

Using Online Courses to Create an Electronic Environment to Support Art and Graphic Instruction in the Classroom

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Introduction

The lead presenter has taught art and graphic design courses at the National Technical Institute for the Deaf (NTID) for the past 23 years. During most of this time I used paper-based course materials. Four years ago, I started collaborating with my co-presenter, an instructional developer working in the department of Instructional Design and Evaluation at NTID. Together we experimented with various Web-based instructional techniques, starting with non-interactive Web pages and later adding electronic homework and projects. Recently, we began experimenting with multimedia, including use of streaming sign language video for instructional purposes.

In the last two years, we designed six Web sites used to teach several art and graphic design courses at NTID. These Web sites provide an electronic environment incorporating Web-based lessons, presentation slide shows, streaming sign language video tutorials, and electronic homework journals and projects. A nice feature is online submission of electronic artwork that allows the instructor to offer constructive feedback to help students refine and resubmit their projects.

The first instructional Web site we created together was for a course entitled *Visual Ideas Development*. We tested and refined this project over several quarters of classroom piloting at NTID. Once we have a working model, we were able to implement similar Web sites for the remaining courses in a relatively short time. In this presentation, we will share our experience in developing and using these Web sites.

General Course Format

All courses follow a project-based format, with each course made up of 6-8 projects. The instructor starts each class with a lecture or presentation explaining project expectations and the rationale for learning the materials, developing specific skills, etc. Following that, students commence work on their projects. As they work, students sketch their concepts and show their sketches to the instructor for her review and comment. Students finish their projects out of class. Our Web sites provide an electronic environment in which students and teacher can continue the instructional process begun in the classroom.

Electronic Environment

We developed our Web courses using IdeaTools, an online course-building application developed at NTID by the co-presenter. IdeaTools automates many of the tasks of creating interactive multimedia Web sites for instructional purposes. It runs on a Web server; thus, any teacher with a Web connection can utilize it from home or office.

The hallmark of IdeaTools is its flexibility and relative ease of use. Lesson units, handouts, tests, and homework are organized in a course outline. A single click of a button generates a complete Web site from the course outline. Drop-down menus, tables of contents, and site maps are

automatically created, making it easy for you (and your students) to access all instructional materials on the Web site. Clicking an Edit icon allows you to begin creating course materials, including computer-graded quizzes and electronic homework. You can save your work directly in Internet Explorer without worrying about how to transfer files to remote Web servers. Once saved, your materials are immediately available to your students through the Web.

Supporting Classroom Instruction

The course Web sites serve as an online environment enabling students to continue working out of class. It provides students with ready access to online lessons, tutorials, and project instructions. When students have finished their initial sketches, they scan the sketches and upload the resulting graphic files to online homework folders for the instructor to review and critique. Students work on approved sketches, turning conceptualizations into finished projects. At the end of each project, students are required to submit an online homework journal describing their experience and feelings about working on their projects. Student-teacher interactions occur both online and on a person-to-person basis in the classroom.

Course readings and handouts are available online, as well as interactive slide shows and images scanned from art books, slides, and artists' journals / sketchbook. These resources serve as a means to expose students to the work of other artists and to enhance their learning experience. The resources are used not only for after-class review by students, but also as visual aids for classroom presentation purposes. Past student work from course archives are used to help students gain a better understanding of each assignment.

Standard on all Web sites are online syllabi and course schedules. Each syllabus is designed to answer frequently asked questions regarding course expectations, such as how students will be evaluated. The syllabus also explains the department's attendance / productivity policy and materials needed for the course. Class schedules are designed to help students know how to prepare for weekly classes. The schedule outlines when each project is due and what the class will learn on a specific project. It provides an overall picture of the course work for the whole quarter.

Supplemental Video Tutorials

We have begun to experiment with the use of sign language and streaming video for online tutoring. Currently we are developing a series of video tutorials to help students understand technical art and graphic design terms. The instructor explains on camera each vocabulary word as if she is having a conversation with a student asking about the word in the classroom.

