

Children and Elders Sharing Stories: Lessons from Two Online Oral History Projects

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Abstract: Oral history projects provide a way for students to learn history by engaging with elders sharing stories relevant to their experience. However, these kinds of projects require a large amount of effort to undertake. We believe computing technology can help. Here, we examine the role of existing technology in allowing kids and elders to share historical stories. We present the results of two pilot studies. Lessons learned for CSCL system design and classroom implementation are presented, along with future directions.

Keywords: online community, children, elders, senior citizens, history, language arts

Introduction

Educational innovations such as the Foxfire project [10] have shown that students learn history especially well when they are engaged with elders¹ telling historical stories relevant to their experience. Kids engaged in oral history projects are able to explore parts of history they find personally important and, instead of reading dry text in a book [4], hear stories told by real people who lived through the events.

However, organizing such projects takes time and teachers are already overwhelmed with work. Oral history projects in particular require a great deal of effort to run. Training students in interviewing techniques, finding people to be interviewed, scheduling interviews, and analyzing results are all time consuming.

We are building a constructionist [6] online community that supports kids interviewing elders on the Internet to build up a shared database of oral history. Like CSILE [8], we are working to create a knowledge building community for students. In order to design a system to support history collection online, we chose to first investigate the ability of existing technology to support this process. Here, we present the results of two pilot studies that explore the use of existing technology in kid-elder discourse in the classroom. The first small-scale pilot study involves students sharing stories with World War II veterans. The second pilot study looks at students exploring the history of the Civil Rights years. Through these studies, we have applied the process of iterative design. Experiences in the initial pilot study effected how the second was run,

¹ We use the term elder instead of senior citizen because (1) some of our participants are a bit younger than those typically considered seniors and (2) most of the older folks prefer the term.

and experiences in the second pilot study will effect how our software is ultimately designed.

Related Work

Several projects have explored connecting kids with adults online. Most similar to our work is the CoVis Mentor database [5], which explores connecting students with mentor scientists who give them e-mail advice about school science projects. The Kids as Global Scientists project [9] creates a community of students exploring atmospheric phenomina. As part of the project, kids sometimes consult online specialists in the particular phenomenon they choose to focus on.

The Role of Computing Technology

Just a few miles South of Georgia Tech is a richly historical community called Sweet Auburn (<http://www.sweetauburn.com/>) which, in the 1920's through 40's, was known as "the richest Black street in the world." It is the home of the Martin Luther King, Jr. birth home, the King burial site, and the Ebenezer Baptist Church where he preached, among many other sites. Also within Sweet Auburn is a middle school and within that middle school an exceptionally talented and dedicated teacher named Andrea (all names in this paper have been changed). In 1997, this teacher did a project called "Neighborhood Celebration," which aimed to get her 8th grade students engaged with the rich history that surrounds them. She took the students to visit numerous historical sites and had a variety of local historians visit her classroom. Kids also built a scale model of their neighborhood and used it to tell the neighborhood's rich history.

Neighborhood Celebration was quite ambitious, and a lot of work. In an interview, Andrea stated: "It was way too much work for me at the time and I didn't have nearly the load then that I do now." If it is hard even for a great teacher in a richly historical neighborhood to do this kind of project, how can we make it possible for an average teacher in an average neighborhood?

We believe computing technology can help in two ways:

1. Bringing the stories of many elders from around the country and the globe to students. Students will be able to hear history from people who have actually lived it.
2. Reducing the load on teachers. Teachers will not have to organize visits from outsiders or field trips. In addition, elders can potentially save teachers time by answering students' questions. Mentors in the CoVis Mentor Database [5] served a similar role.

In these pilot studies, we are looking at the degree to which existing technology supports the former. Lessons learned there will aid us in designing a CSCL system that reduces the amount of effort needed from teachers to do such a project.

World War II Pilot Study

At the end of the 1997-1998 school year, we did an informal small-scale pilot study, with kids exploring World War II (WWII) history. This pilot study took place in the aforementioned Atlanta middle school, in Andrea's 8th grade classroom. Fourteen students participated along with two elders in this week-long project.

