Enhancing Quality of Library Instruction Programs through Delayed Assessment

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Case Study

Purpose of this paper
This paper reports on the survey conducted by the Hong Kong University of Science and Technology Library on the quality of its library instruction program.

Design/methodology/approach
Twenty-five library sessions in Fall 2004 were selected for this "delayed" assessment, with the purpose of assessing the enduring impact of the library classes after a period of four to eight weeks.

Findings
Over 400 replies were received. The results showed that most of the attendees remained positive about the usefulness of the library sessions; they retained and applied the skills learned; the overall rating of the library sessions and the instructors were comparable to those of the University's credit course ratings.

Practical implications
The results provide insights for HKUST Library to improve its library instruction program. The experience gained in this survey contributes to effective assessments in the future.

Originality/value
This paper describes a practical and effective assessment of library instruction programs using a delayed survey.

Keywords
Library instruction; Assessment; Long term impact; Library skill retention.

BACKGROUND

The library instruction program at HKUST Library serves the whole university community, including students and staff. The Library holds about 180 classes a year, reaching more than 4,000 attendees, most of whom are students. Most classes are "one-shot" sessions of 50 to 80 minutes. They cover a wide array of library skills, from information tools (guides to databases, reference sources, etc.) to search strategies (information literacy, research methods, etc.). Some sessions are associated with credit courses and serve the information needs of students in those courses; some are open workshops that welcome all interested users.

Our library classes had been evaluated with a standardized form to be filled out at the end of the library sessions. Although such immediate feedback was generally positive, the evaluation was not
administered in every session, nor was the response analyzed systematically. The University Librarian, Dr. Samson Soong, felt the need to conduct a formal assessment on the instruction program. The assessment should have the potential of producing data that may show the value of the program as a whole, and at the same time facilitate improvement by identifying strengths and weaknesses. In particular, he was interested to focus on measuring the enduring value of the program, rather than merely an immediate impression we had been collecting by the end-of-session evaluation. In this context, the Reference Department was charged with this mission of conducting the assessment survey in Fall 2004.

METHODOLOGY

Assessment Method

The planning of the assessment was discussed within the Information Services Committee, of which all librarians with reference duties are members. Several assessment instruments were considered; among them were pre/post-test and perception survey. The pre/post test approach, which generally attempts to measure the extent of improvement in a testee's skills before and after a class, sounded appealing; it also seemed to be one of the most prevalent methods. However, after careful consideration, the Committee found that this would not be appropriate in our situation. The most important reason was that it was not possible to design one test that fit the wide range of classes taught at HKUST. As we aimed to perform a program assessment, rather than an evaluation of a particular type of classes, the pre/post-test approach did not serve our purpose. The Committee therefore decided to use a perception survey.

Delayed Assessment

To measure the enduring value of the program, the survey was administered four to eight weeks after the library sessions. We thought that this "delay period" should allow an appropriate time gap for the attendees to reinforce the skills learnt by applying them through assignments, or, perhaps, to realize their insufficiency. A perception survey after this delay period should give us a good indication of any residual impact of the classes.

The Questionnaire

A group of four reference librarians was formed to design the questionnaire which had 14 questions, soliciting respondents' perception and suggestions to the class, their library use habits as well as some demographic information. To encourage responses, multiple choice was used throughout, with options for open comments.

The core questions were:

Q.2, Rating on a 4-point scale ("1" Strongly Disagree to "4" Strongly Agree):
"As a result of the class, I
a. learned about sources to find needed information.
b. learned about search methods to find needed information.
c. learned how to find needed information more quickly.
d. was more confident in researching information.
The sample

As the choice of classes to be included in the survey was limited to those held in Fall 2004, we did not have the luxury of forming a random sample. It was also impossible to mimic the student composition of the University. The criteria for a class to be included in the survey were:

- the class was preferably attended by at least 15 users to ensure a reasonable sample size
- a course-specific session was preferably associated with specific projects or assignments so that students would have a practical need to apply the library skills learnt

25 sessions were eventually selected for the survey: 15 course-specific sessions (CS) and 10 open workshops (OW). The class size ranged from 14 to over 50. A total of 688 questionnaires were sent, of which 466 were returned, making up a response rate of 67.7%. There were 89% of respondents who attended the classes; 11% were absent from their library sessions, but answered the questions on library use habits and demographic information.

Characteristics

The respondents came from all four schools at HKUST: Engineering 45%, Business & Management 35%, Science 14%, and Humanities & Social Sciences 6%. Among them, 82% were undergraduates, 11% were postgraduates, while faculty and staff made up 3%, and 4% were exchange students. The ratio of male to female was about 6:4.

