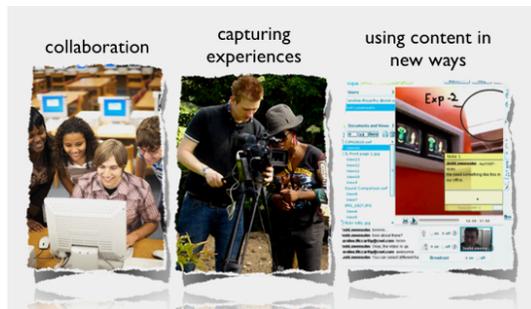


## Duke Digital Initiative Fall 2008 Summary Report

The Duke Digital Initiative (DDI) is a multi-year program of experimentation, development and implementation of new and emerging technologies to explore their effective use in support of the university's mission. The goals are to promote innovative and effective teaching, to use technology in support of curriculum enhancement, to develop our technology infrastructure and to share knowledge about effective instructional technology strategies. In 2008-2009, DDI programs are focused on effective uses of digital video and collaboration technologies. These programs offered access to variety of hardware, software and web-based tools targeted at three main themes:

- **Collaboration** - Using digital video to increase the effectiveness of sharing ideas and information
- **Capturing Experiences** - Increasing the amount of media available for academic use
- **Using Content In New Ways** - Bringing great digital content to our students, faculty and staff



### Findings

- Over 100 courses, at least 139 individual faculty and over 600 students were directly supported through DDI grants and loans of equipment, hardware, software and access to tools.<sup>1</sup>
- All discipline areas participated in the initiative. Language programs participated in all areas; participation among Science courses was higher than in previous years. A significant number of courses received support from multiple DDI programs.
- Flip and Hard Drive Video loaner equipment was very popular. Standard MiniDV equipment and iPod loaner pools remain well used. Some loaner equipment (High Definition Video kits and Webcams) saw almost no use in this semester.

	LOANS		GRANTS		Fall 2008
	Faculty	Students	Faculty	Students	courses <sup>2</sup>
Flip Cameras	10	204	32	37	80
Standard Mini DV Cameras	8	82			26
High Definition Video	0	1			0
Standard Def Hard Drive Video	3	22			8
iPod Touch	3	7 <sup>3</sup>			3
Webcams	1	1	11	17	8
Screen capture software			3		3
Video editing software			12		12
VoiceThread Video Annotation	247 user accounts				7
<b>Transitional programs</b>					
Tablet PCs	12				15
Wimba					19
5 <sup>th</sup> generation video iPods	0	211	30		unknown <sup>4</sup>
<b>Total</b>	37	562 <sup>5</sup>	65	54	100+

<sup>1</sup> Totals reflect a reasonable effort to avoid double-counting. Different systems were used to manage loans, grants, and access to VoiceThread; ensuring unique counts for all totals was not always feasible.

<sup>2</sup> Total courses only; number of sections would be higher in most cases. See Appendix for detailed lists.

<sup>3</sup> Individual iPod Touch student loans only. 16 additional students interacted with devices loaned to faculty.

<sup>4</sup> Many have been distributed over the past three years to faculty and students; courses use is no longer reported or tracked. In Fall 2008 eleven class sections were SISS-listed as requiring students to have an iPod.

