Palaver Tree Online:
Technological Support for Classroom Integration of Oral History

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Palaver Tree Online:
Technological Support for Classroom Integration of Oral History

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This thesis is dedicated to my elders – my parents William Whit Ellis and Judy Scales-Trent, their parents Wade Ellis, Sr., Agatha Ellis, Viola Trent, and William Trent, and their parents and their parents’ parents. The sacrifices you have made in order to put me where I am today continually astonish me. Your stories give me strength.
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Oral history has a rich tradition of providing a view of history through the eyes of real people. Projects like Foxfire (Wigginton, 1985) have shown that oral history work can make history especially tangible for students and provide opportunities for deep learning by engaging them with real people whose life stories are part of history. While face-to-face oral history has significant learning potential, there is a significant cost as well since doing oral history is a time-consuming process. Interviewers must find interviewees, coordinate schedules, secure equipment, generate quality questions, do the interview and produce an artifact from it. The difficulty of doing oral history is increased significantly when one attempts to incorporate it into a middle-school classroom since teachers are already overwhelmed with work. How can we make this process easier for teachers?

In this thesis, I examine one way to approach solving this problem: doing oral history online. Specifically, I created an online environment called Palaver Tree Online (PTO) that supports kids interviewing elders (adult volunteers) on the Internet to build up a shared archive of oral history. I used the lessons learned from two early studies with e-mail to build PTO, a client interface and server infrastructure designed to better support the roles of kids, elders, and teachers as they work together to do online oral history.

This system was studied in two classrooms and the qualitative and quantitative analysis of the data from these studies forms the core of this thesis. Through the analysis of interactions between kids and elders in online oral history, I explore how one can use computing technology to bring elders’ stories to the classroom and what the benefits might be. Thus, this thesis argues that online oral history is a viable way to integrate oral history into more classrooms. It provides a framework for doing such projects in the classroom and an analysis of the roles kids, elders, and
teachers need to play. This thesis also provides design principles for building systems that support sustainable online oral history, and evidence that such systems may encourage the development of historical thought in students.
CHAPTER I

INTRODUCTION

Since Kwasi was a child (and since his father and grandfather and, yes, great-great-grandfather were children), all his village has shared collective communication in the cool shade of the sacred boabab or mango trees in their villages. Beneath the palaver tree misunderstandings were resolved and critical community issues were discussed under the direction of the village elders. Villagers explained points of view and together, through group consensus, reached a final decision. But the palaver tree stood for more than group discussions and problem solving: it was the place of the festivals, the harvest celebrations and where the traveling storyteller would set up his camp in the evening to spin the tales of a place & time far off and free from the worries of rural farming. – Michael Land (Land, 1992)

Oral history has a rich tradition of providing a view of history through the eyes of real people. Projects like Foxfire (Wigginton, 1985) have shown that oral history work can make history especially tangible for students and provide opportunities for deep learning by engaging them with real people whose life stories are part of history. 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 (Loewen, 1995), hear stories told by real people who lived through the events.

Historians constantly wrestle with the “objectivity question” (Novick, 1988) – working to present history with as little personal bias as possible. In my work, students play the role of
historians, hearing many different accounts of events from online elders. Students then decide for themselves what the stories mean to them and, with the help of elders and teachers, what the true meaning of history is.

1.1 Doing Oral History in the Classroom

Although face-to-face oral history has significant learning potential, there is a significant cost as well – doing oral history is a time-consuming process. Interviewers must find interviewees, coordinate schedules, secure equipment, generate quality questions, do the interview, and produce an artifact from it. Numerous texts document interview (Seidman, 1998) and oral history (Brown, 1988; Ives, 1995; Ritchie, 1994) technique.

The difficulty of doing oral history is increased significantly when one attempts to incorporate it into a middle-school classroom. Teachers are already overwhelmed with work, and the prospect of training students to conduct effective interviews, recruiting elders to be interviewed, and scheduling times for the interviews to happen is daunting. In fact, my early work has shown that even exceptionally talented teachers in history-rich neighborhoods have trouble undertaking such projects (Ellis, Bruckman, & Satterwhite, 1999).

I believe the Internet can provide a way to do oral history while (1) reducing the effort required of teachers and (2) connecting kids with many elders from around the country and the world for longer periods of time. Thus, my goal was to build an environment that connects kids and elders in order to study the feasibility of online oral history. Such a system would provide project-based (Barron et al., 1998; Blumenfeld et al., 1991) environment, a place where elders can share stories they find personally meaningful and a place where kids can learn history from people who have actually lived it. Such an environment would value elders’ life stories and provides a place where these stories can be captured before they are lost. Such an environment

1 I use the term elder instead of senior citizen because (1) some of the participants discussed here are a bit younger than those typically considered seniors and (2) most of the older folks prefer the term.
would allow students to create artifacts from elder interviews that share these untold stories with the world. Such an environment would allow teachers to integrate oral history into their classrooms with less effort.

The system I built to explore the feasibility of online oral history is called Palaver Tree Online. Merriam-Webster defines *palaver* as “a long parley usually between persons of different cultures or levels of sophistication” (Merriam-Webster, 1998). A palaver tree, then, is a tree for talking. In West Africa, such a tree serves as the center of a village. It is a place where elders come to share their stories. It is a place where members of the community come to have their disputes settled and elders set the record straight.

Palaver Tree Online provides *online community* (Kim, 2000; Preece, 2000; Rheingold, 1993; Wellman & Gulia, 1999) in that it brings together a diverse group of people with common interests working towards a common goal. Palaver Tree provides a *project-based* (Barron et al., 1998; Blumenfeld et al., 1991) environment where students learn by creating projects and getting feedback from the community on their work. Ultimately, my aim is to provide system that will allow many teachers to incorporate oral history projects into their classrooms with less effort.

1.2 Participants

Palaver Tree Online has three primary user types: elders, kids, and teachers. Each of these groups has necessary contributions to the community as well as potential gains from participating. Elders, for instance, contribute their life stories through interviews with kids. In return, they can hear and comment on the life stories of other elders, and have an eager audience in kids as well.

Kids will learn history by first reading background text from the standard curriculum, interacting with elders online, and finally combining stories they hear from elders with their own art and text to build historical artifacts. These artifacts (called PalaverStories) show what
students have learned from interacting with the elders and contribute to the historical tapestry constructed by all members of the community.

Teachers gain an additional, perhaps more engaging, and certainly more interactive, way of teaching history. I am aiming to reduce teacher effort for doing such projects while providing a rich set of tools to make the process go more smoothly. Teachers contribute to the community by providing in-classroom and online scaffolding\(^2\) for kids – helping kids formulate good questions and build meaningful PalaverStories.

Most importantly, however, I have always thought of Palaver Tree Online as a way to help students learn the importance of elders and their experiences. To this date, my only memory of my grandfather was of a strong handshake. Whenever I saw him, he would shake my hand very firmly to make sure I had a firm handshake when I grew up. A month after his funeral, however, I got a copy of the United Negro College Fund (UNCF) magazine in the mail and his picture was on the cover. As a child, nobody told me that my grandfather was the original president of the UNCF! I missed out on a very important part of my heritage because I was unable to hear my grandfather’s stories about his experience as an agent for social change. Thus, an important part of this work for me is helping children understand that elders are great resources, and have many important stories to share.

While hearing elders’ stories can have benefits for students, the benefits to elders are significant as well. In fact, recent work on actively aiding elders in sharing their memories in what is called reminiscence or life review (Sheridan, 1991) has found that sharing life stories can have positive mental and physical impacts for older adults. The American Association for Retired Persons website (http://www.aarp.org/) puts it this way:

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\(^2\) Software scaffolding aids users in achieving a process or goal that would be difficult or impossible without the support (Guzdial, 1995).
Taking time to listen to another person reminisce gives the powerful, unspoken message that “Who you are, what you have done and the things you care about are very important to me. I believe in you. I accept you, I want to know your story. And, even more, I receive what you have to offer as a gift.”

For many elders, having an audience willing or even excited to hear their life stories provides an important motivation for them to reminisce. Students in Palaver Tree provide this motivation.

1.3 Research Goals

There were three primary goals for this research. First, I aimed to study the feasibility of using network technology to support the process of oral history. What does it take to bring kids and elders together online meaningfully? I aimed to develop an understanding of how one might best structure interaction among these groups. I also aimed to understand the roles that kids, elders, teachers, and computers play in this process as well as how they might support one-another.

My second goal was to study the learning outcomes of online oral history. What sorts of learning can happen through online oral history? Specifically, I was interested in understanding what forms of historical thought participation in online oral history might encourage. I was also interested in exploring how synthesis of elders’ stories might be encouraged.

Lastly, I aimed to explore what it takes to support the teacher in integrating online oral history into the classroom. My early work showed evidence that the complexity of doing oral history projects in the classroom often means they don’t happen in practice. How do we make this process easier on teachers? My third goal was to develop an understanding of the supports a teacher needs to do online oral history projects and to provide as many of those supports as possible with the aim or reducing teacher effort.
1.4 Contributions

This research makes five primary contributions. Each is discussed in the sections indicated and summarized in chapter 10.

*An online oral history interaction model that can help teachers manage kid-elder interaction.*
In order to help the teacher feel comfortable with and manage the process of online oral history, an interaction model that details the main pieces of the process is useful. My work has provided such a model (see section 7.3.1). In Palaver Tree Online, introducing the teacher to this model at the beginning of the process helped give her an idea of what was expected of her and others (see section 8.4.1). She referred to this model each time she took students to the lab (see section 8.3.4). Once the teacher was aware of the stages that kid-elder interaction needed to encompass, she was able to guide kids face-to-face and both kids and elders online (see sections 8.4.5 and 8.6.1 #2).

*Persistent discussion provides a way for students to recover from breakdowns in kid-adult communication.* In situations where online adults serve as resources for students, persistent discussion (a medium, developed at IBM Research, which combines the immediacy of chat with the robustness of newsgroup discussion) can play a role in helping students recover when those adults become unreliable. For example, several students in my summative evaluation were assigned elders who did not respond to them. Without persistent discussion, these students would have had no data to use in their projects just like those in my e-mail work (see section 5.4). The persistent discussion features in Palaver Tree Online, however, allowed these students to find elders that were already answering other students and ask questions of them. These already responsive elders answered student questions and those answers allowed students to complete their projects (see sections 8.4.2.4 and 8.4.2.5).
Providing persistent discussion features can help students recover when online adult resources are unreliable. This is only possible if students know how to react when these kinds of problems arise, however. In my summative evaluation, the teacher facilitated the use of persistent discussion features by telling students that had non-responsive elders to find elders that were responsive and ask questions of them instead (see section 8.4.2.4.1).

Online projects can help online adults feel their contributions are valued. In situations where online adults serve as resources for students, placing projects online can play an important role in helping those adults feel involved in the process. For example, my e-mail work showed that elders wanted to see what students created based on their stories. Without seeing this work, they felt out of the loop (see section 5.4). When elders were able to see student work in PTO, they showed their appreciation with positive feedback (see section 8.4.2.2.4 for an example and 8.6.1 #5 for numbers). Finding ways to place student projects online has the potential to improve the experience of working with kids for online adults serving as resources for students more generally.

Online projects can help students get feedback on their work from online adults. In situations where online adults serve as resources for students, placing projects online allows adults to provide additional support for students by evaluating their work. For example, in Palaver Tree Online, elders offered a great deal of positive feedback on student work. Elders averaged 3.5 feedback messages on each project (see section 8.6.1, #5). Finding ways to place student projects online has the potential to connect online adults to the classroom more strongly, by allowing them to play a role in helping students revise and refine their work.

Project states can provide a mechanism for pacing and providing awareness in online project-based learning. When kids are creating online projects for feedback by a remote audience, project states can provide both a reminder of the process and a status indicator. For
example, in Palaver Tree Online, kids-elder groupings were not all in the same stage of the
interaction model at the same time – pacing differed from group to group. Project states helped to
manage this by providing an indicator to elders when students began work on their project and
were ready for feedback on their work. Elders were made aware right away when projects
became available, for instance, and began giving feedback in an average of 2.5 days (see section
8.6.1, #3). Project states also provided a reminder to students of where they are in the interaction
and what the next step was (see section 8.4.5). In CSCL systems where students are working on
projects that are to be later evaluated by online adults, project status indicators can help keep
students moving forward in the interaction model as well as provide awareness for the waiting
audience.

1.5 Thesis Overview

This thesis begins by providing the motivation for my work in online oral history – primarily, the
difficulty of bringing elders’ stories to the typical classroom. I then discuss the foundations of
my work in history learning, oral history, pedagogy, and system design. I follow this with a
survey of related work. My early work using e-mail to connect kids and elders in online oral
history is discussed next. This work focuses on kids and elders sharing stories via e-mail and
mailing lists.

I then give an overview of related general online communication systems – systems from
which I took ideas as I designed Palaver Tree Online. I follow this with a discussion of the
design of Palaver Tree Online itself, a system designed based on what I learned from doing online
oral history via e-mail. This is followed by a discussion of the evaluation of Palaver Tree Online,
taking a look at both the formative and summative evaluations of the system in classrooms.

Next, I reflect on the process of designing Palaver Tree Online and provide some ideas that,
with further research, might lead to a method for designing systems that bring together diverse
user populations. Lastly, I conclude the thesis by revisiting my contributions and providing ideas for future work.
CHAPTER II

MOTIVATION

For some, the initial dream for the Internet in education was that each student would have direct access to Nobel Prize winners, award-winning historians, and the like. It was believed that asynchronous media such as e-mail would help make these experts more available to all by bridging space (messages arrive nearly instantaneously) and time (one can answer when they have time). The reality, though, is that there simply are not enough Nobel Prize winners to go around. Kids have a need to have their questions answered, but Nobel Prize winners do not have the time to contribute in a way that satisfies that need.

One way to improve this situation is to offer kids access to other adults with knowledge on the subject they are studying. These adults might not be Nobel Prize winners, but kids do not usually need Nobel Prize quality answers – they need to hear from professionals who know the subject matter in-depth. O’Neill has taken an informal look at the mentoring potential in the United States and Canada using census figures for university graduates, standard mentoring numbers, and student populations (O’Neill, 1998; O’Neill & Harris, 2000). His analysis suggests that, in the best case, 100% of students in K-12 education (nearly 50 million) could participate in a 6-week mentoring program each year. The feasibility of these kinds of interactions is further evidenced by the success of ongoing telementoring projects (Cobb, 1997; Cravens, 2000).

Another way to connect kids and adults online is to engage them in oral history. Perhaps an initial thought on this path might be to connect kids with famous historical figures (for instance, civil rights activists such as Rosa Parks), but it quickly becomes clear that these well known figures are in short supply much like the Nobel Prize winners above. It is more feasible to find online adults with experiences to share about the period kids are studying.
The primary motivation for my work is to make oral history projects feasible in more classrooms. Oral history is difficult to integrate into the classroom for a number of reasons. First and foremost, it is extremely time consuming. Designing a curriculum, recruiting elders, scheduling field trips and interviews, and managing the classroom during a special project are all time intensive. The aim of my work is to provide a tool that enables online oral history and to better understand the learning affordances thereof.

2.1 Wonderful Teacher, Too Much Work

When I first began work on this project, I started by looking around for projects with similar ideas. What I found was Sweet Auburn. Sweet Auburn (http://www.sweetauburn.com/) is a richly historical community just a few miles South of Georgia Tech. It is home to the Martin Luther King, Jr. birth home, his burial site, and the Ebenezer Baptist Church where he preached. The neighborhood is also home to The Royal Peacock (a famous concert venue) and WERD (the first black-owned radio station in the country), among many other historical sites.

Also within this community is a middle school and within that middle school an exceptionally talented and dedicated teacher named Andrea3 who, a few years ago did a project called “Neighborhood Celebration.” In this project, she took her kids on field trips to explore the neighborhood’s historical sites, and had neighborhood elders and historians come to her class to share their stories. As a centerpiece for the project, kids built a scale model of their neighborhood. Local architects came to the classroom and laid the elevations. The students used satellite reconnaissance photos to place local buildings in the proper places and used those buildings to tell the rich history of their community.

This was very 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 teaching load then that I do now.”

3 All names and pseudonyms in this thesis have been changed to protect the privacy of the participants. Some distinguishing details have been changed as well.
such a project is hard even for a great teacher to do in a richly historical neighborhood, how can it be made possible for an average teacher in an average neighborhood?

2.2 Difficult Elements

Before I detail how computing technology might improve this difficult situation, I first take a closer look at the elements that make it and other oral history projects difficult:

Special projects are hard. Teachers are overwhelmed with work. Many times, it is hard enough to get the required material covered, let alone doing special projects. If teachers are to integrate special projects into the curriculum, they have to offer benefits to students as well as be reasonably easy to implement.

Curriculum design. In general, special projects require new curricula. This is certainly true of oral history projects in the classroom. Students need to learn the skills necessary to do meaningful oral history interviews, actually perform the interviews, and make use of those interviews in an end artifact. At the same time, the teacher needs to be covering the curricular goals prescribed by the school system.

Recruiting elders. Once a curriculum is designed, the next step in a standard classroom oral history project is to recruit elders to be interviewed. Depending on the topic being covered, finding local elders who have stories to share on that topic may be difficult. For instance, my early work showed that, even in a neighborhood full of Civil Rights history like Sweet Auburn, recruiting elders is a time-consuming task.

Field trip scheduling. Planning field trips takes time and effort. Teachers need to pick an appropriate time in the year, plan the trip, have the trip approved by the administration, send home permission slips, find chaperones, and then actually go on the trip.
Interview scheduling. Planning interviews and planning field trips are difficult in many of the same ways. When doing interviews, though, teachers have the additional burden of coordinating their interviewing schedule with that of the interviewee. Generally, historical sites are open regular hours and most days, but when dealing with people, the planning picture becomes much more problematic – coordinating schedules is difficult.

Classroom management. Teachers need to train students to do original oral history research and manage them in the case of classroom visits by interviewees and historians. In addition, teachers must instruct students on how to use the interview data they collect in building an artifact to show what they learned from the project.

2.3 How Can Computing Technology Help?

I believe computing technology can help by addressing many of these issues. At a high level, I believe it can help in two ways:

1. Connections with elders worldwide. Computing technology can enable kids to hear stories from elders in their neighborhood, from around the country, and even around the globe. In this way, kids can learn history from people who actually lived it and, hopefully, feel a personal connection with it.

2. Reducing teacher effort. Teachers are overwhelmed with work. Computing technology can reduce teacher effort by enabling them to do oral history projects without requiring extensive field trips or interview planning.

Moving oral history online has the potential to help mediate each of these issues in important ways. For instance, computing technology can help structure the process of connecting kids and elders, thus reducing some of the complexity of implementing special projects. In addition,
moving the interaction online can help mediate the scheduling issues involved in face-to-face kid-elder interactions.

It should be noted that I do not see computing technology as a replacement for face-to-face communications or field trips. Clearly, face-to-face communication should be used in addition to online tools wherever possible. However, I see connecting kids and elders online as a realistic way to integrate oral history into a typical classroom – a classroom where the difficulty of doing face-to-face oral history projects generally means they will not happen at all.

This is not to say that computing technology will solve all the problems of doing oral history projects in the classroom. Classroom management issues are difficult when doing anything out of the ordinary, be it a visitor from the outside or using computers. In addition, computing technology cannot replace good teaching. Good teachers are needed to carry this out and to provide the necessary scaffolding for kids to have meaningful interactions with elders.

2.4 Summary

This chapter has discussed the motivation for online oral history. I began by discussing the fact that there are many adults who have important contributions to make to student learning. In fact, O’Neill’s rough analysis suggests that there may be enough adults interested and available for all students in North America to be mentored online for a month and a half every year. These numbers also provide some foundation for the notion that engaging online adults in assisting students in doing historical projects might work as well. My overall motivation for doing the work discussed in this thesis, then, is to try and find ways to make online oral history work in classrooms.

An important part of making this happen is understanding how to support the teacher in bringing elders’ stories to the classroom. In my early work observing and talking with teachers, it became clear that they are already overwhelmed with work. Finding ways to help teachers do
oral history projects without requiring all the work that typically comes with them is important to assuring such projects happen. This is a place where technology can play an important role. In particular, technology can help by (1) providing connections with elders worldwide and (2) by reducing teacher effort in bringing those elders to the classroom. For instance, the system I discuss here provides specific support for helping teachers find elders, managing kid-elder interaction, and supporting sharing of projects.

While technology offers some potential affordances for incorporating oral history in more classrooms, it is important not to underestimate the challenges of doing any special project. Any new approach in the classroom will bring with it new problems and concerns. By taking a specific new approach to connecting kids and elders (online oral history), the work here aims to understand the benefits and challenges of that approach.
CHAPTER III

FOUNDATIONS

Palaver Tree Online aims to create a project-based environment focusing on oral history. Before looking at the development of the system in detail, I begin by exploring its foundations. First and foremost, this work takes inspiration from the history learning literature. One important lesson the history learning literature gives us is that one develops historical thought through direct engagement with doing history. Oral history provides one way to approach this goal. I then discuss a number of approaches from the literature that I built on to create a system that would work in the classroom and encourage learning. Specifically, I take ideas from project-based learning, constructionism, social constructivism, and authentic learning. I finish the chapter with a discussion of some of the specific inspirations for the design of Palaver Tree Online: scaffolding, online community research, and social translucence.

3.1 History Learning

I incorporate elders in the classroom with the hope that their stories will encourage history learning. But, what is history learning? At a high level, history learning can be split into two categories: retention of historical content and the more general ability to think historically. While one can learn historical content prior to developing historical thought, developing some level of understanding about the nature of history makes synthesis more likely. This is because developing historical thought means developing the tools necessary for thinking critically about historical content. A review of the literature has uncovered four interrelated characteristics of historical thought:
• Present vs. past context – helping students develop the notion of the often vast differences between our current day understanding of the world and the understandings of those in the past. Understanding that the categories we use to think about the world (racism, tolerance, etc.) are not static, a pitfall Lowenthal refers to as the “timeless past” fallacy (Lowenthal, 1985).

• Empathy – helping students develop a sense of empathy that allows them to “see through the eyes of people who were there” (Bradley Commission on History in Schools, 1988). This can help students develop a more general understanding of those who are different from themselves.

• Author bias – helping students develop a belief that subtexts exist and learn to consider the source. Crismore found that the removal of hedging language, especially prevalent in textbooks, is often read as an indicator of truthfulness by students (Crismore, 1984).

• Understanding the multiplicity of history – seeing history not as a fixed story, but a dynamic and continuous uncovering and reinterpretation of the past. As Holt puts it, students should see the construction of history as an “ongoing conversation with the past, not a closed catechism or a set of questions already answered” (Holt, 1990).

With these goals in mind, one is left with the question of how to encourage these types of historical thought. Although there is much more to learn about the development of historical thought (Wineburg, 2001, p. 110), the directive that many researchers agree on is that we need to engage students in doing history – helping them understand the past through telling it (Bass & Rosenzweig, 1999; Ross, 1998). Here, Wineburg offers some important advice:

It is not enough to expose students to alternative visions of the past, already digested and interpreted by others. The only way we can come to understand the past’s multiplicity is by the direct experience of having to tell it, of having to sort
through the welter of the past’s conflicting visions and produce a story written by our own hand. We have in mind here a vision of history classrooms where students learn the subject by rewriting it. (Wineburg, 2001, p. 131)

This model of instruction changes the typical history classroom from a place where history is a fixed story (Loewen, 1995) to one where many different stories are considered, and the multiplicity of history is revealed. Who gets to decide which stories are included and which are left out? Working with primary sources not only gives kids a better grasp of the past, but a clearer understanding of the present.

3.2 Oral History

One way to engage students with history in the way Wineburg suggests above is to have them do oral history. Having students do interviews and create projects based on those interviews allows them to confront the multiplicity of history through hearing the stories of those who lived through the events students are studying in class.

To be specific, oral history is the recording of living history – the histories of real people who lived through historical events. The Oral History Cataloging Manual defines oral history as “the process of deliberately eliciting and preserving, usually in audio or audio and visual recording media, a person's spoken recollections of events and experiences based on first-hand knowledge” (Matters, 1995).

An online discussion among members of the Oral History Association (OHA) in February 2000 questioned whether electronic media (in particular e-mail) could be considered oral history. Merriam-Webster defines oral as: “of, given through, or involving the mouth.” Thus, a literal interpretation requires oral history be spoken history. One OHA member suggested that e-mail could still be considered a primary source, but was more comparable to a memoir than to oral history. I largely agree with this argument as it applies to e-mail. However, there are a multitude
of communication modalities available online. I believe that online chat is more naturally equated with oral discourse than with memoirs. Thus, while I use the term loosely, I find oral history to be a more fitting term for the stories elders tell in more synchronous online environments.

3.3 Pedagogical Approaches

How do we integrate elders into the classroom meaningfully? In order to incorporate elders in a way that encourages learning, I take lessons from a number of pedagogical approaches. My work has foundations in constructionism, project-based learning, social constructivism, and authentic learning.

3.3.1 Constructionism

As I began my work, I was inspired by constructionism (Papert, 1991). Constructionism is based on the belief that, by supplying students with thoughtfully designed construction kits, those students will engage in creative activities that help them develop a deep understanding of particular concepts. Because these construction kits allow students to create physical objects, those objects are then available for comment by others. These comments can help the creator refine their thinking and work towards a better understanding of the concepts at hand. Papert puts it this way:

We understand “constructionism” as including, but going beyond, what Piaget would call “constructivism.” The word with the $\nu$ expresses the theory that knowledge is built by the learner, not supplied by the teacher. The word with the $n$ expresses the further idea that this happens especially felicitously when the learner is engaged in the construction of something external or at least shareable… a sand castle, a machine, a computer program, a book. This leads us
to a model using a cycle of internalization what is outside, then externalization of what is inside and so on. (Papert, 1990, p. 3)

As I moved forward with my work, I found that there are a number of high-level similarities between constructionism and project-based learning (ProjBL). I also found that, where the two diverge, I was taking more from the ideas of project-based learning. For example, ProjBL gives kids a relatively specific project to complete while constructionism provides kids a set of tools with that afford certain activities. (The specific choice of project and sometimes whether to do a project at all are left up to the student.) ProjBL aims to change existing school culture while constructionist work often focuses on more informal settings. ProjBL aims to structure projects so they meet curricular goals while constructionism allows kids more choice in the projects they tackle.

Ultimately, however, constructionism and ProjBL share similar underlying philosophical commitments. For example, both approaches believe that the teacher should play the role of guide rather than the center of attention. Both approaches believe that kids should be given more agency in the learning process – that they should be responsible for their own learning, have more choices about the approaches they take, and some control over where they focus. Both approaches also focus learning on projects. Each sees projects as a way to both externalize student thinking and allow others to provide the sort of feedback that fosters thoughtful revision. Students then revise not only their project but their underlying understanding of the concepts being studied.

3.3.2 Project-Based Learning

My primary influence in terms of helping kids and elders work together meaningfully is project-based learning (ProjBL). In Palaver Tree Online (PTO), students interview elders online about their life stories and use those stories along with other readings to build projects that reflect their
new understanding of a particular historical era. PTO aims to support the complex interaction between kids, teachers, and elders in this process.

In the context of learning, a project has two essential components (Blumenfeld et al., 1991): (1) a question or problem that organizes and drives activities, and (2) a set of activities that produce artifacts and culminate in a final product that addresses the driving question. The driving questions in such projects are designed to be relatively open ended. This is both the primary benefit of ProjBL and the main implementation difficulty.

Through the process of creating a project, students construct contextualized knowledge. By contextualized I mean students construct knowledge by solving complex problems in situations that require them to communicate with others, use cognitive tools, and integrate multiple forms of information (Blumenfeld et al., 1991). In this sense, ProjBL aims to help students construct an understanding of how those in a specific field operate, rather than working on more constrained problems where answers are clear cut. As Blumenfeld puts it:

Projects can serve to build bridges between phenomena in the classroom and real-life experiences; the questions and answers that arise in their daily enterprise are given value and are shown to be open to systemic inquiry. (Blumenfeld et al., 1991, p. 372)

A good ProjBL project binds the process of project learning and doing in an engaging way. Working on such projects has been shown to lead to increased motivation in students (Bredderman, 1983). Lastly, projects are explicit artifacts that reflect student knowledge. As such, they enable sharing with others and feedback that serves as input to the learning process.

Palaver Tree Online builds on these ideas. For instance, online oral history addresses the four characteristics of project-based learning presented by Blumenfeld et al:
• Online oral history certainly presents a complex problem. Students need to learn good interview technique (understanding how to generate good initial and follow-up questions) as well as the ability to synthesize what they learn from elders with what they learned from their background reading as well as what they already know.

• Participation in online oral history necessitates communication with others. The thrust of online oral history is connecting with elders as well as other students in the classroom.

• Online oral history creates a situation where students must use cognitive tools. Brainstorming initial questions for elders, learning to analyze elder responses and write good follow up questions as well as synthesizing the information elders provide all require the use of cognitive tools.

• Creating a project based on an oral history interview requires the integration of multiple sources of information. Students must take what they learned through the background reading they did prior to the elder interview and synthesize it with the specifics they heard from the elder in order to create a project.

However, simply giving students motivating problems to work on is not enough. It has been shown that, confronted with such problems, students often do not respond with increased use of learning strategies (Anderson & Roth, 1989; Blumenfeld & Meece, 1988; Winnie & Marx, 1982). Thus, one of the biggest challenges is to make ProjBL happen in a way that is not simply doing for the sake of doing, but doing with appropriate reflection – encouraging motivation and thoughtfulness (Blumenfeld et al., 1991; Schauble, Glaser, Duschl, Schulze, & John, 1995). This presents a challenge for both students and teachers since implementing ProjBL requires a change from the typical curricula. Both teachers and students must manage the complexity of the simultaneous change in curriculum, instruction, and assessment that it requires. Additional challenges for teachers implementing ProjBL include lack of time to create new curricula, large
class sizes, and learning how much autonomy students should be afforded (Barron et al., 1998; Blumenfeld et al., 1991).

A number of approaches to making ProjBL more feasible, motivating, and thoughtful have been suggested. Most of these come in the form of scaffolds. For example, Barron et. al. (1998) suggest the following:

- Encouraging metacognition – helping students develop an awareness of the goal of their learning and being clear on how well they are doing with regard to that goal.

- Prefacing project-based learning with problem-based learning (Cognition and Technology Group at Vanderbilt, 1992; Williams, 1992) in order to help students grasp the main issues in an area and then use that knowledge as a scaffold when approaching a more complex project.

- Providing students with contrasting cases – having students analyze differences between example cases in order to bring out dimensions they might otherwise miss when working from just one example.

- Breaking down the isolation of the classroom – designing in performance opportunities where students share their work with outside audiences. This provides a way for students to get feedback from external content experts, which proves both motivational and thought-provoking for students.

Blumenfeld et. al. (1991) present a slightly different approach to making ProjBL work in the classroom. Specifically, they focus more on the role for technology in taking some of the load of managing ProjBL off of the teacher:

- Learning from errors – software that helps students recognize errors and gives hints towards their rectification (Anderson, Boyle, & Reiser, 1995) can help students work through some of the inevitable pitfalls they will experience in a ProjBL environment.
• Reducing the cost of errors – computer-based tools can help students try out different solutions to a problem with relatively low overhead as compared with the real-world equivalent (Nachmias & Linn, 1987).

• Aiding students in the creation of artifacts – good software (such as word processors and spreadsheets) can help scaffold students in the creation of artifacts by automating tedious parts of the process and focusing their work on higher-level concepts.

Both Blumenfeld and Barron agree that teachers need quality support materials, both on the computer and on paper, in order to deal with the complexities of implementing ProjBL.

Palaver Tree Online builds on the project-based learning literature in a variety of ways. For instance, my early work observing classrooms made it clear to us that my teachers, like many others in the ProjBL literature, are already overwhelmed with work. For an online oral history system to work, one needs to provide as much support as possible for the teacher both in managing kid-elder interaction and helping students through the process. To this end, I devised a teacher home screen which provides an overview of the kid-elder interaction, recruiting interface for managing elders, and printed teacher support materials.

Instead of using software to detect errors, I take a more social approach. Because kids work with elders throughout the process of online oral history, elder feedback is built-in to the discourse. Elders explain their experiences and point out student misconceptions. The fact that projects are available online allows elders and other students to give immediate feedback on the work. Because elders give students feedback on their work, the teacher is freed from part of the evaluator role and becomes more of a coach. This role change is also seen in Jasper (Barron et al., 1998) and the CoVis Mentor Database (O'Neill & Gomez, 1998).

One of Barron’s recommendations is that students look at contrasting cases as a way to make clear the complexities of scientific knowledge. Systems such as the Knowledge Integration
Environment have explored this idea in-depth with regard to science learning (Linn, Bell, & Hsi, 1998). When dealing with historical content, contrasting cases becomes fundamental as a form of research (Loewen, 1995; Novick, 1988; Wineburg, 2001). In Palaver Tree Online, students begin their work by reading curricular material and use that as a scaffold for discussing a particular historical topic with an assigned elder. Some contrasts might be seen between these two sources. Future implementations of PTO might use a problem-based reading of conflicting historical stories as a preface of the more project-based elder interview and resulting artifact.

3.3.3 Social Constructivism

Palaver Tree is also grounded in social constructivism. Social constructivism puts forth the notion of a zone of proximal development (Newman, Griffin, & Cole, 1989; Vygotsky, 1978). Vygotsky defines zone of proximal development as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). The idea is to support students in a way that allows them to move from needing that adult guidance to solving a given problem to being able to do it independently. For example, more advanced students might mentor students having trouble. In order to provide useful support for learning, the more advanced student must adjust the level of support provided in subtle and complex ways until, finally, the less advanced student becomes proficient. Vygotsky’s ideas create a clear role for the teacher, students, and other community members as active participants in providing these supports.

In Palaver Tree Online, these other community members are elders. Elders support students’ history learning by sharing stories, answering student questions, and providing feedback on student projects. For example, elders often chose stories that they thought students would relate to (stories about themselves as kids, etc.) They also tailored the stories they told based on follow-
up questions students asked. Beyond storytelling, sometimes students had specific questions about terminology or organizations that were not clear in their texts. Elders scaffolded students here by attempting to provide descriptions that were clear to students. For more on the ways kids and elders worked together in PTO, see chapter 8.

3.3.4 Authentic Learning

In addition, Palaver Tree Online attempts to create an authentic learning environment. Shaffer and Resnick (1999) characterize four kinds of authentic learning found in the learning sciences literature:

- Real-world authenticity – materials and activities aligned with the world outside the classroom.
- Personal authenticity – topics of study aligned with what learners want to know.
- Disciplinary authenticity – methods of inquiry aligned with the essential practices of a discipline.
- Authentic assessment – assessment aligned with (what students really should learn from) instruction.

Shaffer and Resnick argue for “thick” authenticity, the notion that each of the four forms of authenticity supports and depends on the others. The design of PTO aims to integrate all four of these forms of authentic learning, albeit to different extents. The system is designed to address real-world authenticity by connecting students with elders outside the classroom. Personal authenticity is encouraged by letting students ask questions of elders based on their own interests within the broad context of a particular historical era. Disciplinary authenticity is addressed by creating an environment where students do the job of a historian in a limited fashion – confronting primary sources (elders) and synthesizing a historical account based on it. Finally,
teachers that work in PTO are encouraged to assess student work by examining the stories elders shared before looking at student projects. The aim here is to help teachers first evaluate students based on how well they used what elders gave them in their projects, not how well they have done compared to other students.

3.4 System Design

As I designed a system to support online oral history, I took ideas from a number of approaches to system design. Here, I discuss my primary influences: software scaffolding, online communities research, and social translucence.

