A pilot program at Indiana University-Purdue University at Indianapolis (IUPUI), called the Twenty-First Century Citizen Scholars, explores and evaluates the pedagogy of computer conferencing in writing-across-the-curriculum and makes sure of equal access by students. The purpose of the project is to build intellectual coherence, reduce conflict in students' roles as they balance the demands of family, work, and studies, and create a community for urban commuters by using computer telecommunications. The teacher models the etiquette of the bulletin board, establishing it as a supportive place. Conference members are classmates and teacher. The project, after 4 semesters of operation, has served 8 classes, over 80 students, ranging from introductory classes to upper-division and graduate courses. All students have the necessary equipment at home, on loan if necessary. The program's philosophy defines students as bringing assets of experience and commitment to the learning process, rather than deficits that must be compensated for. The program has achieved the following benefits: students explore new ideas and personal experience that might seem digressions in class, but which lead to broader synthesizes and intellectual coherence; all students participate; students take on many instructional functions as they become active, empowered learners; faculty experience increased involvement with students and with each other; students turn intellectual community into action; and students become familiar with advanced technology useful for their futures. (Sixteen references and an appendix containing selections from a TCCS Bulletin Board are attached.) (SR)
21ST-CENTURY CITIZEN SCHOLARS:
TESTING WHAT IS POSSIBLE AND DESIRABLE

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Computer conferencing is growing in use in government and business, in professional groups, in classrooms and on dial-in systems open to the public such as Compuserve and Prodigy. A community bulletin board, Freenet, started in Cleveland to widen community involvement with computer communication, has inspired similar systems in service or in planning stages at over 15 cities around the world. People who would be unable to converse because of difficulties in time or place or social milieu find on electronic bulletin boards a common place for discussion. Why should we be interested in this phenomenon in general, and why should I take your time describing one program in particular, the 21st Century Citizen Scholars Project at Indiana University-Purdue University at Indianapolis (IUPUI)? This pilot program explores and evaluates the pedagogy of computer conferencing in writing-across-the-curriculum and makes sure of equal access by loaning students any computer equipment needed.

To set a phenomenon in three dimensions, ideologically, James Berlin suggests that we look at what exists, what is possible, and what is desirable. Cindy Selfe and colleagues have led the way in this exploration, reviewing the research on computer conferences and setting up a research agenda to test claims: what is desirable against what exists. It is important to test claims about the medium in different settings to see whether we can use it to create what is desirable, and if so what the human role and responsibilities are in using the medium.

Hawisher and Selfe warn us not to confuse the possibilities of a computer medium with its realities. Description and research show the Jekyll-Hyde nature of computer conferencing: Kiesler et al. suggest that, in an experimental situation, the medium hardens people in opinions and makes consensus harder to reach. Participants in an open-access bulletin board on the Middle East at Purdue University are reported to react to suggested actions by showing how either the Israelis or Palestinians will keep the suggestion from working. Adherents have seen the possibility that the lack of visual cues to status could make computer conferences a place for better collaboration and more egalitarian participation (reviewed in Selfe and Meyer), especially if pseudonyms were used. Yet on Megabyte University, a computer conference of teachers of writing, gender and status influenced participation with men and high-status participants dominating (our of 33 participants), even when they used pseudonyms (Selfe and Meyer). At one large public university, a writing class that used a bulletin board with pseudonyms and the instructor restricted to read-only status ganged up on one foreign-born student, taunting her with sexist slurs in the four days between the board was started and the class next met (Janangelo). Yet students in first-year writing classes (using real names) at the University of Michigan are reported to have built close ties and overcome cultural barriers (Shriner and Rice), and at Michigan Tech, a small graduate class showed no significant differences according to gender or status with or without pseudonyms (Selfe, Pellar-Kosbar and Meyer).

