

Reusable Learning Objects for Extension Agents to Discern Farmers' Mental-Health

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Introduction/need for innovation

Farmers are susceptible to increased risk for stress, anxiety, depression, and other mental-health related problems resulting from experiencing weather-related disasters (Baker et al., 2022). Climate change-induced droughts project to negatively affect farmers' mental health as they continue to become more extreme (Howard et al., 2020). Priority 2 of the *National Research Agenda* suggested developing effective practices for leading change (Lindner et al., 2016). Extension agents are vital in the transfer of scientific-related information to farmers (Wynn et al., 2016). Current extension agents have identified competencies needed by new agents including self-management, program development process, communication skills, interpersonal skills, technical/subject matter expertise, and teaching skills (Harder et al., 2013). Agricultural extension agents need to be better equipped with the skills and knowledge regarding agricultural risk management to address the needs of farmers (Ganpat et al., 2016). Extension agents need professional development in weather-related disaster impacts, to better react and prepare in times of crisis (Muhammad et al., 2018; Palmer & Strong, 2022).

The purpose of the developed innovation was to improve extension agents' competencies regarding farmer's mental health impacts post natural weather-related disaster. The three learning objectives of this innovation included, 1) discern the growing concern about the mental health of farmers post natural disaster, 2) discover how the innovation decision process can assist with implementing educational programs and resources about mental health post natural disaster, and 3) identify strategies to minimize mental health related impacts using new knowledge.

How it works

The investigators developed an innovative educational reusable learning object (RLO) to be administered to agricultural extension agents. An RLO is a brief, digital educational lesson, stored in an open-access online repository for public or private use (Gouldthorpe et al., 2013). The innovative RLO developed here presented the mental health concern of farmer's post-natural disasters and describes how Rogers' (2003) innovation-decision process could assist with the development of successful mental health services. The content was selected based on an initial literature review that suggested a need for mental health services for rural communities. The one hour presentation begins with a YouTube video created by the American Farm Bureau that addresses the rural mental health concern facing the United States. A series of slides follow providing information on farmers' mental health post-natural weather-related disasters. After the introductory and information slides, Rogers' (2003) innovation-decision process is discussed and the interaction between change agents and opinion leaders to encourage extension agents to consider mental health barriers farmers experience and potential services and strategies to improve farmers' well-being. Following the innovation-decision process, an activity would take place to allow small groups of extension agents to use their learned knowledge and brainstorm a mental health service idea. Lastly, a cross-sections survey would take place for extension agents to express their concerns and reflect on their learned knowledge, using both open and close-ended questions. A QR code will be shared with extension agents to take the survey on their smart phone after the presentation is complete.

Expected Results

Extension has opportunities for agents on improving rural mental health. Baker et al. (2022) suggested the establishment of an agricultural extension central resource hub as a repository for national resources and information about farmers mental health research as an open-access center. Training and workshops have taken place previously to enhance extension agent competencies. Mental health extension programs exist for farmers in eight Western states with most having at least one state extension specialist concentrating on farmer's mental stress. A Mental Health First Aid (MHFA) training was created for advisory and extension agents to improve their knowledge and skillset to recognize mental disorders and provide support and treatment options for farmers (Hossain et al., 2009). Extension agents who are competent in using information communication technologies (ICTs) for educational purposes (Ganpat et al., 2016) are better able to quickly communicate to (Strong, 2012) and educate a larger audience (Strong & Alvis, 2011).

Future plans/advice to others

While there have been previous global efforts to train agricultural extension agents on rural mental health, there is a lack of training specifically targeting the impacts farmers experience post-natural weather-related disaster. Current global research has indicated a need for a continuation of inquiry regarding farmers' mental health post-natural weather-related disasters to identify solutions and personnel to undertake the issue. Other countries have developed mental health care specifically targeting rural residents.

Agricultural extension agents work directly with farmers giving them the perfect opportunity to assess their mental health post-disaster and encourage the use of mental health services. Extension agents should consider the use of ICTs and RLOs to educate farmers on mental health services and disaster preparedness, due to the advantages discussed in the literature and ability to reach a larger audience through easy digital access and interactive elements making them more engaging learning opportunities. Researchers plan to investigate rural mental health by focusing on the mental state of agricultural extension agents and their personal networks that influence their mental wellbeing. The RLO will be promoted through Texas A&M Agrilife Extension, where other states may access and utilize the presentation as inspiration for advocating for farmers' mental health.

