E-Listening: Transforming Education Using Collaborative Tools for Assessment and Evaluation

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What People Really Care About

When the AAHE (American Association for Higher Education) Assessment Forum developed the 9 Principles of Good Practice for Assessing Student Learning, Principle 7 stated that assessment makes a difference when it "… illuminates questions that people really care about" (Astin). The first principle recognizes that assessment "is not an end in itself but a vehicle for educational improvement." This paper discusses how our department curricula, classroom environments, and ultimately student learning might be improved by "high tech" assessment and evaluation techniques to find out "what people really care about". Collaborative technologies are used to gather and process the opinions of students, faculty, and other stakeholders.

Five years ago, the college president challenged the faculty to examine how students learn and what each department's curriculum should look like for the 21st Century. He strongly encouraged us to begin active planning for the continued intellectual vibrancy of the College and its curriculum. Because "students learn more when there is a match between their abilities and the curriculum" (Ratcliff, 1995), to remain intellectually vibrant demands that our college examine regularly what we are trying to accomplish as well as what is contributing to student success and what is not. Several groups met regularly to discuss curricular changes: Faculty Council, Administrative Council, the President's Council, Teaching Groups, Academic Affairs Committee, and fifty senior students. The use of collaborative technologies allowed the following: gathering of divergent opinions at times convenient to participants; meetings dominated by content, not personality; adherence to a structured agenda, which resulted in consistency in issues discussed without loss of those ideas after the session ends. Throughout the sequence of those meetings, there was convergence of the following agreements: we validated a common core set of required courses for all students, but called for rethinking its content and staffing; we challenged the structure of the current distribution system; and we validated the need for more intentional inclusion of writing throughout the curriculum. The outcome of the meetings was a mandate for forming a curriculum review team, which recently finished its work.

Educational institutions nationwide are expected to be increasingly accountable for the attainment of the stated goals in the form of demonstrable changes in students. Curriculum is one part of the total institutional improvement which, in combination with other qualities, has an important impact on student development. It seems imperative, then, to include our students in the process of evaluating the curriculum and the value faculty members add to their educational process. Using the collaborative technologies as a means for collecting these opinions provides a safe and exciting forum for discussion of issues important to the students. Table 1 summarizes how six departments used the collaborative facilities for assessment purposes.

Education	To assess the teaching skills needed by majors
Music	To assess the information technology needs for music courses
Computer Science/MIS	To assess the adequacy of computer lab support for departmental courses
History	To assess the adequacy of history curriculum in meeting certification requirements for teacher licensure
Chemistry	To discuss the changes needed, problems of, teaching of, and the contents of the general introductory chemistry course.
Freshman English (Paideia) program	To discuss and plan the curriculum for the 16th Century unit of the course

E-Listening and Collaborative Technologies

We define "E-Listening" as the use of collaborative technologies to gather and process the opinions of students and other stakeholders for departmental improvement, and the attempt to extend the process and its benefits

to the broader institution. Collaborative technologies are broadly defined as those that enable collaboration among individuals engaged in a common task (Kock, 2000). In this case, the common task is assessment for departmental improvement.

This process of improvement depends on continuous feedback with appropriate response. It begins with the collection, organization, analysis and reporting of student opinions and assessment data. The authors were charged with designing and implementing our departmental assessment programs. These included all the usual tasks of writing of mission statements, identifying goals and objectives, and developing means to assess whether we had accomplished what we hoped. We represent two different undergraduate departments (Department of Education and Department of Computer Science) which share the requirement that they must solicit, organize, analyze and report on the annual collections of graduating senior exit interviews. The tasks are cumulative, in that prior information is compared with the most recent collection. The enormous amount of data proves cumbersome to record, analyze and store.

The Software Tools

Imagine a tool that allows the structuring of assessment or evaluation questions and activities, the capturing of important ideas, prioritizing issues and opinions, instant reporting of results, use of an outline tool to write planning documents based on the data collected, and tools to create reports on any part or all of the data collected: that's what collaboration tools can do!

We designed and coordinated assessment activities using two different collaborative technologies, *Group Systems* and *Facilitate.com.* In Figure 1, students are shown in the Round Table Room at Luther College, using software tools such as Brainstormer, Topic Commenter, and Categorizer, to offer their opinions during such activities as the senior exit interview and course evaluation. Although this electronic meeting room is very conducive to providing each participant with unobstructed views of other participants, the facilitator, and the public screen, the same software can also be successfully used in an ordinary computerized classroom such as found on most college campuses. The software allows everyone to "speak all at once" via the computer. Students type in ideas at the same time, and each person sees the input of others, stimulating further thought.

