Using an On-line Survey Tool to Streamline Outcomes Assessment

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Abstract

Outcomes assessment required to meet ABET accreditation criteria can be very time consuming. Deciding what and how to measure can take many hours of faculty time on both a department-wide and individual basis. Data gathering and analysis is another time consuming activity. Finally, preparing self-studies and other reports can consume many hours as well. It was College of Engineering's Assessment Committee conclusion after two rounds of ABET Assessment under the ABET 2000 criteria that a more strategic and systematic approach was needed for gathering and organizing data. In an effort to simplify assessment processes, the IME Department at Cal Poly Pomona has been increasingly using SurveyMonkey on-line surveys to gather data from students, alumni, faculty, and industry. One of the reasons for widely adopting SurveyMonkey is the ability to create a data base that makes it easier to collect and analyze data, share results, and prepare descriptive statistics of results over time. The purpose of this paper is to show how SurveyMonkey can be used for various assessment situations and demonstrate how easy it is to create a data base in the process.

Introduction

One of the top objectives of the College of Engineering Administrative and Assessment Committees and after the last ABET accreditation cycle was to streamline and simplify data collection and analysis processes. In 2005 the process of gathering together relevant data and analysis in order to report by criteria and a-k designation was extremely time consuming for many programs. One of the main reasons for the large time requirement was that assessment data and other reported information was in various forms such as hard copies and raw data reports. Subsequently entering data into a spreadsheet and performing analysis was very time consuming.

The IME Department decided to re-engineer as many assessment tools and instruments as possible so that an on-line survey tool could be used for input and serve as a data base. SurveyMonkey was the on-line survey service used, however there are a number of other on-line services that would work similarly (such as Zoomerang). SurveyMonkey was chosen primarily because at the time it had good features, very few restrictions on the number of surveys that could be collected, and was competitively priced. Another attractive feature was that surveys could be easily transferred between paid users. Other services may offer more features and should be considered when deciding which service to use.

The purpose of this paper is to show how SurveyMonkey is being used for both formative and outcomes assessment. Outcomes assessment can be conducted at the course and/or program levels. Emphasis will be on the variety of things that can be done, time savings, and the ability to create data bases of gathered data. First

After the 2005 ABET accreditation visit the College of Engineering Assessment Committee and Administrative Committee used a survey to set the agenda for the next year regarding priorities to work on. In reality the results were used for several years.

Design and Deployment Features

- **Relatively inexpensive for the features provided** – Both SurveyMonkey and Zoomerang offer monthly "Pro" packages for approximately $19/month. Annual packages are available for $200/year. The number of surveys and responses allowed is well within the amount needed.

- **Ease of creating a survey from scratch or starting with a previous survey** – Survey building is very user friendly and old surveys can be imported as templates for new surveys.

- **Color schemes and customized page design** – There are many color schemes and formats to choose from. Customized designs can be created with a little more effort.

- **Paging and end of survey options** – Surveys can be one page long or broken into separate pages. Responders can be sent to various "thank you" or other pages as designated by the designer.

- **Can embed survey links in email, web pages, or send to an email list with reminder capability** – Links are provided allowing for embedding survey links in various documents. Surveys can also be sent to an email list allowing for tracking and reminder messages. Practice has shown that the reminder feature does produce good results with second and third reminders.

- **Surveys can be opened or closed for data collection as necessary**.

Analysis and Sharing Features

- **Sharing survey results** – Unfiltered survey results can be shared with others with various levels of interaction allowed. Sharing can be password protected. Sharing is a useful feature for displaying assessment results with colleagues. The boilerplate display screens are very aesthetic.

- **Ability to filter the results by response alternative (e.g., demographic or specific question choice) and save filters by name** – The same survey can be used for various

courses, student groups, years, and semesters. Results can then easily be filtered to a specific demographic combination. This avoids having to create a new survey for each time you want to use the survey.

- **Ability to collect surveys with options required for IRB approval** – setting are available to create various levels of anonymity and confidentiality, depending on what is needed for IRB approval. (e.g., IP address, email address, and other information can be included or excluded, depending on settings).

- **Can create crosstabs for up to five choices for any question** – Powerful, but limited option.

- **Survey data downloadable in various forms depending how needed** – Data can be downloaded to a spreadsheet as raw data or summarized various ways.

- **A virtual database can be created by carefully choosing questions** – Demographic questions can be discretely used to create a data base allowing for analyzing data over time. This is a useful feature for outcomes assessment.

Examples of survey use

Below is a partial list of surveys divided into categories. Almost all examples are related to outcomes assessment. Examples are shown at the College of Engineering level, program level and course level. In some courses SurveyMonkey is being used for course management and/or formative assessment as shown with a few examples. The following link is to the IME Department Assessment Page which includes links to several of the surveys. Readers are welcome to look at these surveys and use them as needed:
http://www.csupomona.edu/~rosenkrantz/imeassessmentdocs.htm

College Level Assessment

- **Cal Poly Pomona Project Symposium Feedback** – Industry visitors to senior project presentations were surveyed for their overall assessment of outcomes vs. importance. A gap analysis was easily created using summarized survey data.

