About the Triangle Initiative

The Triangle Initiative is a strategic effort of the Columbia Center for New Media Teaching and Learning (CCNMTL), creating digital tools and capacities to serve the intersecting interests of education, research and communities. Multimedia Connect is the first Triangle Initiative project.

Overview

CCNMTL is teaming up with researchers from the School of Social Work to construct a multimedia environment that builds on the effectiveness of a proven HIV-prevention program. The Web-based system — which generates high-quality research data — has the potential to increase dramatically the number of people around the world who can benefit from the program and provides social work students with new Web-based tools and training videos.

Background

Nabila El-Bassel, Susan Witte, and Louisa Gilbert, senior researchers of the Social Intervention Group (SIG) at the Columbia University School of Social Work, developed and tested Project Connect, the first couples-based, HIV-prevention intervention funded by the National Institute of Mental Health (NIMH). Once SIG proved the effectiveness of Connect’s six-session program, however, they found two substantial barriers to wide dissemination: implementation required a box-load of peripheral materials and the skills of an advanced clinician. When they met CCNMTL in 2005, the SIG researchers had been working on Connect and several related projects for eight years and were looking for ways to both enhance and streamline their intervention.

Getting to Work

Engaging in CCNMTL’s Design Research methodology, which follows an iterative path of Discovery, Design, Development, Implementation, and Evaluation, the CCNMTL/SIG team embarked on an extended Discovery phase. SIG learned about the range of possibilities digital media could support while CCNMTL became conversant with the content, process, and theoretical underpinnings of the intervention as well as the materials that accompanied each session: videos, anatomical models, condoms and other prophylactics, and charts.

From the very beginning, the team imagined how to use digital technology to replace and enhance Connect’s physical objects and extend their impact. At the same time, they also began to envision how facilitator training might be improved, how what was developed might be repurposed for use in Columbia’s Social Work courses, and how to capture data for future research.

The Shaping of Multimedia Connect

Dubbing the new project Multimedia Connect, CCNMTL asked a set of questions during the Design and Development phases:

1. How can we help the participants better internalize what they need to institute healthier sex practices in their relationships? CCNMTL designed an interface that is visually rich, dynamic, and engaging. The team created digital ver-
sions of many of the paper-based activities to create a more satisfying experience.

2. How can we better support the communication and listening skills component that is part of the essential core in all six sessions? The CCNMTL/SIG team added a palette of video vignettes of people using speaker/listener skills addressing the specific topic of each session. These are designed to model the technique and to provide the facilitator with a more flexible set of examples that can be used as necessary.

3. Is there a way to provide participants with take-home materials that serve both as useful tools and more active memorials of their contract with one another as well as the successful completion of the intervention? Facilitators can print out customized booklets for participants that include information covered in sessions as well as the couple’s specific notes and commitments.

4. How can we broaden the base of facilitators so that a community-based health worker with some basic training could implement Connect? Multimedia Connect tackles the difficult challenges of facilitator training and preparation in a variety of ways. First, the sessions are organized within the computer environment as a roadmap that is used both to train facilitators and perform the intervention itself. This allows the training to be more consistently delivered to a broader base of community health workers who will then use the same environment in their actual delivery of the intervention. Providing such a scaffold should relieve the facilitator from the anxieties related to managing the sequence of events in the intervention and, simultaneously, gives both the facilitator and the participants a consistent and stable set of media objects and utilities that accompany them through the experience. In addition, the computer environment includes extensive resources on general knowledge and practice skills as well as “how-to” instructions for each session.

5. How can we enhance data collection so that the delivery and dissemination processes can be evaluated and improved? The Web-based system is designed to capture a wealth of use-data from the sessions that will inform future research and refinements of the intervention and its dissemination.

6. Will elements of the project be useful for students in Columbia classes? Many of the elements of Multimedia Connect, including goal setting exercises, communications training videos, and an interactive psychoeducational myth/fact game are appropriate for and will be used in Social Work courses. An interactive social support network mapping tool (pictured here) developed for the intervention has been introduced to masters-level candidates. Students surveyed felt that use of the tool helped them better understand the clinical technique of social support network mapping. Digital tools such as the Social Support Network Map help to close the gap between preparation of students in the classroom and practice in the field.