Figure 1. The Round Table Room with Collaborative Technologies

Most collaborative software programs offer as the initial tool an Agenda program which provides a framework for the assessment or evaluation activities. It prompted us as facilitators to develop a specific plan,

specify the exact information needed, and keep track of all participants. Electronic Brainstorming is an idea-generating tool that enables students to share their ideas anonymously and simultaneously in response either to the specific questions posed to them, or to actually be given the chance to suggest additional questions they find important but missing. Tools such as Topic Commenter enable students to easily comment on the questions planned in advance by the facilitator of the assessment or evaluation session. The Categorizer program assists in analyzing the current information, sorting it into categories, identifying and adding missing ideas, and allowing for more in-depth comments on current ideas. Voting tools of most collaborative software allow participants to rate and rank the issues presented to them. Most collaborative systems also allow for online surveys. They store the data so that it can be automatically arranged into formatted reports, thus allowing for easy access of historical data. Three of these tools are explored further.

The actual screens seen by students during a course evaluation session are shown in Figure 2. Three major questions were posed: "What helps you learn in this course?" "What do you think needs improvement?" and "What are your specific suggestions for change?" The electronic discussion is anonymous, with the software adding random numbers to student comments. This facilitates reacting to or answering another comment on the page. In our experience, we have found that professors elect to use this evaluation at midterm so that student perceptions can be incorporated into the planning for the rest of the course.
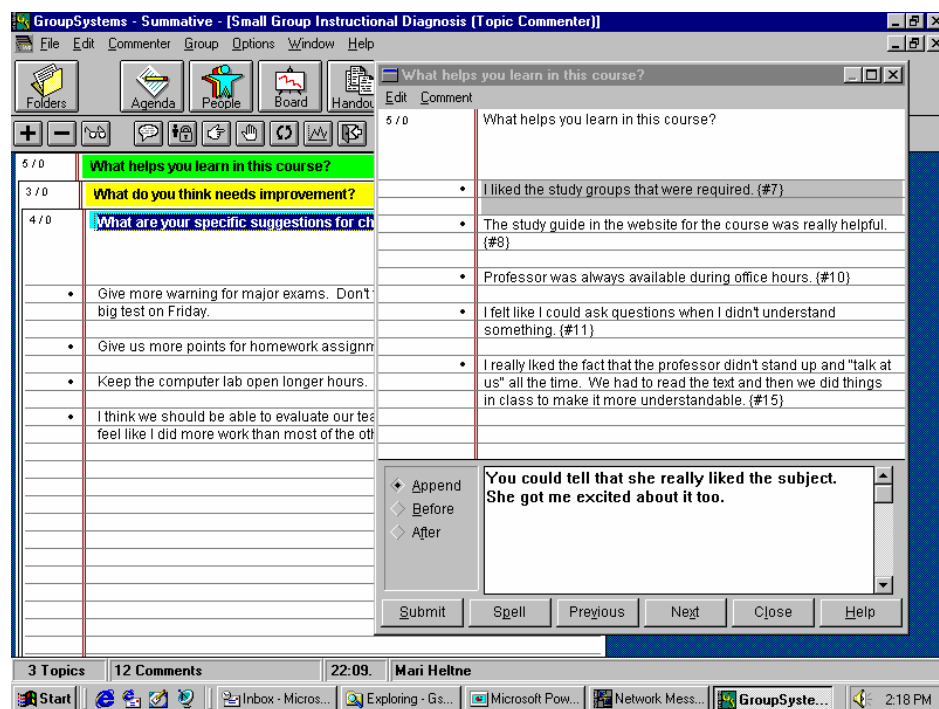

Figure 2. Topic Commenter tool

One of the most useful tools in a collaborative system is one that lets students categorize the lists of ideas or answers that have been entered. In Figure 3, students were asked, "What helps you learn in this course?" The categories into which the answers might fall are shown at the right. This tool is mo st important in eliciting actual questions that students wish to pose. With a prompt such as, "What ideas do you wish to pose for discussion of departmental advising?" the facilitator can sort the questions into like categories, and transfer them to the discussion tools shown in Figure 2. All this is done in a matter of seconds.