- **College of Engineering Assessment Interest** Survey – College faculty and administrators involved with preparing the self study were surveyed to identify assessment committee priorities for the near future.

Program Level Assessment

- **Cal Poly Pomona IME Department 2005 Alumni Survey** – Survey administered every three years to assess progress on objectives and obtain feedback regarding changing curriculum needs.

- **Student Advising Survey** – Comprehensive survey to explore student attitudes and practices so the IME Department could revise the advising program based on actual student feedback.

- **IME Basic Knowledge Survey** – Survey used to assess student retention of knowledge and concepts from five selected lower division courses. Very valuable in finding out where to put place efforts to increase learning. The use of valid and reliable concept surveys should be encouraged.

- **ME Summer Class Needs Survey** – A quick survey of ME students regarding what summer course offerings would be the most valuable resulted in higher-than-expected summer course attendance.

Course Level Management & Assessment

- **IME Outcomes Assessment Survey** – Survey of student progress in a-k outcomes for a selection of courses. This survey is the main outcomes assessment tool that looks for improvement over time and weaknesses that should be targeted for special attention.

- **IME 312 Statistics Knowledge Survey** – Utilizes a pre and post knowledge survey to assess student learning by topic and by level of learning from Bloom's Taxonomy.

- **EGR 403 On-line Introductory Survey** – Survey used to find out student interests, strengths, and weaknesses for the purpose of forming student project teams

- **EGR 403 Team Member Evaluations** – Student assessment of team members. Used midway through and at the end of the project to assessment contribution to the team project.

- **IME 301 Project Proposal** – Survey used as a proposal form for student data collection and analysis projects. This method is faster and more efficient than Blackboard

First Year Experience

- **Engineering First Year Experience Survey** – Survey designed specifically to assess the results of the EGR 100 first year experience course for incoming students.

- **IME 112 Team Evaluation Survey** – Introductory course team evaluation survey.

- **IME 112 Time Use & Management Survey** – Survey based on time management assignment results. Provides feedback to both students and the instructor about student habits and practices.

- **IME 112 Outcomes Survey** – Student assessment of specific features and outcomes from for the introductory course.

Capstone Course Sequence Assessment (IME 460, IME 461/471, IME 462/472)

- **IME 460 Fall 08 Sample Senior Project Report Assessment** – Survey made using the senior project written report rubric. Students use this to practice scoring written reports as part of a Senior Project preparation course.

- **IME 460 Sample Senior Project Presentation Assessment** - Survey made using the senior project oral presentation rubric. Students use this to practice scoring video tapes of oral report reports as part of a Senior Project preparation course.

- **IME 460 Senior Project Report Assessment** – Faculty are asked to input their assessment of written senior project reports using SurveyMonkey.

- **IME Reflective Piece Results** – A single evaluator is asked to input an assessment of a reflective piece written by students after completion of the senior project. The survey covers three outcomes scored by a rubric.

- **IME Department Senior Project Assessment** – Survey developed to gather feedback from industry about the professionalism of students who completed Senior Projects at their company. The survey link is sent out in an email message.

Additional information regarding downloading

The italicized section below is a copy of the download option page in SurveyMonkey. It shows the various options available for downloading results. Spreadsheet, HTML, and pdf formats are available along with choices for raw or summarized data. Note that the descriptions are not that clear so expect to experiment with downloading to find the exact format to meet your needs.

Choose Type of Download

◉ ***Summary Report***
Download a summary report of your survey that you can save or print.

○ ***All Responses Collected***
Download the entire response set of your survey, for importing into a spreadsheet or database.

Columns: [ ]

Choose whether question choices are condensed or expanded to fit one or multiple columns.

Cells: [ ]

Choose what data appears in the spreadsheet.

Choose Format

◉ ***CSV Format***
The summary is formatted as a comma separated values file.

○ ***Spreadsheet Format***

The summary is formatted to open with spreadsheet software.

XML Format
The summary is formatted as an XML file.

HTML Format
The summary is formatted in HTML, and can be easily posted on a website.

PDF Format
The summary is formatted as a PDF, and can be easily printed.

Orientation:

Paper Size:

Open-Ended Responses (optional)

Include Open-Ended Responses in Download
Apply Existing Crosstab (optional)

Use Current Crosstab Named "New Crosstab"

Conclusions and Recommendations

There are many more uses of a survey tool than just for the common “end of course” survey. On-line surveys can save much time and effort compared to handwritten surveys and OCR forms.

An on-line survey took can be creatively used for a variety of time-saving data collection processes.

Sometimes the difficulty in summarizing and analyzing data delays the effort and ultimately affects the implementation of changes. If properly planned out, the number of hours required for analysis, feedback, and planning for change can be reduced and program effectiveness can be promoted sooner.

Creation of descriptive statistics for generating a thoughtful self study is time consuming. Having data in a form that is already in a spreadsheet format makes this task much easier.

References

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Biography

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