

## **Feedback in Online Programs**

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### **Abstract**

Feedback is a key element in online programs. It keeps alive the flow of communication between the members of the virtual community, and it helps to improve the effectiveness of the program. In this study, we look into the sources for feedback and how they are used in an online master's program. We present an analysis of feedback at three different levels: a) The feedback that results from instruction and is used in the teaching and learning process, b) the feedback that helps the program make improvements in the support services to the online community, and c) the feedback that is used by the college administration to assist decision making regarding its online offering.

Keywords: Feedback, interaction, online education, online program.

Feedback is described as all "comments in the form of opinions about and reactions to something, intended to provide useful information for future decisions and development" (Encarta, 1999). Big companies like Microsoft, Dell Computer, Delta Air Lines, and Wal-Mart Stores have been using feedback systems to instantly identify changes in orders and then quickly respond (Malone, 2002), which has had a big impact in revenues and customer satisfaction.

Feedback already identified as one of the seven principles for good teaching and learning (Chickering & Gamson, 1987), is also a key element in online programs. Communication processes that take place on the Internet are improved through feedback because "feedback goes beyond confirmation of correct answers (behaviorism) to developing new understandings and structures to facilitate learning (constructivism)" (Perrin, 1999, p. 1). It allows keeping alive the flow of communication between the members of the virtual community, and it helps to improve the effectiveness of online programs. The concept that Chickering and Gamson explain as "knowing what you know and what you don't know focuses learning" (p. 3), can also be applied to online programs, and can be translated into knowing what is well achieved and what is not helps to focus improvement.

While several online programs are struggling to survive, affected by high drop out rates (Carr, 2000; Terry, 2001), poor student and faculty satisfaction, technical problems, and other issues; an online program seems at the University of Illinois (UIUC) seems to be an exception because of its outstanding performance measured in terms of graduation rate, students and faculty satisfaction rates, and graduate college evaluation. We contend that the feedback mechanism used in this program could be one of the reasons for that success.

This study aims to reveal the feedback model used in the Curriculum, Technology and

Education Reform (CTER) program, one of the online Master programs offered by the College of Education (COE) at the University of Illinois in Urbana-Champaign (UIUC). We expect that the study will allow others involved in online education become aware of the importance of feedback channels and benefit from the experience shared in this case study.

The following research questions will guide this study:

What are the channels of feedback used in an online program?

How is the collected information used to improve the program?

### **Literature Review**

Shannon (1949) was one of the first researchers to provide a feedback and communication model. Burch (2001) says that the applications of the traditional communication model elements—source, message, transmitter, receiver, and feedback—are different in Internet communication than in other forms of communications. He also stresses the importance of the “mode of feedback”, which he defines as the method of interaction. In his own words: “No Internet communication model could exist without feedback” (p. 360).

The systems of feedback in online learning programs also act as 'reinforcing' and 'balancing' processes following Peter Senge's (1990) classification. Reinforcing (or amplifying) feedback processes are present in those situations where growth or accelerated decline is being experienced. An example of reinforcing feedback is what is known as “snowball effect”. The second type of feedback processes is balancing (or stabilizing), which operates according to goal-oriented behavior. Balancing processes always operate to reduce the gap between what is desired and what exists.

Unlike Senge, Malone (2002) classifies the feedback processes, into two main forms: negative and positive. Negative feedback loops move toward balance by subtracting error in each

cycle. An example of subtracting error is the thermostat, which keeps a room to a predetermined temperature by cooling or heating the air. Positive feedback loops produce changes in each cycle, resulting in a never-ending movement where effects of change rise with each event. Drug addiction is an example of a positive feedback loop, and “change-in the form of learning, interacting, and organizing” (p.23) is also positive feedback.