Another favorite tool for evaluation and assessment sessions is the one that allows students to make decisions and determine degrees of consensus or conflict. Multiple voting methods are allowed, including Yes/No and True/False, Top "n" favorites, customizable point scales, and Likert scales. Figure 4 shows a vote with only 4 options, but many different scales are possible. Facilitators have the option to allow an odd number of choices, thus giving the student the alternative of "middle ground". Results are immediately available, so students can see if their opinions vary a great deal from their peers. Viewing and discussing the results of the vote often leads to further questions and revealing comments.
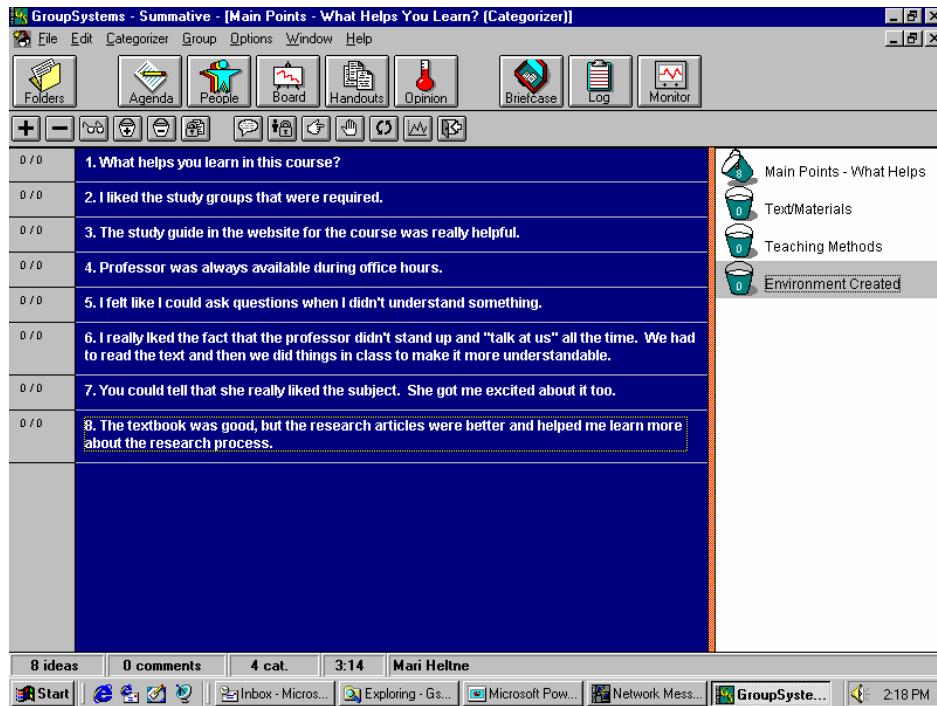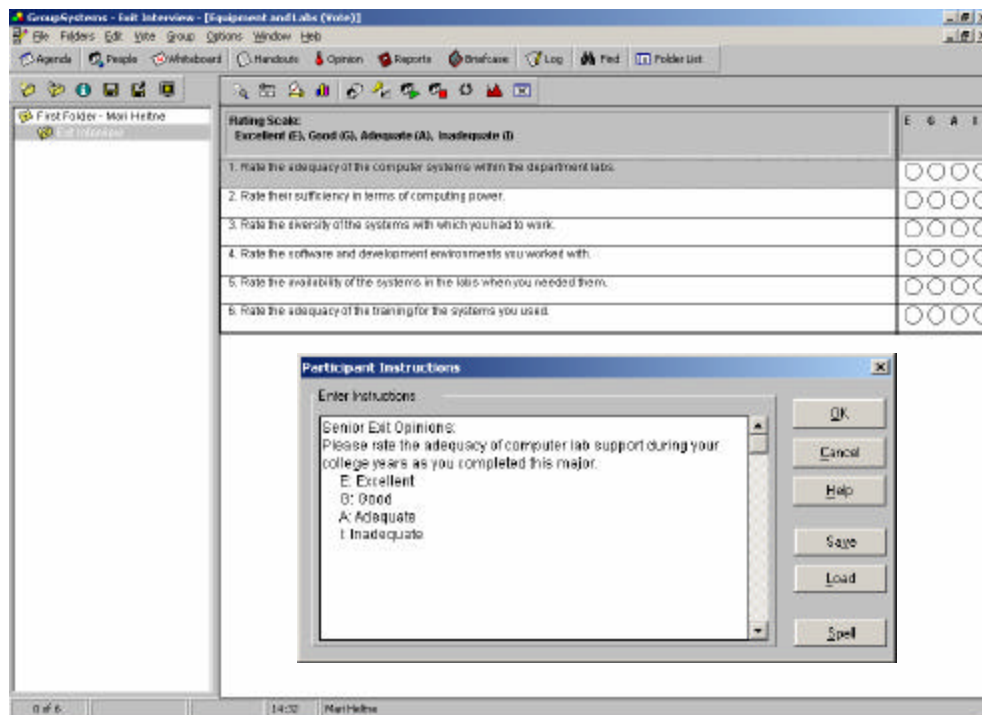
Figure 3. Categorizer Tool