Results to Date
Multimedia Connect is currently in the Development phase. An initial two-session beta test was completed during the summer of 2006, demonstrating a strong proof of its concept and execution. Now a unified Web-based environment that addresses the needs of couples, facilitators, and facilitator trainers replaces the box of physical objects and the hefty paper-based intervention and training materials. The SIG team anticipates that the intervention will be able to be executed more consistently and more effectively. In 2007, SIG, in collaboration with CCNMTL, received major funding to develop and test the project from the National Institute of Mental Health and the Centers for Disease Control. NIMH funding will test whether disseminating the intervention using a Web-based system leads to more frequent adoption of Connect, when compared with traditional paper-based and conventional training protocols. As the CCNMTL/SIG team proceeds with its design research, the team foresees the possibility of adapting the language and cultural attributes of Multimedia Connect as part of a global solution for the prevention of HIV transmission.

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Supported by a grant from the Fund for the Improvement of Postsecondary Education, the College of Dental Medicine and the Columbia Center for New Media Teaching and Learning (CCNMTL) have created the Personalized Lifelong Learning Plan (PL³P), a portal for post-graduate dental residents in the Advanced Education and General Dentistry (AEGD) and General Practice Residency (GPR) programs. PL³P provides residents with access to a suite of online tools that promote active learning and reflection, including personal home pages, blogs, and electronic portfolios for their studies and clinical activities.

The PL³P approach requires the post-graduate dental resident to take an active role in his own training by developing personalized learning plans to meet his individual needs. Residents chronicle their experience as they advance through the AEGD and GPR programs, creating action plans based on their own priorities and learning objectives. And perhaps most importantly, the site encourages residents to model lifelong learning strategies that can be continued for professional development beyond their formal studies.

For the AEGD and GPR Personalized Lifelong Learning Plan includes the following components:

- **Program Competencies:** The AEGD and GPR competencies are written statements describing the levels of knowledge and skills residents are required to master in order to perform a particular aspect of dental practice.
- **Personal Learning Objectives:** Learning objectives are statements of specific tasks or behaviors that residents should be able to perform after participating in a set of educational activities.
- **Educational Activities:** Residents are required to attend lectures, group discussions, and laboratories, and to participate in supervised patient care, workshops, and online tutorials, as well as to develop Best Evidence Topics to support their clinical cases.
- **Evaluation/Documentation:** Evaluation is a focused, time-dependent process, undertaken to assess whether learning objectives have been accomplished. Documentation is the specific data supporting the evaluation.

The PL³P site encourages reflection and self-assessment. Faculty mentors provide ongoing feedback, guiding residents through a thoughtfully constructed process that challenges them to:

- Examine critical issues related to their clinical services,
  - Connect clinical and service experience to course work,
- Enhance the development of professional skills and values,

PL³P was developed using Plone, an open-source content management system that allows multiple users to share different levels of access. The site provides a space that promotes dialogue between residents and faculty mentors, in which discussion and evaluation are supported through a review-based publishing process.

Initially, a resident’s assets — clinical cases, Best Evidence Topics, and seminar presentations — are private, but he or she can choose to share them with others at any time. Faculty mentors always have the ability to view and publish any resident’s assets. The published work then becomes accessible to all participants, enriching the learning community’s online resources.

We are currently monitoring the residents’ use of the portfolio in an effort to measure its impact on their attitudes and lifelong learning skills. This data will be used to inform decisions to improve the PL³P approach.

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Mapping the African American Past (MAAP) is a public Web site created to enhance the appreciation and study of significant sites and moments in the history of African Americans in New York from the early 17th-century through the recent past. The Web site is a geographic learning environment, enabling students, teachers, and visitors to browse a multitude of locations in New York and read encyclopedic profiles of historical people and events associated with these locations. The site is further enhanced by selected video clips, digitized photographs, documents, and maps from Columbia University libraries and other archives, and commentary from Columbia faculty and other specialists.

