Online Course and Teaching Evaluation
Report on a Trial Run with Recommendations

1. Background

In 2003, the Teaching and Learning Centre (TLC) obtained an internal Teaching Development Grant (TDG) to test an alternative process to the current paper-based Course and Teaching Evaluations (CTE) System that has the potential both to enhance the benefits from the exercise and also to reduce the costs of it.

The objectives of the project are:

- To develop and trial an online system for course and teaching evaluations for both summative and formative evaluation purposes.
- To monitor and study the integrity of the online evaluation system as well as the validity and reliability of associated data collection and distribution with the following factors being taken into account:[1]
    a. confidentiality: anonymous student responses
    b. authenticity: only registered students can complete the evaluation
    c. representation: one student – one vote
    d. data security: only authorized users can access to the data
    e. timing of release of reports
    f. acceptable response rates
    g. accessibility of the evaluation instrument to the students
    h. year-on-year continuity during the transfer period from paper-based to online systems
    i. appropriate questionnaire design
    j. a user friendly interface for both instructors and students
- To assess potential cost savings associated with converting to an online CTE process.

[1] Kelly M & Marsh J. (1999) *Going On-line with Student Evaluation of Teaching – evaluation of the student experience project, project series, volume 6*, Management committee, Evaluation of the Student Experience Project, c/o PDQS, City University of Hong Kong, Hong Kong

2. System Development

In 2004, an online CTE system was developed on a testing server at TLC. This was a tailor-made system built on a NT Server 2000 linked up with an apache web server and MySQL database using PHP programming technique. The layout design of the questionnaire was adapted from the existing paper-based system.

3. Methodology

This prototype consists of 2 parts:

1. A flexible formative feedback system which allows teachers to create their own survey with tailor-made questions and to collect opinions about their teaching and the courses anytime as desired.
2. A standardized summative CTE system which may replace the current paper-based one to be conducted at the end of semester.

It was towards the end of the 1st term of 2004-2005 when the prototype was ready for testing. Because of time constraints, we could only conduct the summative CTE but not the formative one. However, as both systems are based on the same conceptual framework and methodology, it is believed that the results of the summative CTE trial could equally apply to the formative part of the system as well.

In order to test the online CTE system, academic staff who had an option to be not included in the CTE exercise in the first term of 2004-05 were invited to participate in the trial. Instead of the paper-based CTE, their students were told to complete the CTE form on the Internet outside the classroom within a particular time frame. Their responses were captured by a computer database with the online CTE scores subsequently compared to the previous CTE scores of the same courses taught by the same staff member for validity and reliability checks.

Feedback about the online system and its implementation was also collected from the participating students and staff as well. CTE results collected online for the trial run would not form part of the official CTE record for the staff participants, but such results were also sent to them for their information.

Seven academic staff members from six departments had agreed to participate in the trial. With their consent, the course lists, student enrolment lists and relevant past CTE results were obtained from ITSC by the project team. 614 students by headcount from 18 classes of 15 courses taught by these seven academics were asked to conduct the online CTE. Among these 15 courses, only 9 of them were taught by the same staff member involved, whose past CTE results were available for comparison.

Between late November and early December, email messages about the objectives and instructions of completing the trial, plus a hyperlink to the online CTE questionnaire were sent to individual students of these classes. When students clicked on the hyperlink, they were directed to the CTE webpage. Students would then be asked to log in the system with their Lingnan email username and password to authenticate their registered status.

Students were given approximately 10 days to complete the online CTE. Before the deadline, two email reminders were generated automatically by the system to those students who had not returned their completed online CTE form. Students were denied access to the CTE web page once they had returned it or after the completion due date. For most classes, a member of the project team went to a scheduled class during the evaluation period and explained to students the nature and purpose of the online CTE trial.

Reports were compiled with online CTE scores in Acrobat pdf format and were sent to participating instructors during the term break in late January for their own record.

4. Major Findings

4.1 Response Rate

The following table shows that the average response rate for the 18 classes involved is 69.7%, with 89.7% as the highest and 30% the lowest.

