

**Breaking Barriers to Effective Evaluation for Non-Formal Educational Programs with a
Meta-Analytic Approach**

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Introduction

Youth development programs, such as 4-H, help youth develop life skills (Allen & Lohman, 2016). However, in an age of reduced budgets and increased time demands, a more robust evaluation to demonstrate program value and justify costs is needed (Awan & Windon, 2022; Hachfeld & Bau, 2013; Interagency Working Group on Youth Programs, 2016; McClure & Fuhrman, 2012). Lack of time is an ongoing challenge to implement program evaluation for youth development educators (Lekies & Bennet, 2011). More recently, declining youth enrollments in 4-H Youth Development and all Extension programs have intensified challenges in effective evaluation, such as inability to develop strong data sets (Brown, 2009).

Both educators and employers note that better communication skills are needed in today's workforce (Jackson, et. al., 2016). Communications and media jobs are expected to increase by 14% in America by 2030 (USBLS, 2022). 4-H is a place where youth both can learn both communications skills and explore different careers (Allen & Lowman, 2016; Rice, et. al., 2015).

This project addresses these challenges and needs using the 4-H "Spread the News" workshop at 4-H Academy @ Purdue University as the context. First, we describe how to quickly implement an evaluation effort to set the stage for a more robust program evaluation in the future. We share a meta-analytic approach, which involves combining evaluation data sets from the same workshop over multiple years. Second, we share preliminary descriptive evaluation results. Finally, we discuss how meta-analytic methods can be used by others within 4-H and Extension.

How it works

Indiana youth participants enrolled in the workshop when they signed up for 4-H Academy at Purdue. 4-H Academy brings high school-aged youth to Purdue University to learn about career opportunities from faculty and professional staff through hands-on experiences. The Spread the News workshop accomplishes this goal by introducing 4-H'ers to the importance of journalism in the local community and the role of the First Amendment in American journalism. It incorporates media literacy concepts by addressing the definition of news and allowing students to create their own news stories. The workshop has the following learning objectives in three learning areas: Communications Knowledge, Career Exploration, and Civic Awareness. Youth applied communications theory, interviewed and took professional photos and footage for video news stories; created professional social media posts; and made an Adobe InDesign publication.

When preparing for the program, we could locate no appropriate evaluation instruments. To address this need, the lead researcher, a graduate student, conducted an independent study in the area of youth informal program evaluation to identify available resources and develop instrumentation.

The researcher began by reviewing available materials for the 2022 4-H Spread the News workshop: a lesson plan, a past program evaluation instrument, data from 2019, a supplementary Extension fact sheet, and the program agenda. Working with the workshop instructor, the researcher co-developed a list of formal program objectives. A series of 11 Likert scale items were developed by the researcher in the three workshop learning areas to measure participants' knowledge. A paper-pencil questionnaire including the Likert items and open-ended response questions was developed. Likert items were scaled 1 to 5, strongly disagree to strongly agree.

The instrument was piloted with $n=7$ participants, including six 4-H youth participants and one 4-H Extension educator who assisted with program delivery.

Next year, the instrument will be reviewed by additional Extension faculty and educators to establish face validity. Each year, we will collect data from workshop participants until we have at least 30 complete cases (youth participants). Data will be entered into SPSS 28 for analysis. Each data entry will have a data label indicating 1) program year and 2) instructor to help the researcher keep track of the year data were collected. Our data analysis will be informed by meta-analysis as a means to bring together the various data sets generated over several years in anticipation of slightly different program formats over time.

The use of meta-analytic techniques is innovative in its ability to address low youth participation rates in any given year of the study period. These methods help mitigate small sample size by developing a multi-year sample to enable additional quantitative analysis and external validity.

Results to date

Evaluation findings indicate moderate levels of youth satisfaction with workshop topics and activities. Preliminary quantitative analysis reveals moderate levels of agreement with statements indicating achievement of learning objectives in communication, career exploration and civic awareness (mean scores ranging from 4.11 to 4.38 for each learning area). Youth appeared to enjoy learning about communications careers ($M=4.43$, $SD=0.53$). However, it appeared that some youth may have need more instruction on the inverted pyramid ($M=3.71$, $SD=0.95$) and professionalism on social media ($M=4.00$, $SD=1.00$), as these were lower scoring items. Most youth participants ($n=4$) appreciated that the workshop covered lots of information. Half of participants ($n=3$) also shared that they planned to participate in job shadowing in the future.

Future plans

We plan to 1) work to recruit more participants to the 4-H Spread the News program at Purdue University 4-H Academy and 2) collect more evaluation data each year until we have a minimum sample size of $n=30$ participants.

Spread the News is a program unique to Purdue University. However, if other states offer comparable workshops in areas such as STEM or Agricultural Education, multi-state collaboration may allow the data set to become substantial more quickly. To do this, program partners would need to collaborate on a new IRB to include 1) research personnel at each partner institution, 2) a common evaluation instrument, and 3) provisions for data sharing and protection.

Costs

Due to limited funds and proven ability of graduate students to consult for Extension (McClure & Fuhrman, 2011), 4-H should continue to explore graduate evaluation partnerships to help mitigate the cost of hiring personnel to conduct program evaluations. Additional hard costs to be considered for the evaluation include printing and ink for the evaluations and pencils. These costs would be dependent on the number of participants. Because the evaluation was part of the workshop learning assessment for youth participants, no incentive to participate was provided.

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