The class was studying the play, "The Diary of Anne Frank," as part of their standard curriculum.

We found two WWII veterans online and willing to share their stories. The class was broken into two groups and each group brainstormed questions based on their readings. Questions ranged from “How old were you in World War II?” to “Were you scared?” to “Did you help free any concentration camps?”

Elders each took the time to write an average of one paragraph per question, detailing their experiences in the war, and explaining the difficulties and joys of the time. One example follows:

Students: Did you know anyone in the concentration camp? How did it make you feel?

Veteran 1: I lost 27 relatives in the Holocaust, a grandfather, many uncles, aunts, and cousins. They were sent to Auschwitz, sometime in June 1944. In 1935, when I was 10 years old, I visited these relatives with my parents and sister in Czechoslovakia (now Ukraine). All these years later I had a remembrance of these relatives. Needless to say our family felt the tragic effects of this news for these many years later.

In addition to text, one veteran provided numerous artifacts of his experience. He e-mailed photos of himself in combat situations, newspaper and magazine articles that helped illustrate his stories, and even a political cartoon.

Andrea spent a day in class reviewing the answers the elders had provided with her students. Students were excited to have actual veterans answer their questions and had an extensive discussion about them.

Through this pilot, we began to understand the feasibility of our concept and the potential benefit to both kids and elders. We also found that it serves a real need for the elders participating – the need to pass down their stories and lessons learned to kids. One elder commented: “Incidentally, today is my 73rd Birthday and I feel great knowing I’m doing this for the newer generation!!!” It seems clear that the Internet can play a critical role in connecting students with elders who have stories to tell.

With the help of the Andrea, we developed an interaction model that supports kid-elder dialog. This model provides a way for teachers to create a program that combines history, language arts, and technology while firmly grounding it in the existing curriculum:

1. Background – students read literature as part of the standard curriculum
2. Brainstorming – kids brainstorm questions based on their reading & send them to elders
3. Elders Reply – elders respond with answers, stories, photos, cartoons
4. Going Deeper – students ask deeper questions based on the replies (repeat from step 3 as needed)
5. Artifacts – students build artifacts based on their interaction with elders

In this initial pilot, we planned to have the students send multiple messages and build artifacts to show what they learned. We were unable to attain these goals due to time constraints, but this gave us a starting point for our second pilot.

Civil Rights Pilot Study

In the 1998-1999 schoolyear, we continued our work within the same inner-city Atlanta middle school. We chose to do an expanded version of the prior project exploring the history of the Civil Rights years. This time, we teamed with a 6th grade teacher named Michelle. Her class had 24 students, and they exchanged messages with 10 elders.

Initial Work

Work for this pilot study began in September 1998. Our initial focus was on having kids interact with neighborhood elders online and through one face-to-face visit. Teachers are overwhelmed with work, so allowing students access to the stories of their neighborhood without requiring teachers to handle the logistics of multiple class visits appeared the correct direction. To this end, we made contact with a nearby housing project for the elderly and set up a computer center there. We solicited participation from over 20 elders in residence and began training them to use e-mail.

Over time, patterns emerged in the elders' behavior. First and foremost, they are retired and simply operate at a different pace than perhaps younger folks are accustomed. Meetings take time to arrange, phone calls may take a week to return, and training sessions are sometimes difficult to coordinate. Also, several of the elders we were working with got sick and could not participate. In short, planning with the elders requires a great deal of flexibility and understanding.

After a month of training, five of the original 20 elders seemed like they would be available for the entire program. Since then, two of them became too sick to participate and one became unreliable, so we were left with two local elders.

We decided to recruit the remaining elders from the Internet. Since this pilot was focused around civil rights, we sent a posting to a mailing list called "Black Geeks Online" (<http://www.blackgeeks.net/>) and, within seven days, we received e-mail from more than 100 older African-Americans who were ready to share their stories. Over 70 of those respondents filled out our profile form and are now included in our growing database of online elders.