3.4.1 Scaffolding

Palaver Tree Online is fundamentally a system of scaffolds (Collins, Brown, & Newman, 1989; Merrill & Reiser, 1993; Palincsar, 1986; Rogoff, 1990) aimed at supporting the process of online oral history. Software scaffolding has two primary components (Guzdial, 1995): (1) to aid users in achieving a process or goal that would be difficult or impossible without that support, and (2) to facilitate learning difficult to achieve without the support. As I moved from using e-mail to support online oral history to a system where much more information is visible (other discussions, background information, artifacts), I needed to give users a better way to manage the information and find places to best contribute. By providing a user interface that helps users manage this new environment, I worked to create a “genre ecology” – a space where specific genres of communication flourish (Erickson, 2000). For example, PTO scaffolds the teacher by providing a recruiting system that allows them to find elders to work with their class, students by providing project creation tools that allow them to quickly locate and move between the data sources they are integrating, and elders by notifying them when student projects are available (more on this in chapter 7).
3.4.2 Online Community

Community can play an important supporting role for the pedagogical foundations mentioned above. For instance, work by Knowledge Integration Environment (Linn et al., 1998) and Computer Supported Intentional Learning Environments (Scardamalia & Bereiter, 1994) has shown that creating communities among students in the classroom has definite pedagogical benefits. Bringing outsiders into ProjBL or constructionist environments can help improve the authenticity of such environments by giving students an audience for their work, as work by One Sky, Many Voices (Songer, 1996) and the CoVis Mentor Database (O'Neill & Gomez, 1998) has found.

Howard Rheingold defines what I call online communities (and what he calls virtual communities) as “social aggregations that emerge from the [Internet] when enough people carry on…public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” (Rheingold, 1993, p. 5). A project-based online community, then, provides a place where students create artifacts that reflect their understandings for a larger audience. The aim in such environments is to create the conditions necessary for community members to form meaningful relationships that will lead to learning.

The literature suggests a number of design principles for such online communities (Bruckman, 1996; Kim, 2000; Kollock, 1986). Such principles typically include stating a purpose for the community, providing gathering places, creating member profiles, promoting leadership, defining a code of conduct, promoting cyclic events, allowing for a range of roles, allowing users to create sub-groups and providing ways to integrate online environments with the real world.4 Palaver Tree Online aims to address each of these. For example, the system creates clear gathering places for kid-elder discussion, it has a profile feature that allows quick access to

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4 This list is taken from Amy Jo Kim’s “Community Analysis Template” at http://www.naima.com/CS377B/template.html
background information on adults, and it has built-in support for the roles of kids, teachers, and elders.

I do not claim to have created an online community in the broadest sense – the system has not been in use widely enough or over a long enough period of time. Palaver Tree has, however, created significant connections between its participants (see chapter 8) and, thus, may be considered a small-scale online community with potential to grow.

3.4.3 Social Translucence

Social translucence provides a framework for thinking about the structuring of online social interactions based on lessons taken from face-to-face communication, both explicit and implicit (Erickson & Kellogg, 2000). Its three primary elements (visibility, awareness, and accountability) describe ways in which users provide information about themselves and gain access to information about others. Visibility allows users to share social information with one another (where they are in an online environment, how much attention they are paying to the environment, how often they provide contributions in the environment, etc.). Awareness is the idea that one takes the knowledge gleaned through visibility when making decisions. Accountability is the idea that I know that others are aware of my actions and I will, thus, be held accountable. Erickson and Kellogg argue that these are fundamental pieces of information in real world social interactions and, by moving these ideas to online environments, designers may create systems which allow users to leverage their real world knowledge, thus enabling more meaningful interactions.

In this work, I build on the concept of social translucence by looking at the social supports needed to help distinctly different user groups work together in a coordinated manner. For instance, the design of the discussion interface discussed here is influenced by Babble (real-time discussion with persistence) (Erickson et al., 1999) and extended through anchored collaboration.
3.5 Summary

In this chapter, I have discussed the high-level foundations for my thesis. I began with a discussion of the history learning literature, focusing specifically on the four forms of historical thought identified therein: past vs. present context, empathy, author bias, and understanding the multiplicity of history. The literature tells us that developing these forms of historical thought make synthesis of historical content more likely. The literature also tells us that the best way to encourage the development of historical thought is by engaging students directly in doing historical research.

Having students do oral history is one way to engage them in historical research. This is the task I have chosen to support – specifically, online oral history. In order to help students learn from doing oral history, I employ a number of pedagogical approaches. First, I discussed Project-Based Learning (ProjBL), the primary pedagogical influence for my work. Project-Based Learning provides a number of important ideas that influenced the work presented in this thesis. One of the most important of these is the notion that a project, if formulated correctly, can help to build bridges between real-life experiences and the classroom. Constructionism influences my work insofar as it shares some of the same underlying ideas as ProjBL. Specifically, constructionism and ProjBL both advocate teacher as guide, giving kids more agency in the learning process, and focusing learning on projects.

Social constructivism provides additional grounding for the ideas presented in this thesis. Specifically, Vygotsky’s ideas of the zone of proximal development are important here – the idea
that elders may be able to provide support for the cognitive development of students. This support would need to come in different forms as students develop more skill in dealing with historical information. Currently, elders support students by sharing stories, answering their specific questions and providing feedback on their work.

Authentic learning is another important foundation for my work. Because online oral history provides ways to tie the classroom to the real world, topics aligned with student interests, and methods of inquiry aligned with real historical research, my approach lends itself naturally to many of the criteria for authentic learning. My work also takes some steps towards helping teachers do authentic assessment by encouraging them to take into account the specific set of resources students had available to them rather than comparing them to other students.

Lastly, I discuss some of the inspirations for the design of a system to support online oral history in the classroom. I start by discussing scaffolding. Palaver Tree Online provides a system of scaffolds aimed at making the process of online oral history go more smoothly for all involved. Specific pieces of the interface were designed to support the different types of interactions prescribed by the interaction model.

In order to support meaningful interaction among users who would likely never meet face-to-face, I decided to employ some of the ideas from the online communities literature. That literature provides a number of design principles. One of the most important of these are to have a clear purpose for the community and clear roles for participants in that community. These are things I have worked hard to clarify to users who participate in Palaver Tree Online.

Lastly, social translucence provides ideas about how to build systems that incorporate the notions of visibility, awareness, and accountability that we are familiar with in the real world. My work aims to incorporate these ideas by designing an interface that makes users aware of each other’s actions so that they feel accountable to other users.
CHAPTER IV

RELATED WORK

The idea of supporting interactions between kids and adults online is not new. In fact, a great deal of work has been done under the auspices of telementoring via e-mail (Bennett, Hupert, Tsikalas, Meade, & Honey, 1998; Cobb, 1997; Harris & Jones, 1999; O'Neill, Abeygunawardena, Perris, & Puna, 2000). Other work has explored more open environments, specifically for science learning (O'Neill & Scardamalia, 2000; Songer, 1996).

Several of these projects have specifically influenced the design and implementation of Palaver Tree Online. The majority of the systems discussed here are related to Palaver Tree in that they use computing technology to connect people to an educational end.

Most of the systems I will discuss fall into two broad categories. Computer Supported Intentional Learning Environments (CSILE) and the Knowledge Integration Environment (KIE) are examples of projects that aim to change classroom culture from teacher-centric to more fully collaborative – mimicking the culture of scientific professionals. Kids as Global Scientists (KGS) and the CoVis Mentor Database (CVMD) aim to support classroom activity by connecting students with outsiders – science professionals (in both cases) and other students (in the case of Kids as Global Scientists). The final project I discuss, the Presence Project (PP), does not deal with the classroom at all. Instead, this project aims to connect elders more strongly with their communities through the use of technology.

4.1 Computer Supported Intentional Learning Environments

Scardamalia and Bereiter’s work on CSILE (Computer Supported Intentional Learning Environments) (Scardamalia & Bereiter, 1994), now known as Knowledge Forum, provides one
of the earliest examples of software support for collaborative learning. Work on CSILE started prior to 1989 (Scardamalia, Bereiter, McLean, Swallow, & Woodruff, 1989) and its development of technological support for collective knowledge building in the classroom proved foundational for the CSCL community. While CSILE focuses generally on supporting science learning, some users have extended its use to domains such as history and the social sciences (Hewitt & Scardamalia, 1996), and mentoring (O'Neill & Scardamalia, 2000).

Students participating in CSILE do science projects and enter their results into the CSILE software. The CSILE interface structures their messages in the system in such a way that students can provide additional evidence for each others’ work and advance particular theories about scientific phenomena within the classroom. The pedagogy behind this design is known as knowledge building. Such environments have three major components (Scardamalia & Bereiter, 1994):

1. Intentional learning – an environment where students work actively to achieve a cognitive objective and diagnose themselves along the way,

2. Process of expertise – establishing a pattern of progressive problem solving, and

3. Restructuring schools as knowledge-building communities – creating collaborative environments where participants continuously raise the standard that others strive for.

Each of these points to one of the fundamental goals of CSILE: to aid in the creation of a classroom culture similar to that of the scientific community (characterized by Latour (Latour, 1987)), that is, a community built on peer review and good-spirited competition. Essentially, this means moving from a teacher-centered instructional philosophy to a community of learners, where students spend more time learning from each other than from the teacher.

In chapter 3, I discussed Vygotsky’s notion of zone of proximal development – characterizing the support that more sophisticated students or adults provide in order to allow less experienced
students to move from a state of needing guidance to complete a particular problem to a being able to do the problem independently. The creators of CSILE build on this notion. They argue that, through collaboration among many students, a collective zone of proximal development (CZPD) is formed. This collective zone is defined by the set of activities the entire classroom can profitably engage in collectively (Scardamalia & Bereiter, 1991).

While this work is certainly preceded by curricular attempts to engage students as individuals in the processes of scientific inquiry (Bruner, 1960), CSILE provides the first example of an attempt to engage the class as a whole in the processes of a scientific community. In this new instructional paradigm, teachers serve as facilitators helping students create this CZPD by helping students use appropriate discourse strategies, focusing their discussions, and aiding them in finding the appropriate resources to do meaningful projects.

The CSILE software aims to support the creation of knowledge building communities in the classroom by providing a central repository for the knowledge collected by students and the teacher as they work together. This database is empty at the beginning of the year and grows along with the classroom’s advancing knowledge, providing a record as well as supporting specific collaborative activities.

CSILE consists of a client application and server software. Discussion is central to CSILE and takes the form of notes which can contain text and graphics as well as links to followup notes – all of which are publicly viewable by the whole class. Notes are categorized in order to encourage particular kinds of thought (high-level questions, new learning plans, and what I know) and status (public anonymous, public named, candidate for publication). The “candidate for publication” status is a particularly important because they initiate the peer review process. If enough students agree that a candidate note reflects the current state of knowledge in the classroom, it becomes a published result of their collective knowledge.
One of the key design decisions in this work is the elimination of the “separate folders” paradigm. Much software designed for the classroom (and elsewhere, for that matter) collects all the work done by each participant into a folder. CSILE, on the other hand, has no concept of folders, opting instead to present every contribution of a child alongside work by their peers. The designers argue that “requiring students to work on the same objects and in the same screen regions provides affordances for shared cognitions” (Hewitt & Scardamalia, 1996). In order to help users make sense of this mass of information, CSILE offers a Knowledge Map facility, which provides a symbolic overview of the discussion space.

While Palaver Tree Online does not specifically aim to change classroom culture to one of historical scholarship, it does aim to move from the more static view of history given by many textbooks (Holt, 1990; Loewen, 1995) to a more student-driven approach focused on students doing historical research. I believe that, implicit in the design of CSILE, is the notion that students should be given ownership of the database in which they store their collective knowledge. Implicit also in the design of Palaver Tree Online is the notion that students should be given ownership of their educational experience – interviewing elders about their life experiences and creating projects that share those stories. Thus, the primary lesson I take from CSILE is that student-driven approaches to learning not only provide motivation but also begin to mirror real-world practice.

4.2 Knowledge Integration Environment

The Knowledge Integration Environment (KIE) (Linn et al., 1998) (now known as the Web-based Inquiry Science Environment, or WISE), has been under development since the early 1990’s (Bell, Davis, & Linn, 1995). Like CSILE, KIE also aims to improve science learning by providing support for doing collaborative science investigations in the classroom. KIE is
different from CSILE, however, in that it is more structured and focuses more strongly on evaluation of scientific evidence.

Students begin their work in KIE by stating their personal position on the question at hand. One such question might be “how far does light go?” Students then review evidence in the KIE knowledge base and on the web, deciding if each piece supports, contradicts, or is irrelevant to the position they have decided to take. This is followed by a brainstorming session where students use evidence from their lives to try to bolster their arguments. Students then use KIE to build a scientific argument that uses the evidence they have developed. Finally, they present their arguments and respond to questions from other students and the teacher. (Bell et al., 1995)

KIE is based in a pedagogy called the Scaffolded Knowledge Integration framework (SKI) (Linn, 1995). This approach aims to enhance the repertoire of scientific models students are able to apply when they encounter new scientific problems throughout their lifetimes (Linn & Eylon, 1996; Linn & Muilenburg, 1996). At a high level, SKI aims to provide students with (Linn, 1995):

1. Provide students with accessible science models – choosing goals for science courses that help students solve personally relevant problems in the future,

2. Make thinking visible – guiding students through important scientific activities such as comparing results,

3. Encourage autonomy – actively engage students in critiquing evidence in order to encourage the development of autonomous problem-solving skills, and

4. Provide social support – creating a ‘community of scholars’ in the classroom.

This model has much in common with CSILE’s knowledge building agenda. Both philosophies emphasize empowering students to take charge of their own learning experience,
create communities of learners in the classroom that are less teacher-centric, and to provide students with models for thinking about the creation of scientific knowledge. Perhaps the most important difference between CSILE and KIE is in implementation of these ideas. CSILE focuses on the creation of a central storage mechanism for the class to create knowledge collectively, and providing a general structure for peer review. KIE is a more structured environment, aiming to provide specific projects, a database with evidence for use in those projects, and specific scaffolding for learning to evaluate evidence.

KIE consists of an evolving set of software components. As of this writing, the most recent journal article numbers these components at five (Linn et al., 1998). The two core supports are the Tool Palette, which provides access to all the other parts of the system, and Mildred, a scaffold that provides hints and reminders to students as they work using any tool in the system. To support particular pieces of the scientific learning process, KIE provides the SenseMaker argument structuring tool, an asynchronous discussion interface called SpeakEasy, and a database of scientific evidence called the Network Evidence Database (NED). Together with the appropriate classroom culture, KIE aims to provide the structure necessary to allow students to learn important scientific concepts while freeing the teacher to spend more time helping students understand those concepts rather than dealing with logistics.

Ultimately, the KIE software provides two high-level contributions in service of their goal of encouraging lifelong learning (Linn et al., 1998). First, they argue that students gain familiarity with technology that can be leveraged in the future. In particular, the Network Evidence Database gives students access to many more sources for scientific information than a typical classroom. KIE supports students in acquiring the skills to meaningfully analyze scientific evidence and use that evidence to work towards developing a coherent picture of the forces at work. The second high-level claim of KIE is that it supports projects that promote effective
knowledge integration on the part of students, especially when dealing with complex topics – for instance, understanding light and heat.

As discussed above KIE, like CSILE, attempts to change classroom culture to empower students to take a more active role in the learning process. Thus, KIE provides similar lessons for Palaver Tree Online about the roles software can play in facilitating this change. In addition, KIE crystallizes important issues with regard to information quality. KIE takes a careful approach to this with its specific focus on evaluating evidence and the provision of a database (NED) that provides students access to a well-known set of evidence. Palaver Tree Online, on the other hand, provides students access to data which is not so well-reviewed – elder’s stories. Thus, one new lesson I have taken from KIE is that students need to have an understanding regarding the quality of evidence they are receiving. In PTO, the teacher provides an important scaffold in helping students remain aware that, in general, what they are hearing from elders are the opinions and experiences of one person.

### 4.3 Kids as Global Scientists

CSILE and KIE both focus on classroom learning – finding ways to use technology to scaffold students and support more student-student collaboration in the classroom. The next two projects I will discuss extend these collaborative ideas beyond the classroom.

The Kids as Global Scientists project (KGS) (Songer, 1996) (sometimes known by the name of its parent organization: One Sky, Many Voices) is an online community designed to support students exploring atmospheric phenomena by connecting them with scientists and other students. Participation in KGS is split into three phases. First, students make self-introductions on a web-based message board. Then, they spend two weeks gathering local data on one of four topics in atmospheric science. Students then spend a final three weeks using the same web message boards
to share their newly developed knowledge with other classrooms world-wide and listening as other students do the same (S.-Y. Lee & N. B. Songer, 1998; Lee, Songer, & Samson, 1998).

KGS has grown out of early work done with Marcia Linn (Linn & Songer, 1993) (which dealt with scaffolding students to build increasingly complex and abstract representations of science concepts) and developed into an inquiry-based philosophy called the *KGS learning approach* (H.-s. Lee & N. B. Songer, 1998a). This approach has four major components:

1. Students as active learners – helping students develop understandings of scientific concepts on their own,

2. Supporting more complex forms of thinking – question formulation and refinement, development of sophisticated explanations, and communication skills,

3. Exploring authentic questions on current topics in science – curricular activities that focus student knowledge not on fixed dogmatic knowledge or process, but development of relevant questions and rich, content-based explanations,

4. Harnessing distributed expertise via the Internet – inspired by work done by Ann Brown, et. al. (Brown et al., 1992) on the power of distributed knowledge *within* classrooms, KGS aims to leverage the power of sharing distributed knowledge *across* classrooms.

Essentially, the project aims to make students familiar with scientific practice by involving them in it directly. KGS involves kids in hands-on experiments, sharing data with remote classrooms, and asking questions of experts. Students take on the roles of data collector, reporter, and dialog participant. Teachers act as facilitator of student research and monitor the quality and quantity of information students receive from outside sources. Online mentors and distributed peer experts serve as knowledge resources. In order to assure a large degree of interaction between kids in classes around the globe, all participating classrooms are asked to implement the KGS curriculum at the same time.
KGS features three main components: *Networked CD-ROM*, *web-based message board*, and *written curriculum*. The CD-ROM provides archived weather data as well as software that allows kids to view real-time weather data online, including temperature and satellite maps from around the world. The Message Board is a place where kids discuss their findings with other classrooms and experts – this is where the majority of online collaboration happens. Finally, there is a plethora of curriculum materials, which provide teachers with everything from planning materials to classroom handouts to hands-on activities.

KGS has made contributions to what we know about supporting inquiry-based science learning on a large scale through studies of learning about Coriolis force (H.-s. Lee & N. B. Songer, 1998a), learning from making weather predictions (Y. J. Lee & N. B. Songer, 1999), building large-scale communities of students doing scientific inquiry (S.-Y. Lee & N. B. Songer, 1998, 1999), and deploying these projects in diverse classroom environments (Kam & Songer, 1998; H.-s. Lee & N. B. Songer, 1998b). For the work discussed in this thesis, however, perhaps the most important contribution of KGS is the insight it provides into software support for collaboration and learning among non-collocated groups of kids and adults (Lee et al., 1998; Luehmann & Songer, 1998). In 1999, for instance, KGS worked in 240 schools with 10,100 students, and 45 scientists. With this kind of kid-adult ratio (more than 200:1), and with over 82% of the total messages posted by kids, the emphasis is clearly on students sharing data with other students online (S.-Y. Lee & N. B. Songer, 1998). This contrasts with my work, where communication with adults is fundamental to the ongoing success of the project – the goal of my work is to have kids research the life stories of elders.

While there are significant differences between KGS and PTO both in terms of subject matter and implementation, there are still important lessons for PTO. Any project that coordinates work among non-collocated groups has to deal with a number of important logistical issues. For instance, adult participants in KGS are asked to respond to students within twenty-four hours of
receiving their message. Based on these ideas, I added a reminder in PTO, asking elders to respond within a specific time limit as well.

More importantly, KGS provides insight into how one structures communication among kids and adults working together online. As indicated above, students in KGS start by introducing themselves, then collect local data, then share that knowledge globally. I took the high-level idea of providing a somewhat formal structure for kid-elder interaction from KGS and created an interaction model aimed at connecting kids and elders in online oral history. My model also starts with a form of introductions (reading elder profiles), moves though collecting data (doing elder interviews) and finishes with a presentation of that data to a broader audience (online student projects). Thus, I take the high-level structure from KGS. See section 7.3.1 for more on this model.

4.4 CoVis Mentor Database

The CoVis Mentor Database (CVMD) (O'Neill, 1998) is an online mentoring system that connects kids with scientists. These scientists offer guidance through e-mail as the students work on science projects. Through working with adults online, students learn about scientific practice and get specific advice on their projects. CVMD is founded in the philosophy of project based learning (Barron et al., 1998; Blumenfeld et al., 1991). Specifically, CVMD aims to explore the ways in which online adults might support and improve project based science learning in classrooms.

The relationships in CVMD are more structured than those in KGS. In fact, the software provides only for communication between students and the adult their group is working with. In CVMD, students working in groups formulate specific questions about a science project being done in the classroom and send those questions to science professionals recruited from USENET and elsewhere. Groups of 1 to 5 students are assigned to each mentor and send questions to that
mentor over the course of their project. Students were given an “activity structure” which informed them of the due dates of various parts of their science projects, but were left relatively free as to how they would interact with their mentors. Many students found their mentors very helpful and sent numerous questions; some sent fewer and indicated their mentors were less helpful.

One of the most important contributions of the CVMD work is an improved characterization of the nature of online relationships between students and adults. From this work comes a tool called analysis of genre use that may be used to gain insight into students’ understandings of scientific persuasion in a relatively noninvasive manner. This approach involves careful coding of student arguments using well-known features of the genre students are asked to emulate (in this case, the genre is IMRD, or Introduction, Method, Results, and Discussion). Using this tool, O’Neill has uncovered two important characteristics of CVMD telementoring relationships: (1) a significant relationship between student performance of the typical persuasive functions of a scientific resource article and sustained communication with telementors, and (2) a significant relationship between careful hedging of knowledge claims and sustained discussion with telementors (O’Neill, 2001).

An additional contribution of CVMD is the support it provides for online mentors. Often, projects which use technology to connect students and adults online spend a great deal of time structuring and providing support for classroom activity and less time providing support for participating adults. CVMD makes important strides towards supporting the telementors in these relationships by providing a detailed guide, The Telementor’s Guidebook (O’Neill et al., 2000), that provides extensive examples and guidelines for adults participating in telementoring relationships with students.
Of the projects discussed here, CVMD is the closest to Palaver Tree Online. Each deals specifically with creating explicit relationships between students and adults (adults as mentors in CVMD, adults as resources in PTO) and understanding how teachers and technology can play supporting roles in making those relationships work well. The primary differences between CVMD and Palaver Tree are in application domain (history vs. science), the provided software tools, and community building.

Thus, of all the projects discussed here, I take the most from CVMD. For example, CVMD provided some early ideas for how to organize kid-adult discourse. As discussed above, one to two kids worked with each adult mentor in CVMD. The way I structured kid-elder interviews in my early work with e-mail was heavily influenced by CVMD – kids in my work were also assigned specific elders to work with.

Another place where I take inspiration from CVMD is in the elder recruiting feature built into that software (O'Neill, 1998, pp. 195-214). CVMD showed that (1) providing a database of adults willing to participate with students and (2) tools to search that database can provide significant support to teachers doing such projects. PTO provides similar features in support of teachers doing online oral history.

Palaver Tree has a much stronger focus on software infrastructure than CVMD. For instance, the system allows students to create online graphical artifacts. An important factor in how much help CVMD mentors were able to give was how much access they were given to the projects students were working on. Since the only interaction between kids and their scientist mentors was e-mail, the degree to which mentors were aware of the state of student projects was directly related to the students’ ability to convey that state textually. There was a distinct sense on the part of mentors of “very much working in a black box” (O'Neill & Gomez, 1998, p. 332). In
addition, it took a great deal of work for students to convey the context for difficulties they had in doing their work and the specific details of their current focus.

This visibility issue is something I attempt to address specifically. In my work, I aim to provide a more robust interaction medium, where kids work online, making their current work and progress distinctly visible to adult commentators. Moving projects online may prove to be a motivating factor, as kids are creating not just for their classmates but for a larger audience on the Internet. Finally, when visibility is increased a new genre of interaction is enabled – explicit feedback.

4.5 The Presence Project

So far, the projects I have discussed have focused on creating connections between students in the classroom (CSILE, KIE) and combining that with online outsiders (KGS, CVMD). Of the projects that deal with online outsiders, the focus is on connecting students with science professionals. The key qualification for adults in Palaver Tree Online, on the other hand, is that they have life stories to share that are related to what students are covering in class.

The Presence Project (PP) (Gaver, Hooker, Dunne, & Farrington, 2001; Hofmeester & Germain, 1999), on the other hand, looks for ways to use technology to give elders a stronger voice in their communities by providing them with new means of communication – ways to bring in information from their communities, process it, and have their voices heard. PP work was done in three locations: Peccioli (Tuscany, Italy), Majorstua (Oslo, Norway), and Bijlmer (Amsterdam, Holland). The most successful instantiation of the project was called Projected Realities (Gaver & Dunne, 1999) and took place in the Bijlmer, a massive Dutch housing development with a very poor reputation that includes a perception of widespread unemployment, drug abuse, and crime.
In order to improve the voices of elders in such an environment, the PP researchers looked to find new ways to provide elders more of a voice in their community – more opportunities for making their needs known, rather than attempting to address the Bijlmer’s apparent problems more directly. The design rationale here was that elders are the ones who know the Bijlmer the best while being largely underrepresented. By giving them a voice, one might uncover the true nature of the Bijlmer while helping elders have their voices heard by the community at large.

The initial phase of this work involved gathering information on the elders through cultural probes – packages sent to many elders in the community that contained maps for elders to mark places they felt comfortable, scared, inspired, etc., a camera to take photos of things they found particularly meaningful, and others information gathering instruments. Using the data collected from these probes, the Projected Realities team developed and refined a set of prototypes designed to improve the voices of elders in the community. They then showed the prototypes to the elders.

The final prototypes included two different kinds of displays and a means to access those displays. Slogan furniture is in outdoor areas of the Bijlmer and used text to show a set of provocative statements provided by local elders. Passers-by indicate agreement with a particular statement through an interface on the device. Image boards display images scanned in by elders along roads and rail lines surrounding the Bijlmer. These displays show the images related to the statements being displayed on the closest slogan furniture. The idea behind both of these displays is to give a richer view of the richness of the Bijlmer than the bleak environs provide.

The next two pieces of the Projected Realities system are scanners and mains radios. Scanners allow elders to scan photos and other material for display in the system and provide textual descriptions as well. Mains radios allow elders to view what is being displayed on the
slogan furniture and image boards from their homes or anywhere else in the vicinity of the Bijlmer.

A final important piece of the Projected Realities system is the link that brings together all the elements of the system. The fact that the displays are all linked allows elders in their homes to see how their neighbors are feeling and see where the community is in agreement. If one dislikes what the slogan furniture is saying, it might drive them to enter a different message. If one dislikes what the image boards are displaying, they might scan in new images to reflect their different perceptions of the community. The idea here is that the public display of elders’ feelings drives dialogue among elders as well as with other members of the community.

One key thing PTO has in common with PP is that both are attempting to give elders a voice and an audience for that voice. In PP, the audience is the local community; in PTO, the audience is students. PP and PTO have taken different paths to get to this goal, with PP instrumenting the local community and PTO creating an online community. However, each project is making the important point that elders’ voices are often undervalued and need to be heard.

In fact, to the surprise of PP designers, children were particularly attracted to the slogan benches in Projected Realities: “The provocative slogans drew kids into discussions with other kids as well as their parents about the issues affecting their community.” (Gaver et al., 2001, pp. 182-183) Thus, even though the system was not explicitly designed to support kids and elders interacting, the two groups were drawn to each other through it. As I began my work, I was unsure about how interested students would be in interviewing elders. The ideas provided in the Projected Realities work provided some early evidence that students might be more engaged than I expected.

Rather than aiming to address a particular issue in the community, the designers of Projected Realities decided to provide a new communication mechanism that made particular things visible
in order to see where that lead. Palaver Tree takes a similar approach. I made a conscious effort in the design and implementation of the system to give users as much freedom to interact in the way they saw fit as possible. In this way, I attempted to give students and elders ownership over their interactions with one another. Ultimately, I believe approach allows users to appropriate the medium for themselves and potentially have more personalized discourse as a result.

4.6 Summary

In this chapter, I have reviewed a number of systems that inspired the design of Palaver Tree Online. I began by discussing Computer-Supported Intentional Learning Environments, one of the earliest systems to explore software support for collaborative learning. One thing that CSILE and PTO have in common is an interest in changing how students think about discipline. Specifically, CSILE attempts to change the classroom into a community of scientific inquiry, and PTO aims to change student thinking about history from the more static ideas encouraged by many textbooks to a more dynamic story of which they are a part.

The Knowledge Integration Environment is another early CSCL system with a focus on doing collaborative scientific inquiry. KIE is more structured, however, and focuses more specifically on the evaluation of scientific evidence. Specifically, KIE provides students with data from different sides of ongoing scientific debates and asks them to formulate their own ideas about who is right. PTO provides no such database of historical information, so students are asked to deal with data that has not been so well reviewed – elders’ stories.

A system that is closer to the specific mechanics of PTO is Kids as Global Scientists. Instead of focusing on classroom learning (as CSILE and KIE do), KGS focuses on creating an online community dealing with the sharing of scientific information. Kids do scientific research locally, share their data with other classes globally, and hear about the scientific investigations of those other classes as well. Scientists participate as mentors. In terms of my research, one of the most
important contributions of KGS is an understanding of how we might support kid-adult interactions on online. An important difference between KGS and my work is that KGS’ kid-adult ratio is about 200:1. In order for online oral history to work, that ratio needs to be much more equal.

The CoVis Mentor Database is the project most closely related to my work. CVMD is a system that aims to support students doing science projects by connecting them with online mentors that provide guidance and feedback on their work. One feature of CVMD that proved important for PTO as well is the provision of support materials for online adults – materials that make their roles clear and answer typical questions. Without such materials, online adults would be much less effective in participating with students remotely. An important issue that CMVD raises is that of project visibility. Students in CVMD could use only text to convey the problems they were having doing their projects to mentors. This created a situation where mentors felt like they were in a “black box,” that is, they did not always have enough information to give students appropriate assistance. In my work, I aim to specifically address this issue by moving projects online.

Lastly, I discuss the Presence Project. This work represents a departure from the other projects discussed here in that, instead of dealing with students or students and online adults, it deals with elders alone. Specifically, PP aims to give elders more of a voice in their communities. The designers approached this problem by creating a number of prototype systems that explored different ways, both textual and pictorial, to convey how elders felt about their community using large outdoor displays. One thing PP and PTO have in common is an interest in giving elders a voice and an audience for that voice. In PP that audience is the local community and in PTO that audience is students.
Each of the systems discussed here has important lessons for the design of Palaver Tree Online. Perhaps the most important lesson offered by all five is that, for such systems to be successful, participants must be clear on their roles and software must be careful to support those roles and even enable new ones. As I began the early fieldwork for Palaver Tree Online, I aimed to understand how I might best support kids, elders, and teachers as they work together.
CHAPTER V

PROTOTYPING ONLINE ORAL HISTORY WITH E-MAIL

To better understand how computing technology might assist or hinder the online oral history process, I prototyped an online oral history system using e-mail and mailing lists. I did two such studies – a small scale one focusing on World War II and a larger scale one focusing on the Civil Rights Years. This process allowed me to gain an understanding of how software might improve online oral history without the overhead of software development. Had I forged ahead without using existing technology to uncover the issues, I may have learned the same lessons during the software development process, but the cost of change would likely have been much higher. The studies discussed in this chapter also appear in CSCL 99 (Ellis et al., 1999).

A number of prototyping techniques appear in the HCI literature. Preece et. al. identify four primary prototyping techniques: requirements animation, rapid prototyping, evolutionary prototyping, and incremental prototyping (Preece et al., 1994). Requirements animation allows likely requirements to be demonstrated to users in a software prototype. Rapid prototyping emphasizes the creation of a prototype and the evaluation of that prototype to test design ideas with the understanding that the design might be thrown out based on user feedback. Evolutionary prototyping is a compromise between actual system implementation and prototyping. Here it is important that the system accommodate change during and after development. Incremental prototyping describes the situation where a system is developed piece-by-piece, each segment is evaluated independently, and the whole is evaluated once the pieces are assembled.

Prototyping CSCW and CSCL systems, however, is more complex than traditional single user applications. As Grudin describes it:
Users can be tested in a laboratory on the perceptual, motor, and cognitive aspects of human-computer interaction that are central to single-user interactions. But lab situations and partial prototypes cannot reliably capture complex but important social, motivational, economic, and political dynamics. (Grudin, 1994, p. 100)

When designing such systems, one is left with a chicken-and-egg problem. To truly understand how one might structure applications that support new forms of collaboration, designers need to build and deploy functioning networked applications. However, the creation and deployment of such an application requires significant resources in development, deployment, and evaluation. Prototyping of such systems requires a level of sophistication and functionality in the prototype that is not necessary for prototyping single user systems. This goes against one of the fundamental ideas of prototyping – that a designer/programmer be able to create “a realistic prototype quickly and efficiently” (Dix, Finlay, Abowd, & Beale, 1998, p. 207). How does one resolve this dilemma?

I addressed this issue by using an approach similar to evolutionary prototyping to allow the exploration of online oral history before any implementation work began. The fact that I was approaching a new practice (online oral history) meant that there was no existing practice for me to model this work on. Thus, prior to building any system prototypes, I evolved a model of how online oral history might work by using e-mail to prototype the environment at a low cost in two initial studies – prototyping with existing technology. I took the lessons learned from the early work discussed in this section as input to the design of a system to better support the process of online oral history (discussed in chapter 7).
5.1 World War II E-mail Study

At the end of the 1997-1998 school year, I did an informal small-scale study, with kids exploring World War II (WWII) history. This study took place in the aforementioned Atlanta middle school (see chapter 2), in a teacher named Andrea’s 8th grade classroom. Fourteen students participated along with two elders in this week-long project.

The primary questions I aimed to answer with this study were the following:

1. Will elders be willing and able to use e-mail to share their life stories with students?
2. Will kids be interested in hearing stories from elders online? Will it be motivational?
3. How does the interaction begin? Where does it start? Where can it go from there?

I relied on the teacher for ideas on how to successfully integrate elders into the classroom. She suggested we begin with background reading and then use that to help students brainstorm questions that the elders could answer. The kids would then ask follow-up questions based on the elders’ responses (see table 1).

Table 1: First online oral history interaction model.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Background</strong> - students read literature from the standard curriculum and elder profiles</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Brainstorming</strong> - kids brainstorm questions based on their reading and send them to elders</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Elders Reply</strong> - elders respond with answers, stories, photos, cartoons</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Going Deeper</strong> - students ask deeper questions based on elder replies (repeat from step 3 as necessary)</td>
</tr>
</tbody>
</table>
The class was studying the play, “The Diary of Anne Frank,” as part of their standard curriculum. I found two WWII veterans online and willing to share their stories. The class was broken into two groups and the teacher helped each group brainstorm 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 (see figure 1).
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. Due to time constraints, however, students were not able to ask follow-up questions of the elders as planned (see table x) – the end of the school year had arrived. Thus, an important lesson I learned from this work is that time constraints are a very real issue when working in the classroom. Leaving extra time at the end of projects is required in order to assure the project reaches completion.

Through this study, I began to understand the feasibility of the online oral history concept and the potential benefit to both kids and elders. It seems clear that the Internet can play a critical role in connecting students with elders who have stories to tell. Specifically, I found the following:

1. Elders were ready and able to share their stories online. I also found that it serves a real need for them – the need to pass down their stories and lessons learned to kids. For instance, one...
elder commented: “Incidentally, today is my 73rd Birthday and I feel great knowing I'm doing this for the newer generation!!!”

2. Students enjoyed working with elders. They were excited to hear elders’ stories and to hear people who lived the events answer their historical questions. They talked about the elders’ responses in class at length.

3. I relied on the teacher for ideas on how to best structure the activity from beginning to end. We started with literature already being covered in class and that provided a way to segue into online oral history that was relevant to the curriculum.

