
Engaging Youth in Evaluation: Using Clickers for Data Collection

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Abstract: Now, more than ever, evaluation is an essential component for all programs. Although the need for outcome data is clear, collecting data from youth populations is often difficult, particularly among youth who are vulnerable and/or disenfranchised. While the use of paper-and-pencil (PAP) surveys is a commonly used method of data collection, different technological methods, such as online surveys, text messaging, and personal digital assistants (PDA's), are increasingly employed in data collection efforts. This article explores the use of audience response systems ("clickers") as an innovative data collection method that is especially suited for use with youth. In this paper we examine qualitative findings from key informant interviews regarding data collected from youth participants on a youth program quality measure using clicker technology. Findings from the study indicate that the use of clickers may increase youth engagement in and improve the efficiency of the data collection process.

Introduction

Now, more than ever evaluation is an essential component of all programs. Programs can no longer simply assert that young people benefit from participation in their programs without also providing evidence supporting this claim. Funders, policy makers, and others are requiring evidence that clearly demonstrates outcomes, impact, and accountability of programs. Although the need for outcome data is clear, collecting data from youth populations is often difficult particularly among youth who are vulnerable and/or disenfranchised. Moreover, many of these youth may lack the reading and comprehension skills necessary to complete surveys.

Previously these issues have been addressed by changes in methodology, such as having a survey read aloud or conducting individual interviews or focus groups. Recent advances in technology now offer alternatives to traditional data collection processes with youth. While the use of paper-and-pencil (PAP) surveys is a commonly used method of data collection, different

technological methods, such as online surveys, text messaging, and personal digital assistants (PDA's), are increasingly employed in data collection efforts (e.g. Abo-Zena, et al., 2009). The intersection of technology and data collection approaches brings benefits such as the automation of data entry and analysis, tracking youth participation, and a greater engagement in the data collection process (Caldwell, 2007). Another benefit of using clickers for data collection is that youth in low-income and rural settings with traditionally limited access to technology are provided opportunities to utilize innovative technology that can prepare them for higher education settings. These advancements underscore the fact that PAP survey methods may be cumbersome and time consuming compared to technological approaches developed and utilized by evaluators and researchers.

Audience Response Systems (Clickers) in Data Collection

Audience response systems, more commonly known as "clickers," offer an innovative approach to data collection. Clickers are frequently used in classrooms to "address two of the oldest and most fundamental challenges in teaching: how to engage students and how to determine if they are learning what you are teaching" (Duncan, 2006, p. 1). This dilemma plagues researchers and evaluators in much the same manner: How can we engage young people in the data collection process and how do we know if they are truly involved in the process? The answers to these questions can be addressed by utilizing audience response system technology.

An audience response system typically consists of three parts:

- (1) a receiver, which is connected to the researcher/evaluator's computer,
- (2) hand-held clickers, and
- (3) clicker-specific analysis software that is downloaded on the researcher/evaluator's computer.

Clickers can be randomly assigned to participants and their digital responses can be confidentially or anonymously submitted. Participant data is identifiable via the clicker serial number (or pre-determined participant list using unique identifiers) as data is instantly sent to and recorded in a dataset. The automated, electronic collection of data is a benefit to researchers and evaluators as it eliminates the timely and sometimes costly process of manually entering data as well as avoids the possibility of data entry errors common to PAP survey methods.

To administer a survey using clicker technology, survey questions are pre-loaded into the clicker-specific software and projected one at a time onto a screen. The survey administrator can read each question and the possible response options aloud, advancing to the next question at their discretion. Youth are able to select their answer and enter it into the clicker by pressing the appropriate response button. Youth also maintain the liberty to skip a question if they choose not to answer it. Moreover, some clicker software is equipped with features such as a timer that allows youth to know how much time remains to submit their answer and a response counter that permits the survey administrator to track the participation rate for each question (e.g., track how many responses submitted). Using clicker technology, youth can have survey items read aloud, can ask for clarification if needed, and can more quickly complete a survey, thereby reducing respondent burden, test fatigue, and boredom.