Half of the respondents needed to search information sources for assignments or projects for over seven times in the past year. 45% of the respondents had attended two to three library classes. A total of 63% of the respondents indicated that they were confident or very confident in doing library research.

The two groups: Course-Specific and Open Workshop

The two types of sessions included in the survey, namely CS and OW, differed in many ways:
• Class objectives and skills covered: CS sessions focused on information sources for particular courses, while OW sessions were mostly tool-based (e.g., database workshops).
• Attendees' profiles: there was a heavy representation of Hong Kong undergraduates (82%) in CS, while OW had a more diversified sample with relatively higher percentages of postgraduates and staff.
• Signing up: OW attendees signed up to attend the class on their own initiative; on the contrary, CS attendees were required to come to the class by their credit course professors, they might have been less motivated as attending the library session was not their own choice.
• Survey method: except for one session, all CS attendees were surveyed by printed questionnaires distributed by the credit course instructors during class time. The replies remained anonymous. On the other hand, OW attendees were surveyed by email, anonymity was hence lost. Furthermore, the fact that an attendee did reply was itself a selection process for users with a more positive attitude.

We therefore speculated that OW was a more mature and more motivated group, and the results proved that OW consistently gave more positive responses than CS.

FINDINGS

Impact of Library Classes

In Q.2, we attempted to measure how much the attendees were changed by the library classes. After the delay period, over 85% of the attendees remained positive on the usefulness (part a to part c) of the sessions. Well over half agreed that the class raised their confidence in information search and increased their interest in using the Library (Table 1).

The mean scores decreased from part a to part e. Users seemed to find the classes having a higher impact on them in terms of practical usefulness than affecting their confidence in information search or their interest in using the Library.

<table>
<thead>
<tr>
<th>Q.2: As a result of the class, …</th>
<th>Mean Score</th>
<th>Agree %</th>
<th>Disagree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I learned about sources to find needed information</td>
<td>3.15</td>
<td>95.6</td>
<td>4.4</td>
</tr>
<tr>
<td>b. I learned about search methods to find needed information</td>
<td>3.12</td>
<td>93.0</td>
<td>7.0</td>
</tr>
<tr>
<td>c. I learned how to find needed information more quickly</td>
<td>3.04</td>
<td>85.3</td>
<td>14.7</td>
</tr>
<tr>
<td>d. I was more confident in researching information</td>
<td>2.85</td>
<td>74.1</td>
<td>25.9</td>
</tr>
<tr>
<td>e. I have increased my interest in using the Library</td>
<td>2.68</td>
<td>61.2</td>
<td>38.8</td>
</tr>
</tbody>
</table>
The mean scores of OW, all above three, were consistently higher than those of the CS (Table 2). The differences were run through an independent samples t-test and were found to be statistically significant (p<.05). This confirmed our speculation that OW was more receptive to library instruction.

<table>
<thead>
<tr>
<th>Table 2: Comparing CS and OW</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>CS (n=354)</td>
</tr>
<tr>
<td>OW (n=58)</td>
</tr>
<tr>
<td>Mean Score</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>c</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>e</td>
</tr>
</tbody>
</table>

Library Skills Learnt

In Q.3, respondents were asked to specify what skills they had learnt in the classes. Six choices of library skills plus an open comment option were presented to them; multiple choices were allowed. Each respondent made an average of 2.06 choices. The top choice was "Form better search strategies", followed by "Find more relevant internet resources". Not surprisingly, the skill that the fewest respondents chose was "Use printed resources more effectively".

Library Skills Retention and Applications

Q.4 was the key question for evaluating the enduring value of the library classes. It asked the attendees whether they retained and continued to apply the skills learnt. The result indicated that 68.5% of the attendees were affirmative. The percentages from both CS and OW were almost identical (68.5% and 68.4%).

We can see a more accurate picture if we look at the responses by attendees of each session (Table 3). For most sessions (15 out of the 23) over 70% of attendees were positive on this question. In two sessions, 100% of the attendees said they continued to use the skills.

<table>
<thead>
<tr>
<th>Table 3: Skill Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Answer &quot;Yes&quot; to Q.4</td>
</tr>
<tr>
<td>100%</td>
</tr>
<tr>
<td>90-99%</td>
</tr>
<tr>
<td>80-89%</td>
</tr>
<tr>
<td>70-79%</td>
</tr>
<tr>
<td>60-69%</td>
</tr>
<tr>
<td>50-59%</td>
</tr>
<tr>
<td>Total no. of sessions analyzed:</td>
</tr>
</tbody>
</table>
Class Rating and Instructor Rating

Q.5 and Q.6 asked attendees to rate the overall quality of the class and the instructor. The 7-point scale employed in the University credit course evaluation was borrowed, so that the Library could use the credit course ratings for benchmarking.