5.2 Civil Rights Years E-mail Study

In the 1998-1999 schoolyear, I continued my work within the same inner city Atlanta middle school. I chose to do an expanded version of the prior project exploring the history of the Civil Rights Years – students would interview older African Americans about their experiences. This time, I teamed with a 6th grade teacher named Michelle. Students worked in groups of 2 to 3 and her class of 24 students exchanged messages with 10 elders.

The primary questions I aimed to answer with this study were the following:

1. Will integrating local elders into a project work?

2. Will online oral history work on a larger scale? What impact will more elders and smaller groupings of kids and elders have? What will the issues be?

3. Are there differences between the attitudes of students who do online oral history and those who participate in a more standard curriculum? If so, what are they?

4. How will student projects work? What sorts of projects are well suited to online oral history? Will students be able to integrate what they hear from elders into a project?
5.2.1 Initial Work

Work for this study began in September 1998. The initial idea was to have kids interact with neighborhood elders online and through two face-to-face visits. Elders would come to the classroom at the beginning of the semester for introductions, they would exchange e-mail for several weeks, and then the elders would return to the classroom to review student projects. Because teachers are overwhelmed with work, allowing students access to the stories of their neighborhood without requiring teachers to handle the logistics of continual class visits appeared the correct direction. To this end, I made contact with a nearby housing project for the elderly and set up a computer center there. I 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 were retired and simply operated at a different pace than perhaps younger folks might be accustomed to. Meetings took time to arrange, phone calls took up to a week to return, and training sessions were 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 required 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. Then, two of them became too sick to participate and one became unreliable, so we were left with two local elders.

I then looked at several other local venues in order to find the remaining elders I would need, but I decided instead to attempt to recruit the remaining elders from the Internet. I sent a posting to a mailing list called Black Geeks Online (http://www.blackgeeks.net/) and, within seven days, I received e-mail from more than 100 older African Americans who were ready to share their stories. Over 70 of those respondents filled a web form with background information on their life
experiences and what they would like to discuss with kids. These profiles were included in my growing database of online elders.

Even though there were great resources in the local community, harnessing those resources required a large amount of effort. In this early study, the power of the Internet lay in its ability to bring kids and elders with real historical stories to tell together more easily.

With the World War II project as example, Michelle and I extended the kid-elder interaction model to include projects. This second model came largely from her gut feeling about how such a project might integrate with the curriculum and generate an outcome that could be evaluated. We included a recruiting phase at the beginning to reflect the database of elders I had established for teachers (see table 2).

Table 2: Second online oral history interaction model (extended to include projects).

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Recruiting</strong> - teacher recruits elders from our elder database</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Background</strong> - students read literature from the standard curriculum and elder profiles</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Brainstorming</strong> - kids brainstorm questions based on their reading and send them to elders</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Elders Reply</strong> - elders respond with answers, stories, photos, cartoons</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Going Deeper</strong> - students ask deeper questions based on elder replies (repeat from step 4 as necessary)</td>
</tr>
<tr>
<td>6.</td>
<td><strong>Projects</strong> - kids build artifacts based on elder responses</td>
</tr>
</tbody>
</table>
Finally, I spent a large amount of time working with the teacher to develop the curriculum, and we chose to cover portions of the “Justice for All” unit in their textbook: *Elements of Literature* (Probst, Anderson, Brinnin, Leggett, & Irvin, 1997). Students were given the assignment to create an artifact exploring a particular topic having to do with the civil rights era. The teacher gave students a list of project topics to choose from. This list included topics like racism, Martin Luther King, Jr., civil rights, and the Black Panthers. She also suggested the format these projects might take. Suggestions included a report, a letter, and a poster.

5.2.2 Study Design

This study 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 (see table 3).

<table>
<thead>
<tr>
<th>PORTION OF CLASS</th>
<th>EXPERIMENTAL</th>
<th>COMPARISON</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 30 minutes of class</td>
<td>Standard lesson</td>
<td>Standard lesson</td>
</tr>
<tr>
<td>Final 20 minutes of class</td>
<td>E-mail work</td>
<td>Library research</td>
</tr>
</tbody>
</table>

I 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. I interviewed 5 students in each class before and after the project to further assess their feelings towards history and elders. I also observed many of the classes.
5.2.3 The Study

The study took place during the final three weeks of April 1999. The teacher and I selected 10 elders from the elder 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 (O'Neill & Gomez, 1998).

In the first week, I gave a whole-class introduction to Yahoo Mail (http://mail.yahoo.com/), our e-mail provider. For the remaining time, I 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, I 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, I printed them out and gave them to the students. Similar strategies were used in technology-poor classrooms participating in Kids as Global Scientists (Kam & Songer, 1998).

When Michelle used e-mail in class, she would start by discussing the background 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 textbook (Probst et al., 1997). 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 use the colored bathroom and stay at the colored hotels in New Orleans and along the way in Mississippi. As a 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 I recruited another to take his place. Quick e-mail turnaround is important – if one wants 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.

The study was fraught with the standard school interruptions – field trips, last-minute assemblies, and the school computer network being down. Due to these delays, I hoped to extend the project. However, for administrative reasons, an extension was not possible. Thus, six of the student groups were able to send two messages to their elder while the remaining four sent one. Each of the messages received a response.

5.2.4 Results

In the e-mail exchanges, kids posed questions quite similar to those found in the World War II 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. In order to give a general feel for the sorts of discussion that took place, the types of questions students asked have been classified into seven categories (see table 4).

Table 4: Percentage of questions students asked, by question topic.

<table>
<thead>
<tr>
<th>QUESTION TOPIC</th>
<th>PERCENTAGE OF TOTAL QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil rights</td>
<td>31%</td>
</tr>
<tr>
<td>Racism</td>
<td>28%</td>
</tr>
<tr>
<td>Personal</td>
<td>18%</td>
</tr>
<tr>
<td>Segregation</td>
<td>8%</td>
</tr>
<tr>
<td>Slavery</td>
<td>8%</td>
</tr>
<tr>
<td>Black Panthers</td>
<td>5%</td>
</tr>
<tr>
<td>Unclear</td>
<td>2%</td>
</tr>
</tbody>
</table>

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 (the longest message was 11 pages), but the average was a short paragraph for each answer.

Kids created projects 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. I found no discernable difference in quality between the artifacts created by students in the experimental and
comparison classes. The teacher indicated that grades showed students performing at the same level as they had on prior projects in her class. Only one group clearly referenced the elder e-mail in their project.

Interviews revealed some of the impact of interacting with elders. 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 stuff and I was like whoa! … I was surprised. I thought she knew some stuff, but not a lot of stuff.” Katherine also identified a change in her attitude with respect to race relations:

I learned that even though [whites] did that stuff, you still can't be mad at them because they aren't doing it today even though there are some places we can go and some we can't. Like in Atworth, we can't go up there because at night they'll be mean to you and stuff…at first I was judging white people, I didn't like them - - I just kinda stand them. But then when I seen it from [the elder’s] point of view, then I take things slowly and I can't judge a book by its cover.

Another student, Terra, 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 students did not find e-mail as helpful. For instance, 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.
5.2.5 Discussion

This work helped me further develop the process of online oral history. It looked at online oral history on a larger scale and extended the interaction model to include projects. Specifically, I found that:

1. Integrating local elders into the classroom is more complicated than I initially expected. Finding local elders that are knowledgeable on the topic students are covering and interested in working with kids can be difficult. In addition, even once elders who meet those criteria are found, getting equipment donated and set up as well as training elders to use that equipment is a complex and time-consuming task – certainly too much work for most already overworked teachers.

2. Online interviews did appear to work on a larger scale. Students worked with their assigned elders and roughly half of them were able to ask follow-up questions based on elders’ initial responses. Kids were able to ask more questions of their own as opposed to the World War II work where there were many more students to a group.

3. There was a change in attitudes. While the attitudinal surveys showed no changes in attitudes, the interviews I did with students showed some impact for the students who participated in online oral history.

4. Most students did not incorporate elder stories into their projects. This is discussed in more detail in the paragraphs that follow.

Students were excited to interact with elders online. I found this in my interviews and through observation. Kids repeatedly asked me in class if they had gotten a response from their elder yet, and smiles glowed on their faces when they read through their replies.
Most students did not use the e-mail in their end project. Nearly all projects were almost solely based on what was covered in the textbook. I 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 my intuition that the kids I was working with may have been too young to effectively integrate multiple resources. Michelle suggested that this might be the case since students at this age (11-12) generally do projects the night before and based on whatever materials they can find most easily. To address this issue, I used a slightly older group of students (13-14 years old) in my later work.

A number of students were unclear about the meaning of the elders’ stories. The majority of the students indicated that they felt elders could not help them with their projects because they were only telling stories about themselves. One student in particular was doing her project on Rosa Parks and said that the elder she was conversing with did not help her with her project because she did not know Rosa Parks personally. However, the elder shared vivid stories about her experience in the bus boycotts and how Rosa Parks was a hero to her. I needed to do something to help students understand that the stories they hear from elders are just as valid history as the stories they read in textbooks.

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 my project was ongoing were fraught with
interruptions in the classroom. I believe the limited time on task kept students from feeling as much ownership for their interactions with elders as they could.

5.3 Lessons for Doing Online Oral History in the Classroom

This study showed several ways to better integrate online oral history into the classroom. While some of these lessons are well known, I 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. (Hickey, Kindfield, Wolfe, & Heidenberg, 1999) shows that a computer lab may be helpful in this case, but having more computing facilities in the classroom itself is much better. One of Hickey’s concerns is that students lose time traveling to and from computer labs. In my later work, I addressed this by having students meet at the lab instead of going to class first.

*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 (Songer, 1996) mandated a 24 hour reply time limit for everyone involved. In an informal post-survey, the elders here indicated they would prefer two days to respond. Palaver Tree handles this by having elders sign an online form in which they agree to answer student questions every two days.

*Teaching with elder responses.* Some teachers may have difficulty thinking of ways to integrate elder responses into their lessons. Providing examples of ways to teach with elders’ stories is an important part of making kid-elder discourse part of the classroom.
5.4 Ideas for the Design of Software to Support Online Oral History in the Classroom

This study has given pointers to a number of ways that software could potentially support online oral history:

*Shared profiles.* Students felt that they would have liked to know more about the elders they were interviewing before initiating the interview. A system that better supports online oral history would provide students easy access to background information on elders.

*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 (Kolodner & Guzdial, 2000; Kolodner, 1993)) to examples of good discourse within the community may provide students with the fuel they need. Prior to first contact with elders in Palaver Tree Online, students now review kid-elder interactions in other classes.

*Supporting different schedules.* Every group of users has their own rhythm (Mynatt, Adler, Ito, Linde, & O'Day, 1999). In my e-mail work, I found that students and elders had very different schedules. While one would certainly like to have them online at the same time, this is unlikely to happen often. Asynchronous communication must to be at the core of the design of a system that meaningfully supports interaction among these groups. A combination of newsgroups and chat, like that used in Babble (Erickson et al., 1999), provides a potential direction.

*Tight coupling between discussion and projects.* Our pilot work showed that students had trouble integrating elder stories into their projects. A system that better supports online oral history needs to scaffold students moving from discussion to projects. Elders and teachers need scaffolding for their roles as well.

*Increased discourse visibility.* In my e-mail work, each elder was paired with several students. While this “closed” interaction style is conducive to discussion, it is also problematic
for a number of reasons. First, elder responses go largely unchecked, since teachers do not have time to go through all the discourse. Thus, it is possible that elders could tell students erroneous stories (historically inaccurate, racist, etc.) that go unchallenged. An open forum allows elders to read and comment on one another’s statements – a more self-regulating environment.

Secondly, elders’ answers to student questions varied greatly in quality. Some wrote great stories, and others did not respond at all. In the closed environment, if students do not get a response from their elder, they have no data to use in their project. In a discussion where all users can see the discourse, many elders could respond to student questions and pick up where less reliable elders leave off. Open Mentoring (O’Neill & Scardamalia, 2000) supports this line of thought.

*Increased artifact visibility.* In the e-mail work, elders felt somewhat out of the loop because, although they shared their life stories with students, they could not see the artifacts students created from them. O’Neill calls this the “black box” problem (O’Neill & Gomez, 1998). A system that better supports this process needs to make student projects more visible and allow feedback on those projects.

*Helping teachers find elders.* In the Civil Rights Years e-mail study, the teacher went through 70+ listings in the elder database and selected elders to work with her class. This was time consuming. In addition, some teachers had requirements of elders beyond historical knowledge or storytelling ability. For instance, some teachers wanted to be sure that elders used proper grammar and spelling. Providing a better way for teachers to traverse this large listing is essential.

*Right-sized messages.* Some elders in our pilot work wrote many pages in response to one question. Due to classroom time constraints, longer messages went unread even though the
stories they told were often remarkable. We had to find a way to encourage elders to self-edit, but also assure they feel that their contributions are valued.

*Software that works in today’s world.* The final design issue is taken from an observation of the state of the educational technology research community. There are essentially two kinds of educational technology projects:

- Real-world projects aim to work within the constraints of users in today’s world. Such projects are intended to impact current classrooms, and work well with technology available there.
- Future-thinking projects design for technology that will be available in the future. A benefit of this approach is that design is not constrained by current technology.

The work described here falls firmly into the former category. One of the primary impacts of this decision is the exclusion of broadband media types. While voice and video might be useful for doing online oral history, nearly all the elders who participated in our pilot work are on dialup connections. Even if they had microphones and cameras connected to their computers, it would be difficult for them to stream those media to kids. Instead, our software begins with a baseline technology – rich text. On top of that, we are providing an interface for elders to supply personal photographs that detail their experiences.

### 5.5 Bringing Elders to the Classroom

The work described here gave me some early insights into what it takes to bring elders’ stories to the classroom. For instance, elders were able to play the following roles:

- Elders are willing to share their stories with students online. In fact, the elders that worked with Andrea and Michelle’s classes were excited at the prospect of having an interested audience for their life experiences.
• Elders are able to share their stories with students online. While the elders I worked with had different skill levels with computers, the ones that were reliable were able to provide a detailed account of their life experiences online. Most did this through textual descriptions of their life experiences. Others included photos, news articles, and even photos.

• Depending on the topic being covered, finding local elders who are interested in working with kids face to face as well as online may be difficult. Providing the training to help those elders become computer savvy enough to answer student questions online is difficult as well. If it was hard for me to make this happen while working nearly full-time on it for several months, it will be nearly impossible for an already overworked teacher to undertake. Finding elders online makes the process go more smoothly.

The following supports might improve the online oral history process:

• A system that connects kids and elders asynchronously may be the best approach to getting kids and elders working together, potentially dealing with cases in which elders are less reliable.

• A recruiting system might allow teachers to more easily find elders to work with their classes and would allow elders to easily indicate their interests so

• Elders need to be reminded of the context of the classroom. Without such reminders, they may take too long to answer questions, or write responses too long or too short to be useful.

• A number of ideas for supporting the roles of elders are indicated here as well (see section 5.4). The effectiveness of these will be discussed in later chapters.

5.6 Summary

In this chapter, I have presented results from two studies that explored the ability of existing technology to support kids interviewing elders online. The WW II e-mail study gave me an
initial understanding of the feasibility of online oral history and a notion of the potential benefits to both students and elders. Specifically, I found that elders were excited to have an audience for their stories and were able to use e-mail to work with kids. I also found that kids were excited to have real people whom they could ask questions about the events they were studying in class.

My larger scale second study focused on the Civil Rights Years. There, I began by attempting to get local elders involved with the project. I found that the amount of work it took to get elders involved would likely be prohibitive for most teachers. Thus, my aim changed to recruiting elders online. This second approach proved much more fruitful as well as more manageable for the average teacher.

The study itself used an experimental/comparison class design. Both classes started with a standard lesson. The experimental class followed this with e-mail interaction with elders while the comparison class did another activity. I gave both classes an attitudinal survey before and after their participation. I found no changes pre-to-post for either class. However, student interviews revealed some changes in attitudes towards elders in the experimental class.

I follow the discussion of this study with ideas for how one might improve the process of doing online oral history in the classroom. One of the most important of these lessons is the reinforcement of a lesson also learned in the KGS work, that is, helping both kids and elders stay synchronized in their work by creating an understanding on reply times.

I then give some ideas for the design of a software system to better support online oral history. These ideas – particularly shared profiles, supporting different schedules, increased discourse and artifact visibility, and helping the teacher find elders – have served as essential input to the design of Palaver Tree Online.

I close the chapter with a discussion of what it took to bring elders to the classroom in e-mail-based online oral history. One of the more important lessons here is that the difficulty of finding
elders varies significantly based on the topic being covered. Finding elders to share WW II stories with students was relatively simple, while finding elders to discuss the Civil Rights Years involved over a month of work. Providing a recruiting system can help take the difficulty of doing this work out of the hands of teachers.
CHAPTER VI

RELATED GENERAL ONLINE COMMUNICATION APPROACHES

In this chapter, I give an overview of related approaches to online communication. I look at the following tools: e-mail, mailing lists, discussion groups, chat rooms, buddy lists, persistent discussion and MOOs (see table 5). I follow this with a short description of the development environment and tools I used to build the system.

6.1 Survey of General Online Communication Approaches

Here, I take a brief look at a number of general online communication approaches and examine their similarities and differences in supporting online communication. Particular attention is paid to what I take from each approach in order to support online oral history.

Table 5: Key features of some general online communication systems.

<table>
<thead>
<tr>
<th></th>
<th>E-MAIL</th>
<th>MAILING LISTS</th>
<th>DISCUSS GROUPS</th>
<th>CHAT ROOMS &amp; BUDDY LISTS</th>
<th>PERSISTENT DISCUSSION</th>
<th>MOOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Synchronous</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Feeling of place</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Background information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Graphical interface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Persistent discussion</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Persistent artifacts</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
6.1.1 E-Mail

E-mail was the primary interaction medium used in my early work for supporting kid-elder discourse. One of the main advantages of e-mail is its ubiquity. E-mail is by far the most prevalent online interaction medium, largely because it is both immediate and asynchronous – messages reach their destination quickly, but may be read at any time. In fact, e-mail has been shown to be one of the few groupware success stories (Grudin, 1990). The fact that e-mail is one of the most popular uses for the Internet made it the logical choice for my early studies. The main lesson I take from e-mail is that of the utility of asynchronous, especially when one is dealing with groups that are unlikely to be online at the same time.

E-mail has reached new levels of expressiveness with mailing lists, attachments, and HTML messages. The broad usage of these extensions speaks to the continued popularity and robustness of e-mail as a medium. While e-mail provides little in the way of a central place for members of a community to come together, mailing lists extend the medium in a way that begins to create a sense of place.

6.1.2 Mailing Lists

Mailing lists are the primary way to form relatively informal communities online (as was done in my Civil Rights years e-mail study). Essentially, with a mailing list, people in a given community are able to send an e-mail message to the subscribers of the list. In the past, one of the key problems with mailing lists was that subscribers had no control over how they received messages. In addition, messages were not persistent unless a subscriber actively saved them locally.

In the late 90’s, web sites like Yahoo Groups (http://groups.yahoo.com/) began to provide a place where members of a group could review messages. This is a simple concept but one with
far-reaching implications. First, such sites give users far more control over how they participate in the list. In general, users can choose to have messages sent one at a time or as a daily digest. Users may also review past messages by visiting a web page, which provides a new level of persistence. Persistence is an important ingredient of online community since it gives the community a shared history.

An important feature of mailing lists is that participation does not require one to remember to visit a particular website or use a particular piece of software. Messages are sent directly to your e-mail address. A problem, however, is that there is no easy way to choose which messages one receives – choosing to subscribe to a mailing list means receiving all messages. Thus, a lesson my work takes from this is that users may want to be reminded via e-mail when there is new information in the community, but that choice of the sorts of reminders they would like to receive should be placed in their hands. In the studies described here, these reminders were sent manually. A feature which automates these reminders is in the process of being added to the system.

While mailing lists can be made persistent, they do not provide for any presence information about which other users are online, or an easy way to get background information on other subscribers. Some of the ideas of persistence and place raised by mailing lists are further extended by the variety of discussion groups available online.

6.1.3 Discussion Groups

Online discussion groups (USENET, web-based discussions, etc.) bring people together in some of the same ways as mailing lists, but instead of reaching them all individually at different e-mail addresses, discussion groups centralize all the discussion in one place. In addition, they generally have a hierarchical structure, with a visual indication of which messages are replies to other messages (threading).
A number of the early prototypes developed for the discussion space in Palaver Tree Online were inspired by USENET in that they explored ways to employ threaded persistent discussion. Some form of threaded discussion seemed like the right direction for a system which supports storytelling in the form of questions and responses to questions. In order to simplify reading through an entire discourse between kids and an elder, however, we decided instead to split out discussions by elder. In a sense, then, each of these discussions could be considered a thread within a classroom-wide set of discussions with elders.

Discussion groups are particularly good at supporting complex discussions among many participants which go off in a variety of different directions. In such an environment, asynchronous discussion makes sense. In Palaver Tree Online, however, we are dealing with a smaller set of participants for each discussion. In order to increase the feeling of intimacy and immediacy – making the most of situations where two or more people are online at the same time – it is important that PTO support synchronous communication as well.

6.1.4 Chat Rooms and Buddy Lists

In many ways, chat rooms (like IRC) are the flip side of discussion groups. Typically, they provide for rapid-fire, quick-turnaround discussion, but offer little in the way of persistence. Chat rooms offer a feeling of immediacy and presence because they allow participants to communicate in real time. Sometimes in such chats, however, participants feel pressure to respond more quickly than they would like.

Buddy lists (also called instant messengers) such as ICQ (http://www.icq.com/) and Yahoo Messenger (http://messenger.yahoo.com/) offer a new twist on the chat room idea. They provide an index of “buddies” (friends who are currently available online) that users can instantly chat with. This provides an additional awareness indicator that is lacking from traditional chat rooms. In addition, many buddy list programs provide links to user home pages, providing additional
context for discussion. New products like Trillian (http://www.trillian.cc/) allow users to connect to multiple services simultaneously, breaking down online barriers.

One idea we take from chat rooms is the importance of real time communication in creating a feeling of intimacy and presence in online environments. While kids and elders may not always be online at the same time, when this situation does arise, synchronous communication is one way help support their feeling of connection with one another.

6.1.5 Persistent Discussion

Persistent discussion, as seen in Babble (Erickson et al., 1999), provides a system that combines a hybrid of discussion groups and chat (this technique is also sometimes referred to as semi-synchronous interaction). Persistent discussions allow for quick interaction, with users sending messages back and forth instantly. In addition, the system saves the discussion, so users may review the discussion later.

I take this notion of persistent discussion and apply it to kid-elder discussion in Palaver Tree Online. I build on these ideas by incorporating student projects into discussion in order to provide context for feedback on student work. Because this work is grounded in project-based learning, it is especially important for students to be able to share their work online and receive comments from elders and other students.

6.1.6 MOOs

MOOs (Multi User Domain Object Oriented) are different than many of the systems I have discussed so far. Essentially, a MOO is a text-based virtual world where users interact by having online discussions and building objects that have behaviors. As such, MOOs are far more flexible than many of the environments I have discussed – they can be modified to support a number of interaction styles.
For instance, creating an environment within a MOO that supports persistent, hierarchical discourse as well as text-based artifact creation would be relatively easy. In addition, MOOs already support the creation of a social environment, through visible descriptions of users within the system, and the ability to chat with others real-time.

While some MOOs such as Tapped In (http://www.tappedin.org/) feature graphics, in general MOOs are strong on text. This has a number of advantages. For instance, users of a MOO can create objects and describe them textually. This requires writing and programming skills. Some recent online community systems look beyond text, however incorporating graphics into such an environment means users need to have new skills such as graphic arts and 3D modeling in order to be full participants. In addition (and perhaps more importantly), such environments currently offer relatively poor support for text-based communication, as their focus is more strongly on the graphical modality. Text-based systems afford specific and important modes of expression. In my work, I also aim to keep text front and center. In Palaver Tree, the principal mode of expression in discussions remains rich text. Student projects combine 2D graphics with textual descriptions.

While a strength of MOOs is that they allow a textual representation of and interaction with a virtual world, there is a usability issue here as well. Most interaction with the system happens at a command line. As such, users must learn a command syntax in order to meaningfully interact with the world. While such interfaces are often good for expert users, novices may appreciate the affordances of a graphical interface.

In addition, a defining characteristic of MOOs is that they represent a virtual world. As such, one of the primary metaphors in MOOs is a spatial one. My early designs for a system that would support online oral history used a spatial metaphor and focused on neighborhood history. In particular, my design was based on the Sweet Auburn neighborhood. The idea was that kids
would go to places in the virtual world that they wanted to discuss and meet elders there who wanted to discuss those places as well. However, my fieldwork and early studies showed that there was a problem matching kids and elders meaningfully using this metaphor – elders may not have information about the places or events in the local neighborhood that students are studying. Thus, my design ideas moved from a place-based metaphor to an interview-based one. For more on these design decisions, see section 7.2.

Lastly, MOOs and other kinds of virtual worlds are well suited to promoting a casual environment where users ‘hang out’ together. In schools, however, kids need to stay on task in order to make effective use of their limited class time and meet curricular goals. Thus, one of the key benefits of a virtual world is not as helpful in classroom settings.

6.2 Combining the Approaches

In order to support online oral history, I combined a number of these tools. No chat or buddy list software provides a robust, shared persistent discussion facility. Likewise, no newsgroup software (web or otherwise) provides the immediate updating I seek. While Babble provides much of the required features, it is a general tool and does not provide the project creation tools or anchored discussions required for the specific task of online oral history. While MOOs are quite versatile, they do not provide the graphical interface affordances I want. Taking ideas from each of these, however, allowed me to create an integrated solution – one that combines background on users, discussion, and student projects in an easy-to-navigate way.

In addition, I tailored Palaver Tree Online for a particular audience and task. Each member of the community has a particular role they need to play in order for the online oral history process to work. To scaffold this, I built in supports in the form of home screens for each user type. Providing software support for specific parts of the online oral history process is important for helping the process go more smoothly overall.
Lastly, while good feedback is important in any good interface, the literature shows interfaces may still need to be specially tailored for elders (Worden, Walker, Bharat, & Hudson, 1997) and children (Bruckman, 1998). For example, Bruckman states that when designing for children, I need to “hide nasty things under the bed.” The current incarnation of Palaver Tree takes a task-focused view of user home screens, but future versions might explore how to explicitly tailor the system to the needs and interests of the three distinct user populations.

6.3 Summary

In this chapter, I discussed general online communication systems and the lessons I took from each as I designed a system to support online oral history. I began by reviewing a number of general online communication approaches: e-mail, mailing lists, discussion groups, chat rooms, buddy lists, persistent discussion, and MOOs. Of these, e-mail is perhaps the most widely used and that is a major advantage in terms of accessibility. Unfortunately, my e-mail studies also revealed an important problem with e-mail in terms of supporting online oral history: the lack of a way for users to see each-other’s discussions.

The approach from which I take the most ideas is persistent discussion. Persistent discussion provides a way for users with different schedules (like students and elders) to collaborate. I build on this discussion facility with specific supports for online oral history like clearly visible user designations (kid, teacher, elder), a facility for online projects, and reminders about the process.

I follow this with a discussion of how I combined existing tools. Specifically, I took some of the online presence ideas of buddy lists, combining them with a lightweight form of newsgroups through persistent discussion, and the idea of user-created objects that is found in MOOs. I then built in some of the specific affordances for online oral history as well as an interface that ties these features together.
CHAPTER VII

THE DESIGN OF PALAVER TREE ONLINE

Palaver Tree Online (PTO) is an exploration of the ways in which network technology might support doing oral history in the classroom. A palaver tree (Land, 1992) is a West African tree that serves as the center of a village. It is a place where elders come to share their life stories and where the community comes to listen. The PTO software, then, aims to create an online space that honors this tradition by providing software support that allows kids, teachers, and elders to work together in online oral history.

In this chapter, I discuss the design of this system. I begin by summarizing the development and study of the Palaver Tree Online software. I then provide an overview of how online oral history might be structured. I follow this with a discussion of the conceptual design of Palaver Tree Online – the high-level roles the system’s features are designed to play. I then discuss the user interface of the system in more detail, with pointers to the literature that inspired the design. I follow this with a brief overview of the tools I used to design and implement the system. Lastly, I discuss my overall expectations for the system when used in classrooms.

7.1 Development Overview

Palaver Tree Online has been in development for five years (see table 6). As discussed in chapter 5, the first two years were spent looking at how existing technology (e-mail and mailing lists) already support doing oral history online. One important lesson I learned from this early work is that I am trying to scaffold a complex social process that involves students, teachers, and elders. Teachers needed a way to recruit elders to work with their classes and manage their students online. The environment needed to provide a comfortable place for elders to share their stories
and other personal information online. Finally, I needed to support kids taking the stories they hear from elders and creating online artifacts based on them. I call these artifacts PalaverStories.

Based on the literature and lessons from my early work connecting kids and elders using e-mail, I designed Palaver Tree Online – a client interface and server infrastructure that aims to help the process of online oral history go more smoothly for all involved. This system was placed in classrooms two times: once for a brief formative evaluation, then for an in-depth summative evaluation.

Table 6: Online oral history work in classrooms – from prototyping with existing technology (e-mail and mailing lists) to the evaluation of Palaver Tree Online.

<table>
<thead>
<tr>
<th>Study</th>
<th>Dates</th>
<th>Length</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>World War II E-mail Study</td>
<td>1997-1998 school year</td>
<td>1 week</td>
<td>14 eighth graders, 2 elders</td>
</tr>
<tr>
<td>Civil Rights Years E-mail Study</td>
<td>1998-1999 school year</td>
<td>3 weeks</td>
<td>20 sixth graders, 10 elders</td>
</tr>
<tr>
<td>Palaver Tree Online: Formative Evaluation</td>
<td>Summer 2000</td>
<td>1 week</td>
<td>50 seventh and eighth graders, 11 elders</td>
</tr>
<tr>
<td>Palaver Tree Online: Summative Evaluation</td>
<td>2000-2001 school year</td>
<td>6 weeks</td>
<td>21 eighth graders, 11 elders</td>
</tr>
</tbody>
</table>

Palaver Tree Online has four primary components: Profiles that give background on elders and Discussion Space that provides a place for teacher-scaffolded kid-elder discourse. Palaver Tree also features the PalaverStory artifact creation tool and user-specific Home Screens that support the roles of kids, teachers, and elders in the community. More detail on each of these will be provided later. The design of Palaver Tree Online discussed here is also detailed in the Proceedings of CHI 2001 (Ellis & Bruckman, 2001).
7.2 Structuring Online Oral History

Structuring a system to support interaction among diverse stakeholders can be complex. Not only does the designer need to create an interface that is reasonably usable for a single population, they must create an interface that enables them to work collaboratively with separate populations that have different motivations, roles, and concerns. One important factor in the design of such systems is the structure of intergroup interaction. How will the groups work together? What are the goals of the interaction? Can technology help support the process?

CoVis Mentor Database (CVMD) and Kids as Global Scientists (KGS) work (discussed in detail in chapter 4) both offer ideas for how to structure online environments for science mentoring. CVMD explores the intimacy of one-on-one e-mail communications between kids and scientists while KGS looks at a more open environment without explicit kid-scientist couplings. In each of these cases, though, students are researching scientific phenomena with the aid of scientists, not interviewing elders.

Due to the lack of specifically related prior work, it was not clear how to meaningfully structure an online community that supports online oral history prior to my e-mail studies. What should the overall structure of a system that supports the online oral history process be? How does one allow access to many different discussions between three types of users while maintaining ease of use? As mentioned in section 6.1.6, an early design employed a spatial metaphor in the hope that such a design would help participants feel comfortable, in a way similar to many online communities (Ellis, 1998). Kids would describe places and events (buildings, marches, etc.) they were studying and each topic would be given a unique space in the online environment. They would then interview elders about those events and places to add depth to their work. The problem with this approach is the difficulty in matching kids and elders meaningfully – elders may not have information about the places or events students are studying.
There is a mismatch between student needs and the sorts of contributions elders are likely to make.

My e-mail work, however, revealed an approach that I had yet to consider fully – structuring online oral history by focusing it on elder interviews (see chapter 5). In conjunction with the teachers I worked with in those studies, Andrea and Michelle, I developed a model for how online oral history could be structured (see figures 2 and 3). I build on these earlier models here.

7.2.1 Online Oral History Interaction Model

In my Civil Rights Years project, students got as far as making projects. The project-based learning literature (Barron et al., 1998; Blumenfeld et al., 1991) as well as constructionist work such as MOOSE Crossing (Bruckman, 1998) tell us that audience is important in creating motivation for creating projects. Further, work such as Jasper Central (Barron et al., 1998) and Cool Studio (Zimring, Khan, Craig, Haq, & Guzdial, 2001) tells us that evaluation of those projects by that audience can play an important role in learning. These findings inspired me to add several new phases to the interaction model – feedback on projects, revision based on that feedback, and finalization of projects (see figure 2).
This third interaction model (see figure 2) builds on those used in the first two studies (see tables 1 and 2) provides a way to move from curriculum to kid-elder discussion, to projects, to feedback on those projects. It starts with the teacher recruiting elders to work with her class (stage 1). The teacher then selects readings from the curriculum that provide background on the material students will be discussing with elders. Students read this background material as the first piece of their participation in online oral history (stage 2). The teacher then leads students in a brainstorming session that allows them to try out ideas for discussions they might have with elders and have the teacher and other students troubleshoot them. After this initial brainstorming session, students post their initial questions for elders online (stage 3). Elders respond to these
initial questions from students and kid-elder interaction is begun (stage 4). Students follow this with deeper follow-up questions based on elder responses (stage 5) and we then iterate between stages between students elders answering questions and students asking follow-up questions (stages 4 & 5).

Once students have enough data, they begin work on projects based on the stories elders have shared with them (stage 6). When students are ready, projects are made available to elders, and elders (as well as other students) provide feedback on the projects (stage 7). Students then revise their work based on the feedback they receive. We can then iterate between feedback and student revision (stages 7 & 8). Lastly, students finalize their work, indicating to elders and the rest of the class that they have finished work on their projects (stage 9). Certainly, additional feedback or praise is welcome, but those giving feedback are aware that the project will likely not be updated again.

7.2.2 Roles in Online Oral History

Kids, elders, and teachers all have roles to play in online oral history. Some of these (teacher as guide, elder as resource, student as interviewee, etc.) were seen in my work with e-mail. However, the stages I added to the interaction model create some new roles as well; for instance that of elder as evaluator of student work.

7.2.2.1 Elder Roles

- Resource – answering student questions, sharing experiences, sharing artifacts of their experience (photos, newspaper articles, comics, etc.)

- Evaluator – giving students feedback on their initial projects and revisions to those projects
7.2.2.2 Kid Roles

- Interviewer – preparing for interview (background reading, profile reading, in-class brainstorming), asking initial questions, asking follow-up questions

- Historian – synthesizing background reading and elder interview data into a project, taking feedback into account and revising

- Evaluator – giving other students feedback on their projects

7.2.2.3 Teacher Roles

- Online community manager – finding elders for students to work with, posting messages reminding participants of what they should be in the interaction model

- Classroom guide
  
  o Getting students familiar with the idea of online oral history

  o Connecting curricular reading with the idea of interviewing elders

  o Helping students brainstorm initial questions for elders

  o Modeling good follow-up question writing strategy

  o Helping students integrate background reading and elder stories to create a project

  o Helping students take elder feedback into account when revising projects

  o Monitoring kid-elder discussion and looking for stories to teach with, students having trouble, and the like

  o Dealing with breakdowns – helping students recover when elders do not respond, students do not use good interview technique, and the like
• Evaluator – using authentic evaluation techniques to give students feedback and ultimately grades on their interviews and projects.

7.2.2.4 Computer Roles

Given all the roles for humans described above, what is still missing? How can computing technology support this process of kids and elders working together? While each group has roles that deal with communicating with and providing support for others, doing these social processes online can be complex. Palaver Tree Online provides specific support for these types of communication – students communicating with elders and sharing their work, elders giving feedback, teachers managing the process. PTO attempts to provide support for the following:

• Introduction of kids and elders

• Kid/elder interviews

• Student project creation

• Evaluation of projects by elders, students, and the teacher

• Helping users find the features they need

Where Palaver Tree Online does not provide support (except teacher support materials that provide some guidelines) is in the classroom roles – helping students prepare for, move through, and learn from the process of online oral history. The teacher is the key scaffold for these processes.