Ragan (1999) says that regular feedback mechanisms have to be designed and implemented in order to develop a quality educational experience in distance education programs. Feedback mechanisms need to be implemented in all the functions and processes that occur in online education: teaching, learning, support, and administration. Online courses require prompt feedback to promote active learning (Graham, Cagiltay, Craner, Lim, & Duffy, 2000). As Chickering and Gamson (1987) said in the “Seven Principles for Good Practice”

...students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves. [Chickeering & Gamson, p.3]

Overall, instructors must provide students with two types of feedback: acknowledgement and information. Acknowledgement feedback should be given immediately upon receipt of an assignment so the student knows that his/her work was received. Feedback for teachers is given in the process via class interactivity, which is the formative part. The summative source of data is provided when at the end of the course students complete the course evaluations. Instruments for end-of-course evaluations should be designed specifically for the online environment, and those instruments need to be revised while being used in order to get “accurate, reliable, and useful feedback” (Achte-meier, Morris, & Finnegan, 2003, p.11).

## **Design And Methodology**

The case study approach has been chosen because, as Stake (1995) states, it will allow the reader, “to appreciate the uniqueness and complexity of the case”(p.16). To gain a deeper understanding of the process of feedback, the model used, and the results of the application of this model, we selected a mixed method approach for data collection. This includes:

- Analysis of threaded discussions from asynchronous and synchronous recorded interactions,
- Students’ surveys,
- Course evaluation surveys,
- Online survey to faculty members in the program,
- In-depth interviews with staff members.

The data collected for this research includes information from years 2001, 2002, and 2003. The names of students and instructors in the transcripts of chat and evaluation form have been changed to generic labels to protect anonymity. The online survey for faculty was voluntary and was completed by four out of the six CTER instructors invited to participate in the survey.

## **Context of the Study**

The CTER program is geared toward practicing K-16 teachers and administrators (Levin & Levin, 2002). Starting in the summer of 1998, CTER has existed as an Internet-based program for over 5 years, and its faculty and staff members have been using this model of feedback since then. CTER follows a cohort model admitting 25 students every year. These students have to complete 8 courses in a two-year period to fulfill the Master degree requirements. The online program supports the use of software appropriate for online communication, such as Web Board™, Blackboard™, TappedIn™, and other Instant Messenger Services to facilitate the interaction between students, faculty and technical support staff. All courses require synchronous and asynchronous interaction encouraging students to raise questions, comments and concerns that will

help them in their classes and also in solving technical problems or other issues.

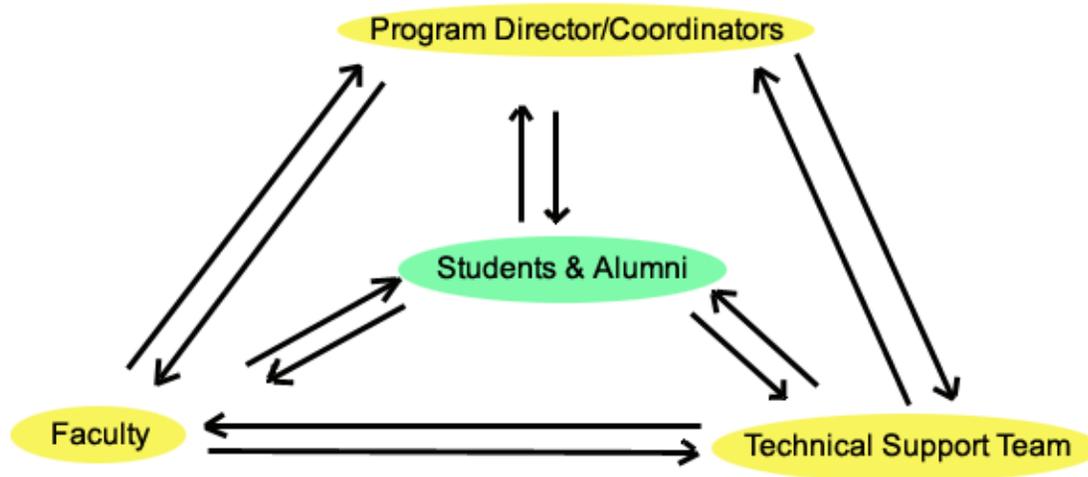
The organizational structure of the program includes a director, a program coordinator, faculty members, a technical support team, and a research assistant in charge of the ongoing program evaluation.

Case studies, course and instructors evaluations, mid and end program surveys, memorable CTER stories, as well as the data stored in the records of synchronous and asynchronous discussions, and the experiences shared by the program staff and faculty were invaluable sources of information for this study. Current faculty and staff in the CTER program were selected to respond to a survey and interviews.

