Using A CSCL Tool to Support a Legislative Role-playing Simulation: Hopes, Fears, and Challenges

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Abstract: Educators are increasingly seeking opportunities to engage their students in active learning through authentic experiences. These authentic curricula, however, often require students to communicate with their peers to a degree that is difficult to achieve within the rigid structure of most schools. This paper addresses the hopes and fears of three teachers' experience integrating collaborative software to support approximately 370 students in their efforts to communicate and collaborate within the competitive context of a legislative role-playing simulation. Following a brief overview of the design, the paper address the teachers' fears, hopes, and remaining challenges.

Keywords: computer-mediated communication, discussion forum, situated learning

Introduction

Educators are increasingly seeking out opportunities to engage their students in active learning through authentic experiences. National educational standards for K-12 education in virtually every discipline call for students to participate in, and learn from, authentic experiences. These curricula, however, often require students to communicate with their peers to a degree that is difficult to achieve within the rigid structure of most schools. To overcome this obstacle, educators are increasingly looking to the use of CSCL tools to afford the communication between students their curricula require. In this paper, we present the experiences of three teachers as they spent the last year integrating a CSCL tool to support approximately 370 students in their efforts to communicate and collaborate within the competitive context of politics. Following a brief overview of the design, we describe their experiences from the past year, organized around their fears, hopes, and remaining challenges.

One way teachers attempt to overcome motivational obstacles is by providing their students with authentic experiences, often through role-playing activities that simulate the goals, tasks, and contexts of real-world practitioners (Brown, Duguid, & Collins, 1989; Brown and Campione, 1994; Lave, 1991). Eight years ago, Mr. Madison— a high school social studies teacher from the Chicago suburbs —became concerned about his students' apparent lack of interest, and awareness, when discussing political events in his American government classroom. Madison (a pseudonym) became concerned that his traditional approach to teaching government, with its emphasis on transmitting isolated facts and

processes, was contributing to his students' lack of interest in the subject of government and the topic of democracy.

To address these motivational concerns, Madison and his colleagues created a legislative role-playing simulation that places every senior in the role of state legislator for sixteen weeks. As Madison frequently comments, "I was tired of having my students read about government, I wanted them to become a government." During the past seven years, what began as a three week mock legislature conducted by one teacher in an isolated classroom has become a semester-long simulation conducted by three teachers, seven classrooms, and over 370 high school seniors (in two semesters). Over a sixteen week period, Madison and his colleagues guide approximately 185 students at a time through the legislative process modeled on Illinois' General Assembly. By joining a political party, writing legislation, forming committees, and simulating the House of Representatives in full session, students assume complete control of the simulation as the semester progresses. Madison and his colleagues believe that students participating in the Legislative Simulation engage in the decision-making processes that many educators and lawmakers claim are critical for the sustained health of a democratic society (Center for Civic Education, 1994; National Education Goals Panel, 1997).

The complexity of the legislative process can make the enactment of a legislative simulation difficult. To benefit from authenticity, a legislative simulation must give learners the opportunity to understand the structure of political organizations, the roles that different participants play in the political process, and the nature of decision-making in a democratic assembly. In order to authentically recreate participation in a democratic assembly, a legislative role-playing simulation must have enough participants to establish institutional structures, provide the assembly with a diversity of opinion, and furnish legislators with opportunities for consensus-building and forming political coalitions. During the first year of the simulation, Madison recognized that the learning environment he envisioned required his students to communicate in a manner that was not possible when the participants were split across the seven different class periods of his high school. Without a common time to meet as a legislative body, Madison and his colleagues needed a way to promote communication between their classes. This desire to promote communication led the teachers to the Collaboratory Notebook, an asynchronous collaboration environment that was installed at their request on thirty computers in the school's library.

The Collaboratory Notebook (referred to hereafter as simply the Notebook) is a networked, hypermedia collaboration environment designed as part of the Learning through Collaborative Visualization (CoVis) Project at Northwestern University (Edelson, O'Neill, 1994; Edelson, et al., 1995). Overcoming the constraints of time and space, the Notebook allows students to work on a common project without requiring a common time to work together. Built loosely on the metaphor of a library, the Notebook provides students with bookshelves, notebooks, and pages to record and organize their work. The Notebook's structure was designed to encourage students to share their thoughts directly with a larger audience of their peers, teachers, and experts in the field. After experimenting with the software for three weeks during a pilot test conducted in the

Spring of 1998, Madison and his colleagues decided to use the Notebook to support students during the entire sixteen weeks of the simulation in both semesters of the 1998-99 school year.

