

To: Geoff Feiss, Dean of Arts and Sciences

From: Distance Learning Committee: Maria Elena Canales, Craig Canning, Bill Cooke (Co-Chair), Stefan Feyock, Mark Fowler (Co-Chair), Tomoko Hamada, Scott Nelson, and John Oakley

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### **Distance Learning Committee Report**

Our main task was to identify ways in which new educational technologies can enhance William and Mary liberal arts' education. Secondly, it was to identify ways in which such technologies can be hazardous to our educational mission. Our report, then, articulates cautions and worries as well as opportunities for 'technology-enhanced education'. It is also a work in progress. The issues addressed demand a much fuller investigation.

Our starting point is the first assumption of your letter explaining the Distance Learning Committee's charge: "William and Mary is a learning community where person-to-person, faculty to student interactions are fundamental to our educational objectives." Nothing we recommend as an opportunity for 'technology-enhanced education' knowingly weakens that faculty to student, person to person, pedagogical relationship; on the contrary, where possible, our recommendations make that relationship healthier and, at a minimum, are neutral respecting it. Likewise, our worries about educational technologies are at bottom worries about their undermining that relationship, in some cases even when they are used inside the traditional physical classroom as distinct from the completely electronic one.

You asked the committee three basic questions:

1. How can distance education enhance undergraduate and graduate learning?
2. Will we accept transfer credit of distance learning courses at other institutions and, if so, how will we evaluate them?
3. How will we ensure that standards are met for distance learning courses offered by our own faculty (either as W&M courses or, if appropriate, as non-W&M courses where W&M affiliation is acknowledged)?

Below we take up these questions with the understanding that our commitment to the 'person-to-person' model of teaching frames our entire discussion:

**Question 1: How can distance education enhance undergraduate  
and graduate learning?**

We believe that educational technology can enhance undergraduate education in essentially four ways. In all four, the educational technology acts to ease and enhance access to knowledge-sources or 'learning experiences' unavailable or less available in the setting of the traditional in-class or face to face course. Yet in all four the technology has the potential to function smoothly in that setting, enriching rather than displacing or disrupting it.

1. Accessing Otherwise Inaccessible Material; Performing  
Otherwise Impracticable Experiments:

Appropriate educational technology can connect individual students up to material previously inaccessible and/or significantly broaden the spectrum of experimental projects open to them.

Accessing Material: Access can be extended through digitized images viewable on the net. Digitized images *per se* have educational advantages. For instance, they have the edge over slides of permitting easy blow-ups of image details for closer inspection, and eventually they should replace slides across the arts and sciences. On the net, though, they have further virtues. Here they can render electronically accessible images of places and artworks which otherwise would be too physically distant and/or too restricted by security rules for viewing by students. Currently, for instance, there is a site originating from the Beazley Archive in Oxford which displays previously unavailable images of over a thousand ancient Greek vases, enabling scholars to survey at a single source the development of a specific Greek style or school. Only recognized scholars, not students, may normally utilize this resource. With Oxford's permission, however, such scholars can make these images available to their students on PC's or through classroom educational technology. For W&M and other students, this is the sole point of entry into this unique Beazley Archive collection.

Extending the Range of Experimental Projects: Web-based services make practicable for W&M science students experimental projects which previously would only have been possibilities for students at large Engineering Schools. Students build, for instance, electronic projects requiring the fabrication of printed circuit boards and the surface mounting of components. Web based outsourcing enables students to design such boards and have vendors fabricate them in less than two days. Web based vendors also make possible photolithography for our undergraduates.

## 2. Ideal of Independent Learner:

In distance-learning literature, a certain notion of the 'independent learner' is pervasive. Here 'independent learning' means giving students full or much fuller control over the pace, time and place of their learning. This spatial-temporal independence, however, is often (but not always) accompanied by a near-complete student knowledge dependency where the 'distant' teacher remains the principal or sole source of knowledge and authority, and the on-line course proceeds according to his/her pre-set lesson plan.

The W&M concept of the Independent Learner is altogether different. Its focus isn't on spatial-temporal independence but on intellectual independence or on 'nurturing the skills and habits of independent inquiry'.

Properly used, educational technology can help cultivate the practice of independent inquiry by markedly reducing students' exclusive reliance on their instructors as sources of knowledge, expertise, critical feedback and experience. It can place students in comparatively easy contact with scholars from across the country and around the world whose specialized knowledge, interpretative perspectives, or theoretical positions and insights could certainly enrich and might instructively diverge from those of their professor. Thus, it can open the classroom to a wider range of informed but diverse opinion and foster more constructive wide-ranging intellectual debate. Moreover, it can offer these students the opportunity to have these 'distant' scholars give them critical feedback on their own work in a relatively short period of time. Analogous opportunities are opened for critical feedback from 'distant' students taking similar classes elsewhere and having similar intellectual interests or projects.