Using New York City maps that date back to 1632, the site allows users to zoom-in on streets and historical sites as they once were, and as they are today. In addition to maps, the site features a library containing portraits of prominent African Americans and photographs of historical landmarks. MAAP also offers a podcast for users to listen to descriptions of all 52 locations as they visit them. For smartphone users, a MAAP portal is available for access to podcast episodes on demand.

Complementing the site’s rich resources, project partners at Columbia University’s Teachers College have devised model lessons for the instructors’ resource section of the MAAP Web site, offering educators across New York State strategies for incorporating the project’s multimedia material into various curricula. Teachers College graduate students are using MAAP to practice effective curriculum-building in a multimedia environment.

“African American history is a required component of the New York State social studies curriculum in 4th, 8th, and 11th grades. As every teacher knows, however, it takes provision of good curriculum materials to make such requirements reality in many classrooms. MAAP answers that need. The MAAP project assists teachers at all levels in introducing this content through stories about building community, resisting slavery, and contributing to New York City’s development,” said Margaret Crocco, professor of social studies and education and William Gaudelli, associate professor of social studies and education, project partners from Teachers College.

Mapping the African American Past was developed by the Columbia Center for New Media Teaching and Learning (CCNMTL) in partnership with Columbia University’s Teachers College and Creative Curriculum Initiatives and funded with generous support of the JPMorgan Chase Foundation.

MAAP offers students rich information about African American history in New York City.

Students discover significant locations by exploring historic maps.

Featured historic site: African Burial Ground

Then: For most of the 1700s, and maybe earlier, Africans and their descendents kept their own burial ground north of the city and its wall.


For more information please visit http://maap.columbia.edu/ or email ccnmtl-maap@columbia.edu
The Millennium Village Simulation is a Web-based simulation of economics and survival for one family and their village in a sub-Saharan African village. Developed by the Columbia Center for New Media Teaching and Learning (CCNMTL) and Jeffrey Sachs, Quetelet Professor of Sustainable Development, professor of Health Policy and Management, and director of the Earth Institute, the simulation was created as a study tool for students in Professor Sachs’ undergraduate course, Challenges of Sustainable Development. The Millennium Village Simulation is freely available to sustainable development practitioners and the general public.

In a virtual world of extreme poverty, disease, and environmental variability, students are challenged to help a family of two survive and prosper over a fifty-year period. By making decisions regarding the family’s allocation of time and financial resources, students develop a greater understanding of the manifold disciplines—such as agronomy, nutrition, economics, epidemiology, public health and development management—that constitute sustainable development and how those disciplines interact with each other in “real world” scenarios.

Students may interact with the simulation from two perspectives—they can opt for the “Family View” where they make purchasing, sales, and effort allocation for a single family, or students can work within the “Village View” and make decisions for the village as a whole. The Millennium Village Simulation simultaneously employs models such as agricultural, logistical growth, climatological, disease, and subsistence/health, all of which are introduced through the environment and with explanations and tutorials about the models and their role in the simulation. Instructors can manipulate these models to produce more challenging scenarios for students to experience in the simulation.

The creators and project partners of the Millennium Village Simulation hope that, by immersing themselves in the daily life of a family, students will identify more deeply with the complex experience of extreme poverty. The integrated approach of the simulation makes this project the first of its kind that allows students to interact in an environment reflective of the realities in impoverished settings around the world.

“The Millennium Village Simulation represents a new level of engagement for students, where they address the intricate issues of sustainable development in an experiential learning situation that mirrors real-word challenges. Students can step outside of the classroom and into a village, testing what they have learned to further develop their knowledge and understanding of global needs,” explains CCNMTL executive director Frank Moretti.

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The Global Classroom project organizes and delivers lectures and readings for a master’s level, sustainable development course simultaneously taught at a dozen universities around the world. Conceived as a new distributed learning curriculum by the Earth Institute’s Commission on Education for International Development Professionals and CCNMTL, the Global Classroom project engages diverse bodies of students in a live discussion with a Commissioner about some of the world’s foremost issues in sustainable development.