7.3 Conceptual Design of Palaver Tree Online

In order to take on these roles for software, Palaver Tree Online includes several high-level features.
7.3.1 Profiles – Supporting Introducing Kids and Elders

When students and elders are first introduced, students are in the role of interviewer and elders are in the role of resource. In order to be prepared for their initial encounter with elders, students need background information on them. Profiles provide this background information.

7.3.2 Discussion Space – Supporting Kid/Elder Interviews

Both students and elders need a place where they can have discussions – carrying out their respective roles of interviewer and resource. The Discussion Space feature provides this place by providing a persistent discussion that supports their work if they are online at the same time or not.

7.3.3 PalaverStory Tool – Supporting Student Project Creation

Once students have completed their interviews of elders, they move into the role of historian, taking the life stories elders shared and creating a project based on them. Students do this using the PalaverStory project creation tool and the PalaverStory Quick Bar, which allows them to quickly move between their project, elder profile, and elder interview.

7.3.4 Anchored Discussion – Supporting Evaluation of Student Projects

When students have finished a first draft of their project, they are ready for feedback on their work. Elders now move into the role of evaluator and review student work. In support of this review process, an Anchored Discussion is created, where elders can offer feedback in a space that provides easy access to the project they are commenting on. Other students also move into the role of evaluator at this point, giving feedback to their peers.
7.3.5 Home Screens – Helping Users Find the Features They Need

Kids, teachers, and elders have different interests in and inputs to the online oral history process. In order to bring together all the different interface components in a way that makes sense to each user type, I provide three different Home Screens specific to each user type.

For instance, teachers manage kid-elder interaction. In order to do this, they play two core roles: online community manager and classroom guide. PTO supports their role as online community manager. They need to do things like recruit elders to work with their class and provide reminders to users about where they should be in the interaction model, helping pace the interaction. To support this, the Teacher Home Screen provides a recruiting feature that allows the teacher to quickly find elders to work with their class. The Teacher Home Screen also allows teachers to provide an announcement that is visible to both kids and elders. More on the Home Screens for other users as well as more detail on the other interface components is given in the following section.

7.4 User Interface Components in More Detail

In this section, I discuss the most important interface components in Palaver Tree Online. I begin each sub-section with a description of the literature and lessons from my e-mail work that the specific interface piece builds on. I then discuss the interface in detail, where it falls in the Palaver Tree Online interaction model, the roles it supports, and how I expect it to be used.

7.4.1 Profiles

As mentioned above, the online communities literature tells us that allowing users to develop a persistent identity online can play an important role in building community – allowing users to get background on others who have participated. The oral history (Brown, 1988; Ives, 1995; Ritchie, 1994) and interviewing (Seidman, 1998) literature tells us that doing background
research on your subject before an interview is important to its success. In addition, kids in my e-mail work felt they did not have enough information about those they were talking to (see chapter 5). This lack of background information on elders is especially problematic since kids are researching their life stories.

Profiles address these concerns by providing background information on community members (see figure 3). This interface provides a way for users to establish a persistent identity in Palaver Tree Online by allowing them to enter several different types of information on themselves. There is also a clear indication of the user’s role: kid, elder, or teacher. I intended for kids to refer to profiles most often during the background phase of the interaction model (stage 2), but profiles are available at any time.

For safety reasons, students provide less information about themselves than adults in their profiles. While online communities comprised of adults often ask users to reveal a great deal about themselves (Bruckman & Resnick, 1995), online communities for children are quite the opposite (Bruckman, 1998; 1999). Since Palaver Tree brings together adults and children, different standards must be applied to what they enter in their profiles. Specifically, students can
only create a pseudonym and enter the city and state where their school is. They are instructed never to give their real name or address to anyone in Palaver Tree (see figure 4).

Figure 4. Kid Profile.

On the other hand, elders are encouraged to enter as much background information as possible. They give their gender, ethnicity, date of birth, city and state, full name, e-mail, web page, and more. Of particular importance is a field called “Historical Interests.” In my e-mail work, I found that teachers had trouble filtering through the 70+ profiles in the elder database to select people to work with their classes. My solution to this problem is to have elders self-categorize. Specifically, elders are asked to briefly state what pieces of history they are interested in discussing with kids. Teachers may then query against this field to find elders that are interested in the same history they will cover.

Profiles support students’ roles as interviewer and historian by allowing them access to background information on their elder at any time. They also support the teacher’s role as online community manager by allowing access to background information during the recruiting process. Teachers look for different things in the elders they select to work with their classes. For instance, in addition to historical knowledge, one teacher wanted to make sure the elders she
selected for her class exhibited proper grammar and spelling. Based on the text entered into the ‘Personal Information’ and ‘Historical Interests’ fields, she was able to narrow down her selections.

My expectations for profiles are that they will be used throughout students’ participation in Palaver Tree Online. I believe that perhaps the heaviest use will come at the beginning of the process when students were formulating initial questions and at the end of the process when students were trying to formulate a complete picture of their elder’s experience as they work on projects.

7.4.2 Discussion Space

Project-based learning, social constructivism, and authentic learning all tell us that communicating with others and connecting kids with the world outside the classroom are important to creating motivation and encouraging learning (Blumenfeld et al., 1991; Newman et al., 1989; Shaffer & Resnick, 1999; Vygotsky, 1978). The Discussion Space (see figure 5) in Palaver Tree Online is the primary place where these things happen – discussions with online elders.

Figure 5. Discussion Space – expected use in stages 4 and 5 of the interaction model.
Work by Mynatt et al (1999) has shown that different groups participating in online communities can have very diverse rhythms of interaction. I saw this in my e-mail work as well, with kids coming online in the morning to early afternoon and elders participating in the late afternoon to evening (see chapter 5). To deal with this issue, I developed a chat system that provide the immediacy of chat (synchronous communication) with the robustness of newsgroup conversation (asynchronous communication), in a way similar to Babble (Erickson et al., 1999). When users post to a discussion, everyone in that discussion sees it immediately. However, the discussion is saved, so users may stop by at any time in the future and catch up on the discussion. This approach allows kids and elders to work together in a chat-like manner if they happen to be online at the same time, but also supports the more likely case that they will not be in the environment simultaneously. To give users a way to index into potentially long discussions and find where the new material is, I provided an “Overview” side-panel allows users to track which postings they have and have not seen, and click to scroll the full text on-screen – a focus + context technique (Furnas, 1986).

Another reason I was interested in pursing persistent discussion is that it provides a way to address a problem I saw in my e-mail work – the variable quality of elder responses. The biggest problem of this sort that I saw in my e-mail work was elders not responding to student questions (see chapter 5). By making the discussions persistent and available to everyone, Palaver Tree Online creates a situation where students might ask another elder questions if their assigned elder does not respond. Open Mentoring (O’Neill & Scardamalia, 2000) takes a similar approach.

The online community literature tells us that context is an important part of discussion – knowing whom you are talking to and why. The Discussion Space provides a piece of this context with every posting since each has the poster’s username printed just above it. The name is color-coded to indicate if the user is an elder (maroon), kid (blue), or teacher (green). This color coding was designed to aid users in immediately identifying the sort of person they are
conversing with in this more open discussion environment. Clicking on a user’s name brings up their profile.

Just as some elders in the e-mail work did not respond, others wrote too much (the longest message was 11 pages printed). While this response included wonderful stories, the length proved daunting to the students that received it and they were not able to read most of it due to classroom time constraints. The issue here is one of helping elders understand the context of the classroom – reminding them that students have a limited amount of time during each session at the computer, so they need to keep their responses at a reasonable length. Palaver Tree Online provides two types of reminders of classroom context for elders. First, when elders sign up to participate in PTO, they must read a statement that explains that students have limited time in class and messages should be kept relatively short. Secondly, the Discussion Space provides a visual affordance when users are entering postings. The posting dialog box is just large enough to hold an average-sized paragraph. Of course, users can type beyond the end of this box (a scroll bar appears), but it feels more natural to be able to see all your text at once – a soft limit.

The Discussion Space supports the elder’s role as resource, providing a place for them to be interviewed. On the opposite side, it also supports the student’s role as interviewer, creating a place where they can post the questions that elders respond to. Because the discourse is visible to everyone, this environment also supports the teacher in monitoring online discourse and helping students recover from breakdowns in communication with elders.

My main design goal for the Discussion Space in Palaver Tree was to create an environment where the sorts of discussion that happened in my e-mail work could happen more naturally. Specifically, I hoped that it would better support stages 4 and 5 of the interaction model. My main expectation for use of this part of the system, then, is that users would find it more usable than e-mail for online oral history interviews. In addition I hoped, because of the visibility of the
discourse to all users, that students would be able to take steps to recover from breakdowns in communication.

7.4.3 PalaverStories

Palaver Tree Online is founded on the notion of project-based learning. Project-based learning tells us that learning by doing is powerful both motivationally and educationally (Blumenfeld et al., 1991). Both project-based learning and constructionism argue that one learns better when working on a personally meaningful project (Barron et al., 1998; Papert, 1991). Thus, in Palaver Tree Online, artifacts produced by learners are of primary importance. By working on personally meaningful artifacts, learners gain motivation and are able to make their thoughts more concrete. By making those thoughts manifest, others can offer feedback and help the learner refine their thinking.

Artifacts also play a part in making Palaver Tree Online an authentic learning environment. By creating a project based on elders’ stories, students are asked to do the job of a historian – evaluating and synthesizing multiple sources of historical information (background reading from the book, interviewing elders, etc.). This is a form of disciplinary authenticity.

In addition, my e-mail work showed that elders felt out of the loop because they told students their life stories, but could not see what students created based on them. Moving projects online helps address this problem. More specifics on exactly how this is done can be found later in this sub-section.

In Palaver Tree, artifacts are called PalaverStories (see figure 6). Students construct PalaverStories based on what they have learned from elders. The features incorporated into the PalaverStory interface are based on my analysis of the projects students did in the e-mail work and feedback from teachers. Additional inspiration came from the “Downtown Beaufort as Classroom” work done at Lady’s Island Middle School in North Carolina (Rushton, 1996).
There, students researched the history of local buildings and reported their findings, alongside photos and hand-drawn graphics.

![PalaverStory](image)

Figure 6. PalaverStory (student project) – expected use in stages 6-9 of the interaction model.

PalaverStory repurposes this design for oral history rather than city history, and extends it by moving it online. This allows kids to edit their part in the online oral history tapestry directly, and places their creations online instantly so elders can give direct feedback. The PalaverStory interface places a painting area on the left and a rich text area on the right. Clicking in either of these areas reveals a set of tools for working on that type of media. Everything in the community may be leveraged in PalverStories. Students may copy elder stories from discussions, elder-provided photos, as well as profile text. Blumenfeld (1991) argues that one of the key roles software can play in supporting project based learning is aiding students in creating artifacts (see chapter 3). The PalaverStory interface aims to focus students on content rather than tools.

This interface component supports stages 6, 8, and 9 of the interaction model: creation, revision, and finalization of student projects. To this end, PalaverStories have three states:

1. Started – the kid has begun work but is not yet ready for feedback. Only the teacher and other students can see the PalaverStory at this time.
2. Requesting Feedback – the PalaverStory is visible to elders, a discussion is created, and elder feedback is elicited. To enter this state, students press the “Feedback” button in their PalaverStory. This creates a feedback discussion centered on their project (see following sub-section) and notifies elders.

3. Finished – the PalaverStory is complete and no more changes will be made. Congratulations are welcome but the students have moved on.

The idea of creating for an audience is an important tenet of both project-based learning and constructionism. An audience provides a social incentive for kids to do quality work and the audience can also provide feedback on the work itself (Barron et al., 1998; Bruckman, 1998). In Palaver Tree, this audience is the elders since, after all, the kids are writing about their life stories. When PalaverStories move into the “Requesting Feedback” stage, a discussion is created and elders offer their feedback (see figure 8). This is intended to specifically address the “black box” issue identified in my e-mail work and by others (O'Neill & Gomez, 1998), that is, the lack of visibility of student work in many online kid-adult relationships.

Work by Sweller and Chandler (Sweller & Chandler, 1994) has explored the so-called split-attention effect and its impact on cognitive load. They find that having to continuously navigate between different information sources, even when those sources are all contained on a single computer screen (Chandler, 1995), can have a detrimental effect on learning. I saw this problem in my formative evaluation of Palaver Tree Online (see section 8.1). For instance, one student asked if there was a way to way to view her discussion with the elder at the same time as her PalaverStory. In order for students to get from their PalaverStory to their source material (elder interviews and elder profiles), they needed to navigate from PalaverStory back to their Home Screen, locate the appropriate profile or interview, and select it. This is too cognitively taxing.
Unfortunately, making a number of screens visible simultaneously was not an option since the computer screens at the school were so small (13 inches) and the PalaverStory creation tool took up most of the screen real estate. Instead, in order to improve access to information students would use to create their PalaverStories, I introduced the PalaverStory Quick Bar (see figure 7) during the summative evaluation. This bar allowed one-click access to their elder’s profile, their discussion with the elder, and their PalaverStory. In-class observations revealed that students made use of the Quick Bar throughout the remainder of their work on their PalaverStories.

The PalaverStory creation tool supports the student’s role as historian, providing a place for them to create projects that is integrated with the other resources in PTO they will need – elder profiles and interview discussions. It also supports the roles of elder, teacher, and other students as evaluators of this work.

My overall expectation for the use of the PalaverStory interface is that it will prove reasonably easy to use and that ease of use would show in the quality of student projects. My
other expectation was that, by placing student projects online, a new level of communication between kids and elders would be enabled.

7.4.4 Anchored Discussion

As discussed above, the literature tells us that feedback from an audience of experts can play an important role in fostering both motivation and learning (Barron et al., 1998; Zimring et al., 2001). My e-mail work showed that elders wanted a way to view and comment on student work. One way to combine projects and discussion is a technique known as anchored discussion. An anchor is an artifact that serves as the center of a discussion – a reminder to users about their focus as they talk. For instance, work by Guzdial has shown that anchoring discussions around projects can lengthen those discussions significantly (Guzdial, 1997).

Building on these ideas, I extended the Discussion Space (section 7.5.2) to support inclusion of student PalaverStories. Specifically, I added an area at the top of discussion where other media can be attached and serve as anchor for the discussion. In feedback discussions, this area contains the student project that is being commented on. In elder interview discussions, this area could contain media attached by the elder such as photos, scanned in articles and cartoons, or any other type of image to illustrate their stories. Clicking the thumbnails brings a more detailed version (see figure 8).
Palaver Tree aims to meaningfully incorporate other media into textual discussions by taking a step back from the trend of embedding graphics in text. Soloway finds that, when graphics are imbedded in text, the interface feels like a canvas rather than a document and questions: “How many people feel comfortable writing on a canvas?” (Soloway, Guzdial, & Hay, 1994, p. 44) Palaver Tree takes this design suggestion to heart by decoupling discussion and other media.

The anchored discussion portion of the discussion interface is primarily aimed at supporting the evaluation of student projects. As such, the roles it supports are those of evaluation – allowing elders, the teacher, and other students give feedback on student projects. It also provides a place for students to comment on the feedback they have received. Anchored discussion also provides a way for elders to attach media to discussions – supporting their role as resource.

I expected the anchored discussion interface to be used mostly for feedback on projects – supporting the evaluator roles of elders, teachers, and kids. It also supports the student role of historian as it creates a place for students to get feedback they can use to revise their project.
Elders might use it to provide media to go along with their interviews, but I think this will not happen much since the vast majority of elders in the e-mail work did not supply accompanying media.

7.4.5 Home Screens

As I designed Palaver Tree Online, the need for Profiles, Discussion Space, and PalaverStories, and Anchored Discussion were largely derived from ideas from the literature and lessons learned from my e-mail work. However, a major challenge remained: How do members of the community know their roles? How do we help them support one another?

The literature suggests the development of different interfaces if “users of the same system fall into a few strongly defined groups” (Egan, 1988, p. 560). While I have not designed entirely different interfaces for each user type, I have created different Home Screens that scaffold their roles. Similar to the icon bar in KIE (Linn et al., 1998), these screens provide a first point of contact when members first arrive, and a place that users can come back to when they feel lost or are not sure what to do next. In addition, though Home Screens provide specific support for the roles of kids, teachers, and elders as well as pointing them to the places where they can best contribute (see figures 9-11).
Figure 9. Kid Home Screen – expected use in all phases of the interaction model that use Palaver Tree Online.

Figure 10. Elder Home Screen – expected use in all phases of the interaction model that use Palaver Tree Online.
Figure 11. Teacher Home Screen – expected use in all phases of the interaction model that use Palaver Tree Online.

For example, the Kid Home Screen features a list of discussions, an indication of which discussion the user has contributed to, and their PalaverStories within the community. A listing of other students’ PalaverStories is also available, so kids can see the progress others have made – providing a social incentive for kids to create.

It is important to be sure that elders are not overwhelmed by the wealth of new material available. In my e-mail work, elders simply got a set of e-mail messages from kids. In a more open environment, helping elders find the places where kids have specifically asked them questions or requested their feedback on projects becomes much more complex. I address the former issue structurally – by providing each elder a discussion in which they are interviewed. The latter issue is addressed by highlighting new PalaverStories as they become available for feedback.

Teachers need to monitor the progress of elders and their students. Thus, the Teacher Home Screen provides an overview of student and elder contributions. In addition, this home screen provides access to the elder recruiting system, which allows them to see which elders are
available to work with their class and search the elder database by historical interests, age, sex, and race.

Although there are important differences between these interfaces, I have tried to keep them consistent wherever possible. For example, each Home Screen has an area on the left called “Announcements.” The Teacher Home Screen allows teachers to post an announcement here that everyone in the class will see – allowing the teacher to lead kids and elders through the phases of the interaction model. This announcement area provides a common point of reference for kids and elders as they work together. In this way, users are not only made aware of their role, but also the roles of others. This helps synchronize kid and elder expectations.

The home screen interface supports all roles within the system in that it points users to discussions and projects of interest, provides access to user profiles, and gives teachers access to class management features like the recruiting interface and class announcement. I expect this interface will be used in the way it was designed – as a home base within Palaver Tree Online that organizes one’s activities.

7.5 Development Environment

In order to build a system that specifically supports online oral history and incorporates the lessons I took from the more general systems discussed above as well as my early work with e-mail, I chose Borland Delphi (http://www.borland.com/delphi/). Delphi is a rapid application development (RAD) tool that uses compiled Object Pascal as its based language and provides user interface building tools on top of that.

Delphi allowed me to make extensive changes to the user interface at relatively low cost. Because Delphi allows for both rapid prototyping and full implementation of software systems, I was able to use it to do all my prototyping work and then move my final prototype over and back it with real code easily. The deployment of an automatic update system when the software was
released (also implemented with Delphi) allowed me to continue refining the software as I studied it in use.

Palaver Tree Online is a client/server system. Both client and server are written in Delphi, and the server uses SQL Server as its storage mechanism. The choice of Delphi paid off here because there are a number of well tested off-the-shelf components that help speed development for standard tasks. For instance the client-server network layer for Palaver Tree Online is provided by the Indy components (http://www.nevrona.com/Indy/) and the spell checker for both discussion posts and projects is Addict Speller (http://www.addictivesoftware.com/). Delphi also features native support for connectivity to most popular database systems.

7.6 Overall Expectations

A number of expectations about the software have been discussed in this chapter. In this section, I indicate the expectations I will investigate in the studies to follow. Some of these were mentioned specifically in a prior section while others are more general and, thus, appear here for the first time.

1. Students will ask initial questions based on the elder profiles as well as background information from their reading.

2. Online oral history will follow the interaction model indicated above. The teacher will play a role in keeping the interaction on-schedule by posting regular announcements.

3. The teacher will not be able to keep the interaction in lockstep since pacing may be different between kid-elder pairings. The project states mentioned above will help manage this.

4. The persistent discussion features will allow users to recover from breakdowns in kid-elder discussion (e.g., elders not responding) that it was more difficult or impossible to recover from in the e-mail work.
5. By placing student projects online, another cycle of communication between students and elders will be created – feedback and revision. Elders will give students at least one set of feedback on their work and students will revise based on that feedback.

6. Because of their participation in online oral history, students will have an attitudinal change. This attitudinal change will be in the following categories: history, language arts, and elders.

7. Because of their participation in online oral history, students will show synthesis of the elders’ story in the project they create.

7.7 Summary

In this chapter, I have presented the design of Palaver Tree Online, a system developed to support kids, elders, and teachers as they work together to do online oral history. This design is based on what is known in the learning sciences and human-computer interaction literature. The design also builds on lessons from my early work with e-mail.

I began with an overview of the development of the system that showed its evolution from two early e-mail studies to the development of software system based on my findings there. The overview briefly reviews the two studies – formative and summative – that I did of the software in classrooms.

I follow this with a discussion of how I have structured online oral history. I settled on an interview-based model based on what I learned in my e-mail work. Working with teachers in the e-mail studies also helped me develop a specific sequencing of activities for integrating online oral history into classrooms. Ideas for the roles kids, teachers, elders, and computers might play in online oral history also emerged from my early work, specifically the roles of elder as resource and student as interviewer. The ProjBL and constructionism literature provided insights that lead me to add new roles: student as historian (creating a project based on elder interview) and elder as
evaluator. The teacher’s role in all of this is one of guide and scaffold in the online oral history process. Computers play a role in supporting the process overall.

I then discussed the conceptual design of PTO. Specifically, I looked at how the roles for kids, teachers, elders, and computers lead to functional requirements of for a system that supports online oral history. I then discussed how different pieces of the user interface aim to meet these requirements.

The next section discussed in more detail the specific user interface components and how they operate in the online oral history process as well as specific influences for their design from the literature. Profiles, inspired by the online communities literature and feedback in my e-mail work, provide necessary background on community members. The Discussion Space provides a medium through which kids and elders communicate, providing a link with the outside world encouraged by ProjBL, social constructivism and authentic learning. The PalaverStories project creation tool derives from the ProjBL literature as that literature tells us that the creation of projects can provide motivation and opportunities for synthesis. An additional advantage of the PalaverStory interface is that projects are instantly available online and, thus, readily available for feedback from elders and other students in Anchored Discussions. Lastly, the Home Screen feature provides a way to bring all of these pieces together in a way that makes sense to kids, teachers, and elders in their specific roles.

I then discussed the development environment I used to build this system. The client and server were both designed and implemented using Borland Delphi. The server coordinates interaction among clients, using SQL Server to store and retrieve data. The client handles all the user interaction, from displaying and allowing posts to discussions, to providing the tools necessary to build a project. I used a number of components to make the process of building both
the client and server easier, for instance I incorporated an off-the-shelf spellchecker, client/server network layer, and some compression routines.

I close the chapter with a statement of my expectations of the system when it is deployed. I felt that students would ask initial questions based on elder profiles, that online oral history would follow the interaction model I set forth, that the teacher would not be able to keep kid-elder interaction in lockstep, and that persistent discussion would allow users to recover in from some types of breakdowns. I also felt that placing student projects online would allow for a new cycle of interaction between kids and elders, we would see an attitudinal change attributable to student participation in online oral history, and participation in online oral history would lead to synthesis of elders’ stories in student projects.
CHAPTER VIII

THE EVALUATION OF PALAVER TREE ONLINE

In this chapter, I discuss the evaluation of Palaver Tree Online. I start by looking at my formative evaluation work – a short study I did to test my software design prior a more complete study. I then discuss my summative evaluation work in-depth. I begin with an overview of the study and the data collection methods used. I then talk about the classroom: the context use of PTO, the roles the teacher and software played, and how online oral history might be best sequenced in the classroom.

I follow this with a discussion of how kids and elders worked together online. I explain how kid-elder interaction was initiated and provide summaries of each kid-elder pairing in the evaluation. I follow this with an example case that shows what online oral history looks like when it is working right. I then discuss a number of cases where online oral history breaks down, discussion of why those breakdowns might have happened and provide potential remedies for those breakdowns. I then discuss ideas about sustaining and pacing kid-elder interaction.

This is followed by a discussion of learning in Palaver Tree Online. In particular, I take a look at student synthesis of elders’ stories and provide some ideas about how one might encourage more synthesis. I then discuss attitudinal change. Specifically, I present results from the statistical analysis of pre- and post-attitudinal surveys administered to students.

I finish the chapter with a re-examination of my expectations prior to the study. I look at my pre-study ideas of the impact of the software and roles for participants as compared to what I saw when the software was put into use.
8.1 Formative Evaluation

In the Summer of 2000, I tested Palaver Tree Online with a local summer camp class in order to get early feedback on the design and the integration of that design into the classroom. Two classes (50 students total) of students aged from 12 to 14 participated for five days in this informal evaluation. I recruited 11 elders to discuss their experiences in the Civil Rights Years with the kids. Kids worked in groups of 4-5.

The questions I aimed to answer in this evaluation are as follows:

1. Will the software be usable? What user interface issues should be fixed before the software is deployed more broadly?

2. Will the software support the interaction model it had been designed to support (see figure 2)? Will kids, elders, and teachers be able to interact meaningfully through Palaver Tree Online?

3. Will the software work technically? What client/server issues will there be when the software is used by many users simultaneously?

On the first day (Wednesday), the teacher helped kids brainstorm questions about the Civil Rights years. On Thursday, kids got an introduction to the software, read through prior e-mail discussions, and entered their questions for elders. Elders responded to student questions over the next three days (weekend). Kids returned Monday, read through the responses, and created PalaverStories based on them. On Tuesday and Wednesday elders offered feedback on the kids’ work.

I did extensive observation and note taking while the software was in use. Oral feedback from both students and teacher was solicited. I got elder feedback via e-mail.
Teachers, elders, and kids generally found the software easy to use. Scaffolded by their home screens, students were making their first contributions to the community within five minutes, and the teacher was able to quickly change her announcement to the class. Elders reported that their Home Screen aided them in finding places to contribute, both in answering kid questions and responding to PalaverStories.

The outcomes of this study were as follows:

1. The evaluation uncovered a few user interface difficulties. Perhaps the most important issue to address was the coordination between Discussions and PalaverStories. Home Screens allow access to each of these individually, but students need to be able to view discussion while building their PalaverStories. I improved on this by adding the PalaverStory Quick Bar in the summative evaluation (see sections 8.2-8.6).

2. The software supported the interaction model insofar as kids, teachers and elders were able to move through the phases of the model during the short period of time that this study ran for. The aforementioned interface issues got in the way of student project creation to some degree, but students were still able to complete their projects in time to get feedback on them.

3. Some technical issues arose during this formative evaluation. Specifically, there were client/server connectivity problems that caused one or both to need to be restarted. I addressed these issues as I worked towards developing a more stable system that could be deployed more broadly.

8.2 Summative Evaluation: Overview and Methods

During the 2000-2001 school year, I worked with a teacher I will call Cathy to integrate Palaver Tree Online into her 8th grade classroom. This study is the first full-scale deployment of the system into a real classroom with the intent of carrying out the entire interaction model at the
appropriate pace. In short, this study was designed to allow PTO to be used the way I intended it to be used. My goal was to show the feasibility of this approach to learning history. I investigated the degree to which the expectations outlined in section 7.6 were met. I also aimed to investigate the following questions:

- What happened in the classroom? How did the kids and teacher work together with and without the computer? (see section 8.3)

- How did the initiation of online oral history go? Where did elders start? Where did kids start? (see section 8.4.1 and, for examples, early parts of sections 8.4.2.2, and 8.4.2.3)

- What does online oral history look like when it is working right? What sort of turn-taking happens between kids and elders? How does each group know what the next step in the process is? (see section 8.4.2.2) What was the timing for the different phases of the project? (see section 8.3.1)

- What does it look like when online oral history breaks down? What particular spots in the interaction tend to cause problems for the participants? (see sections 8.4.2.3 – 8.4.2.7)

- Is there evidence for learning? (see section 8.5)

The study took place in Cathy’s Georgia History class over the course of just over two months (March 15 to May 25), with students working in PTO for roughly six weeks of that time. There were 21 students in the class and they worked in groups of two, with one group of one. Students visited the computer lab once or twice per week during their participation. Each visit lasted one hour. I used several methods to collect data in this study.

8.2.1 Participants

At the time of this study, Cathy had been teaching for 15 years. She has taught many subjects: healthy, physical education, science, history, math, and others. She has always worked in middle
schools, either seventh or eighth grade. For the past five years, she has taught history exclusively. During summers, she teaches in special programs, either learning techniques to improve her history instruction or instructing students in summer school programs that take a less structured approach to learning than the typical school curriculum. The school she works in is a middle school in an upper middle class suburb of Atlanta. This is the school where the summative evaluation took place.

The students that participated in this study were predominantly Caucasian females. Of the 21 students that participated, four were Caucasian males, one was an African-American female, one was an Asian male, and the remainder consisted of Caucasian females. The students were all in eighth grade, with ages ranging from 12 to 14.

Of the nine elders that responded to students, all were all African-Americans. Their ages ranged from 43 to 61 and eight of them were female. All of these elders were recruited by Cathy from the PTO elder database.

8.2.2 Data Sources

In this study, I collected six primary types of data:

- Interview data
  - Pre-interviews with five students, post-interviews with eight students, post focus group with four students, all face-to-face (see appendices A.3 and A.4)
  - Post-interviews with two elders on the telephone (see appendix A.5)
  - Pre- and post- interviews with the teacher face-to-face (see appendices A.6 and A.7)

- Survey data
  - Pre- and post-attitudinal surveys administered to students (see appendix A.8)
Post-survey administered to elders via e-mail (see appendix A.9)

- Observational data – I observed students nearly every day they used PTO
- Discussion data – all discussions in the system (interview, feedback, and otherwise) were recorded
- Project data – the projects students created were recorded
- Log data – the PTO server logged all messages it sent or received

8.2.3 Data Collection

Before students began using the software, I interviewed the teacher. I also interviewed five students and, for those interviewed, I asked the teacher to give me a mix of ability levels, gender, and racial groups. Because the class was predominantly Caucasian females, though, the majority of students I interviewed fell into that category. The teacher and kids filled out consent forms that also indicated the username and passwords they would like. Finally, kids filled out an attitudinal survey to measure their attitudes towards elders, history, and language arts. (See appendix for all instruments used in this study as well as interview questions.)

I did extensive observation while the study was ongoing. Specifically, I was in the lab every day the software was in use except one (see chronology below). During my time in the lab, I played a technical support role. The teacher would instruct students and I would follow with the specifics of how to use the software to do what was necessary. I also helped students with user interface and crash bugs in the software.

At the end of the study, I re-interviewed the teacher. I also re-interviewed the original five students as well as three students not interviewed previously. I also did a focus group that involved four students. I did post-interviews with two elders on the telephone and gave all elders
post-surveys to get their feedback on their participation. Finally, students were given the aforementioned attitudinal survey again.

8.2.4 Data Analysis

I analyzed these data in a number different ways. My overall analysis is focused on understanding kid-elder discourse, where it worked and where there were problems. As such, much of my analysis looks at the discussions kids and elders had, examining them based on the roles kids and elders need to play in order to make them successful.

One way I judged success was the degree to which students were able to synthesize what they got from elders. By synthesis, I mean that students are able to take the elder’s story and retell it in a way that shows an understanding of the elder’s experience and how that experience fits into the larger historical framework they are studying as a class. In particular, students in Cathy’s class were asked to create projects that reflected their elders’ joys and struggles in the Civil Rights Years and shows how those stories fit into the Civil Rights Years more generally.

A second piece of this analysis is focused on looking for evidence of empathy. This was done qualitatively by looking for evidence of the formation of empathy for elders in student projects. In addition, a statistical analysis of the attitudinal survey data provided a quantitative look at the development of empathy for elders on the part of students.

In order to provide additional support for each of these analyses, I triangulated my findings with other data sources. In particular, I looked at the interview data to see if what students told me correlated with what the rest of the data seemed to be saying.

Lastly, I looked at the log file data in order to develop a high-level understanding of how PTO was used. Specifically, I wanted to understand how often users moved around in the system since this provides some evidence that problematic discourses might be seen by others and potentially
brought to the teacher’s attention. In order to capture this, I looked at the degree to which kids and elders viewed discussions they were assigned to view as opposed to those that were optional reading.

8.3 Summative Evaluation: Use of Palaver Tree Online in the Classroom

How did Palaver Tree Online work in the classroom? How could classroom work be improved to better support online oral history? In this section, I take a look at these questions. I begin by discussing the context that the software was used in and giving a chronology of the activity there. This chronology also serves as a general outline of the summative evaluation. I then discuss the teacher’s role – what the teacher in my summative evaluation and what a future teacher might do in order to help online oral history go more smoothly. I follow this with a brief look at the role software played in the classroom. Finally, I discuss the online oral history interaction model, how it was used in the classroom, and how it might be improved.

8.3.1 Classroom Context and Chronology

The software was used in a computer lab. There were roughly five rows of long computer desks, each of which had roughly five computers on them. Each of these rows was situated so that students sitting at the computers would face the blackboard at the front of the room. This is where the teacher would stand to give students instructions. It should be noted, though, that Cathy took a somewhat hands-off approach to the software. Her philosophy was that, in order to give students ownership of their interactions with elders, they needed to be given the freedom to create those relationships on their own.

On the days when students were not in the computer lab, the teacher continued with her standard agenda. The class had already covered the Civil Rights Years by the time they began using Palaver Tree. Concurrent with their use of PTO, the class was covering the Progressive Movement and this is what Cathy used to tie the curriculum to talking with elders about the Civil
Rights Years. She put it this way: “It worked out pretty well because the 15th amendment came up with black men getting the vote and so there was some sense of some progress being made in civil rights. It was like laying the groundwork for now or for the more recent past.”

On the days when students worked in the computer lab, they would report directly there instead of going to the classroom first in order to save time. The teacher gave instructions at the beginning of each trip to the lab. Because kids arrived at different times to the lab, some of them would have logged in to see if their elder had responded prior to hearing instructions from the teacher, but this did not appear to cause any problems.

While in the lab, students spent the majority of the time talking amongst themselves in groups. Sometimes students would call members of other groups over to see what their elder had said or to view their project. Overall, in-class conversation seemed to stay on-topic with the subject at hand – interviewing elders and creating projects based on them.

What follows is a chronology of the use of Palaver Tree Online by students and the teacher. I give an overview of what happened in the classroom on each day and provide parenthetical notes regarding the phase of the interaction model indicated by the activities (see section 7.3.1).

March 15: Cathy recruits elders to participate using the PTO elder recruiting feature (stage 1).

March 19-23: Students read and review the Civil Rights Years chapter in their textbook (stage 2).

March 26: Led by Cathy, students brainstorm general ideas about what they might discuss with elders based on their reading (stage 3). I give a short introduction to the software in the classroom.
March 27: Students come to the computer lab for the first time. I give a more specific introduction to the software, and students spend the session looking through discussions and projects done by students in the formative evaluation (stage 2).

March 28: Kids read elder profiles and enter their first questions for elders. Students also spend a lot of time posting messages in a general discussion area called ‘Commons’. (stages 2-3)

April 2-6: Spring Break. Students are away from school. Both Cathy and I hope that the extra time will allow elders to get started responding to kids and that we will be able to increase the pace of interaction later (stage 3).

April 9: Kids go to the computer lab for the first time after Spring Break (I am not at the school this day). Some kids hear back from their elders and begin posting follow-up messages (stage 5), but most do not (four of the 11 elders reply). Cathy selects seven new elders using the recruiting feature with the hope that we can find elders to work with the kids who did not get responses. We hear from six of the seven newly recruited elders within 24 hours.

April 10: Kids go to the computer lab, but the school’s Internet connection is down.

April 13: Kids go to the computer lab. Those who have heard back from their elders compose follow-up questions and post them (stage 5). Those who have not heard from their elders compose initial questions for newly recruited elders (stages 2-3).

