

## Center for Instructional Technology Faculty Support Study

### Executive summary

(Prepared by CIT staff members Yvonne Belanger, Amy Campbell and Margo Evrenidis)

Duke University’s Center for Instructional Technology (CIT) conducted a systematic follow-up study in Spring 2007 of the long-term impacts of support given to Duke faculty for instructional technology projects from 1999-2004. The goals of this study were to

- identify long-term impacts of CIT support on faculty, courses, programs or departments;
- identify common characteristics of sustainable faculty project efforts

25 projects and 16 PIs were targeted for follow-up based on the following criteria:

- The faculty member received a sizeable grant (>\$10,000) or had received support for multiple smaller projects
- Project start date was three or more years ago
- Faculty project lead still at Duke

CIT then conducted a systematic review of internal documentation (proposals, support letters, consultant notes); published project information (web sites, reports, and presentations); and structured interviews with faculty participants. See Appendix A for projects surveyed.

### Findings

The following long-term outcomes of CIT support were identified:

**1. Over the 5 year period studied, CIT support was widely distributed across all discipline areas.**

See Table 1 (below). The projects surveyed cumulatively represent approximately \$322,500 in direct CIT support, as well as consulting and other non-monetary forms of support.

<b>TABLE 1—PROJECTS BY YEAR AND DISCIPLINE AREA</b>					
	<b>Health Sciences</b>	<b>Humanities</b>	<b>Languages</b>	<b>Sciences</b>	<b>Social Sciences</b>
<b>1999</b>	0	1	1	0	1
<b>2000</b>	0	2	1	1	1
<b>2001</b>	3	2	0	2	1
<b>2002</b>	1	1	0	0	1
<b>2003</b>	1	0	0	1	1
<b>2004</b>	2	0	1	0	0

**2. A majority of supported projects were either still active or had served as a model for current projects.**

11 projects (44%) are still using the materials/equipment from the CIT-funded project, 6 described these projects as a precursor to current practices/uses (24%), and approximately 1/3 of projects (8) were not continued or connected to current activities. Faculty interviewed identified at least 10 courses where CIT-supported materials or their derivatives were still in use in some fashion.

### **3. Faculty have used a variety of strategies to ensure sustainability of project activities.**

Factors contributing to project sustainability as reported by PIs included receiving regular departmental funding after CIT funding ended (e.g. to continue software licenses); receiving external funding from federal and foundation sources (including one NSF grant for over \$347,000); receiving access to donor funding from a school dean; and/or cost recovery through the not-for-profit sale of project materials to other institutions. In some cases PIs reported that projects still in use did not require any continued funding to be useful.

### **4. Most PIs identified positive impacts on student learning outcomes.**

Faculty reported a variety of student learning outcomes including:

- Increased student engagement, improved classroom discussions and better comprehension and retention of course concepts through the use of video and other multimedia
- Improved use of in-class time and course management through Blackboard or other course web site development efforts
- Course activities were a more accurate reflection of real-world practices in professional disciplines (e.g. Engineering, Chemistry, Nursing)
- Students demonstrated gains in using technology to develop life-long learning skills

### **5. Project activities were discontinued or no longer used for a variety of reasons.**

Eight projects were identified as no longer in use or active. PIs reported a variety of reasons that projects were no longer continued:

- Inability to secure needed ongoing funds for support personnel (n=2)
- Curriculum redesign / course no longer taught (n=2)
- Lack of time for PI to keep up project activities (n=1)
- Key project participant left Duke (n=1)
- Faculty member is on leave (n=1)
- Project costs too high to scale up for current course enrollment (n=1)

In the case of a curricular redesign, one PI reported that the materials were used for 5 years prior to being discontinued.

### **6. Several PIs identified unanticipated positive outcomes from their projects particularly for groups of faculty involved in collaborative projects.**

Three PIs from projects involving multiple faculty participants reported that the project resulted in strengthened or enhanced collaboration or networks among faculty beyond the boundaries of the CIT-supported project.

## **Project success factors**

Faculty described a number of factors that had contributed to the sustainability or discontinuation of their project efforts.

