Research in the Classroom Using Online Surveys

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In this Information Age, the Internet is increasingly used to gather and disseminate information. This article discusses two uses of online surveys in higher education: a) data gathering from students by college instructors for the purpose of formative evaluation and b) online survey construction and use by the students themselves in the context of learning research skills.

Online Surveys for Classroom Assessment

It is an ongoing challenge to reach out to students and gain their input about assignments, quizzes and activities. Instructors can use the data to make mid-course corrections, addressing gaps and generally improving their courses. In an online course, it is natural to use the technology to gather this information. But even in a course delivered in a traditional classroom it may be useful to use online survey techniques to collect data about the course assignments, activities or assessments.

There are justifiable reasons to use online surveys for classroom assessment as well as advantages and disadvantages. They are certainly relevant to asking classroom assessment questions which concern technology use, and necessary for online/distance classes. The advantages of the medium include ease of modification from survey to survey, with both forced-choice items and open-ended responses. The survey is delivered instantly to the students and returned just as quickly. It is available for the student 24 hours a day, fitting the schedules of both night owls and early risers. Many survey tools compile the data for you in tables and graphs suitable for sharing with your students. A strong disadvantage, however, is that online surveying requires technology expertise of both the student and the instructor.

Currently, students may find this method novel and interesting, particularly if they don't have a great deal of WWW exposure in the class. However, asking students to make the effort to find a computer, go through whatever login is necessary, and answer a series of questions outside of class may result in a poor response rate. If that can be overcome, there may be advantages to the separation from the classroom; students may reflect more objectively and thoughtfully when asked to think about the class from a distance without the presence of the instructor.

But is the instructor perceived as not present? Issues of confidentiality and anonymity can be both advantages and disadvantages of online surveying. Classroom assessment information is sometimes more forthcoming if anonymity is assured. Perceptions vary greatly among respondents about whether an online survey is really anonymous. If online surveys are set up to allow anonymous submission, other related issues emerge. When actual identity of respondents is not verifiable there may be questions about what sample of the students is replying and about multiple replies allowing for "ballot-stuffing."

One of the article authors regularly uses a simple classroom assessment in introductory classes after the first exam of the term. This informal written assessment is conducted in-class, with no names attached to the results. It is intended to find out what the students thought of the exam, how much and what material they studied, and how their estimation of the grade they thought they would receive matched the grade they actually received. During one term two similar classes took the same exam and did the same classroom assessment. One class did it in the traditional manner and the other was instructed to take it online. The online group was given detailed written instructions for login and submission of the assessment. Both groups were assured anonymity.

The results for the two Introductory Sociology courses (which each had approximately 45 students) were very "mixed" in terms of comparing the relative effectiveness of in-class surveys and online surveys. Only 11 students responded online. Those who did respond online seemed to be "better" students; i.e., n9 out of the 11 self-reported either an A or B on the exam. Because the instructor wanted to ensure student anonymity there was no way to reward those who did respond online. The online survey was constructed in a password-protected Web-CT site not related to the

course. Students had to follow somewhat extensive instructions to login as anonymous guests. These barriers likely contributed to the low response rate.

Of the 38 students who responded to the questionnaire in-class, there were a number of findings worth reporting for those who teach larger introductory sections. More students (22) incorrectly estimated the grade "they thought they got on the exam" than correctly estimated "the grade they actually got" (16 students). One interesting observation about those who completed the in-class survey that should serve to remind us their limitations: only three students reported a grade of D or F. In reality about 12 students received such grades. Finally, the most useful findings for this instructor were the responses to the question about when students began studying for the exam. Most (20) reported studying 2-3 days before the exam while 7 reported studying 4 or more days prior to the exam and 10 reported studying "the day before." One student reported studying the day of the exam.

While there are no overall conclusions to be drawn from this small study, it is safe to say that the instructor is going to have to "go back to the books" if he is going to make use of online surveys for mid-term classroom assessments. He is also going to remain wary of using in-class surveys as accurate reports of students' descriptions of test scores, study habits and other relevant information.

Online Survey Construction by Students

Much data gathering in business, government and public policy is done using e-mail and web-based methods. It makes sense that students, especially in the social sciences, should learn about the techniques, ethics and pitfalls of online surveying. While the concerns of ethical conduct and research issues such as reliability, validity and absence of bias are common between online and traditional survey design, the new technologies bring up additional challenges. It may be that the experience of analyzing and comparing what these challenges would be in an online environment will improve the students' understanding of the research issues, whether they ever use online surveys for their own research or not.

Many of the general advantages and disadvantages in the above classroom assessment section would be appropriate issues for research students thinking about using online surveys. In the professional world, cost, time, availability, ease of modification, speed of delivery/return and automatic compilation of data are certainly some of the features that are driving the explosion in the use of online surveying methods. However, confidence in online survey confidentiality and assurance of anonymity is lessening as commercial interests commonly use data mining techniques and consumer attention is drawn to the techniques through the media. Major questions addressed in the research literature deal with sampling. While many people have e-mail addresses, how does the researcher get those addresses (for e-mail invitation to a web-based survey)? Does the "digital divide" (separating those with computer, access and expertise from those without) skew the sample? How do you know what the population looks like and how do you derive your sample from that population?