April 18: Kids go to the computer lab. All student groups that will hear from elders have heard by now. There are nine active elders at this point and 11 student groups, so two student groups never hear back from their assigned elder(s) (stage 5). Cathy asks those students who have not heard back from any elders to look for elders who have responded to students and ask them questions. Students follow this advice.
April 26: Kids start work on PalaverStories based on responses from elders (stage 6). Three of the groups continue discussions with their elders after this point (stage 5), but the remainder are finished with their interviews. The teacher gives students a fairly open-ended assignment for their projects. She tells them that the projects should reflect the Civil Rights Years – specifically their elder’s story and what they had read in their book. Other than that, students are free to do whatever they like.

April 27: Kids continue work on PalaverStories (stage 6).

May 1: This is to be the last day that students work on their PalaverStories. After working on projects for the whole period, though, a number of students ask the teacher if they can have more time to work on them. Cathy decides to give them more time and reserves the lab at the last minute for another few sessions in order for them to finish up (stage 6). Three students make their projects available for elder feedback on this day (stage 7).

May 3: Kids continue work on their PalaverStories (stage 6). Five more students make their projects available for elder feedback on this day (stage 7).

May 9: Some kids work on their projects (stage 6). Others read feedback from elders and start viewing each others’ projects and giving feedback as well (stage 7). Cathy announces that students will be graded on their projects and the feedback they give to each other, providing additional incentive for peer feedback.

May 10: Students come to the lab but the school’s Internet connection is down.

May 14: Students come to the lab to read feedback from elders and each other (stage 7). All but one group of students has received feedback from the elder that their project was about by this date. All groups have received feedback from other elders and students.
May 17: This is the last day students come to the lab, and it serves mostly as a catch-up day. Four kids come to finish going through other students’ projects and commenting on them (stage 7).

It is important to note that this study did not follow the interaction model indicated above (see section 7.3.1) completely. For instance, while nearly all students were ultimately able to interview an elder, two groups were not. Because some elders took longer than others to respond, some groups did not get their follow-up questions answered. In addition, most students did not revise their projects based on feedback from elders since most elder feedback was congratulatory and featured little of the constructive criticism that might fuel revision. However, even with these issues, all students except one were able to create projects based on elders’ stories.

In addition, students did not reach the finalization stage (9) of the interaction model. This phase is intended to make clear that students are done working in Palaver Tree Online and will not be making further changes to their projects based on elder feedback. Because the project feedback and revision cycle did not happen, finalization was not necessary.

8.3.2 The Teacher’s Role

One of the most important factors in bringing any learning environment to the classroom is the teacher’s role. Teachers introduce these technologies and set the tone for their use. Teachers scaffold students as they work in these environments including providing support when breakdowns happen. In short, without good teaching, classroom-based CSCL systems have a lower chance of encouraging learning.

The teacher in my final study gave students background reading. She then led a brainstorming session with students to help them firm up the topics they would discuss with their assigned elder. At the beginning of each session with Palaver Tree Online, the teacher would remind students of what they needed to be doing (i.e., the stage of the interaction model they
should be in). She would then generally sit in one part of the room at a computer and do other
work. When students had problems, they would come over and tell her what was going on. She
would answer their questions and sometimes go back to their computers to help them. However,
she seldom made rounds just looking to see what students were up to, nor did she make any
postings in Palaver Tree Online beyond four general announcements.

Cathy’s rationale for this somewhat hands-off approach was that she wanted to give students
ownership over their work. She put it this way: “Well, I didn't want too much control. This is
student oriented and after laying the groundwork and telling the kids don't be stupid, then I think
they handled it fine.”

Her students were motivated, so this hands-off approach worked for the most part – with
students creating projects that received an average overall grade of B+. However, some students
did have problems keeping their discussion headed in a direction that would lead to a quality
project (see section 8.4.2.3 for an example). One idea for improving this might be to have the
teacher pick out a few specific elder responses and give students examples for how to write a
good follow-up question to it.

In future classes, one might consider asking the teacher to take a more hands-on approach,
perhaps walking around to make sure students are doing what they are supposed to and are not
falling behind. Future teachers might be more involved in the online interaction as well, perhaps
intervening in discussions that are not as focused as they could be, and gently steering them back
on topic. To support this, we will need better training for the teacher in terms of how to best
support online oral history.
8.3.3 The Role of Software in the Classroom

I found that Palaver Tree Online played two basic roles in the classroom. First, it supported the teacher in bringing online oral history to the classroom and secondly, it helped anchor student classroom discourse.

I like to think of Palaver Tree Online first and foremost as supporting the teacher in bringing online oral history to the classroom. In this regard, the software fulfilled its role in some ways and could use improvement in others. For example, the recruiting feature certainly improved elder recruitment over the flipping through hundreds of pages of elder profiles that elders in my e-mail work had to do. However, those features could be improved to help automate parts of the process that are problematic – for instance, when elders do not respond to recruiting. Currently, the teacher needs to track this on her own.

In addition, the software played an anchoring role in terms of student classroom discourse. When students talked to each other face-to-face, it was often to discuss something that was going on in the ‘Commons’ discussion, something interesting their elder had said, to get other kids to look at their project prior to showing it to elders, or just to find out who was who (no identifying information on kids is available online). Essentially, students talked a great deal face to face about what was going on online.

In addition, students in different groups worked together online. This was particularly evident (and unexpected) when students gave each other feedback on their projects (see section 8.6.1 #5). The teacher felt that students gave each other more and more positive feedback online than they did in class. It is my intuition that this may be because the typical project presentation format in class allows limited time for feedback from other students since each group has a relatively short period to present, get feedback from other students, and get feedback from the
teacher. Online feedback removes these time constraints and allows students to take more time to review projects and provide feedback.

8.3.4 Sequencing Online Oral History

The interaction model I put forth in section 7.3.1 served as the foundation for how the teacher structured her kids’ interaction with elders – she referred to it each time she took students to the lab. It is important to be clear, however, that it served as a guide only. As the chronology presented in section 8.3.1 shows, different groups were sometimes at different parts of the process. This was especially true in the transition from elder interview to project creation since students were given a fair amount of discretion as to when they began work on their projects.

8.4 Summative Evaluation: Bringing Elders in and Supporting their Work

How did kids and elders work together in Palaver Tree Online? Where were there problems and where did things work well? In this section, I discuss kid-elder interaction in the system. I begin with a discussion of what it took to initiate online oral history. I then give a number of examples of kid-elder discourse, including a number of breakdowns in the process. I then present a categorization of the types of discussions kids and elders had. I finish the section with discussions of how one might sustain and pace kid-elder interaction.

8.4.1 Initiating Kid-Elder Interaction

As this work began, the majority of my focus was on sustaining kid-elder interaction (discussed in the following section). Specifically, I was looking at ways to structure an environment that supports kid-elder discourse from interview to project to feedback. In my e-mail studies, however, it quickly became clear that initiation – getting the interaction off the ground – was a critical first step.
In order for online oral history to be successful, a number of issues need to be addressed in the initiation phase. First, the teacher must decide what subject he/she would like to have kids discuss with elders. The teacher must then recruit elders to work with their students. This means finding elders that have an interest in discussing that subject and have time to do so. Students must then get the appropriate background (both in the subject matter and on their particular elder) to ask good initial questions of elders. Elders need to be briefed on the topic they are expected to discuss with students and expectations with regard to timing and length of their contributions. Finally, students must initiate the interaction by posting initial questions.

In Palaver Tree Online initiation is largely the responsibility of the teacher because the teacher is in a management role – assuring that kid-elder interaction starts on the right foot. Initiation in PTO consists of stages 1 through 3 of the interaction model (see figure 2). I generally consider initiation to be initial elder recruiting, background work by kids and the teacher’s introduction of the system to her class. Once students have posted their initial questions for elders, initiation is complete. Thus, the chronology in section 8.3.1 shows initiation lasting from March 15 through March 28.

One important feature of the initiation process is the interaction model itself. While hardly fully inclusive of all the different facets of the online oral history process, the interaction model does provide a high-level framework for thinking about how the process will run. As mentioned in section 8.3.4, the teacher referred to this model often. It appears that providing this framework early helps increase the teacher’s comfort level with online oral history. The interaction model is included in a set of teacher support materials available on the project website (see appendix).

A second important feature of the initiation process is the teacher’s preparation of students for the process of online oral history. For example, Cathy selected readings to give students the appropriate background on the history they would later be discussing with elders. In particular,
she found a way to tie the Progressive Movement she was in the process of covering in her class to the Civil Rights Years. In order to begin connecting students with elders, she led a brainstorming session aimed at helping students develop an idea of the topics they might discuss with elders.

Palaver Tree Online provides support for several parts of the process of initiation. The recruiting feature (accessed from the teacher home screen), for instance, helps teachers find elders to work with their class at the beginning of the process and helps them find more elders if the ones they recruited at first do not work out. The software also provides access to the work of prior classes. In Cathy’s case, students looked through discussions and projects from prior classes before beginning their work with elders.

When students are ready to start working with elders, online profiles provide a way for students to familiarize themselves with the elders they will be working with prior to asking their first question. This allowed many students to ask initial questions specific to the elder they were interviewing (2/3 of student groups asked initial questions that reflected information in their elder’s profile). Finally, the teacher announcement portion of the teacher home screen allows the teacher to give instructions to kids and elders about what they need to be doing as they begin working together.

8.4.2 Examples of Kid-Elder Discourse

In this section, I will provide examples of the use of Palaver Tree Online. I begin by giving an overview of all the cases of kid-elder discourse in the system. I then give an example of a more successful case from beginning to end. I follow this with an equally detailed account of an unsuccessful case. I finish this section this with examples of other types of breakdowns in the system.
8.4.2.1 Overview of All Kid-Elder Groupings

Here, I provide an overview of all the kid-elder discourse that happened in Cathy’s class in Palaver Tree Online (see tables 7-12). For each case, I give the student names, the first elder they were assigned (if the first elder did not respond, the backup elder they were assigned is listed parenthetically). I then list a count of the postings students made and those the elder made in response (backup elder counts parenthetically if required). Finally, I provide a brief description of the kid-elder interaction and the grade the teacher gave to the group. More detail on some of these interactions is given in examples in later sections.

It is important to note that the teacher’s grades are not always reflective of the quality of projects. Some projects, for example, received good grades even though their content was copied verbatim from what the elder shared – thus, they actually show little synthesis (see section 8.4.2.7.1).
Table 7: Overview of kid-elder groups 1 and 2.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Henry</td>
<td>Andrew Mills, birth date unknown, was at the march on Washington (Edith Nordstrom), born 1950, heard about MLK’s death on the public address system at school</td>
<td>5/0 (2/1)</td>
<td>In this interview, the assigned student arrives late. Another group (7) asked the first question and got a response, discussing the day Martin Luther King, Jr. was shot. The elder never returned to answer any of the questions Henry asked. Henry did not create a project. However, group 7 based their project on this elder.</td>
<td>No project</td>
</tr>
<tr>
<td>2. Jacob, Sam</td>
<td>James Barton, born 1958, family hosted meetings with civil rights leaders</td>
<td>15/12</td>
<td>Students started off asking questions related to the Civil Rights Years but later drifted into talking about unrelated military history. The lack of focus in their interview caused problems as they worked on their project.</td>
<td>B</td>
</tr>
</tbody>
</table>
Table 8: Overview of kid-elder group 3.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Robin, Veronica</td>
<td>Jane Robinson, born 1951, traveled in the South as a kid and experienced segregation first hand (Tina Holmes), born 1950, went to a predominantly white school during integration</td>
<td>5/0 (12/8)</td>
<td>This was a complex interview with many questions (not all answered). The discussion ranged from talking about how life has changed since the elder was little to recent KKK rallies. Some students not assigned to this elder asked questions here. For instance, group 10 based their project on this interview as well. The students here are the only ones that made two projects based on their interview. The first conveyed a largely fictionalized and somewhat strange account. The teacher: “strange story – nice graphics.” The second project started well but needed more detail.</td>
<td>First project: A  Second project: C</td>
</tr>
</tbody>
</table>
### Table 9: Overview of kid-elder groups 4 and 5.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Pam, Mary</td>
<td>Jim Wills, born 1925, was a complaint investigator for the EEOC (Lisa Reed), born 1950, raised in a prejudiced predominantly white suburb of Philadelphia</td>
<td>5/0 (7/4)</td>
<td>This interview and project provide one of the more successful cases of online oral history. The elder talks about what it was like to grow up the only African American student in an otherwise all-Caucasian school. The project they create builds on the elder’s account and adds dramatic detail to make a moving story. The teacher put it this way: “This is the high quality I expect and want from all my students.”</td>
<td>A+</td>
</tr>
<tr>
<td>5. Margaret, Felicia</td>
<td>Cassandra Simmons, born 1940, civil rights injustices she witnessed drove her to become an attorney</td>
<td>12/7</td>
<td>Interview is in-depth, focusing on how the elder was affected by racism as a child. The elder offers detail on the constitutional changes as well as her experience. The resulting project contains only tangential information from the elder’s story, though.</td>
<td>B</td>
</tr>
</tbody>
</table>
Table 10: Overview of kid-elder groups 6 and 7.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Minh, Nelly</td>
<td>Larry Young, born 1954, had strong involvement in the civil rights movement (Mary Samson), born 1956, grew up in a racially prejudiced area of Southern Illinois</td>
<td>9/0 (18/2)</td>
<td>The students ask a number of high-level questions about the elder’s experience, but the later questions do not show much synthesis of what the elder told them. The project they create has little detail and no specific information about their elder.</td>
<td>C</td>
</tr>
<tr>
<td>7. Danny, Natalia</td>
<td>Quin Masters, born 1951, participated in civil rights marches in Michigan (Tammy Evans), born 1955, attended a high school that was being integrated</td>
<td>1/0 (1/0)</td>
<td>Neither of the elders assigned to this group answered the students. They took matters into their own hands and went to an interview with an elder that was already answering other students (Edith Nordstrom) to ask their questions. Even though this new elder only responded to one of their questions, that response was powerful enough for them to build a project around.</td>
<td>A</td>
</tr>
</tbody>
</table>
Table 11: Overview of kid-elder groups 8 and 9.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Hannah, Laura</td>
<td>Octavia Randall, born 1952, experienced having to go through back doors to stores and other forms of prejudice (Gina Sintawi), born 1951, attended rallies and protests as a child and has a strong sense of Black pride</td>
<td>1/0 (3/4)</td>
<td>This elder shared stories about growing up in a prejudiced environment but never doubting herself. She talks about protests she participated in and the pride she took in how she looked as a black woman. This resonated particularly with the only African American student in the class, Hannah, who led her group to write an autobiographical account of the elder’s life.</td>
<td>A</td>
</tr>
<tr>
<td>9. Kathy, Diana</td>
<td>Pamela Bell, born 1946, was one of the first Black female managers in a major telephone company</td>
<td>7/5</td>
<td>This elder talks about living through integration and the KKK’s scare tactics. For instance, a cross was burned on her family’s lawn. The students use these stories to create a portrait of the elder’s life that highlights both the good and bad. The majority of this story, however, was copied verbatim from what the elder wrote.</td>
<td>A+</td>
</tr>
</tbody>
</table>
Table 12: Overview of kid-elder groups 10 and 11.

<table>
<thead>
<tr>
<th>STUDENTS</th>
<th>ASSIGNED ELDER (BACKUP ELDER)</th>
<th>STUDENT POSTS / ELDER POSTS IN INTERVIEW</th>
<th>DESCRIPTION</th>
<th>TEACHER GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Heather, Ginger</td>
<td>Ilene Thomas, born 1946, worked in the Black Panthers Breakfast Program (Rhonda Mathis), born 1951, Black business entrepreneur</td>
<td>6/0 (2/0)</td>
<td>When neither elder assigned to these students answered, they took matters into their own hands and went to Tina Holmes’ discussion where they asked 3 questions. They based their project on a friendship the elder had with a Caucasian girl as a child.</td>
<td>B</td>
</tr>
<tr>
<td>11. Natalia, Kate</td>
<td>Faye Hamilton, born 1949, a Haitian immigrant with a unique perspective on the civil rights struggle.</td>
<td>5/3</td>
<td>This elder discusses several demonstrations, the civil rights act, and relationships with white students at school. Kids also ask about discrimination in different parts of the country. Their project looks at segregation in schools, boycotts and demonstrations, and how African Americans were treated in stores.</td>
<td>B</td>
</tr>
</tbody>
</table>
8.4.2.2 More Successful Case

In this section, I provide an example of online oral history “when it is working right.” In doing this, I do not mean to imply that there is no way to improve on the experience these students had or even that this is the best case in the class. However, this case is one in which many things do seem to go right and students the project they produce does show significant synthesis of the elder’s experience and integration of what they already knew about the Civil Rights Years. As such, it serves as one example of a “better case” of online oral history. (I provide examples of less successful cases in subsequent sections.)

In this example (summarized as group 4 in section 8.4.2.1), students started out reading background information on and posting questions for an elder who never responded. The teacher recruited new elders to take the place of the unresponsive ones and assigned students to interview them instead. The example that follows comes from this pairing of kids and backup elder.

8.4.2.2.1 Elder Profile

Username: lreed

Full Name: Lisa Reed

Gender: Female

Ethnicity: African-American

Birth Year: 1950

Location: Pennsylvania, USA

Historical Interests: I was raised in a very prejudiced all white suburb of Philadelphia, PA; it was very difficult to be black. I must admit that unlike other African Americans my age, I don't have first hand experiences regarding the racial strife of the 1950's and 60's, but I watched events
unfolding on T.V. and read current events in the newspaper; I vividly remember my parents' reaction to these events.

Personal: [Ms. Reed’s personal description was 107 words long and included a chronology of the cities she has lived in and the jobs she has held. She also talks briefly about her children and grandchildren. Omitted here for privacy and space reasons.]

8.4.2.2.2 Elder Interview

Pam (Caucasian, age 14, using the pseudonym sandaroni) and Mary (Caucasian, age 13, tinkerbell) started off by asking questions based on their elder’s profile. Over the course of the first hour, they made four separate postings. First, Mary asked a number of questions asking about the elder’s experiences, noting that the elder had little experience with racial strife.

**tinkerbell -- 4/13/2001 11:27:19 AM**

hi! there are a lot of questions that i have, i think, but first i was going to ask you if you were scared, because i know i would be. I also was curious to know if you could point out any particular events that especially affected you.

**tinkerbell -- 4/13/2001 11:30:06 AM**

you also mentioned that you didn't have any first hand experiences with the racialism, (?) but weren't there any events at school that happened to you, since you also said you lived in an all white suburb? were your parents angry about everything going on? what was going on that you read about in the newspapers and saw on TV?

**sandaroni -- 4/13/2001 11:41:58 AM**

Hi Ms. Reed! I just have a few more questions.
sandaroni -- 4/13/2001 11:47:25 AM

I was wondering, how did your parents react to the prejudice? What kinds of things did they do?

Were you ever discriminated, or did the white people accept you? How was your childhood affected? Did you ever get mad at the white kids? Did you have any white friends? Do you think that the people would have treated you differently if you were white. Did you ever wish you were white at any time. Did you ever agree with your parent's opinions?

sandaroni -- 4/13/2001 11:48:03 AM

Thankyou for answering our questions. We appreciate it.

The teacher indicated to the students that they should try to ask fewer, deeper questions but they were so excited to have a real human to answer their questions that a number went a bit overboard and asked many initial questions. The elders, however, were quite receptive even when asked numerous questions at once.

lreed (Lisa Reed) -- 4/17/2001 6:16:57 PM

Hello tinkerbell! I wouldn't say that I was actually afraid; but I would say that I was cautious and wary. That means that I watched the racists carefully and I was aware of everything that they did. I remember a lot of the ugly, painful words they used to describe my color and my hair.

There were sit-ins and demonstrations everywhere in the south. The news media showing people in the south being attacked by dogs and firehoses really angered me. I felt so badly for them, I knew they were being tormented due to people's unjust hatred of all blacks. And I knew that they understood they had to withstand that pain so that the world would see what it was really like being
black in America. I remember my parents discussing the events; they talked about joining the march to D.C., but I know they didn't go.

I remember my parents discussing the events; they talked about joining the march to D.C., but I know they didn't go.

**Ireed** (Lisa Reed) -- 4/17/2001 6:34:20 PM

Hi Sandaroni! My father was born and raised in Georgia; he moved to Pennsylvania when he was in his late teens. He refused to travel to the south. We only attended family reunions that were held in the north. I remember him being angered and outraged by the events being shown on TV. My mother never spoke to any of the children about the events, but I overheard her talking to my father about participating in the march on Washington D.C.

Yes we were discriminated against; and no, the whites did not accept us. I had no children to play with, unless my cousins came to visit or we went visiting. It was very difficult being black in an all white community. I was very lonely. And yes, I was very angry with the white people for treating me in a way that I considered unfair. By the time I got to high school I developed a friendship with a white girl, we were very close. I haven't seen or heard from her since graduation. When I was in grade school, I would wish I was white just so that the other children would play with me. Since then I have not wished I was white. Of course they would have treated me differently if I'd been white because I would not have been different. And I know for a fact that the children did not play with me because "they" didn't want to play with me. They didn't play with me because their parents told them not to. I wanted to participate in the march
on Washington, but back then when father said no, that was the end of the subject.

The story told in the last paragraph above serves as a foundation for the PalaverStory they ultimately create. The students, however, have not decided what their topic will be quite yet. They asked numerous follow-up questions:

**tinkerbell -- 4/18/2001 11:41:39 AM**

That is really really sad... why didn't your parents move? Did they know about your situation? (having no friends and being discriminated against.) I know that the term "marches" is probably pretty self explanatory but I would really like to know more about them. What were they, as in, what went on besides marching-protests?

Recently I read the book The Glory Field and in it, they mentioned demonstrations and sit-ins but I am really confused about what they really are. I think I have an idea about sit-ins but I am very very confused about demonstrations. Also, will you explain some more about the march to D.C.? Did you really understand everything that was going on? In many books that I've read, it seems like the children are so naive and that they have no idea about what is going on. If things were really like that, could you please try to explain why? Since I haven't gone through anything like this, I don't really see how it would be so easy to just not get it.

Thanks again,

Tinkerbell

The questions asked here – How were marches organized? What exactly were sit-ins and demonstrations? – point at a what has turned out to be a major contribution of the elders. While
textbooks often offer more generalized renditions of history, elders can answer the specific and more detail-oriented questions that students have.

**lreed (Lisa Reed) -- 4/19/2001 5:52:42 PM**

Hi tinkerbell. No my parents did not consider moving, especially not after they basically had to fight to be able to buy their home in that town. Yes they knew about the racial situation, they were going through the same thing as well.

Articles were placed in community newspapers whenever a "march" was being organized. These articles apprised us of when where it would take place and who was organizing it. Bus loads of people from different churches, cities and states would arrive at the march site. Some people would sign up for key (up front) positions knowing that they would receive most of the brutalities. These people were trained before the march to remain calm. They were also trained how to fall and to curl the body to reduce the impact of the blows. These protest marches were supposed to be peaceful demonstrations (and many were). This is how the march to D.C. was organized.

A sit-in was just that, the protesters would takeover a building and sit down, refusing to leave. They were usually carried off by police and booked with loitering and or trespass. A demonstration consists of picketers usually. These are people with signs walking back and forth in front of the building/company they are protesting against.

I was a child then, I'm sure I understood very little. I didn't understand racism then, but I do now; racism is based on fear and misunderstanding.
Ms. Reed responds with detailed answers to the students’ questions. In particular, she disambiguates sit-ins and demonstrations and offers some insight into how marches worked – the people in front knew they would likely be hurt.

**tinkerbell** -- 4/26/2001 11:11:31 AM

what did white people think of the marches? did your parents ever participate in the marches or sit-ins or protests? how old were you during the march of D.C.?

I'd also like to know (out of curiosity- I really hope you don't mind!!) how your parents explained all of this to you... it must have been hard.

Finally, the group asks the elder her opinion about Caucasians’ thoughts on the marches. They also ask how the elder’s parents explained the events to her. The answer to this second question becomes important for their PalaverStory as well.

**lreed** (Lisa Reed) -- 4/30/2001 6:18:29 PM

Hi tinkerbell

White people thought the marches were annoying; they made fun of the advances blacks made. No, my parents never participated in the marches, protests or sit-ins. I was 11 when the demonstrations and marches started. I was 15 or 16 during the time of the march on D.C.. I don't mind your curiosity, I appreciate it; ask away its the only way you'll learn. Unfortunately, back then, parents didn't talk to their children; they didn't bother to explain anything. Whatever we learned about what was going on was what we saw on T.V., heard on the radio or in the playgrounds and read in the newspapers.

This message provides additional background on the elder’s experience as a kid in terms of not having the same access to information as her parents. It also shows a form of breakdown in
the elder’s general statement about the feelings of white people regarding the advancements of blacks. See section 8.4.2.6 for more detail on this breakdown.

8.4.2.2.3 PalaverStory

Taking what they learned from their elder, Pam and Mary created a PalaverStory that tells a dramatized version of the elder’s story. As Pam put it: “Some of it was fiction, but it was based on what she was talking about how she had to sneak in to see the news or read the newspaper. [Her parents] didn't want her to see what was happening.”

<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Around the time of great discrimination and a division between races, a little girl named Lisa was caught in the middle. She had skin the color of thick cocoa and eyes like glossy marbles, unlike the vanilla colored children living around her. It turns out that sometimes chocolate is richer than vanilla, as this young girl found out from the actions of her tormentors. Lisa lived with her family in a predominantly vanilla neighborhood. Every day she had to endure the taunts and teases of the other children; after all, she was one of the only chocolate kids around.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>The group starts out by placing Ms. Reed’s story in the larger context of the Civil Rights Years. They then discuss the unusual environment the elder grew up in – one of the only black kids in her neighborhood – and the toll this took on her, with a bit of dramatic embellishment.</td>
</tr>
</tbody>
</table>

Figure 12: PalaverStory by group 3, page 1 of 5.
<table>
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<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
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</thead>
<tbody>
<tr>
<td><img src="image_url" alt="Image" /></td>
<td>She felt alone, very alone. Every day she sat by herself at lunch and ate while she watched the other kids talk and play. Being chocolate was not as easy then as it is nowadays. Lisa had only one friend, and that was a little white girl with blond braids that dangled from either side of her pale head. She and Lisa looked so different, but this girl helped to teach Lisa the things her own parents liked to avoid, that it doesn't matter what color you are, because Lisa and this little girl looked the same inside. Little Lisa could only watch her family worry over matters that she had yet to understand. Her parents would not explain the great protests. All that she could figure out was what she saw on the TV. Her parents were angry and annoyed by the vanilla-colored people's actions and reactions to their actions. The cocoa-colored people were greatly discriminated and treated unfairly just because of their color.</td>
</tr>
</tbody>
</table>

Here, the group pulls in the fact that the elder had few friends growing up in an all-white neighborhood and had only one white friend.

The story also begins to explore the curiosity the elder felt since her parents tried to hide the racial tensions from her.

Figure 13: PalaverStory by group 3, page 2 of 5.
Lisa's only access to the real world outside of her 11 year-old fantasy land were the shows she saw on television, the gossip on the playgrounds, the man's booming voice on the radio, and the newspapers her father used to bring in on sunny mornings when she was slurping Cheerios at the breakfast table before school. He would sit down across from her, lean back casually in his chair, and leaf through the paper, pointing out articles silently to his wife. Lisa saw the stern, stony look on her father's face whenever there had been a new arrest or something, things she would have never known about in detail if she hadn't snooped through the newspaper after dinner that night, secluded in the privacy in her bedroom.

She had her mother's sewing scissors on the bed next to her, blending into the ruffly bedspread as she flipped through black and white words, cutting out pictures and placing them in a box under her bed an instant before her mother came in for the usual kiss on the cheek and smoothing of brows as the moon rose high in the starry sky above.
<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td></td>
</tr>
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</table>

Every morning, Lisa plodded miserably to school, swinging her lunch pail and feeling it smack against her legs rhythmically, watching like a hawk while the white kids joined up in groups to walk and laugh. When she would get to school, they made fun of her as they did every day. They would mock the way she walked and laugh at how she was so much different than the rest of the kids.

Even the teachers were prejudiced, but why, she did not know. She would sit in her chair in the back corner, "Because the white people need to see, you see they are going to go somewhere, do something with their life." She felt cold and alone. The kids would pick on her and the teachers told her day after day, whether with words or not, that she was inferior.

The group pulls in the elder’s statement that white “made fun of the advances blacks made,” placing it in the context of their character.

Based on this, the group further hypothesizes what life as a black student in a predominantly white school would have been like.

Figure 15: PalaverStory by group 3, page 4 of 5.
<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
</table>
| As a storm swept rapidly over the darkening sky, Lisa wiped beads of sweat from her face; the day had been hot, the sun a broiling ball of relentless heat bearing down on her every time she stepped outside. *Honeychild, you can do anything you want with your life, it don't matter if you're black or white, purple or polka-dotted. You just keep on dreamin',* *Honeychild.* The vision of her mother's face dissolved in a flash as the first drops of rain for weeks began to tumble from the sky, soaking her through when she stepped boldly off of the front steps, away from the shelter of her own front porch.

Lisa could hear the voice of Chuck Berry on her father's old record player, the music seeping under the door crack, slowly crawling in her ears and out again. She turned towards the backyard, towards the dogwood tree and stood there looking up at the dark, gloomy branches, leaves falling to the moist green earth.

This final page of the project is perhaps the most fictional and creative. It builds on a few statements by the elder about understanding the nature of racism as an adult. The group creates a similar epiphany for their character much earlier in life.

Figure 16: PalaverStory by group 3, page 5 of 5.
**SHOW THE STORY…**

What they say doesn't mean a thing to me,
I'm a good person, I can be a doctor if I want. I could be a painter. As if a weight had been lifted from her shoulders, Lisa tilted her head towards the sky and let herself become immersed in a rush of revival and reinvention.

**TELL THE STORY…**

<table>
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<tr>
<th>8.4.2.2.4 Feedback</th>
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<tbody>
<tr>
<td>Once the PalaverStory was complete, Pam and Mary made it available for feedback and a number of elders and students commented on it over the following week. The majority of the comments for all PalaverStories were positive and few suggestions for improvement were offered. For instance Lisa Reed, the elder Pam and Mary interviewed, responded with the following message:</td>
</tr>
<tr>
<td>lreed (Lisa Reed) -- 5/4/2001 10:52:54 AM</td>
</tr>
<tr>
<td>Tinkerbell - I am QUITE impressed! It seems there's not only a writer but an artist in you. Perhaps you would consider writing children's books. The story was great! Well done! Thank you for telling my story so eloquently.</td>
</tr>
</tbody>
</table>

The project received a number of positive feedback messages. An important ownership issue arose in this final stage, however. Because of the way that PalaverStories are saved, only one student’s name is listed with them. Pam felt like she was not getting proper credit and politely let her elder know that it was a joint effort.
Ms. Reed, I also worked on the project, Tinkerbell and I spent 4 long days on the project and it turned out to be a success, I thank you for your feed back and I enjoyed writing this story. I hope that you will continue to tell more people your story and I am glad to have talked with you. Your information was all very interesting. I am glad you enjoyed our story.

A future version of Palaver Tree Online should address this issue, allowing all contributing students receive credit for their work.

8.4.2.2.5 Discussion

There are several reasons why I consider this a more successful case. First, the students in this case demonstrated synthesis of several different parts of the elder’s story. Pam and Mary learned that not everyone had the same experience growing up in the Civil Rights Years. Specifically, they heard stories from an elder in a unique situation – living as the only African American girl in an otherwise all-Caucasian neighborhood. They integrated the elder’s trouble fitting in with Caucasian students, her parents’ attempts to hide the struggles from her, and her understanding of the events and of race into a narrative that showed their learning in a dramatic way.

In addition to creating a PalaverStory that shows synthesis on several counts, the interaction here shows evidence of the development of an empathic relationship between students and elders. For instance, the elder discussed her feelings on being the only black student in an otherwise all-white school and the students responded: “That is really really sad... why didn't your parents move?” This shows that the students may be developing an empathic relationship with their elder. Also, their reflection of the elder’s experience in their project – particularly the dramatic emphasis placed on Lisa’s isolation and the hostile environment she experienced at school – shows the impact that it had on the students and the development of a degree of empathy for the
elder. As I discussed earlier, empathy that allows one to see history through the eyes of another is a form of historical thought.

The kids do a number of things to make this a successful case. Some of the important things they do are as follows:

K1 Do pre-interview research that provides context for both the elders’ background and the Civil Rights Years more generally.

K2 Ask thoughtful initial questions based on what they know about their elder.

K3 Ask follow-up questions based on what the elder told them that enable them to get the level of detail necessary to create a quality project.

K4 Formulate questions based on the subject matter they are expected to discuss in their project.

K5 Do not overload the elder with too many questions at one time.

K6 Be respectful of the elder and express interest in what they have to say.

K7 Be empathic, showing compassion regarding the elder’s experiences.

K8 Use background information gathered on the Civil Rights Years in their project.

K9 Use stories from their elder interview in their project.

K10 Integrate elder interview data and Civil Rights Years background material in their project to tell a story in their own words.

K11 Give positive feedback to other students on their work.

The elder plays an equally important role in making this a successful case. What follows is a list of some of the important things she does right and a few she does wrong (indicated with a *):
E1 Is aware of the subject matter that students were to be covering and addressed her responses to those specific issues.

E2 Responds in language that students could understand.

E3 Is respectful of students and spoke to them as equals.

E4 Share stories about her childhood, when she was roughly the same age as students, in an effort to connect with them.

E5 Answer nearly all of the questions the students asked.

E6 Answer the students’ questions in a timely manner.

E7 Provide responses long enough to convey significant detail, but short enough that students can read them comfortably in a 50-minute class period.

E8 Do not tell overly controversial stories.

E9 Do not overgeneralize. * The elder in this case did not meet this criterion. This breakdown did not appear to adversely affect the students’ projects but it was not caught, either. (This is discussed in more detail in section 8.4.2.6.)

E10 Give positive feedback to the students on their project.

E11 Give constructive criticism to the students on their project. * The elder in this case did not meet this criterion. In this case, it was likely because the project exceeded her expectations. However, this breakdown was common even in cases when student projects had clear problems. In fact, only one elder provided constructive criticism of student work (see section 8.4.2.3.4).

E12 Use proper grammar, spelling, and punctuation.
What is important to note here is that kids and elders need to work together in order for online oral history to work – each has significant and necessary roles to play. In the following sections, I discuss a number of breakdowns in these roles.

8.4.2.3 Breakdown: Students Going Off-Topic

In this example and the ones that follow, I will look at a number of cases that were not as successful as the previous case. These cases will show where breakdowns have happened in online oral history.

This first example discusses group 2 (see section 8.4.2.1) in more detail. Students are assigned to interview an elder about his experiences in the Civil Rights Years. They start out with questions on that topic but slowly drift off-topic and discuss his military experiences instead.

8.4.2.3.1 Elder Profile

Username: barton

Full Name: James Barton

Gender: Male

Ethnicity: African-American

Birth Year: 1958

Location: New Jersey, USA

Historical Interests: 1. Grad of Howard University; Initially attended West Point before transferring; 2. Grew up on the campus of a predominantly Black college in SC; 3. Former Army Officer […]; 4. In the 60s, lived through what has become known as the Orangeburg Massacre on the campus of SC State College (knew two of the 3 students killed and friend of the family of the 3rd); 5. Willing to discuss just about anything that may be of interest to them; While running
an Inner City Youth Program in Atlanta, I learned that sometimes, just having a sincere, sympathetic person to speak with goes a long way; Besides, if it's something I'm not well versed in, I'll earnestly try to gain insight for them or point them in the direction of someone who can answer/assist them;

Personal: [Mr. Barton’s personal description was 494 words long and included extensive personal information about his knowledge of the civil rights struggle in the 60’s (SNCC, NAACP, etc.), schooling, jobs he has held, military experience, and current job. Omitted here for privacy and space reasons.]

8.4.2.3.2 Elder Interview

Sam (Caucasian, age 14, using the pseudonym coolcat) and Jacob (Caucasian, age 14, ninjaben) also started off by reading their elder’s profile as evidenced by their initial questions. However, the questions they ask are not as specific as those in Case 1 overall.