Even though there are great resources in the local community, harnessing those resources requires a large amount of effort. The power of the Internet lies in its ability to bring kids and people with real historical stories to tell together easily.

Finally, we spent a large amount of time working with the teacher to help develop the curriculum and chose to cover portions of the "Justice for All" unit in their textbook: "Elements of Literature" [7]. Students were given the assignment to create an artifact exploring a particular topic having to do with the civil rights era. Some examples are racism, Martin Luther King, Jr., civil rights, and the Black Panthers. Artifact suggestions included a report, a letter, and a poster.

Methodology

Through this experiment, we aimed to understand the impact of online child-elder discourse. Can kids and elders have meaningful discourse online? What is the educational impact of such discourse? In what ways does existing technology help and/or hinder the discussion?

We used an experimental/comparison class design. Michelle was teaching two 6th grade Language

Arts classes. Both classes spent 30 minutes of class learning the same material through a standard lesson. For the remaining 20 minutes, the experimental class worked on exchanging e-mail with elders while the comparison class continued their in-class work or did research in the library.

We administered an attitudinal inventory to both classes prior to the study and after it was completed. The inventories asked students to rate 93 statements about history, language arts, elders, technology, and art on a 5-point Likert scale. We interviewed 5 students in each class before and after the project to further assess their feelings towards history and elders. We also observed many of the classes.

PORTION OF CLASS	EXPERIMENTAL	COMPARISON
First 30 minutes of class	Standard lesson	Standard lesson
Final 20 minutes of class	E-mail work	Library research

Table 1: Time usage in a 50-minute class period.

The Study

The pilot study took place during the final three weeks of April 1999. We selected 10 elders from our database, with ages ranging from 49 to 90 (average age of 60). Students operated in groups of two (10 groups total) due to the limited time in each class and the limited number of computers (3 total). Each kid got their own e-mail account and each group was assigned an elder. Each two-kid group, their elder, and a researcher were placed on a mailing list and all discourse was sent to the mailing list to assure all participants got copies of each message sent. A similar model was used in the CoVis Mentor Database [5].

In the first week, one of the researchers gave a whole-class introduction to Yahoo Mail (<http://mail.yahoo.com/>), our e-mail provider. For the remaining time, the researchers aided the students in sending e-mail, and printed copies of responses for them. All other instruction was left to the teacher.

In order to allow as many students as possible to use the computers, we had each group work together and write their questions on paper. When time came for them to use the computer, one of the group members would come over to the computer and send the message. When responses arrived, we printed them out and gave them to the students. Similar strategies were used in technology-poor classrooms participating in Kids as Global Scientists [3].

The project was fraught with interruptions. Due to these delays, we hoped to extend the project. However, for administrative reasons, an extension was not possible.

When Michelle used e-mail in class, she would start by discussing literature. Then, she would use text from e-mail messages to illustrate her points. For example, the students were reading a story called “The Gold Cadillac” in their texbook [7]. Set in the 1950’s, the story tells of a African-American family in the North that bought an expensive car and travelled to the South to visit relatives. They were not greeted warmly by Southern whites. They were harassed in towns along the way, and ultimately pulled over by police and the father interrogated. One of the elders wrote of a similar encounter:

When I was 11 years old in 1959, we took a family trip to New Orleans to see my cousin graduate from Dillard University. On that trip, we were forced to used the colored

bathroom and stay at the colored hotels in New Orleans and along the way in Mississippi. As I child, I noticed the inferiority of the accommodations. My brother and I started to complain loudly. My mother had to tell us to shut up because we would have gotten in trouble. We didn't know any better because that wasn't our reality.

Michelle used this story to show that even though they are reading fictional stories in class, real people lived through very similar experiences.

All in all, it took the elders an average of 2.39 days to respond, with a minimum of a few hours and a maximum of seven days. One elder never responded, but we recruited another to take his place. Quick e-mail turnaround is important – if we want kids to have one e-mail exchange per week, elders need to respond within three days. This gives kids two days to think about the response and formulate follow-up questions. Six of the groups sent two messages to their elder while the remaining four sent one.