- Departmental funding is paramount for continued activity of projects
- Multimedia in the classroom helps students understand concepts and gets them involved in the class
- Blackboard web site enables students to read and write before class and use class time for discussions
- Videos in the classroom are very helpful in initiating dialogue among students and faculty

Student outcomes described by faculty included

- Visual learning methods enhance retention of classroom material
- Web-based materials are available anywhere, anytime, even in patient-care setting
- Students learned skills that enable them to become leaders
- CIT funds help students learn presentation skills as well as technical skills
- CIT funding provided a mechanism for students to find and share current information
- CIT funds provided a catalyst for trying something new with teaching
- Project was not just about stipends but about faculty learning to mentor each other
- Project success enabled faculty member to obtain additional funding
- Success of project convinced department it was worthwhile to have students purchase their own PDAs for class

**Appendix A: List of Projects Studied**

AWARD DATE	GRANT PROGRAM	TITLE	P.I.	DEPARTMENT	SCHOOL	C
2001 Spring	Incentive Grant	WEAVE: Web-based Educational Framework for Analysis Visualization and Experimentation	Gavin, Henri	Civil and Environmental Engineering	Engineering	M S
2002 Fall	Faculty IT Fellows Program	Matlab in Engineering	Gavin, Henri	Electrical and Computer Engineering	Engineering	M S
1999 Spring	Incentive Grant	Teaching Web Site Design in Global Business Classes	Gereffi, Gary	Sociology	Arts & Sciences	S
2002 Spring	Incentive Grant	Improving online teamwork using computer-supported cooperative work technologies	Goodwin, Linda	School of Nursing	Nursing	H
2004 Spring	Incentive Grant	Online Education Program in Patient Safety and Quality Improvement	Kaprielian, Victoria	Community and Family Medicine	Medicine	H
2001 Spring	Incentive Grant	Anatomy of the lumbar & sacral plexuses: web-based tutorial for lower extremity nerve blocks	MacLeod, David	Anesthesiology	Medicine	H
2003 Spring	Incentive Grant	Distinctive Aspects of U.S. Law Video Project (Private law and public interest video casebook)	Metzloff, Tom	School of Law	Law	S
2001 Spring	none	Online Resources to Support Classroom Teaching: Using the Early English Books Online Database to Teach Renaissance Literature	Quilligan, Maureen	English	Arts & Sciences	H
2001 Spring	Incentive Grant	Blackboard course website development in English	Quilligan, Maureen	English	Arts & Sciences	H
2003-2004	Individual Faculty Fellows	French Phonetics in an Enhanced Multimedia Environment	Tufts, Clare	Romance Studies	Arts & Sciences	L
2000	Incentive Grant	The Contracts Experience	Weistart, John	School of Law	Law	S
2001 Spring	Incentive Grant	Integration of Computer-Based Technology into the Undergraduate Chemistry	Anderson, Misti	Chemistry	Arts & Sciences	M S
2004 Spring	Incentive Grant	Innovation grant project: Latino voices	Clifford, Joan	Romance Languages	Arts & Sciences	L
Fall 2001	Incentive Grant	Advanced Use of PDA Technology in Nursing Education	Goodwin, Linda	School of Nursing	Nursing	H
Fall 2004	Fellows	Nursing Faculty Fellows: Assessing Quality in Online Education	Goodwin, Linda	School of Nursing	Nursing	H
2000 Spring	Fast Start Grant	Multimedia Modules for Elementary School	Gustafson, Michael	Electrical and Computer Engineering	Engineering	M S

		Education				
2003-2004	Individual Faculty Fellows	Preparing Digital Resources for Psycholinguistics Courses	Mazuka, Reiko	Psychological and Brain Sciences	Arts & Sciences	M S
2001 Fall	Incentive Grant	Movie Image Analysis	Gaines, Jane	Film & Video	Arts & Sciences	H
2000 Spring	Incentive Grant	Streaming Video for Moving Image Analysis	Gaines, Jane	Program in Film and Video	Arts & Sciences	H
2000 Spring	Incentive Grant	American Communities Internet Photography Site (Evaluating Online Text-Sharing and Commenting Software for Writing)	Harris, Alex	Center for Documentary Studies (CDS), Public Policy	Arts & Sciences	H
2001 Spring	Fast Start Grant	Faculty Development: A Web-Based Educational Program on Curriculum Design	Kaprielian, Victoria	Community and Family Medicine	Medicine	H
1999	Fast Start Grant	Development of Web-Based Modules and Digital Video	Lemons, Paula	Biology	Arts & Sciences	M S
2002-2003	Individual Faculty Fellows	Development of Interactive Teaching Modules for Introductory Biology	Lemons, Paula	Biology	Arts & Sciences	M S
2003-2004	Individual Faculty Fellows	Regional Anesthesia Blackboard Site to Help Standardize Curriculum	MacLeod, David	Anesthesiology	Medicine	H
2001 Spring	Incentive Grant	Developing course material (experiments and methods) for psycholinguistics methods course	Mazuka, Reiko	Psychological and Brain Sciences	Arts & Sciences	M S