Online CTE Response Rate (2004-2005 Term 1)						
Course Code	Section	Teacher Code	2004 - 2005 Term 1			
			%	N return	N enrol	undeliverable email
1	1&2	A	61.4	27	44	1
2	1	A	72.1	31	43	0
3	6	B	78.6	22	28	0
4	1	C	65.1	56	86	4
5	1	C	75.0	21	28	2
5	5	C	63.6	7	11	2
5	40	C	30.0	6	20	7
6	1	D	80.6	29	36	0
7	1&2	E	84.4	38	45	1
8	1&2	B	87.5	28	32	1
9	1	B	82.4	14	17	0
10	1	F	77.5	31	40	1
11	1	F	70.0	28	40	0
12	4	G	59.3	16	27	0
13	1	D	81.0	17	21	0
14	3	G	35.3	12	34	4
14	2&7	G	60.6	20	33	0
15	1&5	E	89.7	26	29	0
Average			***69.7***			
Total					***614***	***23***

There were 2 classes with a relatively lower response rate i.e. 30% and 35.5% which could be due to the larger number of undeliverable email representing 35% and 11% of the student enrolment in these two classes.

Rather low response rates (*59.3, 35.3 and 60.6*) were consistently recorded for the classes taught by teacher G. In fact, teacher G is the only participating instructor whose classes to which the project team member did not go for briefings. Instead, the project team gave copies of the project handout to the instructor for distribution to the class. Students would therefore lack the motivation to complete the evaluation as they had not been explained about the online CTE trial in details.

The table below shows the response rates of online CTEs alongside those of the paper-based ones. The average response rate of online CTE was 71.4%, 9.6% lower than the paper-based one which was 81.0%. For paper-based CTE, students were asked to complete and return the form in class. Hence, the response rate basically equals the attendance of that particular lecture when the CTE was executed. While the online CTE is not compulsory, students are invited but do not feel obligated to participate. Besides, students may forget or lose motivation if they do not complete it right after they receive the CTE email message. All these reasons could have contributed to the lower response rate for online CTEs.

Comparison of CTE Response Rate															
C. Code	Section	T. Code	Paper-based CTEs									Online CTEs			
			(2002-2003)			(2003 – 2004)						(2004 – 2005)			
			Term 1			Term 1			Term 2			Term 1			
			%	N return	N enrol	%	N return	N enrol	%	N return	N enrol	%	N return	N enrol	undeliverable email
1	1	A							94.7	36	38				
1	1&2	A										61.4	27	44	1
2	1	A							70.4	19	27				
2	1	A										72.1	31	43	0
3	4	B							97	32	33				
3	6	B										78.6	22	28	0
4	1	C							72.5	74	102				
4	1	C										65.1	56	86	4
5	1	C	87.9	29	33										
5	1	C										75	21	28	2
5	5	C										63.6	7	11	2
5	40	C										30	6	20	7
6	1	D							75	24	32				
6	1	D										80.6	29	36	0
7	1	E				89.7	26	29							
7	1&2	E										84.4	38	45	1
8	1	B				82.1	23	28							
8	1&2	B										87.5	28	32	1
9	1	B				63.9	23	36							
9	1	B										82.4	14	17	0
10	1	F				79.5	35	44				77.5	31	40	1
11	1	F				77.8	21	27				70	28	40	0
Average Response Rate						*81.0**						*71.4*			

** Average Response Rate of paper-based CTE in 2002-2004: summing of response rates in the 3 terms divided by the no. of classes = 81%*

4.2 Comparison of Paper and Online CTE Scores for Teaching and Course Quality

The basic tenet is that the mode of CTE administration, be it online or paper-based, should not have affected positively or negatively the CTE scores for teaching and course learning. The following table shows the two mean scores for teaching and learning for the same courses taught by the same instructor based on responses from paper CTEs and the online trial.