Results

In the e-mail exchanges, kids posed questions quite similar to those found in the World War II pilot study. Questions ranged from the personal (“What kind of food did you eat?”), to civil rights related (“Have you ever been involved in a civil rights protest?”), to unclear (“Did you use to go to bloody Sundays?”). Elders never balked at any of the questions. When questions were unclear, they asked for clarification: “I do not understand your 3rd question. Send it again after you edit it,” said one. We classified the types of questions students asked into seven categories (see Table 2).

When writing follow-up questions, students always took into account what was said in the elder’s response. In addition, many elders would leave openings for kids to push further on a topic. For example, one elder responded with “I have met...Malcolm X, whom I do not consider a civil rights leader.” The kid followed up with the obvious question: “Why don’t you consider Malcolm X a civil rights leader?” Michelle scaffolded follow-up questions by giving numerous examples before students got started and giving one-on-one help while they were writing.

Elders’ answering styles varied greatly. Some would reply with just a sentence and others wrote much more (our longest message was 11 pages), but the average was a short paragraph for each answer.

Kids created artifacts on a variety of topics, from racism to slavery to specific figures from the civil rights movement. The majority of the projects in both classes were posters. We found no discernable difference in quality between the artifacts created by students in the experimental and comparison classes. Grades showed students performing similarly to how they had in the past.

Interviews revealed some of the impact of e-mail. Katherine received the longest reply of all the students. “I sent 3 questions,” she said in a post-interview, “and she sent back like 7 pages of

QUESTION TOPIC	PERCENTAGE OF TOTAL QUESTIONS
Civil rights	31%
Racism	28%
Personal	18%
Segregation	8%
Slavery	8%
Black Panthers	5%
Unclear	2%

Table 2: Percentage of questions students asked, by question topic.

stuff and I was like whoa! ... I was surprised. I thought she knew some stuff, but not a lot of stuff.” In her poster, she made extensive use of the elder’s messages to back up her statements about civil rights.

Terra, on the other hand, did her project on racism. In her interview, she spoke about her e-mail interaction: “We used the computer, which was e-mail project. [sic] We asked a question about racism and we used what he thought racism was about in our project.” When asked about the answers she got back, she responded “It was great!” The e-mail responses may well have started her thinking, but their impact on her poster itself was not clear.

Other interviews with students in the experimental group revealed a variety of reasons for not finding e-mail helpful. Reasons included not returning the permission slip, being out of class and not getting their printout, and changing their topic.

Statistical analyses of attitudinal inventories found no significant difference between pre and post attitudes for either the experimental or comparison class.

Discussion

Students were excited to interact with elders online. We found this in our interviews and through observation. Kids repeatedly asked us in class if they had gotten a response from their elder yet, and smiles glowed on their faces when they read through their replies. It is clear to us that those who participated gained something from the experience.

Most students did not use the e-mail in their end project. We believe this indicates a difficulty in working with a new resource type. One student said she wanted to hear “more than what happened to them. Stuff they saw or read or something like that.” This student and others did not seem to understand that the stories their elders told them are just as valid a form of history as what they read in books. This is understandable considering this is the first time they have been asked to do original oral history work and make use of the data in a project.

It is our intuition that the kids we are working with may be too young to effectively integrate multiple resources. Michelle suggested that this might be the case as students at this age (11-12) generally do projects the night before and based on whatever materials they can find most easily.

Finally, there was limited time to do the project and limited computing resources – students only had time for two e-mail exchanges at most and some missed getting their e-mail back because they were absent. In addition, the three weeks our project was ongoing were fraught with interruptions in the classroom. We believe the limited time on task kept students from feeling as much ownership for their interactions with elders as they could.

Lessons For the Classroom

Our analysis has shown a number of ways to better integrate online oral history into a classroom. While some of these lessons are well known, we feel they bear repeating:

More computers. Students had limited time using computers partially because there were so few available in the classroom. Work by Hickey, et. al. [2] shows that a computer lab may be helpful in this case, but having more computing facilities in the classroom itself is much better.

