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An Initial Assessment of an Interactive Web-Based Extension Curriculum to Engage and Prepare Teens as Volunteer Teachers

Abstract

The North Carolina 4-H Teens Reaching Youth through Innovative Teams (TRY-IT!) program utilizes Web-based modules to strengthen and expand teen volunteerism. The research described here investigated teens' assessments of two initial TRY-IT! modules. The researchers developed a written questionnaire based upon eight criteria for evaluating Web-based training and collected data from a convenience sample of 67 teen 4-H members. Participants evaluated each component as above average. Based upon the pilot study findings, TRY-IT! promises to be very effective in engaging current and potential teens in volunteerism and community service through the use of Web-based curricula.

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Today's cultural and political climates encourage community-based youth-serving organizations to approach youth not as mere participants in or recipients of educational programs, but as valued and equal partners in the holistic program development, implementation, and evaluation process (Safrit, 2003; Safrit, Scheer, & King, 2001). As Long, Kressley, & Poulsen (n.d.) noted:

[There is ample] evidence that weaving the work of youth development, civic development, and community development makes sense for three important reasons: First, young people, who make up 26 percent of the population, possess vision, creativity and energy that is largely untapped. They have much to contribute to organizations and communities. Second, young people, when called to action, contribute to their own development, as well as to the development of the common good. And third, constructive action and involvement are always and everywhere the best defense against school failure, drug and alcohol abuse, teen pregnancy, crime, and violence -- pathologies society cannot afford to remediate, even if it knew how to. (p. 3)

All youth need to be engaged in their communities through volunteerism and service that allow them to actively participate in decisions affecting themselves and their families, schools, workplaces, and communities. Brendtro and Bacon (1995) suggested that such active involvement in decision making assists teens in developing both responsibility and commitment.

Swinehart (1992) defined effective youth engagement as having four components: youth (1) included in significant decision making; (2) participating in activities that satisfy a genuine need in their community; (3) developing collegial relationships with adult partners and mentors; and (4) reflecting on their work and learning skills related to it.

The North Carolina 4-H Teens Reaching Youth (TRY) Program

The mission of the Department of 4-H Youth Development at North Carolina State University (NCSU) is to create helping relationships to enable youths to become responsible, productive citizens. Thus, the NC 4-H Teens Reaching Youth (TRY) program was developed initially in 1986 as a Kellogg Volunteers for the Future project and tested in North Carolina (Groff, 1992). The original goals of 4-H TRY included to:

1. Improve teen self-esteem and life skills, including leadership;
2. Enable teens to realize maximal personal growth and understanding;
3. Empower teens to make a difference in the lives of others (especially younger youth) through teaching opportunities; and
4. Empower teens to contribute to the common good through volunteerism and service.

In 2002, the authors developed Teens Reaching Youth through Innovative Teams (TRY-IT!) as the next generation of the original TRY program. TRY-IT! utilizes innovative Web-based learning modules to strengthen and expand community-based teen volunteerism and service through effective teen-adult partnerships. Still focusing upon the original TRY objectives, TRY-IT! additionally seeks to:

1. Foster and support effective teen-adult partnerships throughout project development, implementation, and dissemination;
2. Expand teens' opportunities and abilities to develop leadership skills through volunteerism and service;
3. Utilize interactive, Web-based resource modules (available 24/7) to support teens and adults in developing effective partnerships in addressing community issues; and
4. Strengthen participants' personal and interpersonal leadership skills through active volunteerism and community service by teaching younger youth.

Project collaborators include the Department of 4-H Youth Development at NCSU and National 4-H Council in Chevy Chase, MD.

TRY-IT! will eventually include 26, 45-minute interactive, Web-based modules in three focus areas: (1) building effective and sustained teen-adult partnerships (seven modules); (2) developing effective experiential teaching and planning skills (nine modules); and (3) strengthening individual and shared leadership (10 modules). Additionally, a future section will support adult volunteers serving as coaches of TRY-IT! teams.

The content of each individual TRY-IT! module was developed by 6-8 member Writing Teams comprised of youth and adult volunteers and Extension professionals working in partnership as Subject Matter Experts (SMEs). The project's Instructional Designer coached the teams in writing learner-focused content effectively integrated with effective Web design and IT systems based upon contemporary literature (Heide & Henderson, 1994; Jukes, Dosaj, & Macdonald, 2000; Kruse & Keil, 2000; Palloff & Pratt, 1999; Schreiber & Berge, 1998.) Writing Teams identified various distance technologies (e.g., animation, streaming video, self-assessed feedback loops) within individual modules to maximize appeal to teen audiences, promote active learner engagement, and maximize learner retention of module content.

Several authors have emphasized the potential value of Web-based technologies to Extension educational programs (Kelsey & Mincemoyer, 2001; Tennessen, PonTell, Romine, & Motheral, 1997). However, based upon an exhaustive literature search and the researchers' combined 46 years in formal and non-formal youth development, no literature was located documenting the use of interactive, Web-based distance education technologies to directly engage youth in 4-H educational programs.

Such technological initiatives would address several issues confronting youth development educators in structuring teen leadership development opportunities that are both pedagogically sound and appealing to today's MTV generation. Distance technologies would alleviate many obstacles in engaging rural teens in communities isolated by geographic distance, cultural barriers, and/or real-time issues.

Research Purpose, Objectives, and Methodology

The purpose of the exploratory, descriptive research described here was to investigate teen 4-H members' attitudes regarding the two initial TRY-IT! modules completed and posted to the Web. The researchers considered this pilot assessment critical to the effective and efficient use of project resources in developing the remaining 24 modules to maximize learner engagement while exploring this new Web-based teaching-learning medium.