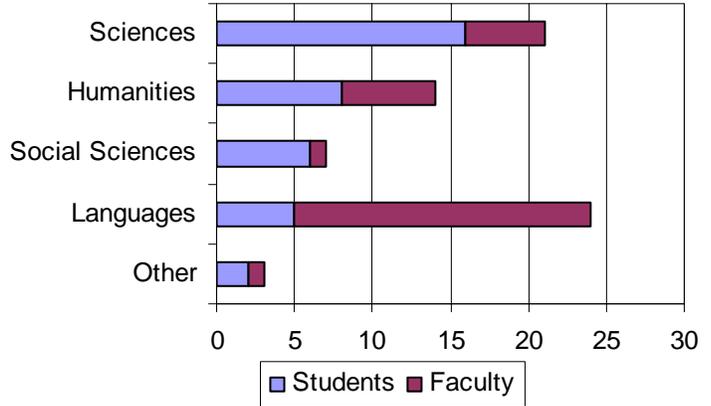
## Grant Programs

The central (and largest) component of DDI in Fall 2008 was the Flip video camera grant and loan program. 100 Flip Mino cameras were allocated for student and faculty grants (50 for each group). Additional Flip Mino cameras were added to the expanded loaner equipment pool (see pg. 4). Of 100 cameras allocated for Fall 2008 grants, 70 were distributed (33 faculty, 37 student). All faculty Flip grants applications were approved. Fifty student requests were approved by Sept. 27; remaining applicants were directed to the loaner pool. Total faculty grant requests for Fall was smaller than the number of cameras allocated; also, some approved students did not pick up the camera allocated to them. These undistributed cameras from the Fall grant program were added to the loaner pool in February 2009.

Student use was assessed from grant application forms and a survey sent to all students who received Flip grants (49% response rate, n=18). Students reported using the Flips in a variety of ways: to create videos for final course projects, to capture video of themselves speaking for a language course, to record in-class theater and musical performances, to record interviews, and to support documentary film projects.<sup>6</sup> Typically, students reported using the Flip sporadically throughout the semester to record themselves and/or classmates and most often used the videos locally on their own PC. Faculty comments were solicited via direct email. All respondents so far (8 of 32) indicated that they had found the Flips useful to support course activities. Increased use of DDI programs in Science courses was evident in the Flip grant program; faculty and students in the Sciences reported using these cameras to create documentaries of science subjects, conduct interviews with scientists, film subjects for an independent study project involving dot-tracking analysis, and record in-class demonstrations of lab procedures.

Students and faculty generally reported that the Flips were easy to use. Some faculty and students encountered difficulties when trying to use the Flip cameras with Macs that did not have a

**Fall 2008 Flip grant distribution by planned course use**



<b>Students used Flips:</b>		<b>Students recorded:</b>	
Regularly	17%	Self/Classmates	83%
Sporadically	72%	Courses	22%
Infrequently	11%	Other	33%
<b>Flip was:</b>		<b>Put my clips on:</b>	
Essential	44%	Blackboard	22%
Important	33%	YouTube	28%
Useful	22%	Local computer	72%
Not useful	0%	VoiceThread (1)	
<b>Editing tool used [33% reported using 2]</b>			
iMovie	50%		
Flip software	44%		
Windows MM	22%		
None / no response	16%		

*Student survey, February 2009*

<sup>5</sup> The number of unique students is likely lower. See footnote 1.

<sup>6</sup> Based on planned use as described in application forms as well as actual survey responses

necessary video codec installed. The Multimedia Project Studio has since updated their machines in response to these issues. Faculty and students also reported occasional confusion over how to best to store video and share raw video files.

The release of the Flip Mino HD model in Fall 2008 resulted in a significant change to the Flip distribution; this new model is now being distributed to faculty and students in Spring 2009 instead of the Flip Mino standard model previously distributed.

#### **Faculty Flip grantee comments**

"We are using the Flips to video-tape interviews with Faculty about how they read scientific papers and what their expectations are for student thesis writers. We publish all the interviews on our Bb site -- it has been VERY interesting!"

"The Flip Camera was entirely unimimidating. Students who had never used a camcorder felt comfortable shooting video with the Flip. They had an option of responding to each feature films for the class by writing a critique in words or by submitting video responses on the Flip or a miniDV camcorder. It's a clue to the easy learning curve for the Flip that by now all students are responding to class films on video."

"I record presentations and review them when grading.... and have students analyze their work and come up with strategies for improving their speaking skills.....The combination of the camera and Blackboard are sufficient for my purposes. The solution has been effective and has given my students the opportunity to reflect on their speaking/presentation skills in German."