## **Results And Analysis**

### **CTER Feedback Model**

The analysis of the data obtained allowed us to compose the feedback model used by the CTER program. Figure 1 shows a graphic representation of the model



*Figure 1. CTER feedback model shows the interaction between administrative staff, faculty, technology support, and students.*

Figure 1 shows the continuous interaction between administrative staff, faculty, technology support, and students. This structure is flat and non-hierarchical, all the stakeholders are directly connected, the flow of communication goes from the sender to the receiver without interference or filters. This mode of interactivity triggers on-demand improvements and changes in the program.

Students' feedback about the program is collected through four program surveys: the pre-, mid- and end-of-program surveys, and a yearbook survey. This information gathering helps "to determine the effectiveness of the program and the extent to which it is developing capacity that promotes its long-term viability" (Levin, Levin, & Waddoups, 2001).

Students' feedback about a course has a direct effect on the evaluation of the course, and may result in changes that will impact the future delivery of the same class. Students also

participate with their comments in a direct or indirect evaluation of the technical support provided. Their statements have the form of either requests for help beyond the basic instruction, or remarks that denote their satisfaction or dissatisfaction with technology applications being used. For example, Figure 2 shows an extract of one of the weekly synchronous chat sessions where the instructor is asking for feedback about a new audio technology being implemented.

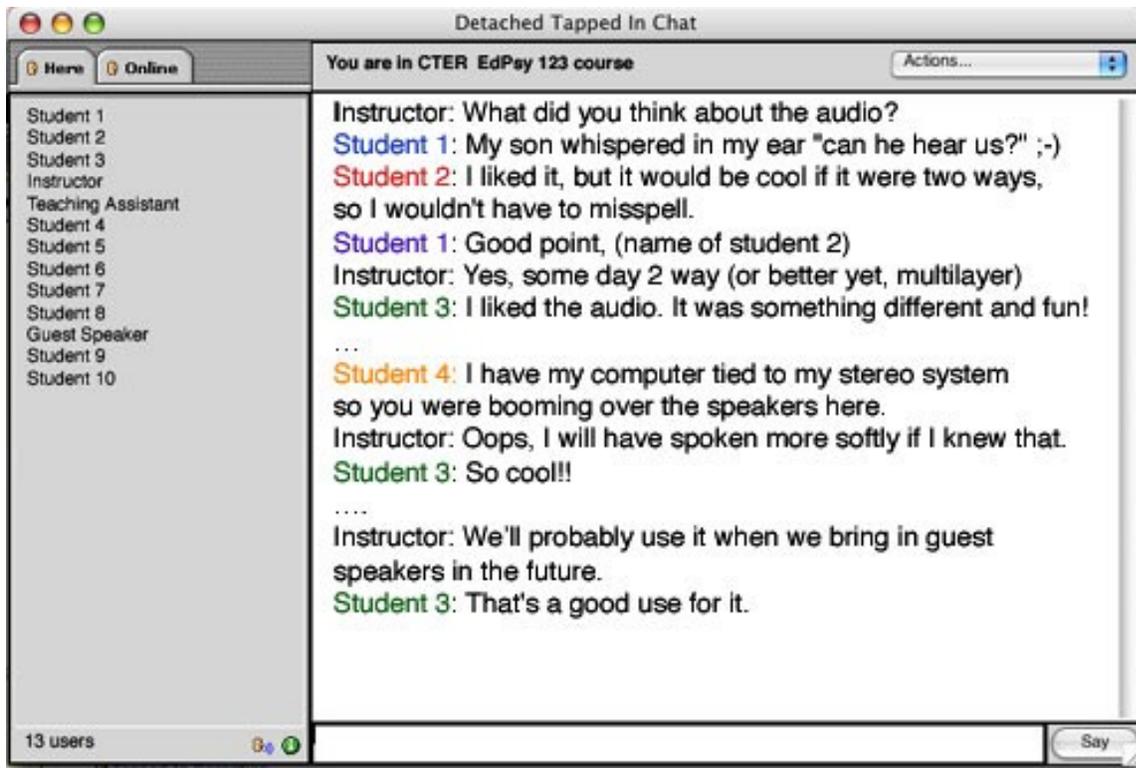


Figure 2. Extract from a synchronous chat session.