We have adopted an informal approach to video production, using a digital video camera for the purpose. The camera can be attached to a desktop PC with video capture equipment, allowing us to digitize and save our video directly to the computer's hard drive. The digitized video is compressed and encoded as a streaming video file using the .wmv format, with minimal editing. IdeaTools has authoring tools that can be used to synchronize the encoded video with other image files on the Web site, creating a multimedia presentation with minimal effort. If we find the results unsatisfactory, we simply shoot and encode the video again to replace the earlier video.

Students are encouraged to preview the tutorials before each class, the rationale being that this will help them come to class better prepared to follow the lesson so that the instructor can spend less lecturing with more time to help students work on their projects.

Student Projects and Assignments

All project information is available online. Listing under each project are project goals, learning objectives, vocabulary to learn, learning activities, and materials needed to complete these activities. Project evaluation criteria are also made clear to students, as well as project deadlines. This puts more responsibility on students to submit projects on time, cultivating independent work habits.

Students complete their sketching assignments after class. At any time, they can scan their sketches and upload the resulting files to online homework folders for the instructor to review. The instructor can make suggestions if she feels student work needs improving. Some courses have homework journal assignments with questions to encourage students to do critical thinking by writing about their experiences and thoughts while working on each assignment. The online project review process bypasses and helps to reduce the need for the traditional teacher-student conferences. In practice, students sometimes still feel the need to meet with the instructors. In our experience, the ratio of online and person-to-person interactions is about 50-50.

Online Grade Books and Record Keeping

We implemented our online grade books to simplify grades tracking and record keeping. Student grades are automatically posted when their work is graded or re-evaluated. Students can check their grades online at any time. The instructor can view the grades of all students whereas each student can only check his or her own grades. Students can also review their graded projects online to confirm their grades in the grade book.

Final grades are also determined by Attendance / Productivity scores that students earn for attending classes and completing projects on time. These A/P scores are entered in the grade book, with instructor notes and explanations if students are penalized for missing class or failing to submit their projects on time. The A/P system of scoring aims to inculcate an appreciation for professional values, such as meeting project deadlines

Course-related Communication

An online course schedule clearly shows the course progression over the quarter, informing students when they should begin and finish a project. In addition, when the time to begin work on a project arrives, a link to the project is posted online with the project due date. This link provides access all information students need to complete their projects. To encourage students to complete their projects in a timely manner, a project is “unposted” after its due date. Students who did not complete their projects within the stipulated time frame will no longer be able to submit their work in keeping with a policy that no late work is accepted.

Important and last-minute announcements are sent using the Web site’s Groupmail feature. This allows the instructor to compose a message that is automatically sent by e-mail to all students in the class list.

Course Archives

At the end of each quarter we perform an end-of-quarter processing for all the courses. This essentially means we save student grade information and project files to the course archive and remove all students from the class list in readiness for the next quarter. The instructor, but not students, continue to have access to the archived information as required by institute policy in case any student disputes his or her grades. This also simplifies course management for students with an Incomplete course grade. The records readily show the instructor what projects the student has completed satisfactorily so that the student only needs to the missing projects.

Copyright Issues

We scan both images and text from books and journals, using them solely for teaching purposes. To prevent the public from accessing these materials, we implemented a password protection system limiting access strictly to students currently registered in the course. As part of the archiving process performed at the end of each quarter, students are removed from the class list, losing their privileges to view the images and text once their coursework is over. In addition, to inculcate a sense of respect for copyright, each time a student signs in to a Web site, he or she must view and accept a disclaimer notice stating unequivocally that they will use the online materials only in relation to their coursework.