#### **Student Flip grantee survey comments**

"Really good idea - helps us integrate technology for presentations and make them more interesting!  
– *Junior, Humanities*

"The use of video was interesting and created a fun assignment that I looked forward to completing."  
– *Freshman, Sciences*

"Video opens up paths for expression and interpretation of class assignments that are unique and add to the depth and understanding of the material." – *Junior, Social Sciences*

"I think more classes should incorporate video and video projects at Duke. This multimedia project was engaging and helped keep me interested in the class." – *Freshman, Sciences*

#### **Webcam grant program**

Webcams were made available mainly through grants to faculty and students whose academic collaboration needs were met by this solution. A loaner pool of 100 webcams received very little use – only 3 loans were recorded during the semester. The majority of students receiving webcam grants (53%) were in Language courses. Similarly, just over half of webcam grants were requested by faculty in Languages. Overall, cameras were granted to faculty teaching courses in Biology (1), Chinese (1), Engineering (1), Education (1), Music (2), Hindi (1), and Romance Studies (4). Faculty and students primarily reported using the webcams in conjunction with VoiceThread. Webcams were also used to support student-mentor and student-student web-based collaborations as well as to create video tutorials.

### Software grants to enable video editing and content creation

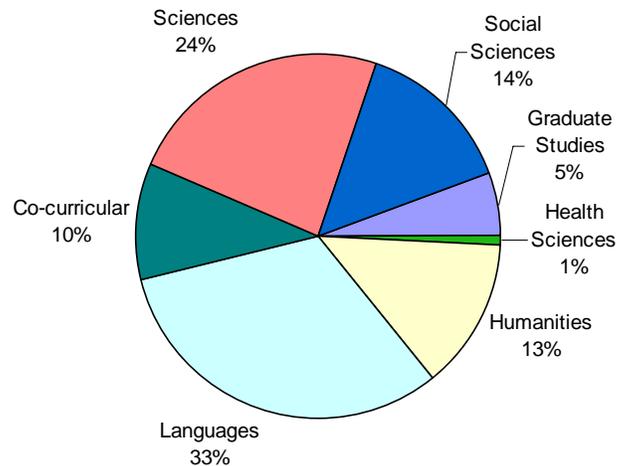
DDI offered software license grants to faculty for Mac and Windows screen capture software (Camtasia, SnapzPro) as well as for QuickTime Pro. Three instructors received licenses. Two faculty created modules for to instruct students how to use data analysis software (SPSS in a Psychology & Neuroscience course; NVivo in an NSOE course). One faculty member in Romance Studies used Camtasia to create instructional videos for students and instructors in French 76 for moving clips from Blackboard to an iPod and how to use Micrograde. Quicktime Pro licenses were distributed to 12 faculty. This program will continue for the spring semester.

### DDI Equipment Loans

The pool of loaner equipment available from the OIT Service Desk was enhanced to provide broader support for the use of video to capture experiences, collaborate, and use content in new ways. All DDI video equipment (except headsets) was cataloged in the library’s Aleph inventory system for circulation and tracking. Circulation of loaner 5<sup>th</sup> generation video iPods continued to be managed through Remedy. In total, the loaner pool included:

- Flip Mino cameras [100]
- Video kits (standard miniDV [100], hard drive [10], and high definition [5])
- Tripods
- Web cameras [100]
- Headsets (w/ microphone) [50]
- 5<sup>th</sup> generation video iPods [200]

DDI Loaner Pool Use by Course Discipline Area



Students reported via loan forms that they planned to use DDI equipment in a wide range of disciplines (“DDI Loaner Pool Use by Course Discipline Area”, right). Specific courses are listed at the end of this report. Co-curricular uses included athletics, clubs, independent student projects and a variety of other purposes. Undergraduate students were the primary intended audience for this DDI loaner equipment and based on library circulation data, undergrads accounted for over 70% of all DDI equipment loans.

Fall 2008 Usage of DDI Loaner Equipment by Patron Type							
	Flip Camera	MiniDV Video Kit	High Def Video Kit	Hard Drive Video Kit	Tripods	Webcam	5 <sup>th</sup> gen iPods
Undergraduate	148	75	0	15	59	1	180
Graduate	56	7	1	7	10	0	31
Staff **	16	12	3	5	10	1	0
Faculty	10	8	0	3	4	1	0
Other	1	2	0	0	2	0	0
<b>TOTALS</b>	<b>231</b>	<b>104</b>	<b>4</b>	<b>30</b>	<b>85</b>	<b>3</b>	<b>211</b>

\*\*Includes CIT, OIT and library staff checkouts

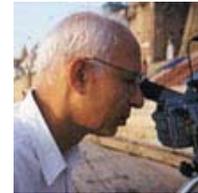
## DDI Exploratory Programs

### **iPod Touch**

Faculty from three different disciplines (see table, right) participated in the iPod Touch exploratory program.