Comparison of Paper and Online CTE Scores for Teaching and Course Quality				
Course Code	Paper CTE mean for Teaching	Online CTE mean for Teaching	Paper CTE mean for Learning	Online CTE mean for Learning
1	5.054	5.179	4.865	5.089
2a	5.379	5.143	5.172	4.762
2b	5.000	5.333	4.714	5.000
3	5.208	4.862	5.167	4.828
4	4.692	4.842	4.692	4.711
5	4.778	4.593	4.583	4.667
6	4.737	4.387	4.579	4.452
7	4.781	4.727	4.344	4.273
8	4.043	4.500	3.913	4.393
9	5.217	5.214	5.000	5.000

When statistical tests were run on these means, no significant differences were found. The analysis supports that both scores for teaching and course quality should be consistent regardless of how CTEs are administered either through the web or the pen-and-paper process. There were both ups and downs in the mean scores for the same teacher and same course between the online CTE and paper-based evaluations. Rather than attributing the differences to the mode of CTE administration, these could be variations on the part of the teacher who might have changed the teaching style and/or content of the course.

4.3 Written Comments by Students

Among the nine courses in the trial run, only 3 online CTEs have recorded more written comments by students than in the previous paper-based CTEs. It may be related to the students' fear of being identified by the silent-tracking computer system. However, more elaborate comments with between 50 to 175 words in either English or Chinese were found in the online CTEs. This is due to the fact that the computer interface has allowed students to type in either English and Chinese words without space and time limits providing a favorable environment for more thoughtful and elaborate comments.

5. User Feedback

5.1 Feedback from students on the trial

In order to collect students' feedback about the prototype design and its implementation, students were invited to complete a simple online survey on the trial after they had finished their online CTE.

206 students responded to the survey and they generally preferred the online CTE to the paper-based system *(mean = 4.2, SD=1.362)*. The table below shows the reasons given on a 6-point scale ranging from 6 = strongly agree, 5 = agree, 4 = slightly agree, 3 = slightly disagree, 2 = disagree and 1 = strongly disagree.

Reasons	Average scores	N sample
a. Class time will not be wasted if it is done online.	4.46	194
b. I can do it at a time and place suitable to me.	4.66	193
c. I can have more time to complete it.	4.35	193
d. I will consider each question in the CTE more carefully and give appropriate responses.	4.11	191
e. I am more willing to type in comments because I do not have to worry that my handwriting will be recognized.	3.58	193
f. I find it easier to express my opinions about the course and the instructor when I am doing it online and not supervised.	3.66	193

However, there is a major concern among participating students with confidentiality and student anonymity when conducting CTE online. Such a concern is reflected in the response to *Q.3c: I still prefer the traditional paper-and-pen CTE because confidentiality and anonymity are more assured when CTE is done in class (mean = 3.53, SD = 1.688)* and is constantly raised in their written comments:

- the security of the survey is questionable because I have to log-in the website using my name and password. Personal Information may be leaked to the surveyor and also the teachers
- I think it is not hundred percent that sure our name won't be disclosed to the teacher
- I have no confidence about the online CTE because confidentiality is questionable
- I think it needs to assure that it is really confidential for each student to comment. The traditional one does not require us to put down our names, but for the online CTE system we need to login to submit the evaluation; student will hesitate to write and may not tell the truth.
- I really prefer the traditional one, as I am afraid that if I submit the evaluation form online, my identity would be shown for whatever I have written
- I still prefer to do it in class because my confidentiality can be assured
- names will not be known for the written system, but we are requested to log in with our names in the online system
- if some students are not doing the evaluation seriously, it is not a problem about doing it with the pen or the computer
- 對保密程度的信心不足，因爲 CTE SYSTEM 有同學 login 之 record. 大家在不了解這新 system 之下， 不知 CTE SYSTEM 如何保障同學私穩. 若能加以介紹，應有助提高同學之信心

Although student anonymity was emphasized at briefings and in the email message sent to students, we could not entirely obviate such concern due to two main reasons:

1. The hyperlink of the online CTE was sent to the students' personal email account and they need to login with their username and password.
2. Between the first email notification and the due date of CTE submission, the system will send out email reminders to those students who have not completed the CTE online.

Generally speaking, students did not have many difficulties in using the system; still they suggested improvements in two areas:

1. increase accessibility: add a hyperlink of CTE onto the Lingnan homepage;
2. enhance layout design: more adaptable to different monitor resolution settings.

5.2 Feedback from Instructors

Participating staff were generally satisfied with the system and they wondered whether online CTEs would be implemented again in the second semester or in future.