Global Classroom is offered at Columbia University through the course, “Integrated Approaches to Sustainable Development Practice,” which students may take for credit at the School of International and Public Affairs. John McArthur, associate director, Center for Globalization and Sustainable Development at Columbia University, and Jeffrey Sachs, Quetelet Professor of Sustainable Development and professor of Health Policy and Management and director of the Earth Institute, are co-chairs of the course.

Throughout the semester, local course facilitators and instructors draw on common syllabi and videotaped lectures, reading assignments, and other resources available through a “super site” course management system developed by CCNMTL. To enhance collaboration and information sharing, students listen to videotaped lectures outside of class, and use class time to engage with lectors in an online seminar. Students and instructors are also provided with a Web-based environment, including an online forum, to encourage cross-institutional discussion and collaborative assignments.

“The idea is simple yet profound,” said Sachs. “By integrating taped lectures and live Web-based discussions, the classes bring together students in a dozen universities around the world, to help forge a new discipline of sustainable development. The span of schools is phenomenal, reaching beyond the Unites States to include campuses in Europe, Africa, South America, South Asia, and East Asia. The Global Classroom provides the opportunity for expert lecturers and diverse bodies of students to hold a real-time discussion on the world’s foremost problems of sustainable development so that together they, and we, can brainstorm on solutions.”

Sustainable development is a worldwide responsibility and through online meeting rooms, video, live chat, and discussion boards, the Global Classroom project provides a truly global academic setting where students in a dozen universities can learn and explore the relationship across core fields of study in agriculture and nutrition; economics; environment and climate science; management; policy, anthropology and social studies; public health; technology and engineering. In 2008, students and instructors from institutes of higher learning in the United States, the United Kingdom, China, India, Singapore, France, Ethiopia, Ecuador, Nigeria, and Malaysia participated in the Global Classroom project.

Global Classroom is the flagship project of CCNMTL’s Global Learning initiative, a strategic effort that mobilizes the power of new media technology to expand collaboration among the world’s educational community.

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Overview

Criminal defendants in New York State often plead guilty to crimes without being fully advised of the collateral consequences of those charges. These consequences can be quite serious, including loss of public housing, relinquishment of voting rights, or even deportation. Because collateral consequences cut across so many areas of law, even the most highly skilled defense attorneys, prosecutors and judges may not possess the requisite knowledge to fully understand the repercussions of their actions. To address this critical social justice issue, CCNMTL is partnering with faculty and students from Columbia Law School to build the Collateral Consequences of Criminal Charges Calculator (4Cs Calculator), a Web-based tool that quickly and easily calculates and displays the collateral consequences of any criminal charge in the New York State penal code. The Calculator has the potential to improve the work of prosecutors, judges and defense counsel statewide and to teach law, policy, and social work students about the impact of criminal conviction across the areas of immigration, housing, civic participation, family, and finance.

Background

Judith Kaye, Chief Judge of the State of New York, initiated the Partners in Justice program in 2005, bringing together top judges, legal practitioners and educators in New York State to improve collaboration and information sharing around issues of social justice in New York’s legal system. The focus of this initial collaboration was the problem of collateral consequences of criminal conviction. In response to Judge Kaye’s challenge, a team from Columbia Law School — comprising Conrad Johnson, Brian Donnelly, Mary Zulack, and their students — developed the 4Cs Web site in the Lawyering in the Digital Age clinic. This site provides an unprecedented collection of the best resources in each of the substantive areas where collateral consequences occur, including an online section for judges to stay current with approaches to address collateral consequences issues in the courts.

Professor Johnson and his team then began looking for a way to extend these scholarly efforts in a way that would be more relevant and useful to legal practitioners, judges and academics. CCNMTL joined the team in 2006. Together they determined that what was needed was an online tool that would alleviate the core issue surrounding collateral consequences, namely, that for any given charge there are simply too many potential consequences in too many areas of the law for an individual lawyer to recall instantly or research quickly.