**coolcat** -- 3/28/01 11:20:05 AM
Hello, this is Coolcat and I am very interested in civil rights (and military history).

**ninjaben** -- 3/28/01 11:23:00 AM
What role in the civil rights movements did you play?

**coolcat** -- 3/28/01 11:24:48 AM
Did you ever take part in civil disobedience?

**ninjaben** -- 3/28/01 11:25:06 AM
or did u think that violence was the answer?

The elder does his best to respond with some specific information even though the questions were fairly broad.
I was a relatively young child during the late 50's, early 60's but my mother was the president of our local chapter of the NAACP. As such, she often took me with her to meetings, protests, marches and other civil disobedience activities.

There have been times, during my younger days, when I thought that violence was the way but I have since decided that two wrongs don't make a right. I have no problems with self-defense but that's about the extent. The peaceful resistance movement was successful and still has merits.

Getting back to our activities, there were also several "back room" meeting held in our home to attempt to work out mutually acceptable means of resolving numerous civil rights issues. As a child, I was fortunate enough to be allowed to sit in the room, witness and hear the conversations, negotiations and agreements.

My biggest memories are of:

1) Participating in a march that ended with us being threatened by the use of fire hoses. Fortunately, the hoses and their attendant high pressure water weren't used on us (thank goodness);

2) The students from the Black college (SC State) were I grew-up rose up in protest against the segregation laws in effect during the 60's. My parents were advisers to many of them, I was a friend or acquaintance of many of them, I still am an acquaintance of the then young man who was a major organizer for the Student Nonviolent Coordinating Committee's efforts to organize and assist these students; I witnessed the after effects of the state troopers' unprovoked attacks against these students and knew or was acquainted with the 2 college and 1 high school student who died during these confrontations;
I will never forget seeing fully armed national guardsmen patrolling the streets of my community and even some constantly parked on the side if the road in front of my families home;

The elder continues and describes his experiences in the military, as prompted by coolcat in his initial post:

As for the military, I started off as an Airborne Infantry Ranger second LT in the 101st Airborne Division at Dobbins Air Force Base, GA. Airborne means I was qualified as an Army parachutist; Infantry is the soldiers who we usually see in the movies, walking around or riding troop carriers carrying rifles and fighting the military's battles. Rangers are the modern day equivalent of Commandos. After 4 years of that, I switched over to Army Aviation where I was a platoon commander in scout and attack helicopters. Later, I served as the military version of a airport manager. Had my airport been a civilian airport, it would have been the 7th busiest airport in the country. It was demanding work with long work hours (12 to 14 hour work days). In some jobs, it was not unusual to work 6 or 7 day work weeks. In the military, I made a lot of good friends and gained valuable experience that have lead to the job I have today. I am an Airport Operations [Manager] at one of the 3 major airports in the New York City area. I am the Airport Manager's representative in day-to-day operations, rules and regulations enforcement, safety ensures and other necessary duties as assigned by our Airport Manager.

In the questions that followed, it did not appear that the students had read his previous responses in detail. Instead of asking deeper questions based on what the elder told them, they continued to ask only broadly related questions.
ninjaben -- 4/13/01 11:27:21 AM

Did you ever meet any of the major(widely-known) role players that were in the civil rights movement.

coolcat -- 4/13/01 12:01:00 PM

How do you think the world would be today if it weren't for the civil rights activists?

ninjaben -- 4/18/01 11:49:49 AM

Do you know about the current situation in Cincinnati? If so, how do you feel about it?5

Ninjaben’s first question here hints that he may have read some of the elder’s responses – specifically, where the elder talked about the “back room meetings” occurred at his home where he had the chance too meet important figures. The remaining questions, however, did not follow up on what the elder had said up to this point.

After answering the students’ other questions, the elder offered this answer to their question about a world without civil rights activists.

barton (James Barton) -- 4/19/01 11:44:15 PM

I have never thought about where we'd be if it weren't for he civil rights movement. But, since you've asked [:)], I've given it some thought.

There would have been some social advancement for Blacks and other minorities in the United States but not to the extent that it is now. There definitely would be far less advancement in integration and desegregation. There would be a major waste of human talent and skill as discrimination would possibly be the cause of

5 Demonstrators in Cincinnati were protesting the shooting of an unarmed African American man by police, the fifth in seven months. A state of emergency was declared after the protests lead to a riot. http://www.cnn.com/2001/US/04/12/cincinnati.riots.01/index.html
some of our better minds not getting the chance to put their God given talents, skills and abilities o their best use.

Now, I also believe that, with the strength, desires and sheer self motivation of our people, the rise of the civil rights movement was inevitable and was a rising tidal wave that could not be prevented.

The big challenge is what will subsequent generations, to include yours, do with the opportunity(s) that are out there as a result of the blood, sweat, tears and sacrifices of the very people you ask about.

I once heard a prominent Black man give an eloquent talk, reminding young folks that just about every major movement had been fueled, fired and lead by the youth of the time. They received outstanding guidance, direction, motivation and leadership from their elders but the front line warriors were young women and men. . .

After this, the students asked an even more off-topic question:

**coolcat** -- 4/27/01 11:37:25 AM

A quick question: What kind of plane did you fly in when you were in the 101st? Also wasn't that the division the Tuskegee Airmen were in (not to mention the 332nd i think).

From this point, the conversation goes more deeply into a discussion about the elder’s experience in the military. That discussion deals with specific vehicles the elder piloted and ranks he achieved. While interesting, there is little that would be useful in a PalaverStory about the Civil Rights Years.
Certainly, developing a good rapport with an elder may sometimes involve off-topic discussion. However, in this case, the students did little following up on previously asked questions, and half of their questions dealt with the military as opposed to civil rights. While the elder answered all their questions about the military, less than a third of the text he typed dealt with the military. Perhaps he was subtly trying to guide them back to the topic they were supposed to be discussing. The students’ trouble focusing hurt them as they worked on their PalaverStory.

8.4.2.3.3 PalaverStory

Even though the students asked general questions that sometimes did not follow from previous discussion, their elder tried to answer what he thought they were asking and gave them a great deal of information about his life. Perhaps part of the reason these students moved from topic to topic with such regularity may be that they had very diverse interests. Jacob has a large interest in history and the Civil Rights Movement. Sam has a much stronger interest in military history.

The group’s PalaverStory was similarly divided. It begins with a summary of some of the elders’ experiences in the Civil Rights Years and then abruptly switches to talking about his later life in the military. While it could be argued that the fact that the elder was able to succeed in the military is testimony to the changes the civil rights struggle brought about, that link is not expressed in their work.
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<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
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<tbody>
<tr>
<td>James Barton grew up in the middle of the Civil Rights' movements of the 1960's. As a young boy his mother took him to her local NAACP meetings. She was the president of their local NAACP chapter. James Barton was forced to grow up in South Carolina where segregation and discrimination were heavily favored by the people. He was in many possible dangerous and hostile situations growing up as a young boy.</td>
<td>The project starts by drawing on the elder’s stories about attending marches and “back room” meetings held by his parents. Their reason for including an image of Malcolm X, however, is not so clear. It may speak to their incorporation of the elder’s story into the broader framework of the Civil Rights Years.</td>
</tr>
<tr>
<td>But James Barton lived through the adversity, and probably benefitted from it. He met Cleveland Sellers, a leader in the South Nonviolent Coordinating Committee. While at Morehouse College he met Willie Ricks, another member of the SNCC. His uncle Sidney River Williams was instrumental in persuading Jospehine Baker from leaving the entertainment business.</td>
<td>Here, the group paints the elder’s life in terms of the people he has met related to the Civil Rights Years.</td>
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</tbody>
</table>

Figure 18: PalaverStory by group 2, pages 1 and 2 of 4.
<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
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<tbody>
<tr>
<td>After completing 4 Years of ROTC (Reserve Officers Training Core) he joined the army. Once in the army he was put in the 101st as an Infantry Lieutenant. There he was the platoon leader of an 81mm mortar platoon. After that he was the leader of an infantry platoon. After leading the infantry platoon he had the dangerous job of leading an Jeep anti-tank platoon.</td>
<td></td>
</tr>
<tr>
<td>Here is where the project begins to diverge from the subject matter of the unit and delves more deeply into the elder’s military experience. While this is great biographical information, it does not shed much light on the Civil Rights Years topic they started with.</td>
<td></td>
</tr>
<tr>
<td>After leading platoons for most of his career he decided to join the Army Flight School, there he trained on and learned to fly UH-1H Hueys, OH-58A and OH-58C and AH-1S cobra</td>
<td></td>
</tr>
<tr>
<td>The last page discusses the elder’s piloting experience. Again, great biographical information, but getting further away from their original topic.</td>
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Figure 19: PalaverStory by group 2, pages 3 and 4 of 4.

8.4.2.3.4 Feedback

There was not as much feedback on this PalaverStory as the one in Case 1. Part of the reason is that it was the last project made available for elder feedback (the first student project was made available on May 1, this one on May 14). Perhaps a second reason is that the elders and kids were being polite and trying not to make critical comments. One elder commented:
Mr. Barton certainly led an interesting life! But I would like to know more about
his childhood. What did he learn when he went to the NAACP meetings with his
mother? What were those "hostile" situations he was in when he was younger?
And how did he feel about all this? Also, I liked that you put in a picture of
Malcom X. Do you know why he is famous? Maybe that could be in your story
too!

This kind of constructive criticism was rare in the PalaverStory feedback. In fact, this is the
only example of such feedback. The vast majority of elders avoided saying anything negative in
their responses. This group posted their work so late that there was no time for revision.

The elder who posted this constructive criticism is the only elder volunteer that is personally
acquainted with the author and, thus, had a richer understanding of PTO’s goals and methods
through conversation with him. More training and expectation setting for elders might help more
elders make these sorts of comments in the future. In addition, future work should allow students
more time for revision once such feedback is received.

8.4.2.3.5 Discussion

While the students’ interview of their elder was not as focused as the one in the previous case,
they did ask several good questions. A more fundamental issue for them was that their questions
seldom followed up on prior conversation. Based on this diverse set of questions, the elder
provided a wealth of information on his experiences and the students put together a PalaverStory
that reflected what the elder told them. The breadth of questions they asked in the interview,
however, led to a less focused project than that in the prior case.

As I observed these students while they worked on their interview and then on their
PalaverStory, there was a tension between Sam’s personal interests (military information) and
what was required in the project (civil rights information). As Jacob put it: “Sam went on to talk about him in the military because [...] that’s all he ever does.” They spent some time trying to find a way to appease both of their interests by asking the elder questions that combined the military and civil rights (asking if he was in the same division as the Tuskegee Airmen, for instance), but ultimately it ended up prompting the elder to provide relatively broad and shallow answers in comparison to the more deeply probing questions asked by the students in section 8.4.2.2.

The elder simply tried to answer student questions to the best of his ability and may perhaps have felt that offering direction to the students would have been overstepping his bounds. The elder put it this way: “I think that they read my background data, see something that interests them and then off they go! [...] They don’t always stay on topic.” The teacher, on the other hand, wished she had seen the problem before students got to the project stage. As she put it: “I thought both groups started out well. My mistake was thinking the kids would stick with the subject at hand!” She went on to explain that she wished she had seen the problem before the students got to the project stage.

Ultimately, the primary mistake these students made was not understanding how to ask the sorts of questions that would let them create a quality project. In particular, they did not ask enough questions about the targeted subject matter or follow up as much as they could have. The elder, on the other hand, seemed aware of the subject matter but was unclear on whether he should try to guide students back to it.

While the discussion and project do not necessarily show the development of a great deal of empathy for the elder (‘interest’ might be a better word in this case), post-interviews did reveal some evidence for empathy. Jacob explains: “The thing I liked the most [about participating in Palaver Tree Oline is] probably being able to really get in touch with an elder about some sort of
hardship that he went through that we can – as supposedly the future of America – try to stop in the future.” More on the development of empathy in Palaver Tree Online can be found in section 8.5.2.

Of the criteria indicated in section 8.4.2.2.5, these students met all except for the following:

K3 Ask follow-up questions based on what the elder told them that enable them to get the level of detail necessary to create a quality project.

K4 Formulate questions based on the subject matter they are expected to discuss in their project.

K7 Be empathic, showing compassion regarding the elder’s experiences.

This elder met all of the criteria indicated in section 8.4.2.2.5. In addition, his awareness that the students were going off-topic inspired me to encourage a new role for elders in pointing out problem areas to the teacher in future work.

This discussion is not intended to condemn these students for not following the exact line of inquiry that was expected. The students in this group (and in the first case as well) were certainly enthusiastic and excited about exploring an elder’s life story. I intend only to show the different ways in which students approached online oral history in order to arrive at strategies, in the classroom and in software, for better supporting students as they work with elders online.

8.4.2.3.6 Recovering

There are at least two directions the project could have gone that could have potentially produced more positive results. One option would be to allow the students to shift their project topic from civil rights to military history, since they seem to have more natural interest in that topic. If the teacher’s primary goal is to get the students excited about history, then allowing them to shift topics may make sense. If this is the case, it is important to give the students the guidance that
enables them to explore their new topic at a deep rather than superficial level. On the other hand, if learning curriculum material about civil rights is the teacher’s primary goal, then the students need to be steered away from talking about the military and towards civil rights. Mid-way through this project, the teacher’s intervention was needed.

Due to the volume of messages, however, the teacher was unable to review the discussions at the level of detail required to detect these breakdowns on a regular basis. She wished she had seen the problem before the project stage. The elder simply tried to do his best to answer student questions but was aware that they had gone off-topic. How, then, does one aid teachers and elders in detecting and assisting students that are having difficulty?

Although there are numerous interviews going on, each of these is home to one elder. Perhaps, then, there is a role for the elder in identifying problematic discourses and alerting the teacher – a role similar to the One Sky, May Voices staff members that monitor discussions (S.-Y. Lee & N. B. Songer, 1999). Once an elder detects a problem (like the elder in section 8.4.2.3.4), one could provide a mechanism for that elder to indicate the specific place in Palaver Tree that the teacher might want to pay special attention to. This would prompt the teacher to review the discussion and decide what (if any) intervention is necessary. Of course, for this scenario to work, elders must be keenly aware of what the students need to be doing in order to succeed, as O’Neill discusses in his Telementoring Guidebook (O’Neill et al., 2000). As the elder put it: “Knowing what I now know, next go around, when students begin to get off topic, I’ll make it a point to ask them if they’ve asked all the questions that they need to in order to properly satisfy the requirements of the project. Then, I’ll answer their other curiosities.” An advance briefing of the elders by the teacher might help clarify this. Having teachers clearly specify the aim of student work during each stage of the process via the PTO announcement feature would provide another reminder.
8.4.2.4 Breakdown: Elders Not Responding

This example discusses group 10 (see section 8.4.2.1) in more detail. Here, neither of the elders the group of students is assigned to respond to their questions. To recover from this, they visit another discussion and ask questions of an elder already being interviewed. I begin with the group’s unanswered posts in both interview discussions.

8.4.2.4.1 Example

Ilene Thomas Interview:

**youngcountess -- 3/28/2001 11:19:43 AM**
hey ilene, my name is beatrice but my friends call me B-LO

**bleepyree -- 3/28/2001 11:20:43 AM**
hi im penlope, people call me p-lo for short! : )

i wanted to know what the black panthers really were and what they did . . . like did yall participate in boycotts and sit ins and stuff like that or were you more conservative w/lectures and speeches? i mean, did you participate in marches when you were younger?

**youngcountess -- 3/28/2001 12:03:27 PM**
What was life like growing up for you? Was there a lot of discrimination that you had to face in your area? Are there any specific memories that really stick out when you recall on your childhood? Or do all the memories kind of run together?

I'm really interested in the acts of the K. K. K. during this time period (the 1950s and 60s). Was there ever a time that you REALLY feared them? How did you
feel when they started bombing churches? I'm also really interested in the demonstrations that were so active during this time (marches, sit ins, boycotts, etc.). Did you ever participate in one of these such activities? Was your family ever extremely active in these things or were they kind of stand off-ish about the whole "issue"? (I mean no offense by that.)

Was there ever very much discrimination that your children or grandchildren had to face when they were younger? Do you still feel that you have to face discrimination and prejudice because of your race/religion?

I know I'm asking a lot of questions but this is just day one, right?! I'm just REALLY interested in this period of history and this is the first (AND POSSIBLY ONLY!) project that I can really get into.

BYE BYE!

[Note that the above post is repeated exactly in two subsequent discussions. To avoid repetition, I will indicate it by the first sentence and ellipses.]

youngcountess -- 4/9/2001 11:49:09 AM
HELLO! me again. did you have a good spring break? yeah me 2. WRITE BACK

Rhonda Mathis Interview:

youngcountess -- 4/13/2001 11:09:17 AM
What was life like growing up for you? […]

youngcountess -- 4/18/2001 11:40:47 AM
PLEASE WRITE BACK!
At this point, the group has been assigned an initial elder as well as a backup and neither has responded. There were two groups that ended up in this situation (the other is group 7). The teacher told each of them to try and find another elder that they could ask questions of – one that had already responded to other students. This is what the students in this example did. The group joined the interview of an elder named Tina Holmes (group 3 in section 8.4.2.1) and made three posts. She begins by explaining to the elder why she is joining the discussion and follows with a posting pasted from a prior discussion where they got no response as well as a new one.

**youngcountess -- 4/18/2001 11:32:31 AM**

Okay, guess what!? You're my elder now, too. My other TWO were mean and ignored me, but you'll respond, right!? PRETTY PLEASE?!

**youngcountess -- 4/18/2001 11:33:14 AM**

What was life like growing up for you? […]

**youngcountess -- 4/18/2001 11:51:15 AM**

I've heard a lot of things said about TONS of racial discrimination, but you seem to have overcome those pretty well. You made FRIENDS w/a white girl (not that it's, like, astonishing), but then lost her because of a prejudice father. I have a few slightly prejudice relatives (they're not OPENLY racist or members of the K. K. K. or anything, but they do have issues w/race, sometimes), but I'M not racist at ALLLLL. Actually, my best guy friend is black, and I'd never feel differently if he was white. So you're right, life HAS changed a lot since integration. But even though life is "fair and equal" now, blacks STILL face a lot of racial stereotypes. They're supposedly all "ghetto" and (EXCUSE ME! . . . ) "bad ass." Did you face any racial things like that? Did you ever lose a job or something else to a white person JUST BECAUSE they were white? I know
some of my questions may be a little probing, but I'm really interested in this, and you don't have to answer anything you don't want to.

tholmes (Tina Holmes) -- 4/22/2001 7:36:29 PM

Yes, youngcountess, I will help you, that's no problem. first don't let this be your only project for the civil rights movement. The movement is on going. But research on your on. I want all of you to watch a video called The Vernon Johns Story, pay close to attention to the movie, and remember sometimes you are better off with what you have and not what you think you need.

My life growing up was pretty normal, for some reason all of the KKK rallies were held in the southern part of the state.

Because this elder had students in two groups all asking a number of questions, she missed answering some student questions. Later, she went back and attempted to answer some of the questions she missed. That is when she got to some of this group’s questions.

tholmes (Tina Holmes) -- 4/30/2001 6:40:15 PM

[…] As far as me getting fired, well I opened my big mouth about something. there was a job opening in our office, I had worked for the American Heart Association for 2 years as a receptionist, and there was only 2 blacks, myself and another female. She was over MIS (computers). I has applied for the position and was told that I had to have my yearly review which was not due for 2 months but for I could be considered for the position which I questioned and was never given a straight answer. When I did have my review, I had two people with instead of my supervisor, her supervisor was also present. I went off in a business way. I went on vacation and there was a new lady in the position I applied for and they wanted me to help and train her. I told them I did not hired
and I felt that it not in job description to train any one!!!! So from then on they were out to get me on anything. Well after then trying and trying someone said I did something and they believe them over me, so what. I always gave them fits because I told them(the whiltes) why did they have to lay in the sun to look like me but did not want to live or work with me? Oh well.

I don't remember my school days being bad, I enjoyed that time.

Am I discriminated against now, yes because I am disabled and black.

tholmes (Tina Holmes) -- 4/30/2001 6:51:32 PM

But that doesn't bother me because I know and it is when you don't know that's the problem.

Although the group received answers to their specific questions from this elder, they chose to base their project on a message she sent prior to their first post in the discussion. This earlier posting follows:

tholmes (Tina Holmes) -- 4/15/2001 7:53:12 PM

As I look back over my life, if I was discriminated against I didn't know it. Growing up in a prodominately black city, Gary, Indiana, I saw mostly black people and some white. In our neighborhood, white and black people lived together but the white were moving out more around the late 1960's. I was 10 years old, when we moved to our new house and about 3 months later I was playing in my backyard and this white came down the alley and said, "hi". I went to the fence and said,"hi". I ask her where she lived and she told me, that she had just moved there and she was on her way to the store and if she could come and play later, I said, "yes". I noticed that she was not wearing any shoes and latera I found out, she was what you would call a "hillbilly". We played and
mother would look at her funny but never said any thing. My mother treated her kindly but would never let her in our house but Sharon, that was her name would never let me come to her house to play. Then after a couple of weeks or so, she came by on her way to the store and said she could not play with me any more because her dad said, she couldn't play with the "nigger girl" any more. When my mother heard that she called me by my whole name to come in to the house. Mother said told Sharon not to come back to our house any more. Well, shortly after that Sharon's family moved.

Since we moved to our new house, that meant a new school. Little did I know that in the whole school there were only 4 black children in different classes. I was in the 5th grade and I had alot of friends, sure some of the kids didn't like me, it was no big deal, I didn't like them. I will never forget the time we had a Christmas party and everyone has to bring in a baby picture under a year old and we had a contest to see if you could name that person. Well in my case the teacher, Mrs. Helwig said that I was special and that you had to tell how old I was. I didn't realize what was happening until I was in my TEENS. The whole school was sensitive to our needs. My baby brother had a run in with someone, I can't remember but called him out of his name and he told our parents and my mother went to school and talk to the principal and teacher and things were taken care of right then. […]

The group created the following PalaverStory based on this earlier post:
<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image](108x526 to 223x661)</td>
<td>Rebecca grew up in a black neighborhood in Gary, Indiana in the 1960's. One day a white girl, who was new to the neighborhood, came and talked to Rebecca. Rebecca was very surprised by this action and was curious to see what she wanted. They became friends quickly even though their skin color was different. Sherry, the white girl, was not allowed in Rebecca's house as ordered by Rebecca's mother; but Rebecca was never invited to Sherry's house either. Their friendship grew as time went on but would later fall apart as quickly as it had started. The girls met everyday and played normal games together that normal kids played.</td>
</tr>
</tbody>
</table>

**Figure 20: PalaverStory by group 10, page 1 of 2.**

*Here, the students provide setting for their story based on information provided by their elder. They then describe the interracial friendship that developed between the elder and her neighbor.*
After about two weeks together, Sherry had dreadful news from her father that had to be told to Rebecca. As Sherry tried to let the words out with all the pain, all that came out were tears. Sherry reported that her father said she couldn't play with Rebecca anymore because he didn't want his daughter playing with any "nigger girl." Sherry's news had upset Rebecca tragically. As the time came to leave, they parted in peace as friends and not enemies. Shortly after that horrible incident Sherry's family moved away. They would never see each other again.

This page provides the second part of the elder's story. They describe the elder’s pain in a way that shows evidence of empathy.

8.4.2.4.2 Discussion

In this example, a group of students was unable to get any response from either of its assigned elders was able to recover by finding an elder that was responsive who would answer their questions. This elder shared her stories with members of two different groups and, because of the volume of questions, she was not able to answer them all right away. However, she did come back later to answer more of them.

The students in the group that switched to this elder after their assigned elders did not respond (group 10) received a B on their project. In addition, they met all of the criteria for students indicated in 8.4.2.2.5.
The initial elders assigned to this group did not answer any of their questions and, thus, did not meet the following criteria:

E5 Answer nearly all of the questions the students asked.
E6 Answer the students’ questions in a timely manner.

The elder they found on their own, however, met all of the criteria except the following:

E12 Use proper grammar, spelling, and punctuation.

This elder’s messages contained a number of spelling and grammar errors. While some teachers would not mind this, others (like Andrea in my e-mail work) see elders as more than storytellers – they see elders as modeling use of language use for their students. For these teachers, this criterion might be just as important as the others.

8.4.2.4.3 Recovering

This example shows that the persistent discussion features built into Palaver Tree Online (see section 7.5.2) allow students to recover when elders are not responsive. Students in my e-mail work were not able to recover from similar breakdowns in communication.

However, the key to helping students take the best advantage of persistent discussion in this case is that the teacher gave them specific instructions on what to do if their elder was not responsive. Specifically, the teacher told any students that did not receive responses from their assigned elders to find a discussion where the elder had already responded and ask that elder.

What is critically important here, though, is that the teacher needs to be aware that students are having trouble with their elder. In the case I have presented, students complained to the teacher after they had trouble for a period. What if this period had lasted a longer time and, thus, reduced the chances of them completing a quality project?
While the current system does provide posting totals for elders, the teacher needs to monitor this list regularly to make sure all elders respond within a reasonable amount of time. In the future, perhaps a notification feature could reduce the teacher’s work here by simply letting them know when an elder does not respond within the first week of the start of their work in PTO.

8.4.2.5 Breakdown: Elders Not Completing the Process

This example discusses groups 1 and 7 (see section 8.4.2.1) in more detail. Here, an elder responds to one post made by students and never returns. Two groups of students post to this discussion. One of these groups, known as sounder, was actually assigned to the elder. The other, known as wendy, came to this elder for reasons similar to those of the group discussed above (section 8.4.2.4), that is, neither of their assigned elders ever responded to their questions.

wendy’s group posts the first message.

8.4.2.5.1 Example

**wendy** -- 4/13/2001 11:31:11 AM

Hey! we are here to find out about you past and what it was like to live during the civil rights movement.

**nordstrom** (Edith Nordstrom) -- 4/17/2001 7:16:10 PM

Hi Wendy,

When I signed on with Palaver Tree, I remembered what was going on in my life when Dr. Martin Luther King Jr. was assassinated on April 4, 1968. I was a Senior in High School and I was in my Distributive Education class. That was a "work and or go to class for credits." I knew the city of Denver would be an uproar, not to mention what would be going on in the High Schools that had a majority black population. I was so afraid of riots. I attended George
Washington High School at that time, and I was the only black student in all of my classes. My teacher walked up to me and whispered, "Edith, you can leave class if you want to." I was afraid to leave because I didn't want to get caught up in a riot. I felt safe in the classroom with the other students although none of them were the same color as me. I felt so angry watching the news as they relived the life and death of Dr. King. All I could think of was, "Why are some people so mean and hateful? Why are black people discriminated against when we have such good hearts? As I have grown and learned more about people and life, I know that there are good and bad in all races, but every time I see or read about Dr. King, I relive April 4, 1968 when I sat in my classroom afraid to move.

While the students did not ask a particularly specific question, the elder offers a detailed account of her experience with Dr. King’s death. It is this account that serves as the foundation for their project. This is the only posting the elder makes.

**sounder** -- 4/18/2001 11:33:08 AM

Hi. I was also assigned to interview you. I would like to ask you a few questions.

What were the marches like?

Were you discriminated, and how?

and as an extra question,

Did you ever meet Martin Luther King?

Hi. I'm back again. I do have one more question.

When did you get your first home, where was it, and what was it like?

**sounder** -- 4/18/2001 11:51:58 AM

Questions, questions, and more questions.
Which method did you believe in more: Martin Luther King’s or Malcolm X?

The student that was actually assigned to this elder (sounder) follows wendy’s message with questions of his own. He never receives a response.

wendy -- 5/1/2001 11:40:15 AM

Hey! We just wanted you to know we wrote a story about your times during the civil rights movement. If you want to read it, go to discussions and click on "wendys 'April 4th 1869 as seen by Edith Nordstrom'. Hope you enjoy what we wrote about you!

Here, wendy’s group posts a message asking the elder to take a look at their project, which is based on the one post the elder made.

<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Image" /></td>
<td>When Martin Luther King was assassinated on April 4th, 1968, Edith Nordstrom was a Senior in High School. She was the only black person in many of her classes. She was in her Distributive Education class when the news arrived over the announcements. Her teacher walked over to her desk and bent down and whispered. &quot;You can leave if you want to.&quot;</td>
</tr>
</tbody>
</table>

Figure 22: PalaverStory by group 7, page 1 of 1.
Her body tensed. For she feared the riots and demonstrations that might occur. She didn't move from her seat. She sat, tensed up, not knowing what to expect. She felt safe in her class. Safe from the riots, the uproar and the violence that soon would explode all over Denver.

"Why are some people so mean and hateful? Why are black people discriminated against when we have such good hearts?" She thought as she watched the news relive the life of Doctor Martin Luther King Jr.

"As I have grown and learned more about people and life, I know that there are good and bad in all races, but every time I see or read about Dr. King, I relive April 4, 1968 when I sat in my classroom afraid to move."

<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;Why are some people so mean and hateful? Why are black people discriminated against when we have such good hearts?&quot; She thought as she watched the news relive the life of Doctor Martin Luther King Jr.</td>
</tr>
</tbody>
</table>

"As I have grown and learned more about people and life, I know that there are good and bad in all races, but every time I see or read about Dr. King, I relive April 4, 1968 when I sat in my classroom afraid to move."

8.4.2.5.2 Discussion

I note two things here. First, wendy’s group provides another example of students recovering when their assigned elders do not respond. Further, this shows that students can do quality projects even when their elder is not as responsive as most (their project received an A).
Secondly, sounder (his group, group 1, had one member) had trouble with not getting a response from his elder. Even though he was instructed to seek out other discussions where elders were more responsive, he did not. This is highlighted by the fact that he did not start a project. While the teacher classified this student as generally “disruptive” and a “problem child,” one wonders if he might have been more engaged long-term had his elder been engaged long-term.

While this elder did make one posting, she did not answer the majority of the students’ questions. Thus, as in the previous section, the elder did not meet the following criteria from section 8.4.2.2.5:

E5 Answer nearly all of the questions the students asked.

E6 Answer the students’ questions in a timely manner.

Group 7 (wendy’s group) met all of the indicated criteria for students. Group 1 (sounder’s group), on the other hand, did not meet the following criteria for students because he failed to create a project:

K8 Use background information gathered on the Civil Rights Years in their project.

K9 Use stories from their elder interview in their project.

K10 Integrate elder interview data and Civil Rights Years background material in their project to tell a story in their own words.

8.4.2.5.3 Recovering

Even though group 7 was able to do a project that earned the grade of A based on the information the elder provided, it seems that group 1 may have been discouraged by the relative unresponsiveness of the elder. Like many of the other groups that had unresponsive elders, this student could have used the persistent discussion features of Palaver Tree Online to gather
information from other ongoing discussions or even post messages for more responsive elders as discussed above. However, he did not. A slight twist on the issue mentioned in 9.1.2 emerges here: how can the teacher direct students to do this if they are unaware that the once responsive elder has now become unresponsive.

This issue is more difficult to detect than elders that aren’t responsive at all because the number of postings an elder has made would not show zero as it would for a completely unresponsive elder. Because of this, it is unlikely that the teacher would detect this type of breakdown without a student pointing it out. A future version of PTO might help here by detecting cases where an elder has not responded to students for more than one week and notifying the teacher.

8.4.2.6 Breakdown: Elders Sharing Inaccurate Information

This example discusses group 4 (also discussed in section 8.4.2.2). At the end of this discussion, the elder posts a message that overgeneralizes.

8.4.2.6.1 Example

lreed (Lisa Reed) -- 4/30/2001 6:18:29 PM

Hi tinkerbell

White people thought the marches were annoying; they made fun of the advances blacks made. No, my parents never participated in the marches, protests or sit-ins. I was 11 when the demonstrations and marches started. I was 15 or 16 during the time of the march on D.C.. I don't mind your curiosity, I appreciate it; ask away its the only way you'll learn. Unfortunately, back then, parents didn't talk to their children; they didn't bother to explain anything. Whatever we
learned about what was going on was what we saw on T.V., heard on the radio or in the playgrounds and read in the newspapers.

8.4.2.6.2 Discussion

This last message from the elder gets at a fundamental issue of learning from elders’ stories. While the message certainly is authentic in that it reflects her impression of Caucasian people in the civil rights struggle, it is not representative of the feelings of all Caucasians at that time. How do we deal with situations where elders tell students stories that generalize or when their recollections are not correct? Elders are given a special position in oral history – they are the source of historical information – and this might lead students to give undue reverence to their stories. Other projects that aim to help students learn history through doing historiography carefully select documents in order to bring out specific issues (Kobrin, 1996; Kobrin, Abbott, Ellinwood, & Horton, 1993; Percoco, 1998). In online oral history, this kind of control is not possible. How, then, do we control for quality?

In order to mediate this quality concern, I ask teachers to brief students ahead of time on the issues of dealing with primary sources. (Specifically, Cathy told students that, while elders may tell great stories, students should always look at a number of sources and form their own ideas about what really happened.) Students are told to immediately report any problematic discourse to the teacher. I also suggest that the teacher read through discussions on a regular basis. On the software side, I make all discourse visible to all participants in attempt to provide the opportunity for comments from other kids or elders. However, these approaches were not enough to help the teacher become aware of the breakdown in this case.

This elder met all but one criterion from section 8.4.2.2.5:

E9 Do not overgeneralize.
This breakdown did not appear to adversely affect the students’ projects but it was not caught, either. However, the students here met all the criteria set forth in that section. Future work might ask students to consider elders as “witnesses” whose perspectives should be respected but not necessarily taken as fact (see section 8.5.3).

8.4.2.6.3 Recovering

While I did take a number of steps to try and prepare students for dealing with cases where elders might make problematic postings, I believe this case may have been a bit too subtle for the students to catch by themselves. The teacher, on the other hand, was unable to read through the discussions in the level of detail necessary to detect this breakdown.

Future work might take a more analytical approach to elder’s stories. For instance, kids might be asked to look specifically for generalizations and other typical problems in historical writing and produce an account that takes a more critical approach to elders’ stories. Students might also be encouraged to look at a number of different sources on the same topic (in my studies, most students just saw the book account and their elder’s stories). Providing the scaffolding necessary for students to begin to develop a more critical eye towards historical accounts is an important next step in research on technological support for history learning.

8.4.2.7 Breakdown: Difficulty Incorporating Elders’ Stories

In this section, I present two examples of different types of difficulties students had with incorporating elders’ stories. In the first example, students copy the elder’s story directly and in the second one, students include no information from the elder’s story at all.

8.4.2.7.1 Example 1: Direct Copying

This example discusses group 9 (see section 8.4.2.1) in more detail. The students here interview their assigned elder and have an extensive conversation, with numerous follow-up questions from
the students based on the elder’s stories. At first glance, their project seems to be similarly high quality. However, a closer look reveals that the students copied all the text for their project directly from the elder’s postings. What follows is an excerpt from the interview discussion:

**pbell (Pamela Bell) -- 4/18/2001 10:58:29 PM**

Hello peaceandlove,

The experience I had at my home was that one night while I was asleep, my bedroom was at the front of the house, I was awakened by fire through my bedroom window, so I got out of bed and opened the door and there was a cross burning in my front yard, that was very scary. But I believe that was because my family had a lot of property and the white people felt we should not have so much.

**pbell (Pamela Bell) -- 4/18/2001 11:23:08 PM**

Hello kaytee,

I had no issues with integration, I felt it was needed. Growing up I always resented the fact that when I was shopping and I was thirsty I had to drink from the fountain that said colored, right next to it was one that said white only. Also when we were hungry and wanted a snack or something to eat while in town we could not go inside the restaurant, we had to go to a little window in the back and order our food. When I had to see the dentist I could not go in the front door, I had to go to the side door, on it was a sign that said colored. When I went to the movies I could not go in the main door, there was a side entrance up a long flight of stairs where all the black people had to sit in the balcony.
I participated in one march when I was in college in Orangeburg, South Carolina. It was peaceful, we marched through town carrying signs, people were yelling and screaming at us but no violence.

