An ACS Summer Technology Fellowship Report

A Curriculum for Introducing Web-based Research Tools

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Overview and Description:

Given the proliferation of the World Wide Web (WWW) and the importance society places on the Internet, it should come as no surprise researchers are increasingly exploiting this new venue. However, knowledge of Web-based research tools, and the special issues involved in their use, can be slow in coming. This project developed a website for introducing ACS social science faculty to some of these tools and issues. There were 2 primary goals for introducing these tools the faculty. First, it allows researchers to expand their tools for their own research. I focused on tools that allowed for outsourcing of as much work as possible (e.g., survey hosting, data collection), thinking that researchers at small institutions could most benefit from these tools. Second, I wanted to provide a means of introducing these tools to students (the next line of researchers). For this purpose, I developed a learning exercise for each of several survey development tools. These provided step-by-step instructions for creating an online survey. Also, there were suggestions for using the tools in class.

I've found these tools helpful for a variety of reasons and worked them into various courses. For example, in research methods courses, a tool like Factorwiz helps students see the various permutations necessary in making a factorial design and gives them the opportunity to create such stimuli. In my General Psychology course, I have students complete several on-line surveys I have developed (e.g., a personality survey). I can then score the test prior to covering it in class and present the results when I get there. This way students get familiar with the material and even see their scores so we can discuss them, but I didn't have to take up valuable class time to give and score the procedure. In my behavior statistics course, students complete a short questionnaire (developed with WWW Survey Assistant) at the beginning of the semester. I then convert the data into an SPSS data file for use in the lab portion of the course. This serves as an interest and motivating factor to students as they analyze *their* data.

Figure 1. Homepage to the website.

The Website is primarily composed of 3 sections, all accessible from the main page (see **Figure 1**).

Sections:

1) An overview of issues pertinent to Web-based experimenting. While not meant to be a comprehensive review, a variety of issues are addressed along with citations for further study. These issues include advantages and disadvantages to web-based experimenting, distribution of surveys, response and attrition rates, and issues of anonymity and confidentiality.

2) A description of the various tools and services available for online experimenting. A larger description is provided of several tools (of varying levels of outsourcing) free for academic use. Also, a sample survey is provided for each of the main tools covered.

3) A section of learning projects and suggestions for class learning activities. A step-by-step example is available for 4 tools. These would be appropriate for students to complete or faculty could use them for their own edification. **Figure 2** displays the main page to this portion of the site.

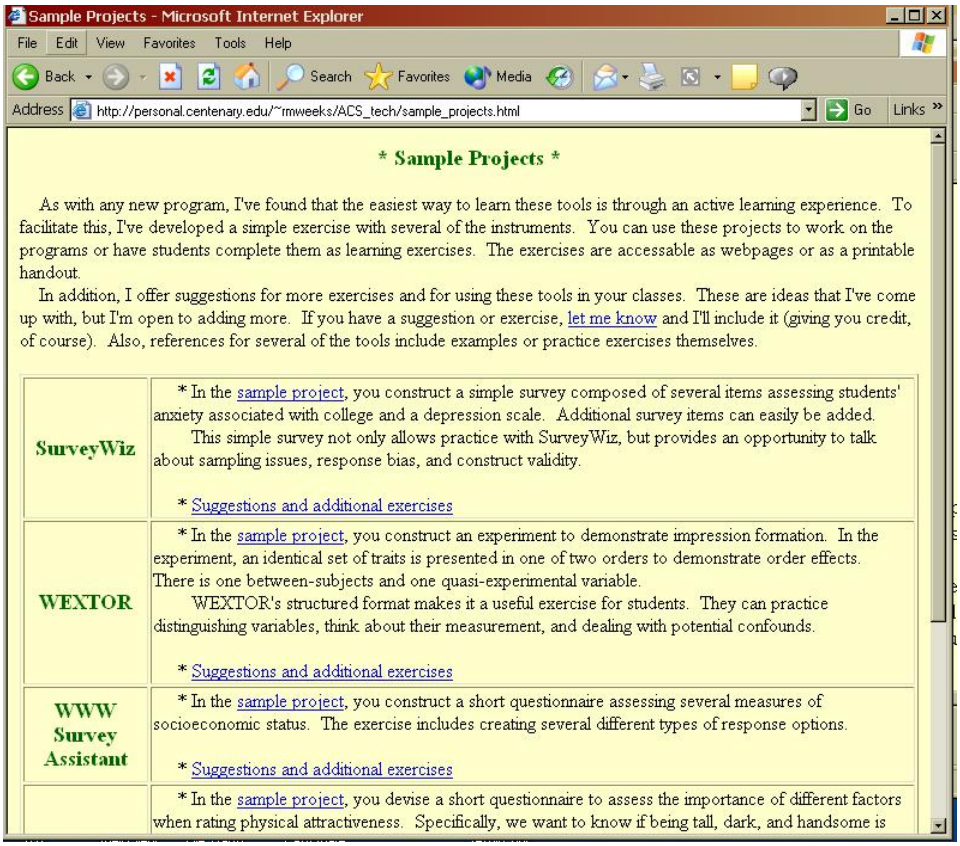

Figure 2. Main page leading to sample projects for each tool.

Technical Information

The tools covered in the project require no special knowledge of HTML or HTML forms, though a little bit of knowledge does increase their functionality. In some cases, the tools themselves are free for academic use (e.g., WWW Survey Assistant, Surveywiz, Factorwiz). The PsychExperiments web experiment hosting site is free, but the authoring tool (Authorware, by Macromedia) is not.

Overall, this site and the tools discussed are designed for those researchers or students who have little technical knowledge of HTML. Simple surveys can be constructed and implemented in no time. Also, most tools are accessible via the WWW, so no new software must be purchased.

Dissemination and Evaluation:

Information about the Website was disseminated via email to social science faculty at ACS institutions. An initial email announced the proposed project and solicited suggestions/requests for project ideas. In mid August of 2003, the finalized Website was emailed to the same group of faculty. I received little word of its use (e.g., questions, complaints, comments, etc.). Subsequent emails have elicited some activity, but few suggestions for upgrades and no additional suggestions for projects. Ultimately, informal comments from colleagues suggest the site is useful and informative, but no evidence exists it's being widely used. The materials remain available and updated as needed.

Example Project:

An example of a learning project for familiarization with one of the survey development tools illustrates the nature of the project. Factorwiz is a simple Javascript tool for developing factorial design questionnaires and materials. A step-by-step exercise is provided for students to develop a survey assessing the importance of being tall, dark, and handsome in being attractive. The survey is constructed using both verbal labels, and then a modification is made to use visual stimuli. The final survey with the visual stimuli can be found at http://personal.centenary.edu/~rmweeks/ACS_tech/FactorWiz_pix.html.

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