6. Summary of Issues and Suggestions

6.1 Summary of Issues

	Paper-based CTE	**Online CTE**
Pros	■ higher response rate *(81% on average)* ■ higher degree of anonymity perceived ■ students are familiar with the traditional CTE system	■ reduced printing and paper costs *(10,000 copies of CTE forms printed every semester equivalent to a savings of $100,000 per year)* ■ reduced time for survey administration and data processing *(approximately 2 months' turnaround time at present)* ■ flexibility in CTE administration without the need to schedule class time for CTE ■ more time for students to give thoughtful comments ■ greater flexibility for formative evaluations

	Paper-based CTE	Online CTE
Cons	■ high printing and paper costs ■ more labour intensive for survey administration and data processing ■ not permitting ongoing course and teaching evaluations ■ more restrictive in terms of time for CTE completion in class	■ lower response rate *(71.4% on average)* ■ students' fear of being identified ■ briefings are needed for students to become familiar with online CTEs

6.2 Suggestions

To allay concerns regarding student anonymity and a relatively lower response rate for online CTE, the following are suggestions of some possible solutions.

- Widely publicize the new online CTE system to students with assurance of anonymity and confidentiality.

- Add a hyperlink on the Lingnan homepage or Lingnan Portal for direct access. Students do not need to login again when they go to the CTE webpage via the Lingnan Portal as they have already done so when they first access the Portal.

- Send an email message to instructors concerned about the progress of CTE completion by students online at least one week before the evaluation due date. This is to let the instructors remind students about completing the CTE online if they have not already done so. It is believed that a higher response rate will be resulted if there is a reminder from the instructor.

- Introduce administrative nuisances for compulsory return of online CTEs. For instance, at the National University of Singapore[2], students are required to submit all their course evaluations before they can register for examinations. In fact, we had asked students what they think if they have to complete their online CTEs before they can gain access to their course grades. Their initial responses were very negative and they perceived this as a violation of their rights.

[2] Kelly M & Marsh J. (1999) *Going On-line with Student Evaluation of Teaching – evaluation of the student experience project, project series, volume 6,* Management committee, Evaluation of the Student Experience Project, c/o PDQS, City University of Hong Kong, Hong Kong

7. Further Developments

7.1 Implementation of Online CTE by Phases

The trial supports that online CTE is a viable alternative to the conventional paper-and-pen system although there are still issues to be resolved for successful implementation. In a bid to reduce risks involved in the entire switch from paper-based to online CTEs, it is suggested that the University may consider the following two options, inter alia, for an incremental implementation in phases.

a. Staff are given the choice for paper-based or online CTEs. Because of the many advantages associated with online CTE, it is anticipated that a significant number of staff would opt for online CTE. With increased confidence after proven efficiency and reliability of the online system, it is believed that electronic CTEs will gradually replace the traditional pen-and-paper evaluations.

b. Or the University may wish to implement online CTE in phases. For example, this can be done with all first year courses starting in the first semester of 2005/06. Gradually, the electronic system may expand to include second and third year courses in subsequent semesters.

7.2 System Transfer

Although the trial run was conducted by the Teaching and Learning Centre (TLC), the ongoing maintenance and management of the online CTE system once implemented should be taken up by the Information Technology Services Centre (ITSC) which has the needed expertise and equipment for the system. However, as ITSC may use a server with different configuration, some adaptation and modifications may be required before implementation in the coming semester.

Besides, the possibility of linking online CTE with Banner should be further investigated. At the beginning of this trial, the project team was informed that the existing Banner system did not have the functionality of conducting course evaluations. Hence, the project team developed a prototype system using its own limited resources. However, in view of the further development of Banner, such possibility should be continuously explored, in particular, to link up the enrollment database with the CTE system.

7.3 Ongoing Review

As a result of the trial, some problems and limitations of the online system were identified. However, there could be other teething problems arising after the online CTE system is fully implemented university-wide. Hence, there is a need for ongoing review and monitoring so that early problems could be detected and nipped in the bud. The Teaching and Learning Centre (TLC) will continue to oversee the operation of the online system with long-term technical support from ITSC.

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