The researchers developed a quantitative methodology using a written questionnaire to collect data (de Vaus, 1996). The questionnaire was developed based upon Web-based learning constructs suggested by Jukes, Dosaj, and Macdonald (2000) as well as Hall's (1997) eight criteria for evaluating Web-based training. The criteria included the following.

1. Content: Does the program include the right amount and quality of information?;
2. Instructional Design: Is the program designed in such a way that users will actually learn?;
3. Interactivity: Are learners engaged through the opportunity for their input?;
4. Navigation: Can learners determine their own course through the program? Is there a course map available? Is there an appropriate use of icons and/or clear labels so users don't have to read excessively to determine program options?;
5. Motivational Components: Does the program engage the user through novelty, humor, game elements, testing, adventure, unique content, surprise elements, etc.?;
6. Use of Media: Does the program employ video, animation, music, sound effects, and special visual effects? Is the gratuitous use of these media avoided?;
7. Evaluation: Is there some type of evaluation? Is mastery of each section's content required before proceeding to later sections? Are section quizzes used? Is there a "final exam"?; and
8. Aesthetics: Is the program attractive and appealing to the eye and ear?

The questionnaire consisted of two sections. Section I included five items for each of the seven constructs using a five point Likert-type scale to measure respondent attitudes. Section II included five additional items collecting data on three selected respondent personal characteristics (gender, age, race/ethnicity) and two 4-H program variables (previous training as a NC 4-H Ambassador and previous training as a county 4-H TRY Team member.)

The researchers established the instrument's face validity using a panel of national distance learning experts in Cooperative Extension and/or youth development, and modified the instrument slightly based upon input from the panel of experts. The instrument's reliability was established by calculating Cronbach's alphas (as indicators of internal consistency) from pilot data collected on July 20, 2002 from 28 teen members of the State 4-H Council. Resulting Cronbach's alphas for each research construct were .60 or greater.

The researchers collected data from a convenience sample of 67 teen 4-H members attending the 2003 State 4-H Congress, July 21-25. Participants were from a mixture of rural and non-rural NC counties and ranged in age from 13-18. Data collection followed procedures suggested by Kraut (1996), McNabb (2002), and Rea and Parker (1997). Data were collected during two workshops conducted by the project's Instructional Designer. The researchers entered all data into a personal computer and calculated descriptive statistics to satisfy the research objectives.

Cronbach's alphas for the holistic instrument and its respective eight constructs were calculated as: overall, .92; content, .61; instructional design, .65; interactivity, .63; navigation, .64; motivation, .78; media use, .72; evaluation, .63; and aesthetics, .74. Cronbach's alphas of .60 or greater indicate strong internal consistency as an indicator of the instrument's reliability (Nunally, 1976).

Findings and Conclusions

Participants evaluated each construct of both modules as above average (Table 1.) Individual construct mean scores varied from a minimum of 7.51 (on a range of 2-10) to a maximum of 20.45 (on a range of 8-30.) All measured median points were well above the median points of the respective scale ranges.

Table 1.
Measures of Central Tendency and Variance for Two Pilot TRY-IT! Module
Constructs (n = 67)

Construct	Possible Range	Measured Range	Median Range Point	Mean (std. dev.)
Content	0 - 25	13 - 25	12.50	20.03 (3.1)
Instructional Design	0 - 25	10 - 25	12.50	18.45 (3.4)

Interactivity	0 - 20	7 - 20	10.00	15.13 (2.8)
Navigation	0 - 20	9 - 20	10.00	16.21 (2.9)
Motivation	0 - 30	8 - 30	15.00	20.45 (4.8)
Media Use	0 - 20	7 - 20	10.00	15.29 (3.3)
Evaluation	0 - 25	11 - 25	12.50	18.22 (3.4)
Aesthetics	0 - 10	2 - 10	5.00	7.51 (1.9)

Based upon this initial exploratory assessment, the researchers conclude the following.

1. The research instrument developed is both valid and reliable, with Cronbach's alphas suggesting strong internal consistency as an indicator of reliability. Consequently, the same instrument will be integrated into pilot assessments of all subsequent TRY-IT! modules;
2. The two pilot modules are well received by teen 4-H members. Each of the eight individual constructs assessed was evaluated by teens as above the mean point of the respective construct's median range score. Thus, the researchers conclude that the two modules demonstrate effective use of subject matter content, instructional design, interactivity, motivation, media use, evaluation, and aesthetics.;
3. The two pilot modules effectively integrate a balanced combination of effective target objectives (i.e., content), teaching pedagogies (i.e., interactivity, motivation, and evaluation), and Web based instructional design (i.e., instructional design, navigation, media use, and aesthetics).

These findings support the conclusions of numerous authors describing effective Web-based teaching and learning (Hall, 1997; Heide & Henderson, 1994; Jukes, Dosaj, & Macdonald, 2000; Kruse & Keil, 2000; Palloff & Pratt, 1999; Schreiber & Berge, 1998.)

The researchers plan to develop the remaining 24 TRY-IT! modules based upon similar instructional design strategies and teaching pedagogies utilized in the two pilot modules. Based upon the pilot study findings, TRY-IT! promises to be very effective in preparing current and potential teen and adult 4-H volunteers for volunteer service through the use of Web-based curricula. Furthermore, the TRY-IT! program and technological designs could serve as a model for Extension professionals in all programmatic/issue areas to follow in better utilizing the Web to reach Extension clientele through interactive e-learning.

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