Students' feedback is useful to learn about the level of satisfaction with any new application and also offers suggestions for improvement (i.e., *it would be cool if it was two way*). This information is helpful when program staff evaluates effectiveness of the different applications being used in classes and also when faculty and teaching assistants consider different modes of interaction with their students.

Online students consider feedback important in their learning process. Graham et al. (2000)

points out that students ask for acknowledgment and information feedback. This need for feedback is shown in the student's end of the year course evaluation forms. The following are some extracts from those evaluation forms related specifically to how students perceive their instructors are giving feedback to them.

The screenshot shows a yellow background with a blue header. On the left, there is a logo with 'EON' and a downward arrow. The main title is 'Evaluation ONline'. Below the header, there is a section titled 'Evaluation Report'. To the left of this section, there is a sidebar with a list of items: 'Question', 'Student answer', 'Question', 'Student answer', 'Question', 'Student answer', 'Question', 'Student answer'. The main content of the report is as follows:

**Question:** What would you suggest to improve this course?

**Student answer:** FEEDBACK, FEEDBACK, FEEDBACK, WE NEED IT!!

Figure 3. Extract from end-of-course evaluation form.

In Figure 3 above we can see that the student is making a clear statement about the lack of feedback that wasn't provided as they expected in this class. On the other hand, Figure 4 shows an extract from another class, in which interactions and feedback are seen as the major strengths in the class.

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**Question:** What are the major strengths and weaknesses of this course?

**Student answer:** the strengths were the interactions and feedback. I felt part of a group and the bonds of our CTER cohort strengthened.

Figure 4. Extract from end-of-the-course form.

Students not only need quality feedback, but also require it in a timely fashion. See Figure 5 for a comment of a student about this.

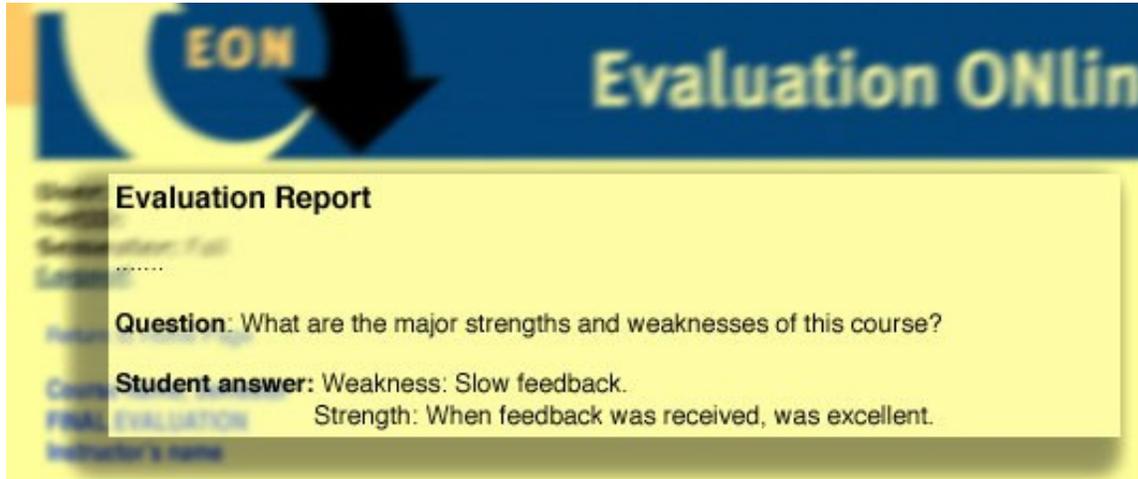


Figure 5. Extract from end-of-the-course form.

Online classes and technology applications are not the only systems on which feedback has an impact. The CTER online website, that contains useful information for current and prospective students, needs to be up-to-date with what is going on in the program every semester. Program administrators periodically provide updated information for the technical support team. Feedback from frequent users as well as from other visitors to the site feed a data source that is analyzed and used in these updates.