Attendees rated both the class and the instructor higher than the "Above Average" mark. OW again gave considerably higher ratings: both were above the "Good" mark. Table 4 shows the scores converted in the same manner as the University's credit course evaluation ("Very bad"=0, "Very good"=100). These scores are comparable to those of the medium-size credit courses in the same semester, as shown in Table 5.

When we focus our attention on the number of attendees rating us as "Below Average", "Bad" or "Very Bad", we found that 4% to 6% of CS gave us such ratings, but no one in OW had such a negative feeling. We considered this as a very encouraging indicator that the OW group found the sessions satisfactory.

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**Table 4: Ratings for Class Content and Instructor by Class Types**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes</td>
<td>CS</td>
<td>353</td>
<td>66.34</td>
</tr>
<tr>
<td></td>
<td>OW</td>
<td>57</td>
<td>84.21</td>
</tr>
<tr>
<td>Instructors</td>
<td>CS</td>
<td>344</td>
<td>69.19</td>
</tr>
<tr>
<td></td>
<td>OW</td>
<td>57</td>
<td>85.38</td>
</tr>
</tbody>
</table>

**Table 5: Credit Courses Ratings for Medium Classes** (class size between 20 to 100)

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate Courses</th>
<th>Postgraduate Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes</td>
<td>70.2</td>
<td>75.1</td>
</tr>
<tr>
<td>Instructors</td>
<td>72.4</td>
<td>78.5</td>
</tr>
</tbody>
</table>

Suggestions for Improvement

A major goal of this assessment was to solicit concrete feedback from attendees on how the library classes could be more effective. To encourage the respondents to provide feedback, a list of ten most common suggestions were given in Q.7 for them to choose. On top of these, the choice "I found the class satisfactory" and a space for open comment were also added.

On average, each respondent checked 1.48 choices. The top three choices were "Satisfactory", "Shorter time", and "More hands-on".

The written comments were categorized and analyzed. Summarizing both the structured replies and the open replies, we learnt that attendees would prefer shorter and smaller class, more hands-on
practice during the session, and more class handouts. All these opinions were noted and shared by the teaching librarians.

Other Noteworthy Observations

1. Class Size
   The class size in the sampled sessions ranged from 14 to over 50. By comparing responses from attendees in different sessions, we observed a downward trend as class size increases in all three key indicators in the survey, namely the percentage of respondents who continued to use the skills, the class rating and the instructor rating.

2. Confidence Level
   Respondents who were confident with searching information tended to have a higher chance of retaining the skills and give higher rating for both class and instructor.

3. Exposure to Library Instruction
   Respondents who were frequent library class users tended to give higher rating for both class and instructor. However, skills retention peaked at the middle, at the group who attended 2-3 library classes. As the sample who claimed to attend 4 or more library classes was small, there was not enough data to make further conclusions on the trend.

TOWARDS A MORE ROBUST ASSESSMENT

This was our first formal assessment of the instruction program at HKUST, and it was a precious learning process. We will consider the following to strengthen the next assessment project:

1. Quantify the changes over the delay period
   We are revising the evaluation form that has been used for immediate feedback to make the questions comparable to those in the delayed survey. The differences in the responses can then be quantified and analyzed to assess the long term impact of the library classes.

2. Separate treatment for different types of classes
   This survey proved that there were significant differences between the Course-Specific group and the Open Workshop group. We may consider doing separate surveys of the two groups.

3. Class size consideration
   Our results showed that class size was a factor affecting the outcome and effectiveness of the class. We would take this into consideration when selecting classes to be sampled. It may be meaningful to divide the sample into large classes and small classes as they may yield different results.

CONCLUSION

It is always difficult to measure the impact of library instruction. At HKUST, the Library offers a wide range of classes with various objectives and intended outcome. These one-shot sessions do not allow steady contact with the attendees to be established, without which there is no way for librarians to follow up with the skills taught and to fortify the effect of the classes.
Despite these challenges, we embarked on an exploratory assessment on our library instruction program with a practical, manageable and effective perception survey. With the design of a delayed survey, we successfully obtained data that demonstrates the lasting value of library instruction; the results also gave us solid suggestions so that teaching can be improved, and future classes can be tailored to better suit users’ needs. Last but not least, the experience gained during this survey serves as a basis for us to conduct more rigorous assessments in the future.