Figure 4. Voting Tool Rating Computer Lab Support

One of the assessment activities that was most effectively supported with collaborative tools was the Senior Exit Interview. The purpose had always been to give students the opportunity to provide feedback to the department by providing them the chance to assess us on several dimensions. The Exit Interview includes questions on their

perceived academic accomplishments, our advising expertise, and the general support offered by the department during their time in college. Figure 5 shows the electronic discussion prepared for the group meeting of senior majors in Elementary Education. Information gained from the analysis of Exit Interviews is used to revise the curriculum, the teaching methodologies, the advising, and to make it even more accommodating to student needs.
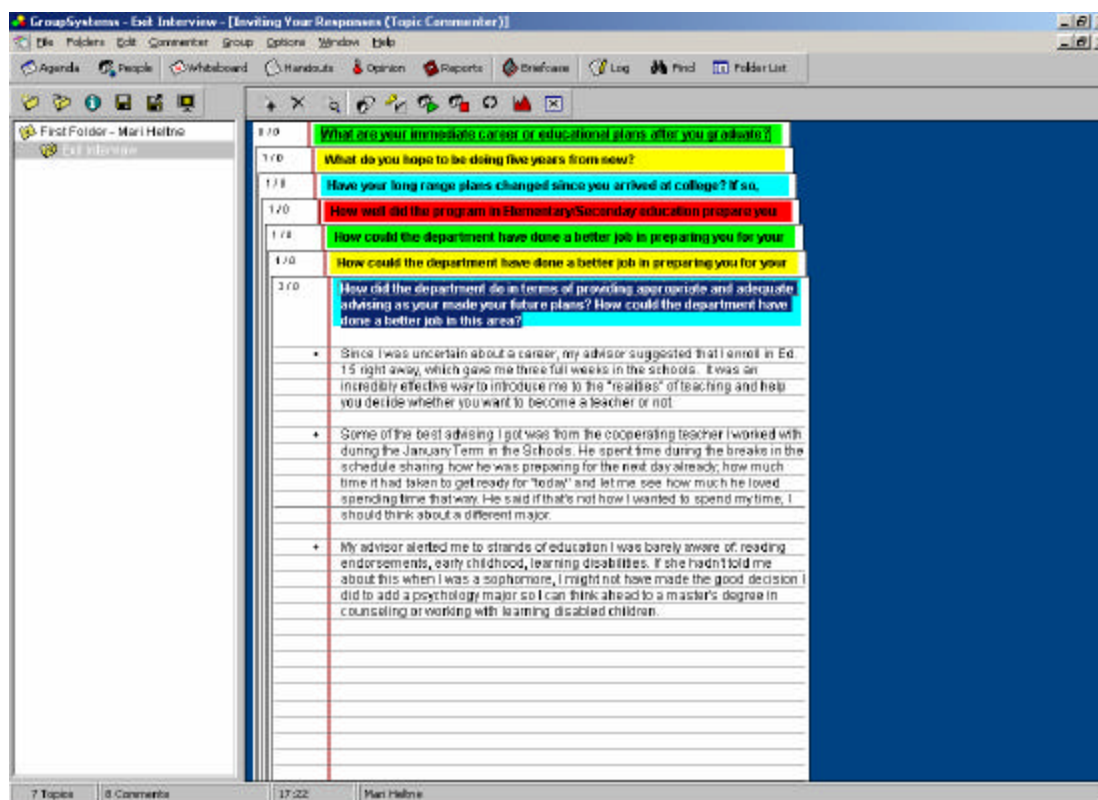

Figure 5: Topic Commenter Tool with Senior Exit Interview

Assessing the Assessment Tools

Classroom evaluation and student assessment just became easier and actually enjoyable by implementing the activities through collaborative technologies. Instead of listening to individual students in dozens of hours of individual meetings in exit interviews, and instead of endless meetings of faculty where opinions are lost once the meeting is over, we now have all the data that was gathered by the software stored in an organized fashion. It also became possible to store many years of data, which makes it easily accessible by institutional decision makers. An added benefit was the visibility of program improvement efforts to the college community. Students, faculty and other college constituents expressed positive feelings about their inclusion in these efforts.

We find that students are eager to express their opinions in this "E-Listening" environment, and they tell us that the setting of an anonymous electronic discussion is very freeing and inviting. Faculty members find it easy to access the files, whether stored recently or in years past. The choice of several different types of automatic report generation makes structuring the data remarkably easy.

Another guiding principle of the AAHE Assessment Forum is that "assessment works best when it is ongoing, not episodic. Its power is cumulative." (Astin) Assessment starts "with the questions of decision makers, involves them in the gathering and interpreting of data, and informs and helps guide continuous improvement." Collaborative technologies provide the means to collect ongoing, relevant information from all groups of campus constituents for the purpose of institutional improvement. The environment helps illuminate questions people care about.

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