**pbell** (Pamela Bell) -- 4/18/2001 11:30:22 PM

Hello Peaceandlove,

Civil Rights mean to me to be able to be free to live like any other human being and not be treated like a second class citizen because of the color of my skin.

The experiences I had with kkk was the night they burned a cross in my front yard, and one night they hung a dummy in front of the church down the street from me. The saddest experience I felt was when they hung a male friend of mine because they said he was dating a white girl.

The below PalaverStory excerpt is copied directly from the third posting above with minimal changes (largely consisting of changing ‘my’ and ‘I’ to ‘she’):
She had an experience at her house where one night while she was asleep, her bedroom was at the front of the house, and she was awakened by a fire through her bedroom window. She got out of bed and opened the door, and there was a cross burning in her front yard, and that was very scary. But she believes that was because her family had a lot of property and the white people felt that they should not have so much.

The remainder of the PalaverStory was similarly copied from the elder’s stories with very few changes. The fact that the graphics convey the same ideas as the text does show that the students have some understanding of the elder’s life story. However, taken by itself, the text does not show synthesis of the elder’s responses.

8.4.2.7.2 Example 2: Not Incorporating Elder Stories

While many of the students in this study appeared to have little trouble working with elders’ stories, a few appear to have had trouble using this new data type. For example, group 6 (see section 8.4.2.1) got many responses from their elder, but their project was very general and used almost none of the information she shared. What follows is one post from that elder that answered a number of prior questions from the students:
Hi everyone!!

Thank you for this chance to be a part of your class project. I will hop right on in here and start by answering the eight questions that were asked.

In terms of the Civil Rights Movement, I was not directly involved with the Civil Rights Movements. These activities took place in the south.

I was born and raised in the north (in Southern Illinois) and the Civil Rights Movement took place mostly in Alabama, Georgia, Mississippi and Tennessee (to mention a few).

Martin Luther King was "drafted" by the people to be the spokes person for the Movement. He was "anointed" and chosen by God to do that work. In my opinion, when Martin Luther King was killed, it killed the power the movement had and slowed down the progress that was being made on behalf of ALL BLACKS.

Dr. King's work was so great and successful that they plotted to killed him to stop the progress that was being made by the movement.

Can you imagine how you would feel if you went in your school cafeteria to eat and there we signs up that said "colored people not allowed"? Or if you went to your water fountain at school to get a drink of water and there was a sign up that said "this fountain for whites only"? Or if you knew you were able to do a job real good, but a person would not allow you to get the job because of the color of your skin? These were some of the things that Dr. King and the individuals involved in the Civil Rights Movements were trying to change.
I never got a chance to meet Martin Luther King. My family never marched together in any of the marches because, again, they were mostly in the southern states.

In a sense, the first Civil Rights Movement happened with the Civil War, so I consider that the most effective March; then the march on Washington in 1963 for Jobs and Freedom was an important march. Perhaps the most important (and remembered) Boycott was the one which took place with Rosa Parks concerning riding on the bus.

During the Civil Rights Movement I did not have the opportunity to meet any famous people. However, I have met Dr. Benjamin Hooks - he used to be the President of the NAACP.

I live in Memphis where the National Civil Rights Museum is located. If you like, I can go there and get you all some literature and mail it you.

I hope I answered all of your questions, and I look forward to hearing from you again soon.

The following project is based on the interview these students did with this elder.
<table>
<thead>
<tr>
<th>SHOW THE STORY…</th>
<th>TELL THE STORY…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>We have found that it was harder for African Americans to live in the South than we had imagined. Especially when half of the family lived in the South and the other half lived in the North. When that was the case, the families usually didn't participate in many of the boycotts or marches. And we have discovered that the death of Martin Luther King Jr. had a great affect on the Civil Rights Movement. In some ways it made the African Americans work harder for their rights and their &quot;freedom&quot; from the torture of the whites. In other ways it made them feel as if their leader had died and that there was no hope left. Therefore they gave up and felt helpless, used, and abused. If we had to live in the times of the Civil Rights Movement we both agreed that we would be one of the people that would give up and feel helpless, used, and abused. We would give up and indulge ourselves in self pity. We would be the ones that envied the people that didn't give up and that pushed their selves to fight more and harder than ever before.</td>
</tr>
</tbody>
</table>

Figure 25: PalaverStory by group 6, page 1 of 1.
While this project does give a general sense of the period and the impact of Martin Luther King, Jr. (MLK) it does not incorporate information that their elder gave them in any detail. The only nods to the elder’s posts are that it was harder for African Americans in the South than the kids expected and that MLK’s death made people feel hopeless.

8.4.2.7.3 Discussion

In the instructions the teacher provided prior to students working on their PalaverStories, she was clear that students could provide a biographical account of the elder’s life, but that it should be in the students’ own words. The project in 8.4.2.7.1 (the project excerpt discusses a cross burning) represents a violation of this instruction, but the teacher did not detect it as such and gave students an A+ for their work. It is likely that the teacher did not detect this problem because she did not have time to read through all the discussions in detail – there is just too much of it. Unlike more conventional classrooms, each student in a Project-Based Learning classroom may pursue a different line of inquiry, using different resources and with different outcomes. Because of this, there is a great deal more for the teacher to track. Helping teachers manage this is, thus, an important concern for all ProjBL research.

While the elder met all the criteria set forth in section 8.4.2.2.5, the students did not meet the following criterion:

K10 Integrate elder interview data and Civil Rights Years background material in their project to tell a story in their own words.

There is some evidence for synthesis, however, in that (1) the students selected specific passages from the elder’s story and did not copy it entirely, and (2) the images the students created to go along with the story did reflect what was told in the text.
In section 8.4.2.7.2, I discuss an example where students make almost no use of their elder interview in their project (the project focuses on MLK). Their comparatively short project does a good job of giving a brief overview of Martin Luther King, Jr.’s impact but does not go further. One could certainly infer from this that the students were simply not interested in the subject matter and decided not to put in much effort. For instance, the teacher had the following to say about this project: “This is not from students who are interested in the topic.” However, it could also be that these students, like those above, had difficulty working with this new data type (an elder interview) and building a project based on it.

Thus, while the elder met all the criteria set forth in section 8.4.2.2.5, the students did not meet the following criteria:

K9 Use stories from their elder interview in their project.

K10 Integrate elder interview data and Civil Rights Years background material in their project to tell a story in their own words.

Although it did not seem to cause problems in terms of the quality of responses they got from the elder, the group did not meet the following criteria, either:

K2 Ask thoughtful initial questions based on what they know about their elder.

K3 Ask follow-up questions based on what the elder told them that enable them to get the level of detail necessary to create a quality project.

Assuming these groups were actually interested in doing a quality project that met the teacher’s goals, one reason they may have had trouble accomplishing this goal is difficulty using a new resource type – elder interviews. Specifically, students may have been confused about how to appropriately incorporate the elder’s stories into a project and, thus, fell back to copying the
story exactly or simply ignoring it. How do we help students that are having trouble get to the point where they can write original text based on an elder interview?

8.4.2.7.4 Recovering

One way to help students with these sorts of problems is to build-in time for reflection throughout the process. In Learning By Design, for instance, students review each other’s projects while they are working on them (Kolodner et al., 2003; Kolodner, Crismond, Gray, Holobrook, & Puntambekar, 1998). Having early presentations of works-in-progress allows students to get early feedback on their work from other students and the teacher. Just as important, though, is that students can see the work of other students and perhaps gain ideas about how they might approach their work differently.

Another way to encourage synthesis more generally is to provide students with more specific strategies for use of historical data. The problem-based learning literature tells us that doing problem-based work in order to help students grasp the important issues in an area prior to engaging project-based work can provide important scaffolding as they do independent research and, thus, encourage synthesis (Cognition and Technology Group at Vanderbilt, 1992; Williams, 1992). In my work, project-based online oral history might be prefaced by a problem-based look at contrasting existing historical accounts taken from books. Learning to do this type of case analysis is a fundamental form of historical research (Loewen, 1995; Novick, 1988; Wineburg, 2001).

8.4.3 Elder Stories Answering Student Questions

In the previous section, I gave a number of examples of kids and elders working together in Palaver Tree Online. These examples are fairly representative of the other kid-elder relationships that the system supported and the problems that occurred. In order to give a feel for discourse in
PTO as a whole, I provide a more general discussion of the types of discussions kids and elders had. These discussions fall into four broad categories:

*Clarification* – Questions about things that were not clear to them in books. For instance, Pam asked: “Recently I read the book The Glory Field and in it, they mentioned demonstrations and sit-ins but I am really confused about what they really are.” Elders help make these issues clearer for students through personal stories and examples.

*Experience Sharing* – Elders enjoyed sharing their life stories with kids. Often, elder profiles would indicate particular events that elders found important in their lives and students could use those as a scaffold to get at some of the interesting stories elders had to share. Even though some of the events elders discussed were well known, hearing an individual’s perspective brought the point home. As Pam put it, “I pretty much knew everything that we talked about, but as I said I didn't actually know that it was actually true that things like that happened, but in talking to Ms. Reed she kind-of told me that it did happen...” Other times, students would hear stories that challenged their thinking. Here, Jacob describes a surprising discovery about his elder: “He didn’t move up North. […] He lived all around the South where it was really bad – which I wouldn’t really expect. It kinda shocked me.”

*Off-the-Beaten-Path* – Often, kids have questions that are too specific to be answered in a more general textbook. For instance, Pam asked: “What did white people think of the marches?” This is a question that one does not often see addressed in textbooks.

*Speculative* – Sometimes students want to an adult’s perspective on a what-if scenario. Sam asked a speculative question: “How do you think the world would be today if it weren't for the civil rights activists?” The elder responded with an extensive and thoughtful reply.

While the answers to these questions did not always make it into the student’s PalaverStory, simply asking such a question indicates that the student has thought a great deal about the subject.
In addition, their follow-up questions would often probe further, indicating deeper cognitive engagement. When students do take elder’s responses to heart, the result is a PalaverStory like Pam and Mary’s (see section 8.4.2.2). Their work not only shows the synthesis of numerous details of the elder’s life, but the ability to place them in historical context.

8.4.4 Sustaining Kid-Elder Interaction

Perhaps the most important component of assuring kid-elder interaction is sustained is making sure that elders are reliable. I have not seen one case, in my e-mail work or in Palaver Tree Online, where students stopped communicating with their assigned elder. However, there have been numerous cases where elders have not responded after agreeing to work with kids (see section 8.4.2.4) or dropping off after working with kids for a period (see section 8.4.2.5).

On average, roughly 50% of elders who agree to work with kids will be unreliable in some way. I found this both in my e-mail work and in Palaver Tree Online. Resolving this problem is complex. One could imagine simply recruiting two times the elders one actually needs since it is likely that half of them will become unreliable in some way. The problem, however, is that it is not clear which elders will become unreliable until some time after kid-elder discourse has begun. If extra elders are recruited from the beginning, one risks angering or confusing those elders that are not initially assigned to work with students.

A better approach, then, is to provide tools that help the teacher first detect that there is a problem with a particular elder and, once such a problem is detected, bring in new elders quickly and with a minimum of effort. The current recruiting features take steps in this direction, but more can be done (see future work section of chapter 10).

In cases where elders are unreliable and no other elders are being recruited, other pieces of the software allowed students to sustain the interaction. In particular, when elders were unreliable, students often recovered by moving to a discussion where an elder was responsive.
(see sections 8.4.2.4 and 8.4.2.5). Without the persistent discussion features in Palaver Tree Online, this type of recovery would not have been possible.

While sustaining kid-elder interaction is a first step toward learning from online oral history, there are other pieces to the puzzle. For more on learning in Palaver Tree Online, see section 8.5.

8.4.5 Pacing Kid-Elder Interaction

Once kids and elders are engaged in a sustained interaction, how do we help them accomplish what they need to accomplish in online oral history? There are two high-level phases of kid-elder interaction – elder interview and project – and different mechanisms are necessary for managing the pacing of each.

Pacing in the elder interview phase of kid-elder interaction is largely managed by the participants. Once students post a message, they must wait for elders to respond and vice versa. When users return to Palaver Tree Online and there is a new message for them to respond to, their next step is clear – post a response. Both kids and elders tended to check back once or twice per week for responses from the other side. While this worked out reasonably well in my summative evaluation, a reminder system might help tighten up response times. For example, an automatically generated e-mail message might be sent to kids or elders whenever the other posts to their discussion.

Where the software plays a stronger role in pacing kid-elder interaction is in the project phase. When building an online project creation tool, designers must balance the author’s need for privacy while creating their project and the need to put that project on public display so the community can comment on it. If kids are not given enough privacy to work on their project, feedback will likely be provided on an incomplete version – confusing the feedback process. If students have too much privacy, their projects are never made available – preventing elders from
seeing what the students have done with their stories and giving feedback. How can one both allow students privacy as they work and provide for community feedback on that work?

A second issue for pacing interaction lies in disengagement. Haythornthwaite et. al. (2000) have studied “disengagement” in online systems extensively. In particular, they note that online relationships do not end simultaneously – users “fade back” when it makes sense for them. Thus, one should not assume a clean end to online interaction. Instead, such systems should be designed with the understanding that users will be at many different places in the interaction process at the same time. How does one notify elders when the students that are interviewing them are finished with their projects and can no longer accept feedback from them? In my e-mail work, one teacher sent a message to notify elders that students were finished when the last group was complete, even though some students had finished much earlier. Allowing more fine-grained management helps keep elders clear on where students are in the process.

I addressed these issues of privacy and disengagement by creating three states for PalaverStories: Started, Requesting Feedback, and Finished (these states are discussed in detail in section 7.5.3). Providing states for PalaverStories allowed students both the ability to create and try new things in private as well as benefit from the feedback of kids and other elders when they are ready. Allowing students to notify elders when they are ready for feedback frees the teacher to spend more time helping students with their projects rather than managing kid-elder interaction. In addition, it provides a way for elders to get a clear indication of where the kids they are working with are in the online oral history process and offer feedback when it would be most useful. When projects were made available, the average time to response from any elder was 2.5 days and the elder that the project was specifically about responded in an average of 4 days.
Finally, the teacher played a high-level role in encouraging a certain pace. First, the teacher began each computer lab session by verbally reminding students where they should be in the interaction model (see section 8.3.1). Secondly, the teacher posted announcements to remind both kids and elders of what they should be doing. Announcements were posted to indicate the beginning of kid-elder interaction, welcome new elders to the system (when some of the first set were unreliable), and when students began posting their projects for elder feedback (see section 8.6.1 #2). While all students were certainly not in the same stage of the interaction model at the same time (and the teacher was aware of this), these two approaches provided ways for the teacher to push the interaction along.

8.4.6 Towards a More Self-Regulating Discourse Environment

In section 5.4, I mentioned that the more open discussion environment provided by persistent discussion might have the effect of encouraging users to self-edit more than those in my e-mail work. This is because users know many other users beyond the kids or elder they are working with could potentially see their messages. In addition, if users do make inappropriate posts, the fact that they are visible to others may create a situation where other users step in and provide a different perspective.

The first step to making this happen is assuring that users spend time looking at discussions other than those they are required to look at. A discussion is a distinct unit of discourse. For example, the place where a particular elder interview takes place counts as one discussion and the place where a particular student group receives feedback on their project counts as a separate discussion. In Palaver Tree Online, kids are required to look at the discussion where they are interviewing an elder and ones where they receive feedback on their projects. Elders are required to visit the discussion where they are being interviewed and those where projects about them are
receiving feedback (referred to as “required”). All other discussions are not required reading (referred to as “non-required”).

To give a rough feeling for the degree to which users looked at discussions other than those they were required to, I have analyzed the log data from Cathy’s class. In particular, I have looked at how many discussions each user has viewed. Each time a particular discussion is brought up on the screen counts as a view of that discussion. For example, if a user brings up discussion X, then clicks on discussion Y and quickly returns to discussion X, that is counted as two views of discussion X and one view of discussion Y. Thus, it should be noted that these numbers are only an indicator of the user downloading a particular discussion from the server. They do not tell us anything about how long the user looked at the discussion.

The average number of required discussions student groups loaded is 35.9, while they viewed 81.5 non-required discussions on average (see figure 26). On average, elders viewed 18.7 of their required discussions and 24.1 non-required discussions (see figure 27). All users viewed both required and non-required discussions except for one elder, who viewed her required discussions a number of times but never viewed anything outside of them. In addition, 82% of student groups and 60% of elders viewed more non-required discussions than required ones.

![Figures 26 and 27: Student and elder views of required and non-required discussions.](image-url)
These data show that both students and elders loaded a number of discussions that they were not specifically expected to participate in. In fact, both groups loaded more non-required discussions than those they were expected to participate in on average. This suggests that there may be something to the notion that kids and elders spending time reading discussions other than their own, providing a larger audience for these discussions than was seen in the e-mail work. In the future, one might work to encourage elders to comment if they see what they feel are inappropriate remarks. Elders would need to be reminded to be thoughtful when making such posts, however, since subtle differences in phrasing can make the difference between a friendly debate and an argument.

8.5 Summative Evaluation: Learning by Doing Online Oral History

Many things went right in my summative evaluation – the first full-scale deployment of Palaver Tree Online in a classroom. Nearly all students ultimately found responsive elders and did well on their projects, for instance. There were some problems, however. As discussed in section 8.4.2, a number of issues arose that reduced the chances of students learning. Even with these problems, however, I found evidence for learning in Palaver Tree Online.

There are many things one could look for when analyzing the data in PTO: staying on-topic in the elder interview, asking meaningful initial and follow-up questions in the elder interview, good storytelling ability in a PalaverStory, showing synthesis of the elder’s life story in a PalaverStory, or showing evidence of historical thought in elder interview, PalaverStory, or attitude data. This section discusses two types of learning: synthesis of elders’ life stories and attitudinal change.

8.5.1 Synthesis of Elders’ Life Stories

As discussed in section 3.1, actively participating in the construction of history can play an important role in the development of historical thought (Bass & Rosenzweig, 1999; Ross, 1998;
Wineburg, 2001). Thus, I focus this part of the analysis on the degree of synthesis shown in the projects students create and how we might further encourage that synthesis.

8.5.1.1 Synthesis in Palaver Tree Online

Kids and elders shared many different types of information in Palaver Tree Online (see section 8.4.3). In section 8.4.2.2, for example, I presented a “more successful” case study. In this case, students showed synthesis of a number of aspects of the elder’s life and integrated that with their more general background knowledge about the Civil Rights Years (see section 8.4.2.2.5). Roughly 75% of groups created projects that showed a similar level of synthesis.

In the work presented here, I aimed to encourage synthesis by attempting to create sustained kid-elder interactions from elder interview to project to feedback on that project (as discussed earlier in this chapter). By asking students to create projects based on elders’ stories, I created both a driving question for them to investigate and motivation for them to investigate it thoroughly. By actually creating the project, many students showed evidence that they had synthesized elders’ stories. Ultimately, this is to say that my work supports many of the ideas put forth by the Project-Based Learning literature.

8.5.1.2 Encouraging Synthesis

Certainly factors such as the teacher’s work introducing students to online oral history and supporting them as they worked through the process were very important in how successful students were in their work. In addition, work within groups and sometimes between groups likely played a role in the cases where students did not synthesize as much as others. My work, however, has focused largely on the interactions between students and elders online and how students used those interactions in their projects.
With this focus in mind, one of the most important issues in encouraging synthesis is helping avoid and/or recover from the breakdowns discussed in section 8.4.2. These breakdowns are not all created equally, however. Students were able to recover from some and not others. Specifically students were able to recover when elders did not respond and sometimes when elders did not complete the process (see sections 8.4.2.4 and 8.4.2.5 (group 7)). Students were not able to recover when they went off-topic, sometimes when elders did not complete the process, when elders shared inaccurate information, and when they had difficulty incorporating elders’ stories (see sections 8.4.2.3, 8.4.2.5 (group 1), 8.4.2.6, and 8.4.2.7). In the cases where students were able to recover, they tended to show the sorts of synthesis that the teacher was looking for. In cases where they did not recover, they almost never did.

One exception can be seen in section 8.4.2.6. While the elder here provided some information that was not exactly historically accurate (she generalized attributes of specific people she encountered to an entire group), students still completed a project that earned an A+.

Thus, to give students the best chance of achieving synthesis of elders’ stories and developing empathy for elders, one should seek to prevent the breakdowns that students were not able to recover from first and foremost because these breakdowns prevented synthesis. These breakdowns are as follows:

1. Elders not completing the online oral history process (8.2.4.5 – E5, E6),
2. Students going off-topic (8.2.4.3 – K3, K4, K7),
3. Direct copying (8.2.4.7 – K10), and
4. Not incorporating elders’ stories (8.2.4.8 – K9, K10).

While unreliable elders in online oral history is a problem (point 1), most students were able to recover from it (see sections 8.4.2.4 and 8.4.2.5). Issues related to helping students use do
appropriate interviews (point 2) and use that interview in a project (points 3 and 4) appear to pose larger barriers to synthesis. Thus, finding ways to recover from these breakdowns has the potential to increase learning in online oral history for the greatest number of students.

8.5.2 Attitudinal Change

As discussed in section 7.6, I expected to see evidence for a positive change in student attitudes towards history, language arts, and history through their participation in PTO. To capture this, I used an attitudinal survey to evaluate the impact of Palaver Tree Online on student attitudes. The survey is composed of 45 statements regarding history, language arts, and elders, each evaluated on a 5-point Likert scale (Eagly & Chaiken, 1993). The instrument is internally consistent by Cronbach’s alpha coefficient (Cronbach, 1990). I administered the instrument before and after students used PTO. Eighteen students completed both the pre and post survey (see appendix for full survey).

8.5.2.1 Attitudinal Survey Data

I performed two t-tests on the attitudes scores. First, I determined whether the number of kids affected positively or negatively was significant. Second, I determined whether the overall attitudinal shift was significant. Significant changes were found for nine statements (see table 13). Pre- and post- distributions for these statements are shown in figures 28 through 45.
Table 13: Statements that saw statistically significant changes from the pre-test to post-test (* p < .05 or § p < 0.1). Direction of change indicates positive or negative change from pre to post test (1 = strongly disagree, 5 = strongly agree).

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>NUMBER THAT CHANGED</th>
<th>MAGNITUDE OF CHANGE</th>
<th>DIRECTION OF CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I like studying history</td>
<td>Significant *</td>
<td>Significant *</td>
<td>Positive</td>
</tr>
<tr>
<td>2. I could be a historian</td>
<td>Significant *</td>
<td>Significant *</td>
<td>Positive</td>
</tr>
<tr>
<td>3. Elders cannot teach young people</td>
<td>Significant *</td>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td>4. Young people cannot teach elders</td>
<td>Significant *</td>
<td>Marginal significance §</td>
<td>Negative</td>
</tr>
<tr>
<td>5. Older people are interesting</td>
<td></td>
<td>Marginal significance §</td>
<td>Positive</td>
</tr>
<tr>
<td>6. I like to read</td>
<td>Significant *</td>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>7. I like to write</td>
<td>Significant *</td>
<td>Marginal significance §</td>
<td>Positive</td>
</tr>
<tr>
<td>8. I am a good writer</td>
<td>Significant *</td>
<td>Marginal significance §</td>
<td>Positive</td>
</tr>
<tr>
<td>9. Writing is easy</td>
<td></td>
<td>Marginal significance §</td>
<td>Positive</td>
</tr>
</tbody>
</table>
Pre and post distributions for statement 1: “I like studying history”

Pre-survey Statement 1

Post-survey Statement 1

avg = 2.71; std dev = 1.23
avg = 3.33; std dev = 1.03
number p < .008; magnitude p < .034

Pre and post distributions for statement 2: “I could be a historian”

Pre-survey Statement 2

Post-survey Statement 2

avg = 2.29; std dev = 1.23
avg = 2.72; std dev = 1.23
number p < .026; magnitude p < .034

Pre and post distributions for statement 3: “Elders cannot teach young people”

Pre-survey Statement 3

Post-survey Statement 3

avg = 1.71; std dev = .64
avg = 1.56; std dev = .86
number p < .038

Figures 28-33: Distribution charts for statements that saw significant changes (1 = strongly disagree, 5 = strongly agree). P values are shown only where significant.
Pre and post distributions for statement 4: “Young people cannot teach elders”

Pre-survey Statement 4

Post-survey Statement 4

avg = 1.76; std dev = .54

avg = 1.5; std dev = .71

number p < .039; magnitude p < .054

Pre and post distributions for statement 5: “Older people are interesting”

Pre-survey Statement 5

Post-survey Statement 5

avg = 3.57; std dev = .75

avg = 4; std dev = .61

magnitude p < .087

Pre and post distributions for statement 6: “I like to read”

Pre-survey Statement 6

Post-survey Statement 6

avg = 3.95; std dev = 1.02

avg = 4.2; std dev = 1.29

number p < .05

Figures 34-39: Distribution charts for statements that saw significant changes (1 = strongly disagree, 5 = strongly agree). P values are shown only where significant.
Pre and post distributions for statement 7: “I like to write”

avg = 3.62; std dev = 1.24

Pre and post distributions for statement 8: “I am a good writer”

avg = 3.38; std dev = 1.32

Pre and post distributions for statement 9: “Writing is easy”

avg = 3.29; std dev = 1.27

Figures 40-45: Distribution charts for statements that saw significant changes (1 = strongly disagree, 5 = strongly agree). P values are shown only where significant.
The strongest changes were for the statements “I like studying history” and “I could be a historian.” Significant negative changes were also found for “Elders cannot teach young people” and “Young people cannot teach elders.” Students found older people more interesting as well (statement 5). Finally, I found significant changes for four statements related to reading and writing (statements 6 through 9). All changes were in the predicted direction.

8.5.2.2 Discussion

This attitudinal data presented above shows significant changes on a number of statements that relate to PTO (see table 6). While changes on statements 6 through 9 certainly show important attitude changes, they deal more with reading and writing attitudes. In this discussion, I focus on statements 1 through 5, which are more related to oral history. I place these statements into two categories: enjoyment of history and empathy for elders. As I discuss each statement, I use quotes from student interviews to provide triangulation for the statistical results.

8.5.2.2.1 Enjoyment of History

Students reported that they enjoyed studying history more and believed more strongly that they could be historians. These attitude changes point to a change in how students perceive history after using PTO. More enjoyment of history (statement 1) may indicate a break with the typical student conception of history as an “endless parade of names and dates” (Wineburg, 2001, p. 169) or simply “boring” (Rosenzweig & Thelen, 1998, p. 31) and more connection with history on a personal level – through hearing elders’ stories. Felicia (age 13) explains: “Instead of reading books, it was nice to be able to talk to people who actually experienced stuff. I liked it better than textbooks and stuff, because you can actually talk to real people and share your projects with them.”

Similarly, a stronger belief that one could be a historian (statement 2) may point to a change in students’ conceptual model of the job of a historian. For students, first hand experience with
doing part of the job of a historian – hearing and synthesizing real people’s stories – may have improved their attitude towards their capacity to be successful in the history profession. As Pam (age 14) put it, “My favorite part was the story – writing the story and drawing all the pictures for it. I liked chatting with the elders and viewing everyone else’s story.”

8.5.2.2.2 Empathy for Elders

After using PTO, students also believed more strongly that elders could teach young people and that young people could teach elders. There was also a change showing students finding older people more interesting. These attitude changes may indicate a change in students’ level of empathy for elders. Levenson and Ruef define empathy as “knowing what another person is feeling, feeling what another person is feeling, or responding compassionately to another person’s distress” (Levenson & Ruef, 1992, p. 234).

The increased belief that elders can teach kids (statement 3) likely comes from the core structure of PTO. The kid-elder interaction fostered by the system largely consists of kids asking prompting questions of elders and hearing their stories. Thus, the increased belief that elders can teach kids indicates that interacting with elders may have fostered a clearer understanding of what elders have to offer. This change points to an increase in the level of empathy students feel for elders. Pam explains: “…everyone is always like ‘it was bad, it was really bad,’ but I never actually get to hear from people who actually went through it. All I can do is believe what everyone else says but to like talk to someone who was actually there kind of makes me believe better.”

I also found the reverse of statement 3 – an increase in student attitudes towards their ability to teach elders (statement 4). Students created projects based on elder stories and shared them with the elders and other kids. Perhaps, then, students felt that elders learned something from what was presented in these projects. Certainly, elders other than the ones students were
interviewing enjoyed reading their stories. As Pam put it, “Yeah. We got feedback from like 4 other elders that said that they really liked our story and that [we] should start writing children's novels.” Other students found that the very elders that they were writing about were strongly impacted by the projects: “Ms. Hughes said it brought tears to her eyes,” said Pam. Natalia (age 13) said her elder “felt like she was reliving the experience over again.”

Kids felt that they both had something to learn from elders as well as something to teach them (statements 3 and 4). This result points to the possibility that students felt more of a connection with elders overall and, thus, now believe an exchange between the generations to be more useful.

An additional piece of evidence for empathy is that students found elders more interesting after using PTO (statement 5). This result points to a change in student attitudes towards elders. One of the primary goals of connecting kids with elders is to demonstrate to kids the important stories many elders have to share. This result provides evidence that PTO has been successful in accomplishing this goal. Natalia puts it this way: “[PTO] gave me a whole new respect for elders – for what they had to go through and what they stood up for changed how we are today in a good way.”

8.5.2.2.3 Empathy and History Learning

Here, I have examined the impact of Internet-mediated oral history on attitudinal change and uncovered evidence of a change in empathy, an area of historical thought. In particular, participation in online oral history improved students’ level of empathy for elders and, more generally, their enjoyment of history.

Given these findings, one might categorize Palaver Tree Online as system which creates a form of empathic community (Preece, 1998, 1999). Preece defines groups “in which communication between members is strongly empathic, as empathic communities to distinguish them from groups that are primarily concerned with factual information exchange” (Preece, 1998,
Elders in Palaver Tree Online share their life experiences with students and, as I have shown above, that sharing can help students develop empathic relationships with them.

Because of the fallibility of memory, oral history should not be the only way students learn recent history. For instance, in *Remembering Ahanagran* (White, 1999), Richard White documents his mother’s life and explores the contradictions between her recollections and immigration records – highlighting the complex relationship between memory and fact. However, oral history offers things that are more difficult to learn through books. Specifically, oral history can enable students to see history through the eyes of people who have lived it and enable new kinds of engagement with historical knowledge.

### 8.5.3 Interpreting Oral Histories

While students did have some success in analyzing elders’ stories, Palaver Tree Online has no specific support for helping students to be critical of these stories. Beyond the teacher reminding students not to report anything they thought was problematic and asking them to create a story that took into account the Civil Rights Years and the stories the elder shared, students were given little in-class or online support for this analysis. Thus, while some students did a reasonable job of thinking through their elder’s story and placing it in a broader context (e.g. 8.2.4.1), more could be done to help them place these stories in context (e.g. 8.2.4.6).

In order to encourage students to take a more critical approach to elders’ stories, one could encourage students not to see elders as resources as I have done here. If we have students take a more strict perspective on historical inquiry, they should look at a larger number of historical accounts and build an attempt to build a coherent picture of what happened based on them (Wineburg, 2001). Perhaps contrasting interviews with several elders along with historical articles and other materials might provide students with a broader view of history from which to draw. In such a case, they would not need to rely so heavily on the elders’ stories and would
more readily be able to place them into proper context. Students would then consider elders as witnesses who do have legitimate perspectives, but whose stories should not necessarily be taken as fact. In such cases, the ideal reviewer for student work would not be the elders, but a historian who might also serve as a mentor throughout the process – aiding students in analyzing elders’ stories and placing them in appropriate context.

The work I have presented here aims to encourage empathy for elders and synthesis of their stories. Work that aims to have students take on a stricter form of the historian role might be able to encourage other forms of historical thought such as looking at past and present context, author bias, and understanding the multiplicity of history. (More on this in chapter 10.)

8.6 Summative Evaluation: Examining Expectations

This section takes a look at my expectations of Palaver Tree Online compared to what actually happened when the system was deployed. I look at my expectations of the use of the system in general and then specifically at the roles kids, elders, and teachers played.

8.6.1 Expectations Revisited

Prior to the use of PTO in classrooms, I had a number of expectations regarding how it would be used (see section 7.6). In this section, I look back at those expectations and discuss the degree to which each was met.

1. Students will ask initial questions based on the elder profiles as well as background information from their reading.

   Two-thirds of the kid-elder discussions here started with questions clearly based on the elder’s profile. All of the initial postings (both with profiles references and without) had references to the Civil Rights Years subject matter. Examples of initial questions based on a
profile are given early in sections 8.4.2.2.2 and 8.4.2.3.2. What follows is an example of one set of initial postings based on civil rights readings:

**annoyedbutterfly -- 4/13/2001 12:00:36 PM**

Hi we would lik3e to ask some questions about growing up durring the civil-rights era.

1) WHAT ROLE DID YOU PLAY IN THE CIVIL RIGHTS MOVEMENT?

2) WAS IT REALLY HARD GOING THEROUGH SCHOOL WHEN IT WAS FIRST SEGRAGATED? WHAT WAS IT LIKE?

2. Online oral history will follow the interaction model indicated above. The teacher will play a role in keeping the interaction on-schedule by posting regular announcements.

As shown in section 8.3.1, online oral history in Cathy’s class did largely follow the online oral history interaction model as indicated in section 7.3.1. An important exception is that there was not a true revision cycle based on elder after projects were complete (more on this in point 5 below). In addition, the fact that many of the elders initially recruited did not respond to student questions meant that some students had to start the online oral history process later than others and, thus, had less time to work with elders. Some students also took longer to create their projects than others, reducing the amount of time they had to get feedback from other students and elders.

The teacher posted four announcements. The first announcement welcomed elders and gave instructions on where kids and elders needed to go for their interview work. The second and third were welcoming the backup elders that were brought in when many of the initial elders were not responsive. The last comes at the point in the interaction model where students are making their projects public (stage 7) and invites elders to comment on their work.
3. The teacher will not be able to keep the interaction in lockstep since pacing may be different between kid-elder pairings. The project states mentioned above will help manage this.

The pacing of kid-elder interaction was different from group to group. As indicated above, some students had longer to interview elders than others and some students had longer to work on projects than others. The software supported these differences primarily by letting elders know when student projects were available for feedback. If we ignore the one elder that never responded to the project based on her interview (see section 8.4.2.5), the average amount of time for the interviewed elder to respond to a project was 4 days. The average amount of time for any elder to respond to a project was 2.5 days (all elders are notified when a project becomes available).

4. Users will be able to recover from breakdowns in kid-elder discussion (i.e., elders not responding) that it was more difficult or impossible to recover from in the e-mail work.

All of the groups of students that did not get responses from either of their assigned elders (7 and 10) were able to recover by asking questions in other discussions where elders were responsive (see section 8.4.2.4 for one example).

5. By placing student projects online, another cycle of communication between students and elders will be created – feedback and revision. Elders will give students at least one set of feedback on their work and students will revise based on that feedback.

Students did get a great deal of feedback on their work. The average number of feedback postings on a project is 11.9, with 3.5 of those coming from elders and 8.4 coming from other students. Elders, however, did not offer the constructive criticism I expected. In fact, only one elder gave students any ideas for revision (see section 8.4.2.3.4). Students, thus, had little fodder for revisions to their projects. Cathy mentioned that she actually liked the fact that elders were very positive: “I saw some elders that they enjoyed it or they liked the graphics and I thought
that's really good for the kids.” She commented that having no criticism at all was better than having unconstructive criticism: “It's OK for me to yell at them. I can tell them their work stinks, but I don't want anyone else to do it! I'm very territorial about that.”

I did not expect students to give as much feedback to each other as they did. They seemed excited to visit different discussions and view the work of other students. In fact, several of them came back after their work in PTO was officially complete in order to make more feedback postings (see May 17 in section 8.3.1). The teacher put it this way:

I think the kids were more positive with each other than they usually are in class projects. They're not always as nice to each other. I think that's because they have a wider variety. When I just say well have a visual on this or that and their visuals can be PowerPoint or movies or whatever. But with this particular project, everyone had the same equipment to use. So, if they saw something that was really really good then they told each other about it and I liked that.

6. Because of their participation in online oral history, students will have an attitudinal change.

This attitudinal change will be in one or more of the following categories: history, language arts, and elders.