Be ready for interruptions. Classroom interruptions are commonplace. When designing a unit including kid-elder communication, teachers should be sure to allocate extra time at the end in case the unit runs over.

Create an understanding on reply times. Elders did not always respond in a timely manner and some students did not get responses in time to use them in their projects. The Kids As Global Scientists project [9] mandated a 24 hour reply time limit for everyone involved. Our elders indicated they would prefer two days.

Teaching with e-mail responses. Some teachers may have difficulty thinking of ways to integrate e-mail into their lessons. Providing examples of ways to teach with e-mail and other teaching materials is an important part of making kid-elder discourse part of the classroom.

Lessons for CSCL Design

Our analysis has shown that we may improve on existing technology in the following ways:

Shared profiles. Records from our elder profile database are currently unavailable to participants. Thus, entries to the database vary widely. Some elders type only a few sentences while others write pages. Making the database available to all participants would make expectations clearer and enable teachers to select elders to work with their students more easily. It would also give elders the sense of joining a larger community.

Disconnected operation. The Internet went down during our study and we lost nearly a day of e-mail work. Creating a system that can store messages when the Internet is unavailable and send them when it returns would allow students to work during outages.

Pointers to examples of good discourse. Students sometimes had trouble thinking of good initial and follow-up questions to ask. Creating online pointers (perhaps in a case library) to examples of good discourse within the community may provide students with the fuel they need.

Quality rating for elders. Some elders are better at interacting with kids than others. Some may write great responses, others may not respond at all. Allowing teachers to rate elders' performance may help them filter out elders who are problematic. This may also serve as a motivating factor for elders – allowing them to create a reputation in the community.

Discourse visible to all. With e-mail, there is a concern that elders may tell students erroneous and/or racist stories that go unchallenged. Creating an environment where the discourse is available to everyone would provide a way for other elders or teachers to step in and set the record straight.

Supporting different schedules. Every group of users has their own rhythm. We need to provide a discourse system that allows kids and elders to work together, both when they are online at the same time and when they are not. A combination of newsgroups and chat, like that used in Babble [1], provides a potential direction.

Future Work

We will need to address the following issues as we build our software and work in the classroom:

Understanding the meaning of history. Students are used to book learning. In our Civil Rights study, they had trouble making the connection between what they read in books and what they heard from their elder partners. How do we help them understand that history they hear from elders is just as valid as that which they read in books?

Face-to-face vs. online. There is a certain power to face-to-face interaction that will never be replicated online – being in the same room as a powerful speaker is a unique experience. One local elder we worked with told wonderful stories to us verbally, but many of them did not make it into her e-mail response. How do we infuse online discourse with more of the power of face-to-face interaction?

Ownership factor. In the 6th grade study presented here, students did not seem to feel ownership over the online discourse – it seemed more like a class requirement. How can we help them feel like the discourse is something they have the freedom to shape?

Matching kids with elders. How do we effectively match kids and elders? Teachers may be able to do some of the legwork, but filtering through our 70-person profile database already seems daunting. What if the database grows to 1000 people? We will need a better strategy.

Scaffolding history making. In our community, we want students to build online artifacts that reflect their new understanding. This has the dual advantage of allowing kids to share what they have learned with a larger audience and keeping elders up-to-date on their progress. However, we want to avoid simply creating a generic multimedia authoring kit and, instead, focus on history recording. How can we support the creation of historical artifacts in particular?

Division of responsibility. A key problem when building software for the classroom is addressing the division of responsibility between teacher, software, and students. Where should the software scaffolding end and teacher scaffolding begin? Where should they overlap? Where can students support each other?

Design Directions

Although we are still early in the design process, these lessons give us some direction. Our primary goal is to provide a richer medium for student-elder discourse. To this end, our community will have three basic components: profiles, discussion, and artifacts.