Peter Elbow talks about the need for believing as well as doubting. Believing causes us to think "what if" and often leads to action. Doubting often involves analysis, giving us valuable questions to test with. Believing inspires us to change the desirable into the possible. Doubting enables us to see if what exists is really desirable. As a review of anecdote and research
has revealed, clearly the medium of computer conferencing alone does not create collaboration and egalitarian joy. What then are the important variables? I would like to highlight several that I feel are especially important in evaluating studies, and then I'd like to apply these to the 21st Century Citizen Scholars Project as an example and, I hope, an incentive to belief and emulation.

1. What is the purpose of the conference and what is its goal? With the current emphasis on situating rhetoric in its social context, we need to frame analysis with this important variable—or at least describe what it is! Is it information transfer? emotional support? revision of knowledge structures? reaching consensus? or some combination? What norms, rules, etiquette govern or model the way people participate, and what sanctions enforce these rules? If a teacher has students use pen-names to encourage honest response to drafts uploaded to a bulletin board, should we be surprised if students are vicious in their attacks? Is participation entirely voluntary? does it cost anything? Is it part of a course requirement (as in the graduate course at Michigan Tech and for 21CCS) or is the course primarily delivered via computer (as with some classes described by Hiltz and in Hiasim)? Is there a moderator who models behavior (as in 21CCS) or does the etiquette emerge, perhaps based on usual patterns of conversational style and dominance? Does a moderator or teacher note participants' usage and is this element of power known to participants? Is membership controlled by the moderator? limited or open? What behavior merits deletion from the list?

2. What is the relationship among conference members? What responsibilities do they have to each other? What can they get from each other—in help and in harm? Are they in the same class and likely to be able to recognize a writer from clues other than a name? Are they feuding neighbors? Are they personal strangers but in the same field?

3. How well-defined is the discourse community and how advanced are the conference participants? In my experience, advanced students in a discipline need less leading and can set or change the direction of discussion, whereas younger or less experienced participants profit from a defined assignment. For this reason, K-12 teachers recommend against a pen-pal approach and for a clearly defined problem and goal (Longworth).

4. What does the host program look like and under what conditions and with what facilities do members participate?

   a. Is the conference a "listserv" in which all notes are sent to all participants or does everyone dial into a bulletin board in which notes can be read or ignored? On a listserv, a participant must deal with each item, even if that means deleting it without reading.

   b. It is crucial to know whether each participant is working on-line (reading and writing while connected to the conference) or off-line (downloading messages to read at leisure and uploading responses created first on a word processor), since these conditions affect the writing style enormously and the kinds of operations that can be performed.
c. How easy is access for each participant? Does he have a computer at home or in a dorm or is he a commuter who must use facilities while on-campus? Does she have a teaching load of two classes a semester or five? Do his teenage kids tie up the phone until midnight?

Notice that the three factors I've mentioned first have to do with human responsibilities and plans, not with software and hardware. It is important to note what computer facilities the participants use (imagine how long anyone would stay on Megabyte U, with over 100 messages in some weeks, if they had to read on-line with a 300-baud modem!). But it is more important to study the human, rhetorical elements.

Let me turn now from analysis to apply these questions to a particular project, built on the belief that technology could help us with existing problems to building a more desirable outcome for undergraduate education. What exists at IUPUI is a population of 20,971 undergraduate students, 98% commuters, 72% over 20 years old, 11% minority, 31% married, 59% female.

The majority of undergraduate college students are now urban commuters, like IUPUI's students, and their numbers are growing. These students comprise a significant segment of the current work force and exert the most important influence on aspirations and achievements of the next generation. They bring strengths of focus and seriousness, maturity and coping ability to their studies. They often have to balance the demands of family, work and studies. Yet the very responsibilities that motivate and stabilize them also bring conflicting demands on their time and attention; they lack the coherence and community that powerfully engage students at traditional, residential campuses (Chickering). Furthermore, since many urban commuter students are the first of their families to attend college, the danger of failure is counterpoised with the danger of success: possible alienation from the families and community from which they come.