For a concrete example of how educational technology can further intellectual independence, consider Scott Nelson's freshman seminar on Antebellum Richmond: "The students submitted their work on disk. They were traditional papers in some respects, though each student chose a 'site' to examine sources at Swem (*The Richmond Dispatch*, Tredegar iron works). (Scott) converted the papers on HTML and then sent out a request for comments from faculty on 2 listservs—H-South and VA-Hist. The students got comments from dozens of folks all over the world, some about sources, some about writing, some praising research. The 2<sup>nd</sup> and final drafts were also distributed the same way. To prevent the possibility of students elsewhere plagiarizing the site for their own papers, (Scott) removed the footnotes. One student had her paper published later by the *Civil War Roundtable of New Jersey*."

## 3. The Ideal of the Collaborative Researcher:

At W&M, the ideal of collaborative inquiry is as central as the ideal of independent inquiry. Few research projects today can be carried out without collaboration among inquirers, whether it be within or across disciplines, among campus colleagues or nationally or internationally with colleagues scattered around the globe. Our educational goal is to help students prepare for such extensive 'at a distance' collaborative work, and properly used educational technology can do much to facilitate this. Indeed, some of this

technology is essential to this task simply because it is essential to the ease of ‘at a distance’ communication required for modern collaborative research.

How such technology makes possible such collaboration is already evident from the types of electronic communication among inquirers described under **question 2**.

Another outstanding example can be drawn from existing W&M courses:

*Classroom Across the Pacific: Information Technology and Global Culture* (Anthropology 350/International Studies 390) is taught jointly via the Internet by Tomoko Hamada at W&M and Visiting Instructor Gretchen Schoel at Keio University in Japan. Students in the course are organized into seven teams of two to four students per team, with each team including one or two students from each university. (In some cases Keio students have already worked together in the Keio University summer program.) The course is driven by the collaborative research of these cross-cultural teams which meet on-line weekly in a regularly scheduled Internet video conference to discuss their research projects. Students work in real time using audio, visual, and ‘chat’ functions of Microsoft NetMeeting, which is installed on all student and faculty computers. Outside of class, students continually communicate informally using chat, E-mail and video conferences, and by exchanging work through the Internet. Among the joint research projects students have pursued are "The Globalization of Oriental Medicine", "The Internet and Changing Concepts of Violence", "Digitalized Evangelism", and "Globalization and Its Impact on Rap and Other Popular Music".

Turning to an example of collaboration in the Natural Sciences, one of Bill Cooke’s Physics Honors students has established an on-line relationship with groups doing similar physics projects at Harvard and Cornell. People in those groups have assisted with the design and characterization of his ‘laser-tweezer’ apparatus. Conceivably, a collaborative publication will result.

#### 4. The Goal of Diversity Education

W&M strives to increase its students’ understanding and appreciation of diversity along the dimensions of ethnicity, gender, sexual orientation, age, culture, etc. Student experiences both inside and outside the classroom are crucial for diversity education but W&M is handicapped in its efforts in this direction by the comparative homogeneity of its student body and physical isolation of its campus. Study Abroad programs are a vitally important way to help offset this but by themselves are inadequate for several reasons. If more W&M students are to dialogue with people with diverse backgrounds and outlooks, educational technology will have to electronically link them to such people.

In theory, most classes could create such electronic links by providing the technology and course assignments required for the kinds of interactions depicted under **questions 1, 2 and 3**. Beyond this, though, educational technology classes can be specifically tailored for diversity education.

The already described "Classroom Across the Pacific" illustrates how educational technology has already enhanced diversity education at W&M. Here Japanese and American students are directly involved in cross-cultural collaborative learning, with all the expected challenges of language and communication difficulties, differing individual attitudes, cultural mores, and world-views. The course has the added virtue of exploring questions of how cross-cultural issues and globalization process are represented and influenced by the Internet and other forms of information technology.

Something similar is also possible on the domestic level. For example, some predominantly white institutions are 'team-teaching' electronic courses on 'social justice' with some traditionally African American institutions. Here faculty of the two institutions co-design a course, developing a common syllabus. The course is then taught simultaneously on the two campuses and organized in such a way that students from both campuses regularly electronically interact while examining the course's issues. They exchange ideas, paper drafts, etc., with an eye to sharing their different yet overlapping perspectives. The same general model could serve for electronically linked sections of the same course at W&M and a campus in another nation, W&M and a traditional Women's college, W&M and Colleges for the deaf or blind, etc.