During the four phases of the simulation, students use the Notebook in the following ways:
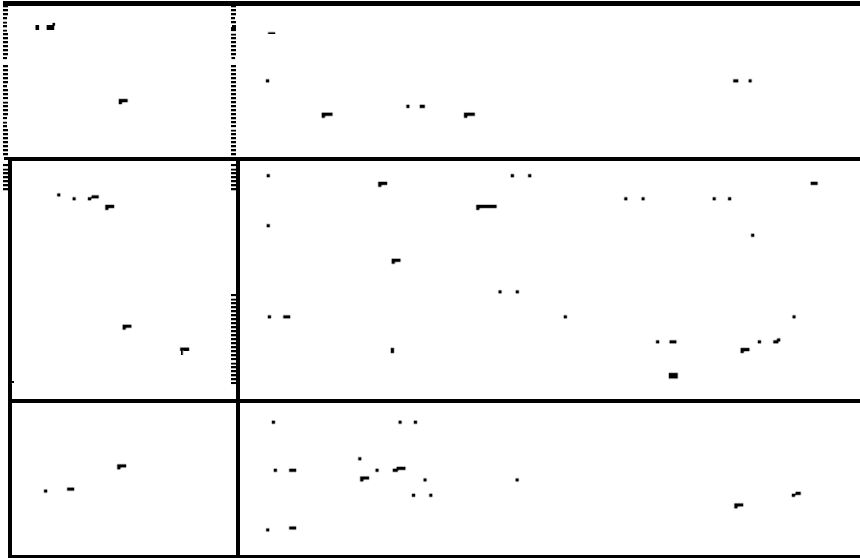
The teachers' fears: Student's won't use the Notebook

Initially, the teachers were concerned that even if every student learned how to use the Notebook, they may not really want to. Having never used CSCL tools to support a role-playing simulation, they really weren't sure what to expect. Maybe the students would be uninterested in using the Notebook to communicate their opinions. Maybe the students would be intimidated by the public nature of the Notebook— inhibited by the prospect of addressing an audience of nearly 200 hundred other students. Maybe the task of writing pages to a largely anonymous audience in a virtual notebook wouldn't make sense—what would be the point?

After a year of use, the teachers' fears appear to be unfounded. Students' use of the Notebook has been extensive. Over the course of two semesters —371 students have created approximately 8000 pages, in over 250 notebooks. Students found the Notebook so useful that all 17 students interviewed to obtain feedback on the use of the Notebook requested more class time to read and write comments in the Notebook. Many even requested a version of the Notebook that could be used from home during their "free-time". To further illustrate the point, the teachers are currently wrestling with the dilemma of how to protect students' passwords because a number of stolen passwords were used in what Madison called "Watergate-style" break-ins. The teachers discovered that students were stealing passwords to read speeches from members of the opposing party before they were given in the full session. It should be noted that nothing in these

bookshelves was vandalized (pages altered or deleted); as Madison commented, the thieves apparently "just wanted to know what the other side was going to say."

To understand the value that the students saw in the Notebook, we conducted a series of interviews with 17 students immediately following the conclusion of the simulation. Four trends emerged in their responses. Students have been using the Notebook to: (1) express their views and see what other students are thinking, (2) communicate directly with students outside of their class, (3) coordinate personal responsibilities and schedules, and (4) use other students' comments to revise individual speeches before speaking publicly.

Sharing personal beliefs

A common sentiment was expressed throughout each of the student interviews: students want to see what other students are thinking. For example, two students said:

> Jessica: "We're shy, and we don't like to talk in front of the class, but this way [the simulation] you get a chance more to know what other people think. And like, you get a chance to be there. To feel you're important. Yeah... like, you get a chance to be important."

> Maria: "Basically we had the power to change people's minds. We had the power to ask people what they thought. We had a chance to hear everybody."

When we looked at student contributions in the Notebook, it was clear that students perceived the Notebook's value as a way to exchange personal beliefs. For example, a thread from a discussion to lower the drinking age:

> I think alcohol should be made completely illegal for all ages. There is nothing positive that can come from the consumption of alcohol. If you can't find other ways to have a good time then you've got a real problem.

> As for those of you who argue that you just like the taste, I'm sure there is something else that tastes just as good that won't rot your liver, completely impair you, kill you. Maybe you'd see it my way if you had some one close to you die from drinking too much or if you had seen the aftermath of a drink driving accident that killed a three year old little girl. Just think about it.