This "new majority" of students often gains a sense of community negatively--through a common sense of struggle against a system that views them as "non-traditional," "at risk" or "transient." The Twenty-First Century Citizen Scholars Project is part of a campus-wide effort to "explore ways of delivering advanced learning opportunities to places and at times which match the needs of learners" (IUPUI Development Plan).

Purpose: In particular, our purpose in this project is to build intellectual coherence, reduce conflict in students' roles and create community for urban commuters by using computer telecommunications. To ensure that a broad socio-economic spectrum is served, students in our pilot project are loaned any computer equipment needed to use electronic mail with access assured at a time and place convenient to each.

Key: The teacher models the etiquette of the bulletin board, welcoming and supporting students as they succeed in logging on, showing that comments about extracurricular interests and activities are welcome and making assignments that require participation.

Participants: Conference members are classmates and teacher, usually in normal enrollment classes (not recruited). Each class board is not listed publicly but is open to those who know of its existence (so experts can join, or family members of students). Students are required to post some
assignments but no requirement for doing collaboration on-line has been made. Students sometimes carry out projects or join the Team21 Steering Committee and Computer Conference. A team approach guides planning and implementation for the project, including faculty and students, administrators, computer support personnel, and vendor support on Team21 (the Steering Committee) and with over 20 talks by administrators, faculty and students at local, national and international conferences in the past year. Faculty and students in a research group have been analyzing project data included in this presentation.

Discourse Communities: After four semesters of operation, the project has served eight classes, over 80 students, ranging from introductory classes (general education requirement) to upper-division and graduate courses in a major; in the fields of literature, linguistics, sociology and anthropology. Computer conferencing is an integral part of most classes, with all communication on-line and usually at home.

Access: Small classes have used "listserve" conferences, but we are developing use of a bulletin board for medium-sized classes. All students work on-line. All students have computer, modem and software at home, on loan if necessary, and at no cost to them. They vary in time available from full-time, non-working students to female heads of households with full-time jobs and childcare responsibilities. Financial support has been broad-based—from IUPUI and an IBM Joint Development Grant. We are currently working to find funding mechanisms that make it possible to expand and institutionalize the project, while maintaining equitable access.

ACCOMPLISHMENTS

Pedagogical philosophy (what is desirable) + computer access (what is possible) translates into intellectual benefits (what now exists).

Telecommunications provides the means to make the project possible, but the 21CCS philosophy defines what is desirable in the pedagogy. Students are seen as bringing assets of experience and commitment to the learning process, rather than deficits that must be filled up or compensated for. Initial analysis of data suggests the following benefits are achieved (with selections from one class in the Appendix as illustration):

1. On the bulletin board, students can put forth ideas that might seem digressions in class but that explore new ideas and personal experience leading not only to broader syntheses and intellectual coherence, but also to sharing diverse formulations of such syntheses (Shepherd). Students (and faculty) have the chance to modify or add to class discussion after additional thought; they can comment on assignments before class discussion, sometimes calling for clarification or help.

2. The teacher's requirement to post assignments on the bulletin board insures that all students will participate. Students have the opportunity to speak regardless of their quickness or lack of shyness, unlike class discussion. One minority student analyzed her own active participation on the conference compared to her quietness in class where she felt intimidated by students who were also teachers and/or highly articulate. Although she was a leader in initiating general discussion, she waited to post her assignments
until she saw what others had done (Floyd). Some students choose to keep a low profile. Requiring students to post assignments not only ensures everyone will be able to attend (and at their own chosen order), but also avoids alienation between frequent contributors and those who prefer to read only ("lurk").