### **Cautions and Suggestions about using Educational Technology under Question 1:**

We strongly endorse using educational technology in the face to face learning situation for the four basic purposes just discussed. On the other hand, we see certain dangers associated with this endorsement and have some suggestions concerning them:

. Use only 'appropriate educational technology', not the sexiest or the newest. Before its appropriateness can be established, technology usually has to be around for time and experimented with. Investing great quantities of money in untried technology and becoming stuck with it, is a major technological hazard. Take the slow and steady course.

Where possible, starting with small pilot projects is wise. Experiment, for example, with a selection of the two-way interactive simulation modules which have proven promising in various disciplines.

. Even using 'appropriate educational technology' can be counterproductive. Faculty need to learn how to integrate this technology into their classes so that it serves rather than defeats their basic pedagogical purposes. Faculty misuse of appropriate technology is also a major technological hazard. Give faculty plenty of time to master its proper use.

. We should be concerned with the immediate impact of appropriate technology's failure as well as with its proven reliability. If the technology fails, is an entire lecture undeliverable? Do instructors have a "Plan B"? Face to face learning imposes a 'timeliness' completely on-line courses are free from.

. Owing to the preceding points, major resources are needed for faculty development. Buying faculty leave time for this may be the most expensive aspect of properly

integrating appropriate educational technology into classes. Trying to do this on the cheap is unlikely to succeed.

. Neither faculty development nor the actual integration of appropriate educational technology can make headway without dramatically upgrading technology support services. Special educational technology seminars, such as May Seminars or short Workshops, should probably be organized. However, individual faculty technological needs tend to be special if not unique to their own courses. Hence often one-on-one faculty-technologist training is required. Such preparation will be heavily labor intensive and costly.

. Beyond special seminars and one-on-one training, an *Electronic Central Clearinghouse* should be established so that the learning technology innovations of W&M faculty can readily circulate across the College. Perhaps it would be most useful to imitate the NYU model and set up a Web page that describes the methods and results of all the College's learning technology experiments. Such a *Clearinghouse* would have the advantage over seminars of 'any time' availability to faculty.

**Question 2: Will we accept transfer credit of distance learning courses at other institutions and, if so, how will we evaluate them?**

Unavoidably we will unknowingly accept distance learning credit. Sometimes there are in-class and on-line sections of the same course, often taught simultaneously. Sometimes only on-line sections of a course are offered. Either way generally no distinction is made on transcripts between what is taught in-class and completely on-line. Thus Academic Advising will usually have no practical means for picking out 'distance learning' credit for transfers. (Asking all transfer students to report any 'distance learning' courses to Academic Advising might be too time-consuming.)

As for evaluating distance learning courses we have identified as such, either a minimalist (not-a-correspondence-course) guideline or a stronger (person-to-person parallelism) guideline could be employed:

**Minimalist guideline:** W&M currently rejects proposed transfer credit from 'correspondence courses' because of their suspect academic quality and integrity. In a correspondence course materials are often merely shipped to students and they ship back the completed material. There may be no other faculty-student interaction or ongoing faculty-student discussion. Also, exams in some correspondence courses might not be proctored. (Nor is there an established traditional Honor Code.) Finally, not all correspondence courses are offered by properly accredited institutions.

Presumably, if a completely on-line course isn't simply an electronic correspondence course, it must be devoid of the above drawbacks. That is, it must involve significant direct on-line faculty-student interaction or ongoing discussion/feedback; its exams must be proctored, and it must be offered by a properly accredited institution. For example, the

University of Pennsylvania's on-line courses would meet these guidelines: Teacher and student interact electronically usually through e-mail but sometimes through phone or fax. The teacher reviews each submission or lesson and makes comments and suggestions. Exams must be administered by a qualified proctor. Qualified proctors include University of Pennsylvania faculty members or administrators, faculty members or administrators at a properly accredited institution, etc. Under the minimalist guideline, distance learning course credit would only be transferable to W&M from institutions enforcing regulations of on-line courses akin to those of University of Pennsylvania. As with all guidelines, exceptions could be made for exceptional circumstances; but those asking for the exception would have the burden of proof.

**Parallelism guideline:** At W&M we adhere to the person-to-person or direct faculty-student interaction model for teaching. Proposed transfer distance learning credit could be evaluated in terms of this model by asking to what degree the learning situation of a given distance learning class parallels that of a person-to-person learning situation. Face to face contact will be lost. But how closely does the learning situation of the distance learning course match its in-class analog?

