

Collaborators Needed: An Innovative Approach to Strengthening the Agriculture, Food, and Natural Resources Education Pipeline

Introduction: Need for Innovation

Agriculture, food, and natural resources (AFNR) educators are essential for empowering the next generation of sustainable problem solvers; yet, many postsecondary institutions struggle to fill the demand for school-based AFNR educators (Smith, Lawver, & Foster, 2016). To address this challenge, every aspect of the AFNR education pipeline must be evaluated and reinforced to develop and support more AFNR educators. As a discipline, AFNR education has innovatively approached recruiting more students into teacher education programs (e.g., Lawver & Torres, 2012; Vincent, Henry, & Anderson II, 2012) and encouraging current AFNR teachers to remain in the profession (e.g., Crutchfield, Ritz, & Burris, 2013; Sorensen, McKim, & Velez, 2016); however, student retention within teacher education programs has received a disproportionately low amount of attention. As an innovation, multi-institutional collaborators have developed the AFNR Teacher Education Program Retention Assessment (TEPRA), an online assessment evaluating perceptions of social community (i.e., a program's ability to meet the social/community needs of students), learning community (i.e., a program's ability to meet the learning needs of students), generalized self-efficacy (i.e., an individual's confidence in their abilities to overcome common life challenges), and major commitment (i.e., an individual's confidence they will remain in the AFNR education program to graduation) among AFNR teacher education students. Presentation of this poster at the AAAE research conference will serve two aims, (a) inform teacher educators of this innovative approach to program assessment and (b) invite programs to sign-up for the TEPRA.

Methodology

The TEPRA includes 38 quantitative questions distributed across four pilot-tested constructs (i.e., Cronbach's alphas - social community *0.93*, learning community *0.90*, generalized self-efficacy *0.90*, and major commitment *0.78* among a cohort of 32 AFNR education students at Utah State University), an open-response question regarding the strengths/weaknesses of the program, and general student involvement questions (e.g., club participation, academic minor). Upon signing up for the TEPRA, teacher educators will supply the names and contact information for students within their programs as well as complete a short Qualtrics survey of programmatic characteristics (e.g., presence of seminar course[s] for students in AFNR education, student club[s] specific to AFNR education). After providing required information, AFNR education students within the program will receive an invitation to individually complete the TEPRA, also hosted in Qualtrics. Once data have been collected from students, a comprehensive report of student responses will be provided to the teacher educator. The TEPRA report includes average scores for each individual question, construct scores, and verbatim feedback students provided about the program, absent of identifying information. Programs will also have the option of conducting the TEPRA annually, leading to a longitudinal dataset for sustained programmatic assessment.

Results to Date

The TEPRA was successfully conducted within two AFNR teacher education programs during the 2016-2017 school year. TEPRA reports (i.e., scores for each individual question, construct

scores, and qualitative feedback) were extremely beneficial to each of the two programs. While the positive impacts of the TEPRA are still being realized, the following is a list of benefits attributed to the TEPRA: (a) a platform for evaluating programmatic requirements and support structures, (b) numerous ideas for building social and learning community within programs, (c) a platform for dialogue with AFNR education students about how the program is meeting, or not meeting, their educational and social needs, and (d) a confidential line of communication for AFNR education students to provide open and honest feedback about their experiences.

Future Plans

Once a critical mass of programs sign-up for the TEPRA (i.e., ten programs), research will be conducted to look across programmatic characteristics (e.g., presence of seminar course[s] for students in AFNR education, student organization[s] specific to AFNR education) to identify innovations related to increased perceptions of social community, learning community, generalized self-efficacy, and/or major commitment. Publication of research results will provide a foundation for AFNR teacher education programs across the country to consider implementing interventions related to higher TEPRA scores. Furthermore, the longitudinal potential of this innovation will allow for programmatic and nationwide analyses of how changes within programs influence the social community, learning community, generalized self-efficacy, and major commitment perceived among AFNR education students.

Costs/Resources Needed

The TEPRA comes at no monetary cost for teacher education programs. The cost associated with this innovation is the time to create TEPRA reports (i.e., completed by the managers of the TEPRA); however, this process has been streamlined by the use of SPSS syntax and pre-structured report templates. For programs opting into the TEPRA, the benefits (i.e., a comprehensive program report) far exceed the costs (i.e., a short survey of program characteristics and collecting the names and contact information for students within the program). For the managers of the TEPRA, the costs (i.e., distributing assessments, analyzing data, creating and sharing reports) are exceeded by the benefits (i.e., potential for high-impact publications).

Conclusions

This abstract was introduced with a reminder of the importance of AFNR educators to our future, an idea to which many of us have invested our careers. The innovation described within this abstract is an opportunity for AFNR teacher educators to contribute to a shared vision of AFNR education programs better addressing the needs of students through collaboration, continual evaluation, reflection, and action. Without doubt, programs better addressing the needs of students are programs prepared for growth in student numbers, growth in the number of AFNR educators prepared to teach, and growth in the overall impact of AFNR education. As a discipline, we must occasionally be reminded that our collective ability to enhance AFNR education exceeds our individual efforts, the TEPRA represents an opportunity to catalyze that collective ability.

References

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