Another student then responded:

> I'm sorry to say, but the person who wrote this bill had not thought about what they were saying. Alcohol abuse can be the most horrible thing to happen to a person or a family. When most alcoholics drink it changes the person they are, speech becomes slurred and they say things that normally wouldn't come out. I beg all of you who think drinking is cool to do all the

time—stop. For your future and for those who care about you.
THINK ABOUT IT!!!!!!!!!!

A third student then enters the dialogue, adding another comment to the thread:

> I fully agree with Representative_____. If you haven't gotten a chance
> to, you should read his page. Alcohol has absolutely no benefits. My dad
> was a closet drunk, and my mom got hit by a drunk driver. She almost
> became a quadrapalegic, and almost died. There is no way that anyone is
> going to convince me to let a two year old have Jack Daniels in his bottle
> instead of milk. That is just wrong.

With the introduction of the Notebook, students have the means to share personal beliefs
about issues they find meaningful. The Notebook provides students with a forum to
articulate and share their opinions, exchanging personal stories they find relevant to their
lives as high school students. As one student concluded during her interview:

> "You can express yourself. I mean, there are some people who made
> inappropriate comments, but… you're expressing yourself. There's
> nothing holding you back. And I think that's very important— especially
> for teenagers. They feel like their rights are being violated, and for them to
> express themselves— that's the most important thing, you know."

Communicate with students from other classes

A second theme emerged during student interviews: students perceive the Notebook's
value as a means to communicate with students outside of their class. Teachers have
historically voiced their expectation that students should communicate with students
outside of their class to work on the simulation. Based on student interviews, it appears
the Notebook is making communicating with students from other classes easier. For
example, when asked about his opinion of the Notebook, one student commented:

> "It brings the discussion outside of your class. You're not just confined to
> the students in your class, but the other four or five government classes….
> You didn't have the bigshots like always in your class. The Republican
> Floor Leader wasn't in my class. If I needed her, you know, I needed to
> either use the Notebook… or like, write a letter. So…"

This student articulated his perception that the Notebook allowed him to communicate
with students from other classes—an audience seven times larger than a traditional
classroom setting. An excerpt from a discussion between a candidate for Speaker of the
House (Natalie) and a member of her party (Kathy) provides another illustration of how
using the Notebook was perceived to be a valuable way to communicate with students
from other classes:

> Natalie—

I was just wondering about the time factor. I know you have a really busy job and you work a lot, are you going to be able to still commit to the role of Speaker?

In spite of that, I want you to know I am leaning more towards voting for you than Tony… Oh yeah, are you playing soccer? If so where does this all fit into your schedule? This is just important because I've heard that the simulation runs greatly on the knowledge of the Speaker on everything, basically. I would just feel badly for you if you got too busy—I know that life can get hectic when you have millions of things to do. Just something to think about!!!   — Kathy

Natalie's response, linked to Kathy's page, written later that afternoon:

Katie I totally understand where you are coming from. No I'm not playing soccer this year. I am fully aware of the time commitment speaker of the house takes. I am willing to cut my hours down. It wouldn't hurt me because I work more than I need to. I do understand where you are coming from and appreciate the questions.

-- Natalie

Kathy's response written the next day:

Natalie—Thanks, I understand! You can count on my vote!! — Kathy

In the context of this paper, we are unable to address whether Natalie's response persuaded—or at the very least reassured –Kathy. For the same reason, we are also unable to speak to the effect this dialogue may have had on other participants in the simulation. For now, we simply would like to demonstrate that students perceived the Notebook to be a valuable way to respond directly to questions raised by their peers.

Coordinate personal responsibilities and schedules

As stated earlier, in order to authentically recreate the activities and responsibilities of a state legislator, students must work collaboratively to accomplish their goals within the competitive context of politics. Based on our analysis of the students' pages, it appears the Notebook is making coordinating these legislative responsibilities easier. For example, a page from the Republican Leadership Bookshelf:

Hey Dave, when are we going to have our next meeting? People are bugging me about this amendment. Ashley can't make Friday but we need one tomorrow. Lisa is getting pissed too. Let me know, Denise

Prior to the introduction of the Notebook, students taking government a different hour had an extremely difficult time accomplishing even the most straightforward tasks—like

scheduling a meeting. A thread from the Rules Committee Bookshelf provides an example of how students perceived the Notebook's value in coordinating an approaching deadline:

> I feel that the students who were absent yesterday should be given until 3:30 TODAY, because we need to know to form the committees this weekend!! -- Amy

Later that morning, another member of the Rules committee responded:

> Someone has to announce it. We have to give everyone a chance who wasn't here yesterday but is today. Make sure they know!! –Mark

The next hour, a third member of the committee replied:

> I agree with you Amy—we need to form the committees this weekend and therefore I figure we should end it tonight.—Dave

As stated earlier, the Notebook provides students with the opportunity to communicate across the seven-period day. In addition, it appears students also perceive the Notebook to be a valuable tool for coordinating personal schedules and responsibilities—tasks ranging from the mundane (as in the first example) to the apparently urgent (as in the second).