One of us directed graduate level Instructional Technology students as they constructed an online survey within the context of an online course in Needs Assessment. The topic of the survey was: "What are the student characteristics, skills and resources necessary for success in an online class?" The target population was graduate students currently taking a web-based or web-enhanced course at the university.

The class discussed various research issues in preparation for completion of a required Institutional Review for Human Subjects Research. The purposive sampling was done by contacting professors who were currently teaching web courses via e-mail. The professors were asked to forward invitation e-mail to their students. The invitation introduced the online survey purpose, gave the URL, and invited the students to participate. Students were assured in the e-mail that their participation would be anonymous and that their professors would not be receiving the results.

As a group, the Needs Assessment class devised methods and wrote disclosure and consent agreements to include in the survey. The confidentiality issue was dealt with by constructing the survey within WebCT in a password-protected site. Students could login as guests with any identity; no effort was made to keep track of the identity of the invited students, nor which ones had or had not responded. The weaknesses of this research design were discussed as a part of the course.

Overall response on the online survey was quite good. The invited population was around 100; 71

usable responses were received. One week was given for the response time; nearly all came in within the first two days. The Needs Assessment class members were enthusiastic about the immediate response, the automatic data compilation and the neatly constructed graphs and tables of the data. It was a successful class project, probably mostly because, unlike the classroom assessment survey described earlier in the article, this survey was about technology, surveying respondents who were involved in technology, constructed by students who were studying instructional technology. In short, there was a logical and integrated reason to use an online survey for this project.

Online Survey Construction Tips

There are survey templates or tools available through web page design packages like Microsoft FrontPage, web courseware software such as WebCT, or from free or fee-based sites on the Internet. At the end of this article you will find a list of a few of the many sites which address online surveying.

Scantron, long known for bubble-sheets and machine-readable test results, has entered the online surveying arena with e-Listen. In a presentation at Evaluation *'99*, the annual conference of the American Evaluation Association (AWA), Scantron associates outlined tips for general design of online surveys and online survey questions. Whether you use a template or build your own web survey using html code, there are a number of design features important for readability and usability. Many of these features are identical to good design practice in traditional paper-based surveys, but some are specific to online versions. According to the Scantron associates, your survey should have a clear informative title, an introduction which welcomes respondents and orients them to the purpose of the survey, and a conclusion in which you thank them and let them know if and how they can get access to the results of the survey. There should also be a consent agreement, most commonly patterned after the software licensing agreement, i.e., responding to the survey constitutes agreement with the specified consent statement. Items within the consent agreement should include age, indications of the usage of the data, anonymity protection statement, and any other items indicated by the content of the survey or required by institutional review boards approval or professional ethics principles. Design features specific to online surveys include a hit counter and a "date last revised" indicator.

The online survey questions themselves should also mirror good standard survey practice. In the AEA presentation it was stressed that the first question should be connected to the purpose of the survey. Objective questions should come before subjective questions. The format should be consistent, organized, and all on one page with a scroll bar feature. The exception to the one page rule is if there is branching, with respondents going on various paths. Navigation back to the main survey should be obvious and foolproof. On each item there should be a way for respondents to indicate "not applicable". If "other" is a choice, you should allow a write-in area for responses. Responses to all items should be mandatory for submission of the entire survey, with the item default setting "no response." This will aid in producing surveys that are complete and usable.

The presenters described more tips that will make online surveys and surveying successful. If invitations to take a web-based survey are issued through e-mail, you should hotlink the URL within the e-mail address directly to the survey. You should also offer alternative methods of taking the survey through the mail or e-mail. They warn to design for older browsers, consider connection speeds and above all, pretest extensively.

Readers who want a recent and somewhat comprehensive review of the use of online surveys should consult Watt (1999).

Survey Expertise Sources

e-Listen by Scantron
http://www.elisten.com
Extensive full-service description by the folks who brought you the bubble sheet. Offers services ranging from advice to survey construction to complete survey analysis and reporting.

SurveyHost
http://www.surveyhost.com
A survey hosting service by Apian Software. Site includes interesting material such as a diagram of Web Survey concepts, Web Survey Myths and a decision table called "When to Go With a Hosting Service". Includes samples.

InfoPoll
http://accesscable.net/~infopoll/Library.htm
Survey hosting service includes a library of templates for Surveys and Polls ranging from customer satisfaction to student faculty evaluation.

Assessnet
http://www.assessnet.com/
A broader gateway to web-based learning and assessment. Multiple examples of assessment done online.

InsightExpress
http://www.insightexpress.com
"Before you 'blue sky' it, get consumer feedback". This fee-based survey provider also provides you with your population designated by the demographics of your choice.

SurveySite
http://www.survey.com
This survey provider is specifically intended to create 'pop up' surveys to target website visitors.

Zoomerang
http://www.zoomerang.com
Free, can look at examples without registering, must register to use, requires you give your e-mail address and asks if they can survey you. Calls itself a survey clearinghouse.

Cool Surveys
http://www.coolsurveys.com
Free, creates the html code for a one-question survey that you can insert into your own website.

QuietPlease
http://www.quizplease.com
Not free. Website selling software that creates multimedia/interactive tests and quizzes which are then marked and emailed to the instructor. Examples for view.

Reference

Watt, J. H. (1999 (Winter). Internet systems for evaluation research. *New Directions for Evaluations, 84.*