Other agents involved in providing feedback to the CTER program are the Ed-Online committee, a group of faculty and staff members in the College of Education involved in online education; and the University of Illinois Online group, a unit that markets all online offerings at the UIUC. Those agents also have an impact on changes in the CTER program. Interviewed on this matter, the CTER director said that CTER has learned from other programs and incorporated best practices.

### **Channels of Feedback and How They Work in the Model**

This investigation found that the three main channels in the CTER feedback model are related to the teaching-learning process, the support services and external sources.

#### Feedback in the Teaching-Learning Process

The rich interaction that occurs in classes allows instructors to be aware of students' reactions to content and methodology. The information that comes from students to instructors and teaching assistants regarding online methodologies is used to confirm or revise class content, applications used, methods of interaction and uses of technologies. Some of the revisions happen immediately, some occur at the end of the course and will affect the future offerings of the class.

Information is collected from students' e-mail messages to instructors or support staff, students' comments posted in the asynchronous or synchronous interactive sessions, course surveys, and final online course evaluations.

Students' statements like: "I felt as all I was doing was reading and writing. I would have liked more group interaction", or "Although I was able to communicate in (the system), I would have liked some online chats", make a case to have the instructor think about some changes in methodology, and explore some of the applications that allow for online synchronous communication.

We surveyed CTER instructors about the feedback they received and how it impacted their teaching. They agreed that communication with CTER colleagues is their main source of feedback and the one that has more importance in modifying their online teaching. Online instructors also mentioned that students and CTER staff comments are very important in providing guidance for changes in the online classes. E-mail and asynchronous forums are the preferred ways for instructors to deliver their feedback to students, both individually and collectively.

Instructors said that the most effective ways of getting feedback from their online students about the class they were teaching were: “comments during the class in web-based conferencing; comments at the end as part of the students’ final report; comments on end of course evaluations”, and other instructor adds “...to provide several communication channels so that they can get back to me... and ask them directly about certain concerns...”

When asked about the ways instructors incorporate the feedback they receive from students into their classes, the respondents mentioned that they make modifications in the current course if possible and if not in the future versions of the class, that they make changes in the curriculum, and also that they have an open forum where students can ask questions or make comments about the course process and that the instructor then tries to be responsive to those requests.

All respondents in the survey agree that online students (in general) provide more feedback to their instructors than traditional students do. Instructors think that this may happen because online students are more independent learners, who have more access channels (facilitated by the media) to send their feedback, and also because hiding behind a computer screen seems to make them bolder.

### Feedback in Support Services

A distance learning program needs to assure its participants that they are not isolated, and that access to learning materials, as well as support services are easily available.

CTER support staff strives to provide students and faculty with services that go from technical support issues to administrative matters. They hold a year-round-weekly meeting to discuss on-going technical and support issues and make changes accordingly. The program staff decides the methodology used to provide those services, and the results are assessed via the feedback that comes from students and instructors throughout the academic year. CTER administrative staff

attends semester meetings with CTER faculty to listen to instructors' reflections on their teaching experience in the current semester, their comments and ideas; and also to present faculty with on-going work and information discussed in the technical support weekly meetings. The comments received via email, in response to surveys, web-based forms, or phone calls, are used to adopt new technologies, confirm effectiveness of the ones in use, revise or upgrade applications, and define new systems for interaction.

The following are two examples that have been selected to illustrate how feedback helps to make better choices in uses of applications or display of information. The first example refers to the regular updates that the CTER website receives in the year. Technical support and administrative staff carried out an evaluation of the web usability of the CTER site to keep it functional and user friendly. New and current students were invited to participate in online focus groups to discuss the navigation and use of the website and to gather opinions on what they would like to find in the pages. Comments such as the ones in Figures 6, 7, and 8 were collected in those groups and used when working on website upgrades.