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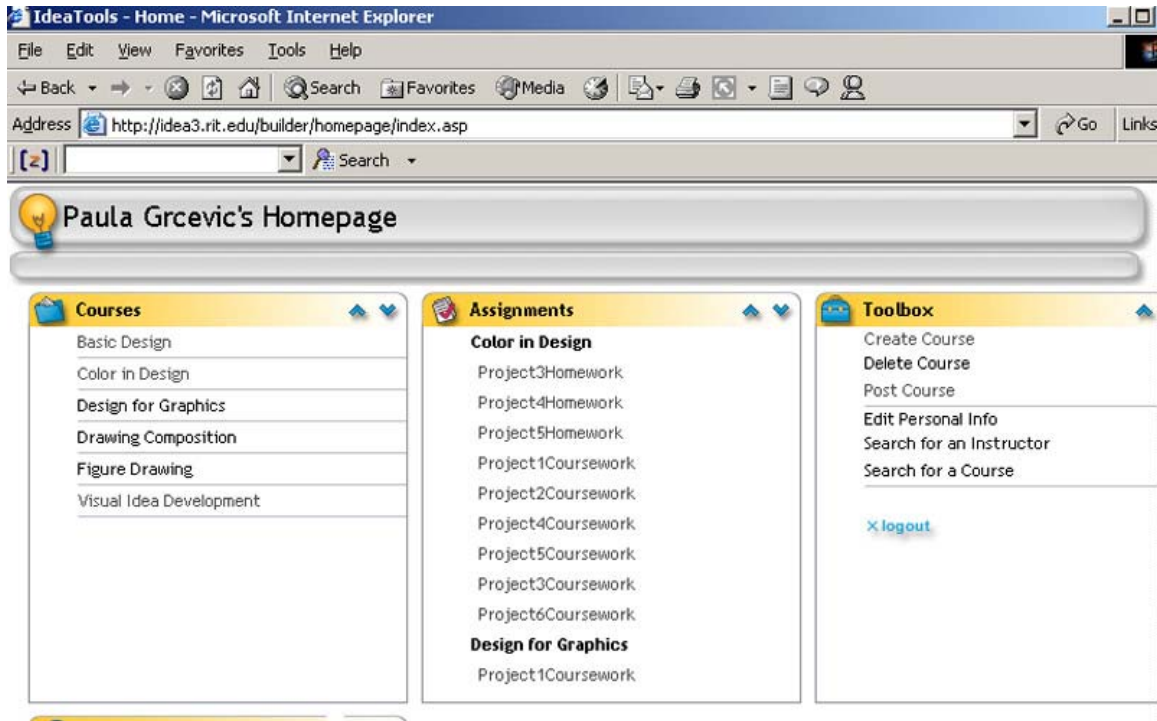
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Screen Shots

Instructor Homepage

IdeaTools provide an online environment in which the instructor can create and manage all her online courses.



Course Homepage

A typical course created with IdeaTools

The screenshot shows a web interface for a course titled "Visual Idea Development" by Paula Grcevic. The header includes a navigation bar with links for Home, Schedule, Tools, Group Mail, Edit, Dictionary, Student mode, and Logout. Below the header is a "Main Menu" with tabs for Project 1 through Project 7 and a Team Project. The left sidebar contains a "Course Info" section with links to Front Page, Schedule, Syllabus, and Vocabulary, followed by a "Learn with Joan" section and a "Reference" section with links to Artists' Sketches, Artists' Sketchbooks, and Where Do Ideas Come From?. Below the Reference section is a "Directions for Sketchbook" section with links to Scanning and Uploading. The main content area displays the "Course Introduction" text.

Visual Idea Development
learning on the web
with Paula Grcevic

Home Schedule Tools Group Mail Edit Dictionary Student mode Logout

Main Menu Project 1 Project 2 Project 3 Project 4 Project 5 Project 6 Projects 7 Team Project

Course Introduction

This course will introduce you to tap a multitude of resources, including personal experiences and the environment, as aids to creativity through a variety of activities which includes classroom discussions, field trips, guest lecturers and keeping journals online and sketchbook. You will learn strategies for developing concepts and organization of thought processes and systems to formulate solutions to design problems. Emphasis will be placed on the use of critical thinking to discriminate what can be considered to be "good" design, and why. The library will be used for the development of research skills. This course is required for Art & Computer Design majors, and may be taken as an elective by students in other majors.