3. The teacher establishes the Bulletin Board as a supportive place, like a coffeehouse of the airwaves. Pointed criticism or evaluation is almost completely absent from the Bulletin Board although it is conveyed in class, in comments on student papers and in private e-mail messages. Instead, the Bulletin Board contains messages of encouragement or suggested help. Intellectual friendship led to mutual help—with tenant problems (loss of heat and leaking ceilings), and with a puppy needing a home as well as sharing of books and information. (Beals' description of a national computer conference involving first-year teachers graduated from Harvard Graduate School of Education shows that participants in that setting also valued the supportive and knowledge-changing functions of the conference more than specific help or content.)

4. As the semester progresses, although the teacher remains a highly active and directive participant, students take on many of her initial functions as they become active, empowered learners—asking whether silent students need help and calling for participation, setting topics for classroom discussion, putting forth hypotheses, suggesting outside activities (attending a poetry workshop, attending a March on Hunger, recruiting disabled students into 21CCS classes). Although this directiveness is most apparent and earlier seen in advanced classes (Speckman), it happens to some extent even in lower-division classes. In contrast to class, interchange on the Bulletin Board is more student-centered and more student-directed than in-class interaction. In a 200-level literature class of 8 students, an analysis of locus of control comparing in-class discussion in 2 classes to contemporaneous computer-based discussion shows that students initiate almost three times as much on the conference as in class (Robertson). And statistics of conference use in a once-a-week 300-level sociolinguistics class (10 students) show that although the teacher wrote the greatest number of notes each month, she had the lowest number of lines per message in the group. Furthermore, the length of her messages went down steadily, from 9.4 lines/message in Sept. to 7.2 in October to 5.8 in November.

5. Intellectual coherence and depth develop when the class includes student experience outside the classroom and experts "join" the class from afar. Students and faculty naturally mentioned their life and concerns outside the class, sharing the birth of a first child, an engagement (with subsequent visit by the fiancé to class), illness and triumph. Family members joined in, with one student's sister corresponding with another student's son, and the boy's mother joining the discussion on Christian feminism at several points in the semester. In the graduate class on computers and writing, experts from Stanford University, the University of Minnesota and Purdue University (including the editor of our textbook) counseled students and joined the discussion. A class on using electronic mail in teaching writing, a short course for high-school teachers at the University of Edinburgh, asked for our help as respondents.

6. Faculty noted an increased involvement with their students and with each
other as they logged their reactions and counseled each other on a Team21 bulletin board for 21CCS staff. Faculty who got to know their students as whole people felt an increasing belief in the "asset" theory of education. Faculty built trust, often reversing the role of mentor and mentee between tenured and untenured faculty and with faculty nominating each other and students for awards and grants.

7. Students turn intellectual community into action as they work and learn with each other, with faculty and staff. Student input has been essential on Team21, on initiatives and suggestions to change the program (include disabled students, work on project participation beyond one semester), in staffing (program manager, computer consultants) and evaluating (program manager's study on videotape and research group as well as input on questionnaires).

8. Students become familiar with advanced technology useful in their academic disciplines and useful in employment. All students master electronic mail and word processing, with some students continuing as consultants. And computer availability in some classes allowed all students to do more realistic work in their major—collecting and processing data in Ethnographic Field Research (Anthro460), sharing data in Linguistics G310 and working with computer programs in Computers and Writing (English W510).

Where do we go from here? First, I'd like to do some analyses of our data replicating much of the methodology used in the Michigan Tech study. Although we do not have data about the use of pseudonyms, we have lower division classes and an upper-division class that was all women.

Second, we intend to continue developing a pedagogy useful to lower-division students, including distance education with peer mentors on-site in Summer of 1992, in connection with an Annenberg/CPB New Pathways Initiative grant.