<b>Name</b>	<b>Discipline</b>	<b>Course</b>
Satti Khanna	Humanities	Hindi 125
John Fay; Pat Halpin	Sciences	ENVIRON 359
Sam Veraldi	Social Sciences	MMS 185

A pilot project in Hindi 125 used iPod Touches. Students reported via a survey that the iPod Touch added a visual dimension to the class, providing easy access to current Hindi video and Hindi news sources. The technology allowed presentation of current news items to the entire class, drawing students into deciphering these videos for themselves. Students were also asked to submit individual screen shots to tag their video presentation with an iconic image. Faculty feedback indicated that the use of the iPod Touch increased the level of energy of the students' weekly essays, almost all of which were based on YouTube Hindi videos.



See the DDI web site profile, "[Satti Khanna inspires students](#)"

John Fay and Pat Halpin explored the potential of the iPod touch in their Advanced Geospatial Analysis course. Students in this course explore various technologies that collect, store, analyze, and visualize geospatial data, including web-based GIS analysis. They encountered technical obstacles to generating an iPod app to interface with the other web-based applications created in class. Limitations stemmed from a Windows/Mac gap and related browser incompatibilities. The class was able to create web applications that ran on IE/Firefox (but not on the iPod Touch's Safari web browser). Existing geospatial applications in Google Earth were used to demonstrate the potential capabilities of these hand-held devices in this type of course.

Sam Veraldi considered how the iPod touch could support courses he teaches in the Markets and Management program. He particularly liked the ease of access to real-time market and news data and potential of streaming multimedia via the device. If these devices were available, he indicated he would consider using them in a capstone course.

### **High Definition Video**

These programs generated little interest from faculty or students. No HD video capture grants were awarded. Similarly, high definition video loaner kits attracted very little interest. One faculty member applied to borrow a kit but later withdrew the application due to unresolved IT integration issues with equipment in her lab. No academic projects were completed by faculty or students using high definition video equipment in Fall 2008. One student life project was successfully completed. Strategies to generate interest in this program for the remainder of this year could include targeting specific faculty (such as instructors in FVD) that will be most heavily impacted by the general shift towards HD production work in the future or dispersal of HD kits to IT staff for support of HD video projects via campus labs and distributed IT services.

## **VoiceThread**

Ten courses used VoiceThread's video annotation tools in Fall 2008. A majority of Duke VoiceThread users (75%) made at least one comment on a video. Most of the threads created were related to some course activity; however, a small number were created for other purposes including research or individual student projects. In at least one case, students viewed recordings made by a faculty member who experimented with VoiceThread as an alternative way to provide feedback on student writing. VoiceThread was also used during class in at least one French course in the Link in combination with the headsets also available there. Some issues with the configuration of the tool which caused a small number of reported problems, most notably the with the group assignment tool, have been addressed. Four courses have begun using the tool in Spring 2009; existing license would support approximately 350 additional new users.

## **Fall 2008 DDI Transitional Programs**

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### **Wimba Voice Tools**

Based on substantial use in Spring 2008 and positive feedback from faculty, Wimba Voice Tools support was continued to allow more time for evaluation of the impact of those tools. In Fall 2008, at least 49 course sections of 19 different courses made use of Wimba for web-based audio recording and playback; a large majority of use was in language courses (French, Italian, German, Hindi, Japanese, Russian, Spanish, and ESL.) Operational funding to continue Wimba licensing for FY2010 has been requested in the CIT Academic Tools budget.