Course Info

- Front Page
- Schedule
- Syllabus
- Vocabulary

Learn with Joan

Reference

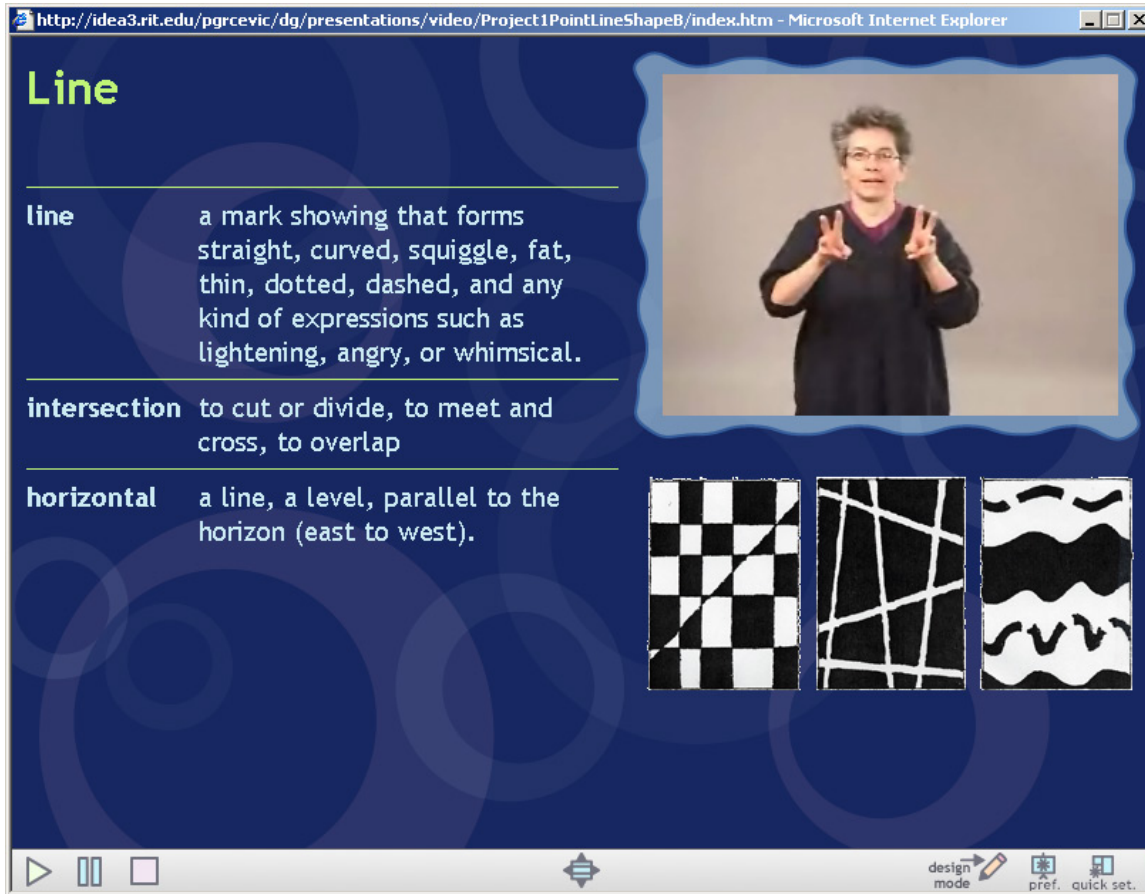
- Artists' Sketches
- Artists' Sketchbooks
- Where Do Ideas Come From?

Directions for Sketchbook

- Scanning
- Uploading

Video Tutorial

IdeaTools provide tools for creating multimedia presentations, including video tutorials



The screenshot shows a web browser window with the address bar displaying <http://idea3.rit.edu/pgrcevic/dg/presentations/video/Project1PointLineShapeB/index.htm>. The page content is on a dark blue background with the word "Line" in large green letters at the top left. Below the title, there are three definitions, each with a horizontal line above it:

- line** a mark showing that forms straight, curved, squiggle, fat, thin, dotted, dashed, and any kind of expressions such as lightening, angry, or whimsical.
- intersection** to cut or divide, to meet and cross, to overlap
- horizontal** a line, a level, parallel to the horizon (east to west).

To the right of the text is a video player showing a woman in a black top and glasses making hand gestures. Below the video are three small square images: a black and white checkerboard pattern, a grid of white lines on a black background, and a pattern of black wavy lines on a white background. At the bottom of the browser window, there is a navigation bar with icons for play, stop, and refresh, and a "design mode" toolbar with icons for "pref." and "quick set."