Third, as we have improved our ability to deliver and support such study logistically and as we have developed and now document its effectiveness, we are also exploring partnerships with business, government, schools and the community to make the project self-sustaining, incrementally expandable and adoptable on other urban commuter campuses. We are moving to establish funding structures that will allow us to expand the number of classes in 21CCS and access to computers longitudinally for participants, guaranteeing equitable access. At this conference, we would especially like to contact others with similar projects to organize a request-for-a-proposal from computer companies to provide adequately configured machines at a lower price than currently available. It is time that we began to set the terms for equitable access for our students.
Works Cited


Speckman, Victoria. "Th Emergence of Peer Mentoring Phenomena in a Computer-
Appendix: Selections from a TCCS Bulletin Board

To give some idea of the interchange on a class electronic Bulletin Board in the 21st Century Citizen Scholars project, one strand that developed in a one-month period has been chosen for summary and presentation from the G310 class (Sociolinguistics). Each note is identified by the number of its appearance on the Board, its speaker (with a fictitious name), the day, date and time (by a 24-hour clock) of the message:

#138, GillianV, Sun, 30 Sep 90 12:10 EST
[At the end of a short note citing problems logging on, Gillian mentions an apparently irrelevant and transient piece of personal information:] Today I am going to try to make black bean soup for my husband - it is supposed to have curry flavor, I'll let you know how it tastes! See you all in class. GillianV

#139, SusanS (teacher), Sun, 30 Sep 14:24
[After explaining the logon problem, the teacher closes:] I think Gillian should bring us all black bean soup for dinner Wed. night [the time of the class!] SusanS

#140, ValB, Sun, 30 Sep 90 17:30
Gillian--We only want black bean soup if it ends up being good. ... ValB

[Discussion progresses to comments on different cultural variations of black bean soup from:
#142, SantinaM, Sun, 30 Sep 90 22:29 -- "a traditional Cuban dish, except that it is just called black beans and you eat it over a bed of white rice. They are delicious! I also had some Saturday night which my mother had made.... Santina

#143, Marty, Mon, 1 Oct 90 7:02
You know I just love this class and the opportunity to interact with different cultures. We call black bean soup. Black beans and rice, Or red beans and rice. Another name for curried rice is "dirty rice" because of its'grayish-green color.... Gillian you have guts. Santina, you are so interesting. Marty

#145, SusanS, Mon, 1 Oct 90 13:19
In Antigua "dirty rice" or seasoned rice is rice and beans, usually with chicken backs and necks. Cooked without rice, some kinds of beans are called "stew(ed) pea(s)". Red bean are often cooked with cow heel, which makes them very gluey. They taste much better than they sound! SusanS

#146, GillianV, Mon, 1 Oct 90 17:00 [reports soup is bland though husband ate it. Asks for recipe]

#147, SantinaM, Mon, 1 Oct 90 20:49 [says to soak overnight, use a pressure cooker, and gives tips about ingredients from mother's recipe.]

#148, GillianV, Mon, 1 Oct 90 21:56 [thanks for recipe]

#150, ValS, Mon, 1 Oct 90 23:58 [gives recipe for "fast and easy" red beans.] Hey, maybe we could write a cookbook--"The Linguistic Gourmet"--what do you think? Chow (so to speak) everyone!
#151, MartyF, Tue, 2 Oct 90 9:26 [Lack of soaking produces flatulence. Childhood poem included]

#152, MartyF, Tue, 2 Oct 90 9:31 [in response to #146, Marty code-switches to Black English from Standard English]: They's one thang white folk got ta learn. Yaw got ta add seasonin to ya cookin'! Save all ya bacon grease and add it to ya beans. Best thang in the worl. Marty

#155, SantinaM, Tue, 2 Oct 90 22:18 [response to #152]: Marty, your language is so interesting that I have started to save it under your own file.... You sure have a way with words....

#156, SusanS, Wed, 3 Oct 90 9:18
Gillian -- Can you believe what your simple comment about cooking dinner generated? Maybe Vicki is right—that we should start our own cookbook. By the way Marty, SOME white folks know something about seasoning! You’re talking to someone who grew up in a family where even popcorn was popped in bacon grease!...

