Encouraging adolescents toward Mental Health Careers via Website Biographies

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Abstract: This project designed, developed, implemented and evaluated the effectiveness of an interactive, multi-media website designed to encourage adolescents to consider careers in mental health. This Web-based learning environment features biographies of mental health scientists. Evaluation is conducted in a systematic, structured way using cognitive achievement, usability (ease of use), and affective scales (e.g., fun to use) as outcome measures.

Introduction: The National Institute of Mental Health (NIMH) funds projects that encourage students to become interested in mental health related fields as part of its drive to increase the number of researchers in the field. LEARN is a project that aims to achieve this through a variety of interventions including a website that incorporates interactive multimedia presentations like games, video and pictures to showcase biographies of scientists who are working in various fields of mental health research.

The goals of the website are to:

- Personalize health scientists by presenting their daily lives.
- Expose various health related areas of study and research to students to give them career avenues not previously considered, and
- Provide scientists as role models, encouraging emulation by portraying the skills required to become a scientist, and helping students appreciate their own skills.

We are evaluating the effectiveness of interactive multimedia in education by focusing on the achievement of learners and mentors rather than achievement of machines, software and programmers[1]. Standardized website evaluation techniques are continually being revised and improved[2].

Methods: Website evaluation employs pre and post questionnaires in a One-Group Pretest-Posttest Design with high school students as subjects. To achieve content validity, questionnaire tools were developed using a top-down methodology from a data source by objectives matrix. A sample size of 20 was chosen to achieve appropriate statistical power. To evaluate cognitive, affective and usability effects the pre and post questionnaires then present multiple choice and Likert-type items assessing achievement of those goals, and additional essay items in the same sitting, both before and after exposure to the Web-based learning environment.

Results & Discussion: Results indicate that the Web based learning environment is effective in achieving its objectives, having a significant and large impact on the attitudes of high school students toward mental health scientists and their field, while increasing awareness of mental health fields and careers (Table 1).

Scale N=20	Pre Mean/ sd	Post Mean/ sd	Multi-variate F	Uni-variate $F_{1, 19}$	p	Effect Size
Attitude towards Mental Health	65.15/ 4.91	70.55/ 6.00	$F_{3, 17}$ $p < 0.000$	34.76	0.000	1.09
Awareness of Mental Health Field	4.3/ 1.08	4.9/ 1.07		5.10	0.036	0.55
Mental Health Career	4.25/ 1.40	5.65/ 0.98		19.20	0.000	1.00
Overall Effect	73.70/ 6.25	81.10/ 6.84		38.06	0.000	1.18

The multivariate effect for Attitude, Mental Health Field, and Mental Health Career Awareness, the univariate effects for the same scales, as well as their Overall totals are significant. Effect sizes ((post mean – pre mean)/pre sd) range from 0.5 to 1.18.

In this project a structured methodology was developed to evaluate an interactive multimedia education website intended to promote adolescents' interest in pursuing careers in mental health research. Results indicate such a website can achieve large and significant impacts and may help identify website learning environment characteristics that could influence adolescents' interests in mental health careers. These characteristics could be incorporated into other projects promoting science careers.

Reference: 1. Radford A. The future of multimedia in education, First Monday [e-Journal] 1997 Nov; 2(11): [7 screens]. Available from: URL: http://www.firstmonday.dk/issues/issue2_11/radford/

2. Alexander J, Tate M. Evaluating Web Resources: Web Resource Evaluation Techniques PowerPoint Presentation 1998 Nov; [43 screens]. Available from: URL: http://www2.widener.edu/Wolfgram-Memorial-Library/webeval/eval1198/index.htm