

Teaching Evaluation in Agricultural Literacy and Informal Education

Introduction

Agricultural literacy and informal education about agricultural education has grown steadily since the 1980s. Agricultural stakeholders have developed a wide range of programs focused on agriculture, food, and natural resources centered on audiences of various backgrounds and ages. These programs were not intended to be focused on school-based agricultural education, but more at an exposure/awareness level.

Preparing university students to work in agricultural literacy and informal agricultural education sectors presents interesting challenges. The various audiences (youth, adult, rural, urban, etc.) as well as educational formats and platforms (curriculum development, workshops, booths at expos, digital, etc.) demands that a broad skill set be taught to future educators. Evaluating these educational initiatives should also be part of the students' instruction.

Teaching future educators how to evaluate educational programming is an important part of agricultural literacy and informal education course work. Designing and executing an evaluation plan can be one of the most challenging aspects of an educator's job. This process is often overlooked, forgotten, or poorly conducted by practitioners. Experiences show that often educational contacts (how many received the intervention) are the most robust evaluation measures employed, though represent no understanding of impact of the intervention. Many practitioners lack the educational training to make evaluation and related activities successful. Considering the increasing importance of educational programmatic data for grants and funding agencies, practitioners require solid comprehension of how to effectively evaluate their programming. This teaching tip explores an evaluation unit (7 days of instruction) in an undergraduate agricultural literacy course focusing on program design and evaluation. The evaluation unit occurs during the last third of course and is designed for juniors and seniors.

Procedure

The evaluation unit was broken up by the following topics, each topic representing one day (75 minutes) of instruction. The topics included:

1. Importance of evaluation in agricultural literacy
2. Linking education and evaluation tools
3. Evaluating educational outcomes
4. Quantitative educational programmatic data
5. Qualitative educational programmatic data
6. Communicating evaluation results

7. Writing and applying for grants

The following sections breakdowns the content by day(s).

Important of Evaluation in Agricultural Literacy

During the first day students learned about the need of evaluation in effective programming and/or instruction. Importantly, there cannot be effective teaching without proper evaluation. The concepts discussed include the differences and usages of formative (middle of instruction) and summative (end of instruction) assessments. Furthermore, a connection was made to highlight how data from effective evaluation plans could be used for programmatic reporting, changes, as well as for funding agencies and to write grants. The challenges inherent in evaluating some agricultural literacy formats (i.e., brief interactions) were discussed as well. This included the increasing pressure to demonstrate teaching effectiveness and educational outcomes when applying for funding and grants.

Linking Education and Evaluation Tools and Evaluating Educational Outcomes

The second and third days of the evaluation unit were centered on evaluative tools and educational outcomes. Students learned about differing evaluation tools (e.g., badging, participant pre/post questionnaires, evaluations, interviews, focus group, etc.) and how they could be paired to differing types of educational engagements and/or broad intended education outcomes. For example, there were appropriate evaluation tools which could be utilized for day-long educational events or tools which worked better when the intended educational outcome is centered on agricultural awareness. The overarching goal of both days was to emphasize that the types of engagement should match to the educational objective and be paired with the appropriate evaluation tool. A thorough review of potential instruments and frameworks used in agricultural literacy evaluation was discussed at this time (e.g., Speilmaker & Leising, 2013).

Quantitative and Qualitative Educational Programmatic Data Collection

Days four and five of the evaluation unit explored how to work with both quantitative and qualitative educational data. Students were given educational scenarios which they must write either quantitative or qualitative questions/instruments that applied to the situation. For example, during the qualitative component students modeled a focus group. Students were also given quantitative and qualitative data sets to analyze and interpret. The quantitative data sets included knowledge and affective surveys while the qualitative data set was based on an interview of the effectiveness of a program. Consideration of resources, time, technology, personnel were considered, as appropriate, for the proposed agricultural literacy evaluation.

Communicating Evaluation Results

Students explored how to communicate evaluation results to differing audiences utilizing the data from days four and five. They practiced writing statements which reflect the findings. The differing audiences which they wrote statements for included general public, educational stakeholders, and funding agencies. Finally, students identified potential programmatic changes that could be made based on their data analysis.

Writing and Applying for Grants

The final day of the unit was focused on writing and applying for grants. Two types of grants were profiled in class: community-based grant of \$500 or less and state/federal grant of \$1000 or more. Students practiced writing some of the key sections of the grants as well as identifying which types of evaluate data would be most important for each grant.

Assessment

The evaluation unit has been a very successful part of the agricultural literacy program design and evaluation class. Six years ago, when the course was first offered, this unit was only two days long. Students requested and practitioners recommended more evaluation content. Over the next five years, the unit has slowly increased to the current state. Students have continually responded positively to the evaluation unit with many students identifying that the unit as one of their favorite parts of the course.

If time allows, we recommend that students engage in planning, developing, delivery and evaluation of an agricultural literacy program, as the wholistic view of the intervention and evaluation is more meaningful in practice. For our programming efforts, we often have students assess impact of a day-long agricultural literacy program or a drop in community night at a local elementary science night. These provide real world application and understanding of the challenges associated with agricultural literacy evaluation.

References

Spielmaker, D. M., & Leising, J. G. (2013). National agricultural literacy outcomes. Utah State University, School of Applied Sciences & Technology. <http://agclassroom.org/teacher/matrix>

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