### **Tablet PC Faculty Loans**

DDI has for several years supported tablet PC loans to faculty for experimentation and innovation. Faculty have use tablets to create more dynamic presentations (rather than relying on static PowerPoint slides), writing and sketching directly as a digital whiteboard, and annotating on minimal prepared slides, images and websites. Some faculty also record and share these annotations; others use tablets to provide feedback on student work. Lenovos originally purchased in 2005-06 are being phased out in favor of relatively new Dell tablet PCs. In Fall 2008, 15 faculty used tablet PCs from DDI including 4 who used new Dell tablet PCs; faculty interest in the program was lower as compared with previous years. Participants in Fall 2008 included faculty from Biology (1), Computer Science (1), Economics (1), Engineering (3), the Graduate School (2), NSOE (1), Romance Languages (5), and the Writing Program (1). No change is anticipated in this program for Spring 2009; Dell tablet PCs remain available for faculty loan.

### **Mobile digital content / iPod program**

DDI continued to support access to mobile multimedia content with existing 5<sup>th</sup> generation video iPods via loans and a limited faculty grant program. In Fall 2008, 211 eligible students were approved for loans out of 220 applicants and thirty faculty received new 5<sup>th</sup> generation video iPods. Students requested the iPods most commonly for use in language courses (including English for International Students), Writing 20, and for audio-recording lectures in a wide range of courses including Physics, Biology, Chemistry, Psychology, Economics and Public Policy. Approximately 100 factory-packaged iPods remain available for distribution or to refresh the loaner pool.

**Course and co-curricular use supported by DDI, Fall 2008**

**Flip camera course and co-curricular use (\*standard miniDV also; #hard drive video also )**

<b>Course use</b>	<b>Co-curricular use</b>
AALL 143, 183 #	Blaze the stage dance competition
Aerospace Studies 2L	Digital Documentary Photography
Arabic 63*	Duke Public Speaking Club
Art Hist 110	Duke/NCCU Scholars
Arts Vis 54, 108, 173	Dukes of Comedy skit
Bio 25L, 295S*, 299	Derby Days filming
BME 227, BME 260	History of Durham project
Culanth 186B	International Association
Doc Studies 114S, 194S	Italian Club (Italian Tavola)
EA 293S	OSA/SPIE student chapter outreach event at Pearston Elementary
ECE 27, 51, 53, 142	Smart home project
Econ 145	Sweeney Todd Production
EDU 152S, 170, 214*	Tap Dance Group
EGR 75	Visiting artist interviews
ENVIRON 99FCS, 101, 130, 171, 298	
French 1, 2*#, 11*, 76, 100S, 117S	
German 1, 65*#	
GS 301*, 302	
Hindi 63	
History 105	
ISIS 140*, 170S	
Italian 1, 2, 21, 63*	
Japanese 125*	
Lit 112J	
MAT 341	
Medphy 205	
Music 74, 81A, 90A, 91A, 150S, 179	
Pharm 150	
Poetry 100CS	
Portuguese 1*#, 53	
Psychology 167S, 193	
Public Policy 134D, 144S	
Religion 185	
Romance Studies 306S	
Russian 118S, 198	
Sociology 149	
Spanish 1, 2*, 63, 105	
Theater Studies 185	
Economics 145	
Women's Studies 150S, 174	
Writing 20*	

**Courses using standard MiniDV video only**

<b>Course use</b>	<b>Co-curricular / other noncourse use</b>
AALL 145 Art Hist 274 Bio 191 Culanth 106 ENG 150BS French 167D German 66 History 175AD Lit 20, 154AD Neuroscience 11 PubPol 118S, 195	Campus crusade for Christ student organization Dancing Devils Engineering Grad Student Council Living Green Contest Newman Catholic student center weekend retreat PhD exam PiBetaPhi Zeta phi beta new member presentation

**Webcams – course and co-curricular use**  
 (@ VoiceThread also used)

AALL145  
 Bio 25L  
 Economics 195  
 EDU 152S  
 French 76<sup>@</sup>, 100S<sup>@</sup>  
 ISIS 140  
 Public Policy 144S  
 Chinese Language Program: Amity  
 Foundation  
 Rotaract Club

**Hard drive video only**

ECE 122  
 FVD 108  
 Russian 1

**VoiceThread only**

Italian 101  
 Hindi 1, 63  
 Isis 145S, 170

**Headsets only**

BME 207  
 Chinese 181  
 Econ 164  
 Psychology 114  
 Russian 63