#157, MartyF, Wed, 3 Oct 90 14:35 [response to #156 on bacon grease]

#158, MartyF, Wed, 3 Oct 90 14:37 [to #155]: Santina, I am privileged and flattered. Marty

#164, MartyF, Thu, 4 Oct 90 18:44 [asking for data on what class members call their mothers, Marty proclaims:] We will make this topic our linguistic recipe for the week....
[This use of the recipe idea as a motif results in responses with data from several students:

#166, SantinaM, Thu, 4 Oct 90 22:19 [called mother "mami"] --> #170, MartyF, Fri, 5 Oct 90 2:25: "tells me that you; are a traditionalist Latin American. I am proud to know you." --> #177, SantinaM, Fri, 5 Oct 90 22:48 [shares background leaving Cuba to "get away from Castro and his ideology" and mentions she doesn’t like "the word 'Hispanic'. It makes me think of the picture we often see of a lazy Mexican sleeping under a huge hat." --> #188, SusanS, Sat, 6 Oct 90 :26: "Santina--I'm not surprised that you dislike the term Hispanic, but I'm surprised at your reason! I think in many academic discussions, it's assumed that all Spanish-speaking Americans (or immigrants) have similar cultural backgrounds, which is far from the truth! Similarly, we tend to lump all Native Americans together...."

#177-->#195, MartyF, Sun, 7 Oct 90 12:51: "SANTINA, ... Some African Americans have a problem with the title 'Black, so I do empathize with your problem. I have a problem with the word Ghetto because it reminds me of a prison or concentration camp. Now that I think of it, that is what most of poor housing is--prison, because living in the projects can become one's personal hell. Marty" --> #232, AlineR, 6 Oct 90 23:23 [starts a new discussion on her dislike of the way the word "holocaust" is used]

#178, ValB, Fri, 55 Oct 90 23:34: "... Marty, I call my mom "Mom". Sorry but I'm boring middle class all the way. That's why all of you are so interesting to me. I've traveled a lot but it would be nice to see things from a different point of view occasionally.
#179, SusanS, Fri, 5 Oct 90 23:38 [asks what Marty's kids call her, adds data from her family and analysis of power relations with titles] --> #199, MartyF, Sun, 7 Oct 90 13:34 [tells what her kids call her]

#234, JillL, Tue, 9 Oct 90 23:44 [what she calls her mother and what she would like to be called if she had kids]

#193, BarbaraM, Sat, 6 Oct 90 16:41 [calls mother "mother"]

#168, AlineR, Thu, 4 Oct 90 23:32 [to stories and recipes, Aline adds a story about her step-grandfather bringing "Gumbu" spices from New Orleans to Champaign, IL]

#184, ValS, Sat, 6 Oct 90 :09 EST [In speculating on how Grice's laws of conversation relate to the examples students posted on the Bulletin Board, ValS uses the motif]: anybody want to wager a bean soup recipe on this to make it a little more exciting?...

[The motif of bean soup becomes a shared term and an appeal to solidarity and response in the group.]

#242, SantinaM, Sat 13 Oct 90 9:34: "What is this silence from everyone? Not even recipes this week! Hope everyone has a nice weekend! Santina [starts a conversation on pep rallies and different cultural responses]

#383, SantinaM, Mon, 22 Oct 90 18:17 "... I've read some pretty interesting e-mail this week. I also liked our recipe week, right Gillian? Santina" --> #396, GillianV, Mon, 22 Oct 90 22:04 [after a week in which ValB discusses linguistic problem she has with peers when she has temporary authority to discipline them and ValS starts a strand on mechanical voices, gender and power, Gillian responds:] Santina: You're right, recipe week was a great week. I don't know if I can intellectually keep up with the e-mail group this week! I'm afraid that I can't write my ideas so eloquently. Keep up the good work gang - it makes for wonderful reading material!! VickyS - would you give us a sample of one of your poems via e-mail? Copyright protected of course!"

[In the following weeks, poems follow from ValS, MartyF and ValB, plus appreciative, non-critical responses from other class members.]