

**A Needs Assessment of Extension Personnel:
Communication Channels & Educational Technologies**

Caitlin Benge
Texas A&M University
caitlinbenge@tamu.edu

Dr. Theresa Pesl Murphrey
Texas A&M University
t-murphrey@tamu.edu

Dr. Scott Cummings
Texas A&M University
s-cummings@tamu.edu

Dr. Jenna Anding
Texas A&M University
j-anding@tamu.edu

A Needs Assessment of Extension Personnel: Communication Channels & Educational Technologies

Introduction

Research has shown that digital learning is a valid alternative to traditional face-to-face instruction in formal and informal learning environments (Renes & Strange, 2011; Lobley & Ouellette, 2017). With the COVID-19 pandemic and accelerating technological advances, Extension personnel must adapt to technological trends, developing their skills and implementing them in the dissemination of research-based instruction and information (Dhawan, 2020; Diem et al., 2011; Cummings et al., 2015). In response to the increasing demand for online learning opportunities in Extension, a centralized, multidisciplinary unit composed of instructional designers and other educational professionals was formed within the agency to support Extension personnel in developing and disseminating educational materials, including online courses, publications, and multimedia. By thoroughly examining Extension personnel's experiences, perceptions, and communication preferences, this qualitative study aimed to identify factors that affect sustainable adoption and utilization of digital learning support efforts in Extension.

Theoretical Framework

Rogers (2003) defined diffusion as the way innovations are spread over time throughout the communication channels of a social system. Within this framework, Rogers (2003) proposed that innovations aligning with certain characteristics were more likely to succeed. These five characteristics are relative advantage, trialability, observability, and compatibility and complexity. In this study, participants' perceptions and subsequently identified themes were used to identify which characteristics were potential barriers to adoption to diffuse information and increase engagement among Extension personnel.

Methodology

In this qualitative study (Fraenkel et al., 2019; Merriam & Tisdell, 2016), seven Extension specialists participated in virtual, one-on-one, semi-structured interviews. Purposive sampling was employed to select potential participants based on their level of involvement with digital learning material development and appointment as an Extension specialist. During the interviews, participants were encouraged to share their experiences working with these services. Interviews were held in September of 2022. Interviews were recorded, transcribed verbatim, and analyzed for recurring themes. Descriptive approaches were used to aid in the interpretation of the data. After transcribing interviews, descriptive open coding (Merriam & Tisdell, 2016) was employed to identify congruent themes among participant responses. Data saturation was determined to be reached after seven interviews due to consistent and recurring participant responses.

Findings

Participants indicated frequently using various communication channels, such as phone calls and virtual meetings. However, all participants preferred email as their primary form of communication. Zoom was the preferred virtual meeting platform over Microsoft Teams. Participants cited barriers to adoption such as lack of time to engage with support staff, infrequent communication or lack of involvement during product development, complex processes and unclear expectations prior to engagement, and a perceived lack of relevant support. When viewed through the lens of Rogers' framework, the unit studied was perceived as having low relative advantage and compatibility with high complexity, while trialability and observability were not identified as barriers. All participants were previously familiar with or had utilized the agency's digital learning services.

Conclusions

Rogers (2003) warns that the forced adoption of an innovation will likely be met with some resistance, or at the very least, partial results. To fully embrace innovation and drive adoption, the innovation must align with the characteristics identified by Rogers (2003) as outlined previously. Though most participants felt the innovation could better fit their needs with modification, many expressed interest in professional development opportunities and a need for the innovation's success. Participants cited incentives such as the unit's implementation of certain quality assurance standards and accessibility measures, meaning a potentially reduced workload for specialists.

Recommendations

According to Rogers (2003), efforts to enhance relative advantage and compatibility while lowering complexity may be successful if the innovation is tailored to the needs of a population. Therefore, recommendations for practice include increasing relative advantage by showcasing the benefits of engaging with digital learning support services; lowering complexity by setting clear, attainable guidelines and expectations prior to and during engagement; and raising compatibility by offering additional levels of support, such as professional development opportunities consisting of educational technology trainings, application of best practices, and strategic dissemination guidance, as emphasis should be placed on specialists' understanding of these tools to increase adoption. In addition, it is important to create a culture of collaboration and partnership among Extension specialists and staff. Implementing a feedback system to meet the needs of a heterogeneous group of Extension professionals with varying technological experience may provide a platform for specialists to voice their opinions. Additional opportunities for direct participation in decision making, such as forming a committee of established specialists with influence and educational professionals, may be beneficial to addressing barriers and increasing engagement.

References

- Cummings, S. R., Andrews, K. B., Weber, K. M., & Postert, B. (2015). Developing Extension professionals to develop Extension programs: A case study for the changing face of Extension. *Journal of Human Sciences and Extension*, 3(2), 9. <https://doi.org/10.54718/HRUL9997>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Diem, K. G., Hino, J., Martin, D., & Meisenbach, T. (2011). Is Extension ready to adopt technology for delivering programs and reaching new audiences? *Journal of Extension*, 49(6). <https://copdei.Extension.org/wp-content/uploads/2019/06/Is-Extension-Ready-to-Adopt-Technology-for-Delivering-Programs-and-Reaching-New-Audiences.pdf>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Professional Publishing.
- Lobley, J., & Ouellette, K. L. (2017). Using videoconferencing to create authentic online learning for volunteers. *Journal of Extension*, 55(5). <https://archives.joe.org/joe/2017october/tt8.php>
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Renes, S. L., & Strange, A. T. (2011). Using technology to enhance higher education. *Innovative Higher Education*, 36(3), 203–213. <https://doi.org/10.1007/s10755-010-9167-3>
- Rogers, E. (2003). *Diffusion of innovations*. Fifth edition. Free Press: New York.