Cost/resources needed

There were no direct costs associated with this RLO and it was developed during the 2022 spring semester as a final project for my methods of technological change class. The innovative idea presented in the abstract was supported by USDA Hatch project 09890. Program developers, instructors or researchers, at minimum require: Articulate or PowerPoint, Qualtrics, access to contact information of agricultural extension agents in order to perform this RLO, and an open-access online repository for public use such as a website or YouTube that houses the RLO(s). Creating an extension specialist position may be needed to develop curricula to meet the needs of rural residents facing mental health impacts, and a serve as a conduit to mental health providers, and colleges of health or medicine for farmers impacted by mental health. Resources and innovations are needed to lead change in this area (Lindner et al., 2016)

References

- Baker, C., Strong, R., McCord, C., & Redwine, T. (2022). Seeking support for mental health: Evaluating social identity, social capital, and self-stigma of agricultural producers and their help-seeking preferences. *Advancements in Agricultural Development*, 3(1), 57–69. <https://doi.org/10.37433/aad.v3i1.179>
- Ganpat, W. G., Ramjattan, J., & Strong, R. (2016). Factors influencing self-efficacy and adoption of ICT dissemination tools by new extension officers. *Journal of International Agricultural and Extension Education*, 23(1), 1–13. <https://doi.org/10.5191/jiaee.2016.23106>
- Gouldthorpe, J. L., Harder, A., Roberts, T. G., & Stedman, N. L. P. (2013). Reusable learning objects: Tools for teaching in nonformal education. University of Florida EDIS, 5, <https://doi.org/10.32473/edis-wc140-2013>
- Harder, A., Ganpat, W. G., Moore, A., Strong, R., & Lindner, J. R. (2013). An assessment of extension officers' self-perceived programming competencies in selected Caribbean countries. *Journal of International Agricultural and Extension Education*, 20(1), 33–46. <https://doi.org/10.5191/jiaee.2013.20103>
- Howard, M., Ahmed, S., Lachapelle, P., & Schure, M. B. (2020). Farmer and rancher perceptions of climate change and their relationships with mental health. *Journal of Rural Mental Health*, 44(2), 87–95. <https://doi.org/10.1037/rmh0000131>
- Hossain, D., Gorman, D., & Eley, R. (2009). Enhancing the knowledge and skills of advisory and extension agents in mental health issues of farmers. *Australasian Psychiatry*, 17(1_suppl), S116–S120. <https://doi.org/10.1080/10398560902948365>
- Lindner, J. R., Rodriguez, M. T., Strong, R., Jones, D., & Layfield, D. (2016). Research priority area 2: New technologies, practices, and products adoption decisions. In Roberts, T. G., Harder, A., & Brashears, M. T. (Eds). *American Association for Agricultural Education national research agenda: 2016-2020*. Gainesville, FL: Department of Agricultural Education and Communication.
- Muhammad, A. L. İ., Man, N., Abd Latif, I., Muharam, F. M., & Omar, S. Z. (2018). The use of information and communication technologies in agricultural risk management by the agricultural extension services in Malaysia. *International Journal of Agriculture Environment and Food Sciences*, 2(1), 29–35. <https://doi.org/10.31015/jaefs.18005>
- Palmer, K., & Strong, R. (2022). Evaluating impacts from natural weather-related disasters on farmers mental health worldwide. *Advancements in Agricultural Development*, 3(1), 43–56. <https://doi.org/10.37433/aad.v3i1.175>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). The Free Press.
- Strong, R. (2012). Reusable learning objects enhanced Master Goat producers' learning. *Journal of Extension*, 50(2), Article 2RIB7. 1–7. https://archives.joe.org/joe/2012april/pdf/JOE_v50_2rb7.pdf
- Strong, R., & Alvis, S. (2011). Utilizing Facebook to disseminate horticultural lessons to adults. *Journal of Southern Agricultural Education Research*, 61, 1–12. <http://jsaer.org/pdf/Vol61/2011-61-001.pdf>
- Wynn, J. T., Coppedge, R. H., & Strong, R. (2013). Future IPM trends in Trinidad and Tobago: A qualitative study of farmers' perspectives. *Journal of International Agricultural and Extension Education*, 20(2), 65–76. <https://doi.org/10.5191/jiaee.2013.20205>