

**Employer Perspectives of Agricultural Students' Communication Skills:
Curriculum Considerations Based on Real-World Input**

Theresa Pesi Murphrey, Associate Professor

Department of Agricultural Leadership, Education, & Communications
Texas A&M University
262 AGLS, 2116 TAMU
College Station, TX 77843-2116
t-murphrey@tamu.edu

Holli R. Leggette, Assistant Professor

Department of Agricultural Leadership, Education, & Communications
Texas A&M University
262 AGLS, 2116 TAMU
College Station, TX 77843-2116
hollileggette@tamu.edu

Shannon L. Norris, Graduate Assistant

Department of Agricultural Leadership, Education, & Communications
Texas A&M University
237 AGLS, 2116 TAMU
College Station, TX 77843-2116
shannon.norris@tamu.edu

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Introduction and Theoretical Framework

Scientific communication skills are often overlooked in food, agriculture, natural resources, and human sciences' classrooms because of an intense focus on technical knowledge. However, the need for improved scientific communication skills has been documented in the literature (Crawford, Lang, Fink, Dalton, & Fielitz, 2011) as graduates are expected to disseminate and transfer scientific information to broad audiences. Writing-intensive courses have been used to reduce students' writing apprehension and encourage writing confidence (Fisher & Meyers, 2017), but universities continue to look for ways to improve students' communication skills. Crawford et al.'s (2011) study identified listening effectively, communicating accurately and concisely, communicating orally, communicating pleasantly and professionally, communicating in writing, asking effective questions, and communicating appropriately and professionally using social media as seven key characteristics of communication skills.

The National Research Council (2009) expressed concern that "little communication" (p. 3) occurs between academics and industry. Therefore, there is a need to understand employers' perspectives of the communication characteristics identified in the Crawford et al. (2011) study to improve curriculum so it meets industry needs. Within the profession, the American Association for Agricultural Education National Research Agenda (2016) calls for studies to address needed workforce competencies across agriculture and natural resources areas (Roberts, Harder, & Brashears, 2016). This study addressed the identified need by seeking guidance from agricultural industry leaders in regard to curriculum needs and assessing industry needs for communication.

Human capital theory guided this study. Capabilities, training, knowledge, experience, and abilities each contribute to human capital, and entities seek to capitalize on these attributes to benefit the company (Vargas, Lloria, & Roig-Dobon, 2016). Entities are often willing to provide on-the-job training for employees to acquire beneficial skills but would prefer for employees to join the company equipped with the needed skills (Raffiee & Russel, 2016). Thus, communication skills are critical within the context of human capital.

Purpose and Methods

The purpose of this study was to investigate employers' perspectives about the communication skills of college students they hired in the past, as well as understand their potential needs in future hires. To investigate employers' perspectives, we used qualitative interviews that focused on Crawford et al.'s (2011) seven characteristics of communication skills. We used interviews to gain rich and meaningful input from participants. Data collection continued until we reached data saturation. In all, we interviewed 37 employers who attended a career fair in spring 2017 (17 participants), fall 2017 (11 participants), or spring 2018 (nine participants). Employers represented companies related to animal industries, pest control, construction, retail, fertilizer, feed/seed, produce, food/beverage, equipment manufacturing, landscaping, financial services, and other professional services. All interviewees had hired Texas A&M University students in the past and were on campus with the goal of recruiting new hires. The employers were appropriate because they possessed knowledge of graduates who had been hired by their

company and could share meaningful information given their experience (Merriam & Tisdell, 2016). We asked employers to share their insight regarding communication skills needed by new hires, and the interviews lasted between eight and 15 minutes. We also asked the employers to rank Crawford et al.'s (2011) seven characteristics of communication skills. We assigned each employer a code in the order they were interviewed to allow an audit trail within and across the data (Erlandson, Harris, Skipper, & Allen, 1993). The letter *b* was added to the employers interviewed in the fall and the letter *c* was added to those interviewed in spring 2018 to separate them from those interviewed in spring 2017. We also maintained a journal to increase trustworthiness and credibility and used the constant-comparative method to identify categories within the data (Glaser & Strauss, 1999). The institutional review board approved the study.

Findings

All employers indicated communication skills were important. In fact, one employer (C02) specifically indicated communication skills were of paramount importance, possibly more important than content-specific scientific knowledge. Employers emphasized that two specific aspects of communication were very important: interpersonal skills (C01, C06, C11, C15, C20b, C26b, C28b, C29c) and active listening (C07, C09, C16). In regard to oral communication, employers indicated public speaking (C05, C17, C18b, C22b, C31c, C33c), speaking clearly (C07), eye contact (C12), expression (C17) and phone etiquette (C07, C25b, C36c) were essential. Regarding written communication, employers expressed professional written communication (C16) via both email (C06, C21b, C32c, C34c) and business letters (C07) were important. Employers also stated they wanted to hire individuals who could communicate effectively using technology (C03), translate scientific information into common terms (C06), and summarize complex scientific material (C08, C11). Employers also noted communication across teams (C27b, C33c), enthusiasm (C13), commitment (C14), and multicultural awareness (C35c) were important. In addition to communication-specific skills, employers noted understanding sales (C02, C04, C19b, C21b, C24b, C37c) and communicating with confidence (C04, C05, C09, C10, C30c, C23b, C37c) were critical. Thirteen employers indicated oral communication was the most important communication characteristic. This contradicts findings by Crawford, et al. (2011), which revealed listening effectively as the most important. Similar to Crawford, et al. (2011), all employers ranked social media as the least important of the seven.

Conclusions, Implications and Recommendations

Employers value effective communication skills that can be readily applied in the workplace and, thus, contribute to the human capital within their company. They desire for universities to incorporate more activities into curriculum to enhance communication skills. Because they expressed a stronger need for oral communication over written communication, universities should look for ways to strengthen oral communication skills. Writing-intensive courses often involve written papers rather than research briefs, letters, emails, or speaking points. Thus, there is a need to incorporate real-world communication activities from industry into the university food, agriculture, natural, and human sciences classroom. The findings of this study are timely for agricultural education and provide a baseline for improvement in the current communication coursework. Research is needed to determine the most effective means of incorporating activities to enhance communication skills, and researchers should conduct experimental studies to determine skill and knowledge attainment and knowledge transfer as a result of the activities.

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