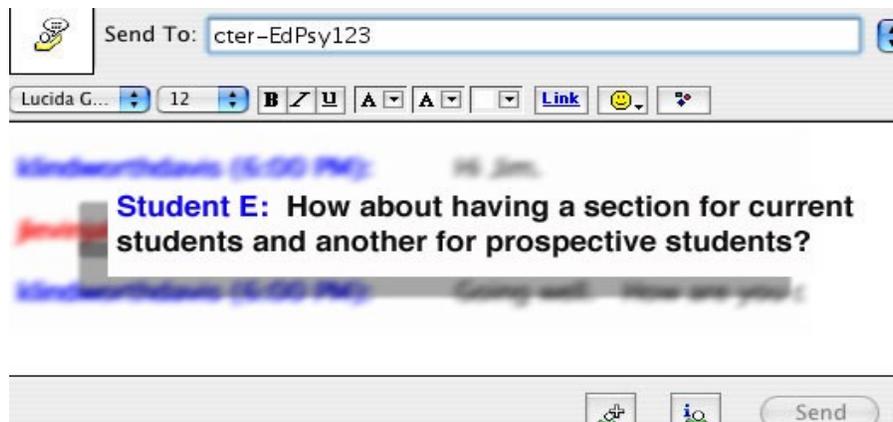


Figure 6. Focus group discussion.

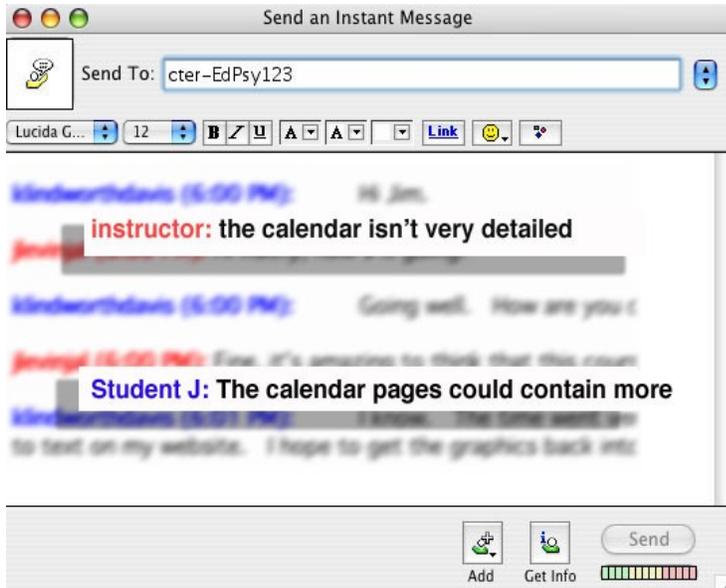


Figure 7. Focus group discussion.

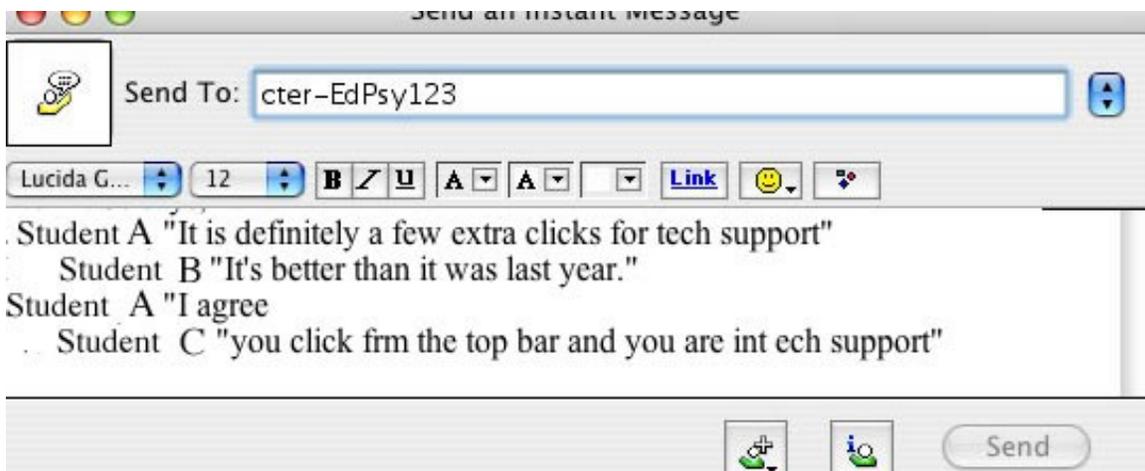


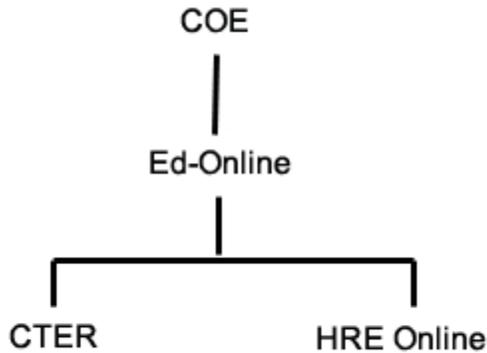
Figure 8. Focus group discussion.