Getting to Work

Engaging in CCNMTL’s Design Research methodology — which follows an iterative path of Discovery, Design, Development, Implementation, and Evaluation — the CCNMTL/Lawyering in the Digital Age team began a brainstorming process to establish the most useful way to approach the complex problem of determining and displaying clearly the vast array of collateral consequences for each of New York’s nearly 500 penal code provisions. The team imagined ways to use digital technologies to address the complexities of the law, from its ever-changing nature to the intricate web of dependencies created by policy legislation. The tool the team envisioned was something entirely new, so during the discovery phase, CCNMTL embarked

*For more information please visit http://ccnmtl.columbia.edu or call us at 212-854-9058
on technical research and development as well as plans for an interface that would serve multiple audiences, including students at Columbia Law School as well as lawyers and judges working in the field.

**Shaping the 4Cs Calculator**

1. **What information is difficult to discover, and how can we display this information to make it the most useful?** While collateral consequences can easily be researched in a single subject area such as housing, collateral consequences as they pertain to a single client or case are much more difficult because each criminal charge can result in consequences across numerous areas of law, including housing, immigration, family law, and others. To charge, sentence and counsel responsibly, prosecutors, judges and defense counsel need to see consequences arrayed across all areas of relevance.

2. **How can we help legal professionals learn information to help their clients efficiently?** Legal professionals need a shorthand version of all pertinent consequences that they can scan quickly. They also need to compare consequences between offenses, and judges need to be informed across these same areas in order to sentence appropriately. The CCNMTL/Law School team chose to group consequences by probability of occurrence and subject area to help users more fully appreciate the consequences of conviction.

3. **How can we display information to allow students to make important connections between consequences and policy?** The Web interface allows students to manipulate data about offenses and consequences across various axes. A student can compare offenses, see common offense pairings, or group New York State offenses by larger categories.

4. **How can we construct a tool that can be updated as the law is changed?** Collateral consequences are derived from a variety of dependencies between offense categories and outside circumstances. CCNMTL programmers created a system based on an inference engine, or a system of logical rules, the same approach used in some areas of artificial intelligence. When the law changes, the piece of the engine that represents that law can be edited and the effects of that change will cascade throughout the system.

**Results to Date**

The 4Cs Calculator is currently in the development phase. The CCNMTL/Law School team has chosen two subject areas, immigration and housing, to use as a proof-of-concept. Clinic students and legal experts provided detailed content in these two areas and CCNMTL translated this information into the logic engine that powers the calculator and designed an easy-to-use interface that accommodates the tool’s diverse audiences. The two chosen subject areas now exist in the Calculator’s system and have undergone an initial test for accuracy.

Chief Judge Kaye called the calculator “a groundbreaking initiative” in her report, The State of the Judiciary 2007. A limited version of the tool is currently being tested. Feedback from these trials will allow the team to gather usage information and suggestions for improvement from experts in the field even as development of the other subject areas continues. The team will continue to refine the design and functionality to address the concerns of real world users.

**About the Triangle Initiative**

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CCNMTL partnered with Drs. Nabila El-Bassel and Elwin Wu of the Columbia University School of Social Work to develop this Web-based environment designed to help the HIV Intervention Science Training Program meet its program and research objectives of recruiting and training minority researchers in the fields of HIV/AIDS, health disparities, and mental health and substance co-morbidities. Funded by the National Institute of Mental Health, the HISTP Commons is a dedicated online space where trainees will develop research proposals and gain feedback from their mentors and other specialists. It will also be a space for collaboration among HISTP members and a repository of resources and information about the program; some of this information will also be publicly available.

The Knight Case Studies Initiative at the Journalism School collaborated with CCNMTL to create multimedia case studies, which cover a range of topics confronting modern news organizations. The case studies are used in Professor Michael Shapiro’s graduate journalism course “Decision Making in the Newsroom,” to prepare students for the complexity of real-life decisions they will likely face during their careers in journalism. Each case requires students to put themselves in the shoes of editors, publishers, and reporters and to grapple with a wide range of editorial, ethical, and economic issues. Components of some case studies are slowly revealed in class, thus stimulating the actual situation and the stressful decision points that unfold with it. The case study initiative aims to develop journalism students’ analytic, decision-making, management, and leadership skills by adding case-based learning to traditional journalism instruction.

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