

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

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Introduction and Theoretical Framework

Scientific communication skills are often overlooked in food, agriculture, natural, 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 can 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 areas of communication.

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 areas identified in the Crawford et al. (2011) study to improve curriculum so that 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 needs by seeking guidance from industry 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). Communication skills are critical within the context of human capital.

Purpose and Methods

The purpose of this study was to investigate employers' perspectives of communication skills of 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 areas of communication. We, one assistant professor and one associate professor in agricultural leadership, education, and communications, interviewed 17 employers who attended a spring career fair and frequently hire graduates. Employers represented companies related to animal industries, construction, retail, fertilizer, feed/seed, produce, equipment manufacturers, and professional services. All the employers hired 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). The interviews lasted between eight and 15 minutes and asked employers to rank communication skills mentioned in Crawford et al.'s (2011) seven areas of communication and indicate the importance

of communication skills. We conducted each interview simultaneously with individual employers and met in a separate room to debrief following each interview. Each employer was assigned a code in the order they were interviewed to allow an audit trail within and across the data (Erlandson, Harris, Skipper, & Allen, 1993). 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). We received institutional review board approval to conduct 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) and active listening (C07, C09, C16). In regard to oral communication, employers indicated public speaking (C05, C17), speaking clearly (C07), and phone etiquette (C07) were essential. Regarding written communication, employers expressed professional written communication (C16) via both email (C06) 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). In addition to communication-specific skills, employers also noted understanding sales (C02, C04) and communicating with confidence (C04, C05, C09) as critical. Additionally, we asked employers to rank Crawford et al.'s (2011) seven areas of communication. Eight employers indicated oral communication was extremely important. None of the employers indicated writing as the most important aspect of communication, but four of the employers indicated listening effectively was the most important. Last, all employers ranked social media as the least important of the seven areas of communication.

Conclusions, Implications and Recommendations

Based on findings, employers value effective communication skills that can be readily applied in the industry setting and, thus, contribute to the human capital within their company. They desire for universities to incorporate more activities into the university curriculum to enhance the seven areas of communication skills. Because they expressed a stronger need for oral communication over written communication, universities should look for ways to strengthen oral communication skills. Faculty should review curriculum to ensure the activities being implemented within the university classroom benefit employers. Further, 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 in this research is new for the agricultural education field and will provide a baseline from which to improve 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 as well as knowledge transfer as a result of the activities.

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