Profiles will be available for all participants, but are especially important for elders because kids will be researching their background. These profiles will provide some of the context and background information that was missing from the e-mail interaction.

Discussion areas will be based first around particular pieces of literature with sub-discussions on topics covered in that literature (racism, civil rights, etc.). Discussion will be visible to everyone and will occur in a newsgroup style. Instead of a group of kids working with a particular elder, a group of elders will adopt each class. Kids will post questions and any of the elders may answer

them, reducing the problem of unreliable elders.

Artifacts will be created by kids, combining their own text and text from conversations with elders. They may include other media as well – for instance, their own drawings, sound samples and photos provided by elders, and the like. Discussions will be centered around each artifact and artifacts from each class will be shown in a gallery format. This has the dual advantage of motivating students (by providing an audience) and giving the elders some feedback on what is going on in the classroom.

Our community will offer integrated access to discussion spaces, elders for students to interview, and multimedia artifact creation tools. We feel that starting with these central components will help us work towards a richer interaction medium overall.

Conclusion

We have presented the results of two pilot studies exploring the ability of existing technology to support kids interviewing elders online. The small-scale pilot study exploring WW II history gave us an initial understanding of the feasibility of our concept and the potential benefit to both students and elders. Our second, larger-scale pilot study provided a number of insights into implementing the project in a classroom and potential improvements on existing technology.

We believe this work shows the value of prototyping with existing technology. Had we forged ahead without doing fieldwork, many of the issues uncovered here may have been overlooked. Understanding the issues ahead of time has the potential to prevent costly software rewrites.

While we found no quantitative change in students' attitudes or performance, interviews did reveal positive changes in several students' attitudes. Many kids were ecstatic about their interactions with elders and wished they had more time to work with them.

Existing technologies such as e-mail are in broad use, but they have significant shortcomings when it comes to supporting online oral history projects. The lessons learned here will help us build a CSCL system that supports a community of historical discourse. This online community will help reduce load on teachers while offering a much richer communication medium. We believe that this new medium, coupled with the curricular changes mentioned above, will help kids gain a greater understanding for the meaning of history in their everyday lives.

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Bibliography

1. Erickson, T., *et al.*, *Socially Translucent Systems: Social Proxies, Persistent Conversation, and the Design of "Babble"*, in *Proceedings of Computer-Human Interaction 99*. 1999.
2. Hickey, D.T., *et al.*, *GenScope Evaluation Design and Learning Outcomes*, in 1999

National Association for Research in Science Teaching Annual Meeting. 1999: Boston, MA.

3. Kam, R. and N.B. Songer, *One Modem, Many Kids: A Case Study of a Middle School Classroom Participating in the Kids as Global Scientists '97 Program*, in *National Association for Research in Science Teaching*. April, 1998: San Diego, CA.
4. Loewen, J.W., *Lies My Teacher Told Me*. 1995, New York, NY: Touchstone. 383.
5. O'Neill, D.K. and L.M. Gomez, *Sustaining Mentoring Relationships On-line*, in *Proceedings of Computer Supported Cooperative Work 98*. Nov. 14-18, 1998: Seattle, WA.
6. Papert, S., *Situating Constructionism*, in *Constructionism*, I. Harel and S. Papert, Editors. 1991, Ablex Publishing: Norwood, NJ. p. 518.
7. Probst, R., et al., *Elements of Literature, Introductory Course*. 1997, Austin, TX: Holt, Rinehart, and Winston.
8. Scaramalia, M. and C. Bereiter, *Computer Support for Knowledge-Building Communities*. *The Journal of the Learning Sciences*, 1994. 3(3): p. 256-283.
9. Songer, N.B., *Exploring Learning Opportunities in Coordinated Network-Enhanced Classrooms: A Case of Kids as Global Scientists*. *Journal of the Learning Sciences*, 1996. 5(4): p. 297-327.
10. Wigginton, E., *Sometimes a Shining Moment: The Foxfire Experience*. 1985, Garden City, NY: Anchor Books. 438.

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