Prepare public speeches

Finally, students interviewed recognized the Notebook's value in preparing public speeches. Unlike the previous three uses, this use was not spontaneous—teachers required that every student write at least one speech and post it in their party's Speech Preparation Notebook. The teachers implemented this requirement based on their hope that— given an opportunity to incorporate feedback from other students— the quality of speeches given during the students' actual face-to-face interactions would improve.

Even though this use of the Notebook was required, the students who were interviewed recognized the value of the Notebook in preparing their speeches. For example, one student commented:

> "When the people would write speeches, sometimes it would make me change my mind or actually be stronger what I was thinking about a certain bill."

A thread from the Republican Speech Preparation Bookshelf provides an example of how students used the Notebook to prepare their speeches. One student submitted the following speech opposing affirmative action:

I firmly believe that affirmative action creates more problems than it solves. Sure it helps discrimination, but more qualified people are out of a job because some minority group person wants a job. Don't think of me as some racist bigot, I just don't think affirmative action works at all.-- Larry

The Republican Floor Leader then provided Larry with the following feedback:

Larry, I would like to ask you to please find some statistics or stories and you would be a great candidate to speak on behalf of ending affirmative action.

PS. If you are willing to speak on this behalf please contact myself or Rob

The next week, Larry delivered his speech to nearly 250 people during the full session. While the context of this paper limits our ability to discuss the impact of peer feedback, the teachers believe students' use of the Notebook to prepare for the committee hearing and full sessions has improved the quality of the simulation. During student interviews, one student commented explicitly on the perceived advantage of using the Notebook to incorporate peer feedback. He responded:

"I think the Collaboratory Notebook really helped us interact with other classes... because we'd be able to put our bill on the Notebook, and then people would make comments. And whether they were good or bad, it always helped us. It helped us, like, perfect our argument, our statements.

And when we went to Full Session or Committee, we knew what the arguments were— we knew what the statements they were going to say about the bill. And we could just— sometimes people wouldn't understand the benefits of our bill, just seeing the negatives. We tried, you know, to say, 'Hey! This is what's going to happen. Listen!' We were ready for a lot of questions because of that."

Based on his report, the student— along with three fellow bill sponsors —used the Notebook to accomplish the following tasks: they (1) saw what other people thought about their bill (collecting and analyzing data), (2) refined their comments in response to other's views (reflecting on and revising arguments), and (3) attempted to persuade their opponents to change their minds (debating and building consensus). In short, these students used the Notebook to practice the skills needed to participate effectively in the democratic process.

The teachers' hopes: The Notebook will increase the authenticity and overall participation of students in the Legislative Simulation

If the students used the Notebook in the manner in which the teachers envisioned— across each of the seven classes —the teachers hoped to overcome what had always been considered the simulation's greatest obstacle— the seven-period day. The teachers hoped

the Notebook would finally allow their students to communicate directly to one another, authentically recreating the social dynamics of a functioning legislature. The teachers also hoped the private nature of the Notebook would increase the participation of students who had historically been too intimidated to speak publicly—specifically students from the high school's significant Latino (26%) and special education (15%) population.

Even though students assume the role of state legislator for an entire semester, they have historically been unable to participate in the legislative process authentically. Before the introduction of the Notebook, students had only three days to communicate directly with students in other classes— three days out of sixteen weeks in which they could function collectively as a legislative assembly. Because of the limited opportunities for face-to-face interaction, bill sponsors were unable to lobby representatives for critically important votes. Party leaders were unable to communicate with "rank-and-file" members to coordinate strategy. Committee members were unable to discuss upcoming bills with other committee members before the day of the hearing. In other words, the rigid structure of the school day presented a real obstacle to authenticity for the simulation.