AZ-SEARCH Program Quality Pilot Study

Researchers with the Arizona Supporting Evaluation and Research Capacity Hub (AZ-SEARCH) project at the University of Arizona conducted a youth program quality pilot study designed, in part, to develop a new measure of youth program quality based on the Eccles and Gootman model of quality youth programming (Eccles & Gootman, 2002). The purpose of the pilot study was to:

- (1) test the validity of the youth program quality measure and
- (2) utilize clickers as an innovative data collection method with youth.

In the development of this new measure, pilot data from 143 youth (age range = 9-19 years; $M = 13.38$, $SD = 2.45$) were collected from rural and urban youth participating in 4-H programs in four southwestern counties. Instead of using a traditional PAP survey method for the pilot study, clicker technology was utilized by training 4-H county agents, the survey administrators, in the data collection procedure. In addition to collecting the survey pilot data, qualitative data was also collected from the 4-H agents via key informant interviews. Below we describe the feedback provided by 4-H agents regarding their experience using the clicker technology for data collection with youth.

Overall, the 4-H agents reported that youth were able to use the clickers with minimal or no instructions and the vast majority appeared comfortable using the technology. One agent noted that all but three or four youth (from a group of 30) demonstrated a high level of comfort using the clickers initially, and for the very few that did not, individual instruction enabled them to "get up to speed" with the rest of the youth. Agents also felt that youth were generally excited to use the clickers, noting that youth thought the clickers were "pretty cool" and using the clickers was "fun." One agent remarked, "I can't picture a single young person that wasn't intrigued by getting the clicker and the anticipation of what they would get to answer."

In addition, agents reported that youth appeared more engaged in the data collection process as a result of the clickers, compared to their previous experiences with PAP surveys. One agent reported that two youth explicitly stated that they would not have participated in the study had it not been for the use of clickers. Agents noted that youth engaged in more discussion than with a traditional PAP survey method and expressed curiosity about the data collection, asking questions such as "What are you using this for?"

Agents reported that the use of clickers also enabled youth to complete the survey more quickly and efficiently. On average, the 45-item survey took approximately 30 minutes to administer. Agents also indicated that the process may have garnered better and more complete data than a traditional PAP survey method. Agents noted that it "takes less effort to complete clicker surveys," and that "maybe the novelty of the clickers enables a greater response rate." In addition, agents noted that using clickers engaged youth and held their attention for longer periods of time than might be expected when using a PAP method. Said one agent, "I know that I had their attention for a good 45 minutes and that is hard to come by with teenagers." Agents also expressed that reading each question and response options aloud to all youth at once enabled youth to complete the survey together at a similar pace, thus reducing the amount of time youth might take to complete a self-administered PAP survey on their own.

Agents indicated that it was especially important to expose youth in low-income and rural communities to clicker technology due to their limited access to technology. As one agent commented, "some communities are very remote with no internet [and using] clickers might be

the first step toward using something high-tech.” In addition to increasing youth engagement in and the efficiency of the data collection process, using clickers may also provide important exposure to technology with specific youth populations.

One of the challenges with using clickers for data collection may be a loss of interest or enthusiasm by youth between pre- and post-survey administration or during the administration of a lengthy survey. Upon first introduction to the use of clickers, youth appeared more interested and more curious about how the technology registered their responses. Said one agent, “By [post-survey] they were more goofy, less serious, and reported false data intentionally. They were more honest with their first round of data collection.” Similarly, another agent noted that “throughout the length of the survey they lost their enthusiasm [and] some became somewhat disengaged.”

Summary

Overall, agents expressed support and enthusiasm for the use of clickers in evaluation efforts involving youth. Agents indicated the technology was appropriate for all ages of youth sampled in the study (e.g. 9-19 years). Although there may be some challenges associated with using clickers (e.g., loss of interest from pre- to post-survey, providing unreliable data), these are challenges that are also associated with traditional PAP survey methods. In sum, clicker technology may be a viable alternative to traditional data collection methods. The use of clickers in data collection efforts with youth may increase youth engagement in and improve the efficiency of the data collection process. For youth in low-income and rural communities, using clickers for data collection may also provide important exposure to technology. Evaluators and researchers can benefit by keeping updated with new technologies, especially when working with the current generation of technologically-savvy youth.

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