

**Cultural Awareness and Support for Safety Education:
Integrating Inclusive Research Design**

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Introduction/Need for Innovation

Specific underserved populations of the agricultural community have significantly higher rates of injury (Goldcamp et al., 2006), and currently, there is minimal data reported on the number or ability of instructors to use Tractor and Machinery Safety resources among underserved populations (Jepsen, 2012). The Youth Farm Safety Education and Certification (YFSEC) Instructor Professional Development Needs Assessment Survey was developed to identify curriculum needs and potential barriers to extension and school-based agriculture education (SBAE) instructors to deliver tractor and machinery safety instruction specifically to youth among African American, Native American, and Hispanic/Latinx farming communities.

Both the National Safe Tractor and Machinery Operation Program (NSTMOP) and Gearing Up have served as tractor and machinery youth curriculum models to be delivered by extension or SBAE teachers (Snyder et al., 2013) via face-to-face instruction. Yet, there has been little effort to address instructor preparation regarding engaging or meeting the needs of underrepresented populations using YFSEC curriculum. The need for inclusive curriculum has risen and will continue to be prominent given the recent world pandemic of COVID-19 (Hartshorne et al., 2020). This project sought to utilize an inclusive research design (IRD), wherein partners work together to plan and design research approaches and processes (McKemmish et al., 2012), as an innovative approach to better serve people of diverse backgrounds. This process sought to be attentive in developing an approach founded on empathy and respect for underserved populations. The principles and process of IRD include a connection to the community in all stages of the research, from conception to dissemination (McKemmish et al., 2012).

Program Phases

To systematically consider diverse and differing perspectives, we began an inclusive approach to develop a national YFSEC instructor professional development program for training underserved youth in agricultural safety and health. Initially, culturally responsive pedagogy and YFSEC instructor competency literature were utilized to draft professional development items (Mellom et al., 2018; Snyder et al., 2013). During the second stage of the program, individual experts were solicited to serve as an advisory committee (Flores & Alonso, 1995). This committee was formed with three individuals representing 1890 historical Black college land-grant institutions, 1862 Hispanic serving land-grant institutions, and 1994 Tribal land-grant institutions. This committee participated in a two-day intensive focus group to identify key barriers, programmatic elements, curriculum implementation strategies, and professional development needs. Member checking was used to assess the credibility of the summation of the feedback using quarterly zoom calls during the initial year (Nassar-McMillan & Borders, 2002). Focus group data were interwoven into survey items for identifying the professional development needs of extension and SBAE instructors who may instruct underserved youth. During the second year, we sought to field test the items to address cultural sensitivity, inclusive language, reading proficiency, and accessibility. A two-day meeting was held with six individuals representing 1862, 1890, and 1994 land-grant institutions to validate the questionnaire.

Results to Date

This collaborative effort highlighted several areas for improvement when surveying instructor needs. Several issues dealt with question stem construction, response options, and overall length. Recommendations for improvement were made accordingly. These included relevance of exemptions for youth learners, reduction of department of labor references, simplifying language and inclusion of relevant pictures. Rural accessibility to online access for surveys was noted to be limited. The average time to complete the survey was 10 minutes. However, many participants strongly urged reducing the length and offering an opt-in option. This opt-in option was justified as the topic relevance may deter participation and lower survey engagement. Field test participants noted and appreciated the diversity of thought used to develop the survey. Recommendations for accessing specific populations were identified using the federally recognized Tribal extension agents, 1890 land-grant extension agents, and 1862 Hispanic serving land-grant institutions.

Future plans/Advice to others

Overall, the summary from the field test was that “words matter.” Lessons learned for agricultural safety and health professionals were that language is crucial when considering survey item development. Implications include verifying reading difficulty, avoiding unnecessary wordiness, reducing response options, and contextually framing the survey to highlight the relevance for the population. This survey development will be critical in determining a foundational pool of competencies to establish instructor professional development competencies for implementing YFSEC programming among underserved communities. Future plans will be to pilot test the survey items developed with a representative sample of instructors who may provide safety programming to underserved youth. A dedicated focus on IRD should be incorporated into education research methodology courses to raise awareness and provide tools to avoid bias in program design and implementation of interventions. We recommend the use of IRD to identify language, or terminology, that is appropriate with underserved populations. We believe that the inclusion of diverse and differing perspectives in YFSEC professional development is vital in developing an inclusive training program. This adds a quality control measure to programs resulting in minimizing the bias in the selection of program efforts.

Costs/Resources Needed

Costs associated with the IRD included travel expenses and expertise stipends for the advisory committee. Advisory committee members were reimbursed for travel expenses including per diem for meals, personal vehicle mileage, lodging, and airfare. Overall expenses associated with travel totaled \$1,393. Expertise stipends totaled \$2,000. Stipends were made in two installments. The first installment of \$1,000 occurred after completion of the face-to-face meeting. The second installment of \$1,000 occurred after the third follow-up conference call used for member checking.

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