To overcome this obstacle, the teachers hoped students would use the Notebook, as Madison stated, "to communicate directly with their peers". The teachers were especially interested to see if students would take advantage of the Notebook's threaded discussions, linking their comments "directly" to pages written by other students, facilitating what they hoped would be the beginning of a meaningful dialogue. An example of a student dialogue that could not have taken place prior to the introduction of the Notebook can be found in the Election bookshelf.

For six of the simulation's seven years, students have never been able to campaign for office in any realistic sense. Prior to the Notebook, students campaigned for office by asking students in their classes to sign a petition that— given enough signatures —would place their names on the ballot. Once a student's name was placed on the ballot, the candidates frequently created posters and hung them around the school for two days prior to the election. With the introduction of the Notebook, however, the candidates have a means to communicate (and for the first time, a reason to actually create) a platform. In Madison's words, the Notebook allows the election process to move "beyond the slogans and sound-bites" which previously had to be confined to the space of a poster board. A few pages from the Speaker of the House Election Notebook illustrates how the Notebook was used by students to campaign for office:

> All democrats should vote for Natalie if they want a fair shot during the simulation. Tony is a republican dressed in democratic clothing. If all of the democrats really believe in their issues, they should do their part and vote. I signed Natalie's petition and I WILL vote for her on friday. As should the rest of the people. NATALIE GOOD, TONY BAD! — Eric

In her first contribution to this discussion, another student replied:

I beleive myself to be a friend of Mr.__ [Eric]__ and I beleive in his right to make an opinion as well. I am not saying that I do not agree with his opinion, however, I beleive that his reaction may be slight mudslinging. I think that both Natalie and Tony are well suited to be Speaker. Let's keep this campaign clean. Neither are bad. — Lisa

The next morning, the candidate in question emerges, creating another link to Eric's page in the thread:

Dear Eric,

I am distressed by your remarks, and think you have misjudged my character. I have tried in everything to be honest and forward. I think Ms. __ [Natalie] has done the same, and both campaigns have been very clean. I would like to thank her for that, and also say there aren't any bad guys (or girls). We are, or should be, working towards the same ends. I hope we agree on at least this.

Sincerely, Rep.___[Tony] ___

The thread (although not the discussion) concludes with Eric replying to Tony later that afternoon:

Sorry Tony, but I feel Natalie needs some help. I didn't mean to say that you are a bad person, just that if a democrat voted for you, that would be bad. I also feel the republican vibes that radiate off you and that could be threatening to Natalie's campaign. Again, I am sorry if you mistook my words, I should have been more thorough in my words.   —Eric

This dialogue, taking advantage of the Notebook's ability to communicate across class periods, was not possible in previous years. Students used the Notebook as an open-forum to argue, question, persuade, criticize, apologize, respond to allegations, even publicly declare their allegiance— all in the name of campaigning for political office. Without the Notebook, Eric (who has government 2nd hour) and Tony (who takes government with another teacher, 3rd hour) and Lisa (who has government during the final hour of the day) would historically have been unable to communicate. While Madison and his colleagues have consistently encouraged their students to meet before and after school to participate in this kind of discussion, the vast majority of students legitimately claimed they never had time to meet— frequently pointing to extensive extra-curricular and after-school responsibilities, or reasons as straightforward as having to "catch the bus".

While Madison and his colleagues are encouraged by these examples of Notebook use, they are also hoping the Notebook will increase the overall participation of students in the Legislative Simulation, especially students who have traditionally been perceived as being particularly passive. Because public speaking is at the heart of our legislative

process, Madison and his colleagues require their students to speak in front of the full assembly—an audience of nearly 250 people. Madison acknowledged that many of the students (approximately a third of the participants) have historically lacked the confidence to volunteer. However Madison and his colleagues hoped the Notebook could be used to build student's confidence before they had to actually take the risk and make a public speech in front of a large, and often antagonistic, audience. They hoped using the Notebook to express personal opinions, receive feedback, and revise comments would provide students with the additional preparation needed to encourage participation. While the teachers suspect this has been the case, as you will see in the next section, student participation and engagement are variables that are extremely difficult for the teachers to capture and assess.

Remaining Challenges: Time and Assessment

While many of the teachers' fears have proven to be unfounded, and some of their hopes have even been exceeded, they recognize that many challenges remain. During a recent workshop— when asked about the greatest obstacle in teaching the simulation —each of the teachers commented on the stress of "never [having] enough time to do everything we need to do". As stated earlier, this is the same complaint that students voice most consistently when asked what they would do to improve the simulation: their answers— more time for research, more time to write bills, more time to read pages in the Notebook, more time to prepare speeches for the full session.

