills combined with oral and written communication skills has been demonstrated as necessary skills.

Faculty must begin by increasing the awareness among students of the importance of effective communication skills for success. One way to accomplish this is for faculty to share the findings of studies such as this with students. By discussing these findings in class, faculty can then explain why assignments are designed with specific requirements and expectations in mind that are linked to these skills. When students understand the relevance of learning particular skills their motivation increases.

Specifically, based on the types of on-the-job written communication used most extensively by recent IS graduates, business communication teachers need to prepare students to write proper emails and to use email effectively. Since IS graduates also used memos and policy/procedures manuals extensively, the ability to write and utilize these documents effectively also needs to be taught. Progress reports, graphics/charts/visuals, and proposals were also used regularly and

proper format and effective use of these types of documents should also be taught in a business communication course, preparing students with knowledge of the proper format for these documents, purpose/intent, as well as effective writing. At the same time, these types of documents should be applied in IS courses. Students could be asked to write a procedures manual in an applications course, a proposal for a project to be completed in a programming course, a progress report for a team project, and to include visual aids such as graphs and charts in a paper or presentation. In addition, faculty must require proper format for these various documents that aligns with industry standards or expectations and require effective writing.

Developing assignments in IS classes and/or business communication classes that provide students with the opportunity to develop the necessary on-the-job oral communication skills is also necessary. Since the oral communication skills used most extensively by the majority of the IS graduates in this study consisted of listening, interpersonal, informal, and intragroup, the use of teams in the classroom is essential. Learning activities and assignments such as group presentations and project-based activities that require students to interact one-on-one and in teams must be included in IS and business communication courses to provide students with the opportunity to practice and develop teamwork and communication skills.

Obviously, the importance of possessing a variety of effective communication skills is needed for success in the workplace. Graduates cannot succeed with just technical skills. They must have effective teamwork skills while being well-versed in both written and oral communication. Our students need to be effective communicators on many levels, from one-on-one, to within a team, and among different teams. At the same time, their skills must include the ability to utilize technology (e.g. computer, email, and cell phone) to accomplish many of these things, especially in communicating effectively in both formal and informal types of writing.

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