- i) Are the distance learning course and in-class course taught by the same faculty?
- ii) Do they have the same syllabus—same content and written assignments?
- iii) Are their assignments evaluated by the same people—faculty or TA's?
- iv) Do they have the same enrollment limits?
- v) Does the amount of electronic faculty-student interaction roughly equal the amount of face to face faculty-student interaction in the in-class situation? Especially regarding individual attention in class or during office hours.
- vi) Are they given the same credit, do they have the same prerequisites, and do they satisfy the same academic requirements at the home-institution?

What motivates putting forth this guideline is partly the desire to stick as closely as possible to the W&M person to person pedagogical ideal even when appraising transfer credit. And, ideally, we would transfer credit only from courses which at least equaled the learning situation at W&M.

Aside from that impossible ideal, however, there is another motivation for the parallelism guideline: It establishes a check on the home-institution's seriousness about the quality-control of its own online courses. Minus the inevitably lost pedagogical advantages of face to face contact, its on-line courses presumably should at least match in educational

quality and integrity its in-class courses. If it believes that in-class freshmen physics courses can be taught only by regular faculty, then presumably that should hold for the on-line freshmen physics classes. If it believes that in-class senior philosophy courses should require papers rather than only exams and should have an upper enrollment limit of 25, then presumably the same holds for its on-line senior philosophy courses. At any rate, there is a strong presumption for this parallelism. Maybe students learn just as much philosophy by doing solely on-line objective tests as they do from writing philosophy papers in an in-class course? Absent a pedagogical argument showing this, though, shouldn't the home-institution's quality-control of its on-line classes be questioned. Questioned, that is, even by its own standards of educational quality? Given that quality-control is implicitly questionable even by its own institutional standards, furthermore, should W&M be transferring in credit from its on-line courses?

To provide a check on the educational quality of its on-line classes, Drexel University (Business School at least) strictly follows the above parallelism guideline. That is, every Drexel on-line course must have an in-class analog or section which uses the same syllabus, is taught by the same faculty, has the same enrollment cap, etc. If W&M adopted the parallelism Guideline, we would establish a presumption against accepting transfer credit from on-line courses from institutions not governed by on-line/in-class parallelism like Drexel's. Like other presumptions, this one could be defeated. But the burden would be on proving the legitimacy of the exception.

It could be argued that neither of the above suggested guidelines is really practicable. On this view, regulating the transfer of distance learning credit is virtually impossible. We can make sure that it comes from properly accredited institutions whose general commitment to quality education we trust. But little can be done beyond this. There will be too many distance-learning courses, coming from too many institutions issuing too many transcripts with no markers for in-class and on-line credit.

Perhaps this is true. But a method of partial regulation might still be feasible. It would have the features of the EPA's fire alarm approach as distinct from the police patrol approach. Here W&M wouldn't try to determine whether all individual transcripts contained any hidden 'polluted' (unacceptable) on-line courses. Instead we would issue a general announcement that, for example, we don't accept electronic correspondence courses. Then wait and see if alarm bells go off. For instance, Academic Advising spots such a course on a transcript, incoming students mention that their credit comes from such courses, the course is on a pre-existing list of electronic correspondence courses, and so on. In effect, we don't search for such courses but if they are brought to our attention (i.e., if an alarm sounds) when students are entering the College we won't transfer the credit. Beyond a year after the student's entry, we shouldn't reject the credit. By that time students will have made academic plans assuming that the credit had been transferred and so a sort of statute of limitations should be in operation. Under such a system a significant amount of 'below standard' credit would transfer. But at least our commitment to a certain kind of educational quality would be publicized.

**Question 3: How will we ensure that standards are met for distance learning courses offered by our own faculty (either as W&M courses or, if appropriate, as non-W&M courses where W&M affiliation is acknowledged)?**

Committee members were reluctant to permit any strictly distance-learning (wholly on-line) W&M undergraduate courses. This would violate our commitment to the person-to-person teaching model. "Why not just say 'No'?" However, should some such courses be allowed, they should be evaluated according to the Parallelism guideline described under **Question 2**. Departures from that guideline would require a very strong justification.

The Committee's attitude is different toward graduate 'distance learning'. On the graduate level, it is not unusual for graduate students to do their research at a distance from campus and to be fully employed while finishing a degree. Here it may be appropriate to permit wholly on-line learning where the instructor is willing and the student is no longer resident. The Committee was unable to examine this question thoroughly, however, and has drawn no final conclusions. We recommend that COGS look closely at the issue.