The second example refers to a solution proposed by technical support to the need to have a tool that would allow students and faculty to carry out asynchronous multimedia presentations in a simple web interface. The most commonly used software for such purpose is Microsoft PowerPoint™. But this application presents display differences if opened in a Macintosh or in a Windows platform. Because CTER faculty and students use both systems, the challenge was to

create something that would display with equal quality in both platforms and that was simple to learn and use by faculty and students. The support staff looked for other web-based presentation applications, and after several pilot tests in which students and staff provided feedback about usability, technical support, and other issues; the support staff developed a 'template' that would allow users to plug their presentations in and play asynchronous multimedia lectures or class presentations. The template is still in use today and saves students a trip to campus to carry out final presentations.

### **Feedback from External Sources**

The administration of online programs requires coordinated efforts and collaboration between people and offices that perform similar or complementary jobs. This is key to keeping up to date on what is going on in the online program. Getting feedback from the different departments involved in online teaching is crucial to managing and redirecting resources in order to accomplish the program's goals. "We learn a lot from hearing what other programs are doing, and we learned a lot from the campus-wide online education committee", says CTER director. An interview with the Ed-Online coordinator provided us with information about the feedback mechanisms at the College management level. Ed-Online is an umbrella entity created in the College of Education to coordinate the efforts of the online education masters programs. There are two programs participating in this group: the CTER program, and the Human Resource Education (HRE) Online program (see Figure 9). During the first 5 years of the online programs, the Ed-Online coordinator held monthly or semi-monthly meetings with the directors, coordinators, and staff of the two online masters participants.



*Figure 9. Relation between COE, Ed-Online, CTER and HRE Online.*

Those meetings were an opportunity to discuss new tools and to bring in outside speakers. The meeting structure was set up at the beginning of the 3-year grant that supported the online initiative with the aim of sharing information across programs, generating a synergistic environment, and making this a college-wide effort.

An e-mail list, which is updated each semester is being used to relay information to all the Ed-Online participants and is also used to collect feedback college-wide. Besides the regular meetings, which were the best means of collecting info about the programs according to the Ed-Online coordinator, occasional requests for information were made directly to each of the online master directors. Notes from all the meetings and data on the programs were kept for the first 5 years. The feedback collected by the Ed-Online coordinator has been used to satisfy requests for specific kind of information from the COE Dean's office, other campus units, like University of Illinois Online – a campus wide initiative created to support online programs on the three campuses of the University of Illinois; or outside people referred by the Dean's office. Also, the interviewee said that the feedback keep her current on the programs and that was helpful during campus presentations or national conferences, where people would ask questions about the online

offerings at UIUC.

Information about the COE online programs is sent by the Ed-Online coordinator to other units on campus, for example to the U of I Online office, and also an annual technical report is prepared for the Dean's office each year.

In her final comment, the Ed-Online coordinator said that she believes that the coordination effort has been successful and mentioned that as the programs have become more established, people have felt less need for regular meetings.

### **Conclusions**

This research has shown how feedback is collected and used for improvement in an online degree program. In our case study, multiple feedback channels have proven to work effectively. Although the results yielded in this study may be limited to programs with similar characteristics, we hope that the study will raise awareness of the importance of feedback, and motivate others to think about their own feedback models. By analyzing the feedback channels in use in their own context, program administrators may be able to discover barriers in communication that could affect performance. The simple fact of making feedback mechanisms explicit may facilitate the communication flow between the different stakeholders in online programs.

Further investigation should be done about the gathering and use of feedback channels in online education. For example: How would this model scale up in larger programs?

We believe that as online learning becomes more widely used, further knowledge of key elements in online course management, like effectiveness of feedback channels, will improve the service that institutions strive to provide.

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