While the Notebook has promoted communication among the seven classes, it has also increased the responsibilities and, consequently, the demands on their time for both students and teachers. As two students explained:

> Jessica: "I think it [the Notebook] was a good thing. You get a chance to know what other people think. And then you have a chance to write your speech based on an answer to them of what you think. You get a chance to know more of what you wanted to know— sometimes they have information that you didn't know. So that is very helpful—
>
> Maria: —or sometimes you read the other speeches from other people, and you get an idea—
>
> Jessica: —about how to write it and stuff like that. Basically what I didn't like about it is that— basically, we didn't have a lot of time to go through all... the answers and like the pages that in the Collaboratory Notebook."

On the one hand, this comment gives the teachers every reason to feel optimistic— students are reportedly using the Notebook to acquire, incorporate, and structure information. On the other, the students complained that they did not have enough time (class or otherwise) to take advantage of the Notebook as a resource as much as they would have liked.

The teachers expressed similar concerns about lack of time to use the Notebook. Initially, the teachers wanted to use the Notebook to monitor students' discussions, helping them identify "what issues are hot— what issues the students are talking about." In practice, they found they didn't have the time to monitor the rapidly growing Notebook discussions. For example, when the students were first introduced to the Notebook, 186 students created approximately 900 pages in 12 notebooks over the course of two days in just fourteen class periods. The teachers felt they simply "couldn't keep up" with students' participation in the Notebook. This poses a recurring dilemma for the teachers: how do you keep up with the volume of student pages—and should you even try? For in the end, the teachers recognize that the students are writing their pages to be read and evaluated by their peers. As long as the students—the active participants in the simulation—have an opportunity to read the pages in the Notebook, the teachers are unsure of how important it is that they, as passive observers, monitor in detail students' participation.

The second challenge that teachers remarked on was assessing students' work in the Collaboratory Notebook. One of the things that initially appealed to the teachers about the Notebook was the opportunity to assess students' work in the simulation based on their contributions to the Notebook. As stated earlier, ideally the teachers hoped to capture the participation of students who may not have participated in discussions prior to the introduction of the Notebook— especially students from the school's significant bilingual and special education population. However, once students began frequently using the Notebook, the teachers discovered that assessing work in the Notebook was more difficult than they expected. This challenge was discussed during a workshop, in which the researcher, teachers, and department chair were analyzing the following thread extracted from a Notebook discussion on strengthening immigration requirements:

> **** I understand that it is hard to adjust to moving to a new country, but it must be realized that it is that person's choice to do so, and therefore it must be their own difficulty to deal with, they must learn to adapt themselves. We shouldn't be the ones to have to adapt. **** — John

> I don't know how you could say that people should have requirements to get into the country. First of all not everybody has a job and can hold it!!!! Some people don't speak the English language and a lot of people don't understand the American culture!!!   — Alex

> how you expect some body from another country to meet the requirements is like you going to a nother country think a bout it..........   — Miguel

> I can't possibly understnad or even try to understand the difficulty facing people trying to enter a new country. A few people were mentioning putting some restrictions on immigration. I do believe immigrants entering the US should be able to communicate in the English language. Why? do you think it's fair for police officers or other Government employies. How

about if a cop pulls over somebody who doesn't speak English. The cop shoudln't have to learn every language. ... Just think about it? — Scott

The researcher began the discussion by asking the teachers, given enough time, how would they assess students' pages in the Notebook? One teacher began by commenting on the dilemma of deciding "what level" to evaluate Notebook pages. For example, should Miguel's page be graded poorly because of the grammar ? At first glance, another teacher quickly commented, "I'd give it a D". But then a third teacher mentioned that Scott seemed to address what Miguel had said in the next page. The department chair then stated he thought Miguel's comment seemed very relevant, even if it was only very brief and had grammatical errors. Recognizing the last name, the third teacher quickly added that Miguel was her student, and was pleased because Miguel was a bilingual student who "never said a word" in class. In fact, this was the second time Miguel was taking government; he had failed the first semester. In light of all of these unanswered questions, how or even should the teachers assess students' contributions to the Notebook? This is the one of the dilemmas the teachers continue to face.

Conclusion

Despite the remaining questions, Madison believes the Notebook has "enhanced the students experience in the simulation." We are extremely interested in understanding the contributions the Collaboratory Notebook makes in supporting large-scale role-playing simulations like the Legislative Simulation, and examining how our findings can be extended to the use of CSCL tools in other settings.

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