The quantitative data presented in section 8.5.2 shows attitudinal change in each of these areas. Analysis of the data provides suggests increased enjoyment of history and empathy for elders.

7. Because of their participation in online oral history, students will show synthesis of the elders’ story in the project they create.

The example presented in section 8.4.2.2 shows evidence of synthesis. Specifically, the project the group creates shows an in-depth understanding of the elder’s life story, presented with appropriate historical context gleaned from background reading. However, not all students had as
positive a learning experience (see section 8.4.2.3 and other sections discussing breakdowns). Roughly 75% of student projects showed synthesis of some aspect of the elder’s story and historical context gathered from other sources.

8.6.2 Examination of Roles

In this section, I compare the roles I saw elders, kids, and the teacher take on compared to the roles that I expected (see section 7.3.2).

8.6.2.1 Elder Roles

- **Resource** – The vast majority of elders who responded to students played the role of resource as I expected, answering student questions with detailed stories about their lives. When it was working well, elders were doing the things detailed in section 8.4.2.2.5. For instance, they were aware of the subject matter students were covering and addressed their responses to those. They responded in language that students could understand and were generally respectful of students. They tended to share stories about their childhood in an attempt to relate to students. When it was working well, elders also answered many if not all of the questions students asked in a timely manner. As recommended in the guidelines elders read when they agree to participate, their responses were not too long, did not contain overly controversial stories, and did not overgeneralize.

- **Evaluator** – Contrary to my expectations, elders were less likely to give the kinds of constructive criticism students needed to revise their projects. When this was going well, elders were giving students positive feedback and constructive criticism (see section 8.4.2.2.5). Only one elder gave such feedback, however (see section 8.4.2.3.4).

- **Additional roles** – Ideas for new roles for elders (for example, pointing out problem areas to teachers) emerged from this work. Specifically, elders might help students avoid the
breakdowns indicated above by reporting problem areas to the teacher or playing surrogate teacher and guiding students themselves (see section 8.4.2.3).

8.6.2.2 Kid Roles

- **Interviewer** – Students largely met my expectations in terms of interviewing elders. Some started out with fairly general questions, but nearly all asked follow-up questions based on the elder’s responses and, thus, got into more depth about the elder’s specific experiences. When it was working well, students were doing the things indicated in section 8.4.2.2.5. In this case, they did pre-interview research and formulated thoughtful initial questions based on that work. They asked on-topic follow-up questions based on what the elder had told them. They did not overload the elder with too many questions at one time, were generally respectful of the elder. Lastly, students showed empathy for elders and their experiences.

- **Historian** – Student projects varied in quality, with an average grade of B+. Some, like that presented in section 8.4.2.2, took into account the elder’s story and combined it with background reading to tell a rich story. Group 3, on the other hand, is a group whose project included essentially no information from their elder (see section 8.4.2.1). When project creation was going well, students did things indicated in section 8.4.2.2.5. Specifically, they used information from their background reading on the Civil Rights Years as well as elder interview data to tell a coherent story in their project.

- **Evaluator** – Students spent a great deal of time giving each other feedback, making an average of 8.4 feedback posts on each project. As with elders, though, they gave little constructive feedback that could be used to revise the projects. When student evaluation was going well, students gave each other positive feedback on their projects (as discussed in section 8.4.2.2.5).
8.6.2.3 Teacher Roles

- Online community manager – The teacher did play the role of online community manager, but not in the way I expected. Beyond recruiting elders and posting a general announcement messages to elders, she took a very hands-off role in the online interaction, allowing students to be in complete charge of their interactions with elders. Some students thrived in this student-centered environment while others would have benefited from more opportunities for reflection, both on the types of questions they should ask in interviews and the sorts of projects they could make based on the data they collected.

- Classroom guide – The teacher did much more work in the classroom than online. As discussed in section 8.3.1, the teacher did a number of things to prepare her students for their participation in online oral history. The only role she did not take on that I expected was helping students revise their projects based on elder feedback. This did not happen because the vast majority of feedback students got did not contain ideas for revision. Helping students revise without elder feedback or getting elders to provide more constructive criticism are areas for future work.

- Summative evaluator – The teacher evaluated student work once student PalaverStories were complete by looking at the entire process of online oral history. She looked at the questions students asked in interviews, the responses they got from elders, and how they used those responses to create a project. The final grades students received were based on how well they used the data the elder gave them as well as the background reading in their project.

8.7 Summary

In this chapter, I have discussed the evaluation of Palaver Tree Online. The five-day formative evaluation served as a testing ground for the software prior to it being deployed longer-term. In
this study, I found that the software supported the interaction model developed in my e-mail work as well as uncovering a number of user interface and technical difficulties.

The bulk of the chapter discussed my summative evaluation of the use of PTO. I began by discussing the use of the system in the classroom. The teacher took a fairly hands-off approach to her students’ use of the system. While she did provide some scaffolding for students, she felt it was important to give them ownership over their interaction with elders. The software played a role of scaffold for the teacher in terms of getting online oral history off the ground as well as a centralizing role in terms of student discourse in the classroom. Lastly, the sequencing of activities in the online oral history interaction model provided the teacher a rough roadmap for how the process would run in the classroom.

I then discussed how kids and elders worked together online. Initiation was an important first step in getting kids and elders working together. Some important pieces of this process are helping the teacher become familiar with the online oral history process, the teacher preparing students for the process, and finding elders that are willing and able to share their life stories with students. I followed this with a number of examples of kid-elder from the study. In particular, I looked at one successful case and a number of cases that featured breakdowns – kids going off-topic, elders not responding, elders not completing the process, elders sharing inaccurate information, and students having trouble using elders’ stories. For each of these cases, I also discussed how we might recover from these breakdowns in the future. In general, recovery involves both new roles for users (for example, elders notifying the teacher when they see students having trouble) and new software supports (for example, tools for alerting teachers when there are breakdowns in the system). I presented an overview of the types of discussions kids and elders had – clarification, experience sharing, off-the-beaten path, and speculative. I followed this with ideas about sustaining and pacing kid-elder interaction. An important step towards sustaining kid-elder interaction is finding ways to help the teacher deal with non-responsive
elders quickly and effectively. Pacing in kid-elder interaction is handled differently in the interview and project phases of the process. In the interview phase, the question/answer process effectively pushes the interaction along. In the project phase, project states helped kids let elders know where they were in the process.

I followed this with a discussion of learning in online oral history. I first discussed the evidence for synthesis of elders’ stories in student projects. Roughly 75% of student projects showed synthesis of elders’ stories. This percentage might be increased by finding ways to help students in the breakdowns that they could not recover from. For the most part, these breakdowns happened because students had trouble doing appropriate interviews or using elder interviews in their projects. I then discussed attitudinal change in Palaver Tree Online. I began by presenting results from attitudinal surveys given to students before and after they used the system. These data showed significant changes in student attitudes towards history, elders, and language arts. These findings provide evidence that there was an increase in student enjoyment of history and empathy for elders. Lastly, I discuss how we might help students better interpret elders’ stories. Specifically, I believe helping students take a more critical approach to those stories might be able to help students develop other forms of historical thought.

In the final section of the chapter, I took a look back at my expectations for Palaver Tree Online in light of what I saw in the summative evaluation. I first examined at my expectations for the system more generally and found that most of them were met to a degree. Feedback was the place where I was most surprised. Elders gave students far less constructive criticism than I expected, but students gave each other far more feedback overall than I expected. In then took at my expectations with regard to roles. There, I a saw about half of my expectations were met. For example, as discussed above, elders played their role as resource just as I expected, but their work as evaluators turned out differently than I thought it would.
CHAPTER IX

REFLECTIONS ON THE PROCESS OF DESIGNING PALAVER TREE ONLINE

Internet technology can play a part in making new roles possible. For example, Palaver Tree Online has brought elders to the classroom in a way that would have been difficult or impossible prior to network technology. But how do we design systems that enable these new roles? How do we help user populations with different roles to work together? Can we orchestrate communication among roles in a way that helps improve the chance that users will have their needs met?

In this chapter, I provide some ideas about how we might improve the design of online systems that support interaction among people in different roles. In order to do this, I begin by discussing general tools for characterizing roles. I then provide a rough sketch of a design pattern that might help designers in building systems that take into account interrelationships among roles. I follow this with examples from the design of Palaver Tree Online and Math Forum (a system providing math tutoring), systems that provided the inspiration for this rough design pattern. In these examples, I look at the relationships between roles in different systems and how understanding the interrelationships between those roles helped designers improve balance in those systems. Lastly, I provide some ideas for a potential extension to existing methods of understanding roles. These ideas, with additional research, might help develop a method to assist designers in improving balance in online systems.

9.1 Roles and Interrelationships among Roles

A number of methods have been used to explore the roles that users play in work environments. Task analysis, for example, has been used to identify the steps involved in carrying out a
particular role, from the cognitive to explicit tasks to be carried out (Vicente, 1999). Stakeholder analysis takes a more user-focused approach, looking at the specific needs of each stakeholder in an organization and designing in detail for those users (Kling, 1992). Contextual design expresses the broader notion of a role as a collection of responsibilities. As such, one person typically fills several roles in the workplace. Contextual design focuses on this variety of roles and support for those roles, with specific attention to organizational context (Beyer & Holtzblatt, 1998).

The notion of Emerging Norms (Grudin, 2002) has taken a slightly different approach to roles in the workplace. Specifically, the work proposes looking at the “coarse structure of people’s days.” Instead of focusing on specific roles that users play, he recommends taking a step back and looking at how people work throughout the day. This work suggests that, within an organization, one will find only three to four such structures of daily work. The notion, then, is that developing a deep understanding of these few patterns of daily work will enable designers to build applications that more users find usable. To do this, designers need to identify a set of features and preferences that these users find most useful in getting their jobs done. Grudin calls these “constellations of features.”

In a sense, one could see my work in designing Palaver Tree Online as using Grudin’s ideas. As I began work developing the system, I was unsure of how the process of online oral history would work. My e-mail work helped me gain an understanding of the different types of users involved in the process and what their roles were. In a sense, these are the patterns of use that Grudin discusses. To support the different roles of users in PTO, I presented features of the system differently to each user type based on my prior fieldwork (see section 7.5.5). Essentially, I developed constellations of features appropriate to each role.
However, if we have a process where sets of users in different well-defined user types work together towards a set goal, we may be able to do more than just design for the roles of specific user types. We may also be able to look at the \textit{interrelationships between their roles}. What does each user type contribute to the process? What do they need to get out of it in order to feel their participation was worthwhile? Can we create a situation where the contributions of one user type satisfy the needs of another? Can we improve situations where there is an imbalance between needs and contributions? In the sections that follow, I give a rough sketch of a design pattern that might help designers think about these questions and show examples of how examining balance between roles of different user types has helped improve specific CSCL systems.

\textbf{9.2 Rough Sketch of Design Pattern}

In looking back on the design of Palaver Tree Online, I noticed some patterns in the design strategy I used. In reviewing those patterns, I developed a rough sketch of an overall pattern that I believe would have been helpful to have as I began my design work and might be useful in future revisions to PTO:

1. \textit{Classify users} – identify actual or potential user groups through fieldwork,

2. \textit{Characterize needs} – identify needs of each group through fieldwork,

3. \textit{Characterize contributions} – identify potential contributions of each group,

4. \textit{Examine interrelationships among groups} – diagram information flow and identify problems in information flow, thinking about the needs and contributions of users, and

5. \textit{Iterate} – here or at any point prior, return to earlier stages and iterate on the design.

In the first phase of the process, one does fieldwork to identify users of the potential system. With a particular set of users in mind, one continues fieldwork to identify what each user needs in
the process. With the needs of each user group characterized, one can begin to think about what those users contribute to the process as well as what they might contribute in the future.

Next, one examines the interrelationships among groups. With both needs and contributions in mind, one can then begin to think about interactions between groups. Knowing needs of users, especially unmet needs, can help designers think about what contributions other users can make to help satisfy those needs. Are there places where a new type of contribution from a member of one group could meet the needs of a member of another? Are there places where a new type of contribution from a member of a group could meet the needs of other members of the same group? Diagrams of information flow may help in this process. Once we reach the end of this process (or at any time before), we can return to the beginning with what we know and iterate on the design.

Ultimately, this pattern is about describing systems in terms of needs, contributions, and diagrams that connect the two. In doing this, we provide a way to begin thinking about revising systems so that they are more balanced in terms of what users contribute and what they get back for those contributions.

The ideas in this rough design pattern are based on post-hoc observations from my work design of Palaver Tree Online as well as work done on another system called Math Forum. In the following two sections, I will discuss the observations in these systems that led me to begin thinking about ideas towards a design method that might, with further research, become a general method.

9.3 Balance in Online Oral History

I did not use the design pattern discussed in section 9.2 to create Palaver Tree Online. However, ideas from the design of PTO helped me arrive at some ideas towards a design pattern that might
help in designing such systems. In this section, I discuss observations from my design work creating the system that lead to the development of the ideas presented in that design pattern.

9.3.1 Iterating on Potential Users

I began my work by identifying potential participants in online oral history. Specifically, I started by talking to teachers in an attempt to understand their needs in doing oral history projects in the classroom. I used those discussions to identify user groups I thought could work together in online oral history: eighth grade students in a historic neighborhood, their teacher, and local elders.

However, integrating local elders into the project proved to be a much more time consuming undertaking than I expected – too time consuming for the average teacher. Thus, iterated back to the first stage of the design pattern in 9.2 and re-thought the sort of elders I would recruit. I decided to attempt to recruit elders from the Internet instead of local elders. Significantly less effort was required to find interested and able elders online (see section 5.2.1). This work inspired me to include an initial stage in the design pattern for identifying users.

9.3.2 Developing an Understanding of Needs and Contributions

In my e-mail work, I began developing an understanding of needs and contributions of kids, teachers, and elders. I found that teachers are overwhelmed with work and providing them a way to bring elders to the classroom more easily might help facilitate the integration of oral history into the curriculum. I also found that kids need reliable elders to share life stories with them and those kids can, in turn, contribute quality questions to those elders. Elders, on the other hand, need a respectful audience and can contribute stories to help satisfy that audience (see section 5.5). This work inspired me to include stages in the design pattern for developing an understanding of user needs and contributions.
9.3.3 Iterating on Needs and Contributions

An initial design of PTO involved creating a MOO-like environment where the landscape would be composed of a variety of objects representing historical places, events, and people. Both students and elders would visit places they are interested in and, therefore, kids would connect with elders that had experiences to share on topics they were interested in hearing about. This seemed to be a reasonable approach since it allowed for kids and elders to be matched based on their specific interests.

After further thought about the needs and contributions of users, however, problems with this design emerged. In particular, elders might not have information about the places or events students are interested in. Thus, it may be difficult to match kids and elder interests meaningfully because there is a mismatch between student needs and the contributions elders are likely to make. It was at this point that I decided to focus the environment on what elders can contribute – their life stories. This called for a switch from a topical focus to an interview one (see section 7.3). This interview approach to kid-elder interaction was used throughout my e-mail work and in PTO as well.

9.3.4 Using Information Flow Diagrams to Identify and Correct Imbalances

After my e-mail work was complete, I began working to design Palaver Tree Online with the specific aim of providing improved support for kid-elder interaction in online oral history. This again led to reflection on the interrelationships between needs and contributions of the users.

Online oral history was successful in my e-mail work in the sense that kids and elders were able to communicate. Students did interviews with elders and even created projects based on elders’ stories (see chapter 5). However, there were problems as well. For example, students whose elders did not respond had no data to use in their projects. Kids expected responsive elders and needed answers to their questions to complete their projects. This breakdown highlights the
essential role that elders play in this process – they are the resources kids need to get their projects done. The role of elders is especially fragile when dealing with e-mail – a one-to-one medium. If one elder does not respond, then the kids working with that elder have no data to use in their project.

In addition, elders told students great stories but, since students created projects on paper, elders were not able to see what students created based on their stories. Thus, elders felt out of the loop – they needed to see student projects in order to feel like their contributions were useful. This issue is related to the notion of “work vs. benefit” in CSCW. Specifically, the CSCW literature tells us that one reason groupware systems fail is that the people that do the work are many times not the ones that receive the direct benefit of using such systems (Grudin, 1994). Here, elders are doing a great deal of work sharing their stories with students, but there is little payoff.

Lastly, since student projects were not available to elders, elders could offer no feedback on them. Students needed this feedback in order to be sure the elders’ life story was accurately represented. Thus, the connection between kids and elders in the e-mail work was somewhat unbalanced.

In post-hoc analysis, these design issues inspired me to create a diagram that attempts to capture the state of information flow at that point in the design process. This diagram aims to show how needs and contributions of users interrelate in the e-mail work (see figure 46).
Figure 46. Information flow diagram showing online oral history during the e-mail work. The dashed line indicates a communication channel compromised due to unreliable elders.

Figure 47. Information flow diagram showing the more balanced relationship between the roles of kids, elders, and teachers in Palaver Tree Online. The dashed line indicates a communication channel that might exist in a future version of the system.

Palaver Tree Online improves balance in online oral history by addressing these issues. By making discourse more visible in the community, the system allows kids to get answers from
other elders if their elder proves unreliable. In addition, the system reminds elders of the sorts of contributions that would best meet the needs of students through a textual reminder and interface affordance (sign-on message and posting dialog – see section 7.5.2). The PalaverStory interface brings elders back in the loop by moving student projects online, which enables a new phase of kid-elder interaction: feedback on projects and student revision. This meets an elder need by allowing them to see student contributions. Students, in turn, get the feedback they need to assure their projects accurately reflect elders’ stories. In addition to sharing their life stories and offering feedback to students, elders provide help for teachers by providing an additional source to answer student questions (as seen in the CoVis Mentor Database (O’Neill & Gomez, 1998)). (See chapter 8 for detailed examples of interaction in Palaver Tree Online.)

Palaver Tree Online has enabled processes and roles in online oral history that were not possible using e-mail. In doing this, PTO has allowed kids, teachers, and elders to share more with one-another and recover from breakdowns more effectively than in my e-mail work. This has improved balance in online oral history.

Post-hoc analysis inspired the creation of a second diagram that showed the new state of online oral history in Palaver Tree Online (see figure 47). Such diagrams may prove useful in helping designers think about needs and contributions in while designing future iterations of existing systems (see section 9.4 for more).

9.4 Balance in Math Forum

In post-hoc analysis, the balance issues I saw in Palaver Tree Online have some similarities to those experienced by another system, Math Forum. Math Forum is an online environment for math education (Renninger & Shumar, 2001). A feature on that site, Ask Dr. Math, allows students to ask for help on math problems. The focus in this section is on this particular feature of the site.
Here, I take a look at how information flow diagrams might help clarify the imbalances between needs and contributions of different user groups in Ask Dr. Math. For example, the Ask Dr. Math mentors (those who help students with their math questions) were initially overwhelmed by the number of times they got the same question. This reduced balance between kids and mentors – mentors were frustrated and did not answer every question and, thus, students did not get the responses they needed. Students contribute questions and need good answers to those questions to be satisfied with their participation. Mentors contribute answers to student questions and they need new questions to be engaged enough to answer them all. These issues inspired the post-hoc creation of an information flow diagram that shows the imbalance (see figure 48).

![Figure 48](image)

Figure 48. Information flow diagram showing the ask Dr. Math kid-mentor relationship with mentors losing interest and not answering all questions when they get repeated questions.

![Figure 49](image)

Figure 49. Information flow diagram showing the ask Dr. Math kid-mentor relationship with MathForum staff reducing the number of repeated questions mentors get. This increases the number of total questions that are answered while reducing mentor frustration.
To reduce this imbalance, the Math Forum staff provided a new filtering layer between kids and mentors. Math Forum staff members now read each submitted question and determine if it is new or a repeat of a previous question. If it is a repeat of a previous question, the student is directed to the answer on the appropriate message board. If it is a new question, it is presented to an online mentor who provides them with an answer. In this new version of the system, kids get answers to all their questions and mentors get new questions to answer instead of repeated ones. Essentially, the filtering provided by the Math Forum staff creates an environment where the contributions of both kids and mentors more readily satisfy the needs and expectations of the other group. This solution inspired the creation of a post-hoc diagram that shows the system in a more balanced state (see figure 49).

In this case, balance is improved by adding a new set of community managers that mediate between mentors and students – allowing students to get the answers they need, while focusing mentors where their help is most needed. While the ways balance is improved in Palaver Tree involve technology or new roles for existing participants, sometimes new participants are required as well.

Of course, the designers of Math Forum did not in any way use the method outlined in 9.2 to develop and redesign their system, so we can only speculate as to whether it would have been helpful to them. However, the issues faced between the Palaver Tree Online and Math Forum projects do have some structural similarities that suggest such a method might be helpful to them. Further work is needed to explore this.

9.5 Encouraging Social Balance

In reflecting on the design processes of these two systems, it appears that one may be able to extend existing techniques for understanding roles by looking at the interrelationships of those roles, at least in cases where user roles are relatively static. As discussed in section 9.2,
developing a good understanding of user roles might allow designers to make a list of the needs and contributions of users in the process. Then, designers might think about how the process might be altered to connect contributions from some users with the needs of others. These ideas might then serve as input to the iterative design process. Creating diagrams similar to those shown in figures 34-37 might assist in this process.

For example, in my summative evaluation some students went off-topic in their elder interview. The elder noticed this problem but did not know what to do about it – he did not feel it was his place to correct the students (see section 8.4.2.3). Students needed to be guided back on track, but nobody was able to provide a contribution that met that need. This is an example of an imbalance in the current version of Palaver Tree Online.

A future version of PTO could address this problem by providing support for elders in notifying the teacher of potential problems – helping elders point out specific places in the system where there is a potential problem the teacher might want to look at. In figure 33, this addition to the process is indicated as a dotted arc labeled as “problem notification (backchannel)” between elder and teacher. Thinking about the roles of kids, teachers, and elders as well as their needs in and contributions to the process allowed me to arrive at a solution to the problem of helping students recover when elders realize they may be having trouble.

These ideas are based on post-hoc analysis of my work developing Palaver Tree Online and comparison to work Math Forum did improving their system. Further research would be necessary if one hoped to more strictly formalize these ideas into a methodology that could be more broadly applied. For more on this, see chapter 10.
CHAPTER X

CONCLUSION

In this chapter, I give a high-level view of what my work contributes and the open problems that remain. I begin by discussing the contributions of the work described in this dissertation. I then provide some ideas for future work. Lastly, I give some closing remarks, looking at what stands out to me as I look back on my dissertation research as a whole.

10.1 Contributions

In this section, I review the contributions of Palaver Tree Online. These contributions derive from the data and analysis presented in chapter 8. I discuss each of my contributions here specifically and give an overview of the data that supports each of them.

The online oral history interaction model can help teachers manage kid-elder interaction. In order to help the teacher feel comfortable with and manage the process of online oral history, an interaction model that details the main pieces of the process is useful. My work has provided such a model (see section 7.3.1). In Palaver Tree Online, introducing the teacher to this model at the beginning of the process helped give her an idea of what was expected of her and others (see section 8.4.1). She referred to this model each time she took students to the lab (see section 8.3.4). Once the teacher was aware of the stages that kid-elder interaction needed to encompass, she was able to guide kids face-to-face and both kids and elders online (see sections 8.4.5 and 8.6.1 #2).

Persistent discussion can help students recover from breakdowns in kid-adult communication. In situations where online adults serve as resources for students, persistent discussion can play a role in helping students recover when those adults become unreliable. For example, several
students in my summative evaluation were assigned elders who did not respond to them. Without persistent discussion, these students would have had no data to use in their projects just like those in my e-mail work (see section 5.4). The persistent discussion features in PTO, however, allowed these students to find elders that were already answering other students and ask questions of them. These already responsive elders answered student questions and those answers allowed students to complete their projects (see sections 8.4.2.4 and 8.4.2.5).

Providing persistent discussion features can help students recover when online adult resources are unreliable. This is only possible if students know how to react when these kinds of problems arise, however. In my summative evaluation, the teacher facilitated the use of persistent discussion features by telling students that had non-responsive elders to find elders that were responsive and ask questions of them instead (see section 8.4.2.4.1).

Online projects can help online adults feel their contributions are valued. In situations where online adults serve as resources for students, placing projects online can play an important role in helping those adults feel involved in the process. For example, my e-mail work showed that elders wanted to see what students created based on their stories. Without seeing this work, they felt out of the loop (see section 5.4). When elders were able to see student work in PTO, they showed their appreciation with positive feedback (see section 8.4.2.2.4 for an example and 8.6.1 #5 for numbers). Finding ways to place student projects online has the potential to improve the experience of working with kids for online adults serving as resources for students more generally.

Online projects can help students get feedback on their work from online adults. In situations where online adults serve as resources for students, placing projects online allows adults to provide additional support for students by evaluating their work. For example, in Palaver Tree Online, elders offered a great deal of positive feedback on student work. Elders averaged 3.5
feedback messages on each project (see section 8.6.1, #5). Finding ways to place student projects online has the potential to connect online adults to the classroom more strongly, by allowing them to play a role in helping students revise and refine their work.  

*Project states can provide a mechanism for pacing and providing awareness in online project-based learning.* When kids are creating online projects for feedback by a remote audience, project states can provide both a reminder of the process and a status indicator. For example, in Palaver Tree Online, kids-elder groupings were not all in the same stage of the interaction model at the same time – pacing differed from group to group. Project states helped to manage this by providing an indicator to elders when students began work on their project and were ready for feedback on their work. Elders were made aware right away when projects became available, for instance, and began giving feedback in an average of 2.5 days (see section 8.6.1, #3). Project states also provided a reminder to students of where they are in the interaction and what the next step was (see section 8.4.5). In CSCL systems where students are working on projects that are to be later evaluated by online adults, project status indicators can help keep students moving forward in the interaction model as well as provide awareness for the waiting audience.

### 10.2 Future Work

The research presented in this thesis raises a number of issues for future work. In this section, I provide a list some of these issues and some initial thoughts on how one might approach them.

#### 10.2.1 Helping Students Develop Other Forms of Historical Thought

The research presented in this thesis has focused on encouraging synthesis of elders’ stories and empathy for elders – a form of historical thought (see section 8.5). Future work should attempt to encourage other forms of historical thought identified in section 3.1. Specifically, students might
be engaged in activities that enable them to see past and present context, author bias, and the multiplicity of history more clearly.

Some students in my summative evaluation appeared to be interested in developing these forms of historical thought. For instance, Kathy (age 13) seemed to indicate an interest in exploring the multiplicity of history. She found hearing different perspectives useful because “it adds information to what I know about and gives me another opinion of what people think. Just to show the different sides.” Jacob’s thoughts about the differences between what he had learned in school and the stories his elder shared lead to an interest in better understanding author bias. He puts it this way:

I think that what they really taught us back in elementary school and grade school was that the African Americans were really scared to fight back at all and that [our elder] was really saying that they just did lots of stuff did all kinds of things, to get their equality.

Others indicated an interest in gaining a deeper understanding of historical context. Pam put it this way: “[I enjoyed talking with my elder] because you can kind of be on the same level as them. Be able to see what happened.”

How do we encourage these forms of historical thought? I believe one way to do this is to have students take on the role of historian more strictly. As discussed in section 8.5.3, students in Palaver Tree Online treated elders as resources. If we take a more strict perspective on historical inquiry, elders might instead be seen as witnesses that have legitimate perspectives, but whose stories should not necessarily be taken as fact. In order to do this meaningfully, students need to work with a number of different historical accounts and use those to develop their own picture of what happened (Wineburg, 2001).
Future work might explore this by combining work with online elders with historical documents that cover the same material. Students would use this data to construct a historical account that takes each perspective into account, contrasting the experiences of multiple elders and other sources. Of course appropriate supports, both in the form of teacher and software scaffolding, would be necessary to help students make sense of this more complex set of data. Finding ways to encourage and evaluate historical thought in these areas is an important next step in developing our understanding of technological support for history learning.

10.2.2 Helping Students Do and Use Elder Interviews More Effectively

A number of different breakdowns were identified in section 8.4.2. Students were able to recover from some of these breakdowns more readily than others. In general, students were able to recover from breakdowns involving unreliable elders while they were less likely to recover from breakdowns involving difficulty in doing interviews or using interview data in projects (see section 8.5.1.2). When students did not recover from breakdowns, their level of synthesis suffered.

Future work might explore ways to prevent and/or assist students in recovering from these breakdowns. The primary interview-related problem I found was students going off-topic (e.g., 8.4.2.3). In attempt to prevent this, a future implementation might provide more opportunities for sharing during the elder interview process, creating pauses in the process for reflection. During these pauses, students can see how other students’ interviews are working and reflect on the data they are getting from their elder as it relates to the project they will ultimately create.

Several students had trouble creating projects that appropriately reflected the stories they heard from their elder as well (see section 8.4.2.7). Providing opportunities for reflection and scaffolds that help support the process of reflection might help mediate this problem as well. For
example, students might be asked to present early versions of their projects in order to get feedback from their classmates as well as ideas from the work of other students.

**10.2.3 Exploring New Roles for Elders in Increasing Teacher Awareness and Playing Surrogate Teacher**

In section 8.4.2.3, I discussed a case where students went off-topic and did not fully recover. If this problem cannot be prevented through the reflection activity discussed above, then elders may be able to play a role in helping students recover. For instance, elders in my summative evaluation were aware that students had gone off-topic, but did not know what to do about it. Future work might provide a way for elders to notify the teacher in such situations, increasing teacher awareness of problems students are having.

Further, some elders are willing to help students on their own, taking some of the teaching load off of teachers (see section 8.4.2.3.6). In cases where elders feel comfortable taking on this new role, materials should be available that make clear to them what students should be covering in order to fulfill the requirements of their project. A guidebook might also be provided that gives more general guidelines for how elders might support kids that are having trouble.

**10.2.4 Increasing Teacher Awareness of Breakdowns through Software**

One of the most prevalent breakdowns seen in my summative evaluation was elders not responding to student questions. Roughly 50% of elders that agree to participate become unreliable at some point (see section 8.4.4). Software can help here by helping the teacher detect when an elder becomes unreliable.

Future work might provide an enhanced elder management system whereby the teacher is alerted if a recruited elder does not post an initial message within a specific amount of time (e.g., section 8.4.2.4) or becomes inactive over time (e.g., section 8.4.2.5). Such a system could also
help orchestrate the process of bringing in a new elder to take over for the unreliable elder, perhaps by automatically generating an e-mail that explains the situation to the new elder and introduces them to students.

10.2.5 Study the Online Oral History Feedback and Revision Cycle

In my summative evaluation, students did not revise their projects. This was largely due to the fact that the feedback they received was nearly entirely congratulatory and provided little fodder for revision (only one feedback post contained constructive criticism). Thus, while the summative evaluation served as a testing ground for the majority of the interaction model put forth in 7.3.1, the final feedback-revision cycle was missing (see sections 8.3.1 and 8.6.1 #5).

Future work in online oral history should aim to fully implement the interaction model. This would involve helping elders to provide constructive criticism as well as helping students to take those comments into account in revising their work. The former might be encouraged by providing some basic instructions to elders on constructive criticism alongside a few examples. The latter would require modeling by the teacher and perhaps reviewing online examples from other classes as well.

In addition, new stages could be added to the interaction model. One place where there is clear room for improvement is in opportunities for reflection. While students were given an opportunity to hear each other’s ideas for initial questions for elders at the start of the project and given an opportunity to reflect on elder’s feedback at the end, there is little built-in reflection along the way. A place where this might be particularly useful is reflecting on partially completed projects. For instance, students might be given a formal opportunity to look at each other’s work before it is presented to elders (more on this in section 8.4.2.7.4). Students might also be asked to look at each other’s discussions partway through the process, reflecting on the quality of the follow-up questions they see. In short, there are many different places in the
process where reflection would be beneficial. However, each place where we add reflection adds
time to the overall online oral history process. Thus, future work should investigate which kinds
of reflection are most beneficial and focus on those.

10.2.6 Formalizing Social Balance

In chapter 9, I took a post-hoc look at the design of Palaver Tree Online and, specifically, at how
I improved social balance in online oral history. I also looked at how social balance was
improved in Math Forum. Future work might seek to develop a general design method based on
these ideas. Such work might build on the information ecologies work (Card, Robertson, &
York, 1996; Nardi & O'Day, 2000; O'Day, Bobrow, & Shirley, 1996) and attempt to formalize
the notion of designing to support ecologies of communication among diverse groups. Such work
would also need to tie itself closely to the CSCW literature. For instance, Grudin’s ideas of
looking at imbalances in cost and benefit in CSCW systems might be useful (Grudin, 1990,
1994). Ackerman’s exploration of the core intellectual challenges of CSCW, specifically the gap
between technology and social need (Ackerman, 2000), might prove useful as well.

This formalization might include a methodology for uncovering some of the interconnections
between groups prior to implementation. It might also include a structured approach to creating
diagrams that express the relationships among these groups. Finding ways to generalize
approaching the development of social ecologies could aid designers in thinking about the design
and management of software systems that connect people in ways that scaffold their relative
skills. As such, it has the potential to provide tools that aid in the realization of new practices that
are difficult or impossible to undertake without network technology.

10.3 Closing Thoughts

Palaver Tree Online has provided a system for integrating online elders into the classroom. I
developed the system in response to observation in middle school classrooms and discussion with
teachers about the complexities of incorporating elders and their stories into existing curricula. Cathy, the teacher in my summative evaluation, did several projects that involved having kids do face-to-face interviews with elders in the past. She compares that work with Palaver Tree Online this way:

Palaver Tree’s a lot better because everybody gets a chance to do it at one time.

If you have one elder that you bring in for somebody to talk and for kids to ask questions, the kids don’t get all the time that they need because you’re sharing one person with over 20 kids. This was a lot better because everybody could ask questions.

She found that the ability to recruit elders online reduced the difficulty of getting started with the oral history process:

The fact that the program is there and that people who want to be involved volunteer for it. I think that it’s much easier. Because I don’t have to go out and dig ‘em up and I do otherwise.

Cathy also found Palaver Tree to be a good fit with the existing curriculum:

I think it fits hand-in-hand. The technology is a big deal. [The state and federal standards are] looking for incorporation of technology. They’re looking for new and fun and student-oriented methods, strategies. It’s also something that will take any learner at any ability level and they can do something with it, all of that is a big deal with education and it fits right there.

Lastly, finding ways to bring elders’ stories to the classroom in a way that satisfies the teacher’s needs has proven complex but possible. Cathy explains:
Oh, I loved it! I'd like to use it more… There are all these things I liked about it. I liked the incorporation of technology, I liked the fact that it was more real than just dry old textbook, I liked the fact that I didn't have to do hardly anything to manage it.

Meeting teacher’s needs through online oral history was an important goal for Palaver Tree Online. What has motivated me most in working on this thesis, though, is the idea that elder’s stories are important, and students should be connected with them and learn from them. Minh (age 13) put it this way:

I actually learned a lot from [hearing the elder’s stories] because I never knew so much was going on and I never got the perspective from someone who was actually in the Civil Rights Movement. It was interesting!

The goal of making these kinds of kid-elder connections possible has provided the inspiration for much of the work described here.

Finding ways to connect kids with elders and understand what elders contribute once the connection is made has been my thrust in this research. However, none of those connections would have been possible without the willingness of elders to share very personal and sometimes painful stories, the maturity of students in being respectful and thoughtful in working with those elders, and the dedication of teachers to trying something new. I thank each of these groups for playing an essential role in making Palaver Tree Online possible.

As we move forward with finding new ways to integrate adults into the classroom we are confronted with many challenges: incorporating project-based approaches into teacher education, enabling teachers to manage complex interactions with outsiders, finding ways to educate online adults in ways to meaningfully support teachers, and helping students to derive relevant curricular knowledge from those interactions. The benefits from such participation, however, have the
potential to be broad and far reaching. For instance, properly trained adults might free teachers to peruse more ambitious curricula by doing some of the work of supporting individual students as they work on challenging projects. Exploring new ways that adults can scaffold classroom activity is an important and continuing challenge for both Computer-Supported Collaborative Learning and Human-Computer Interaction.
APPENDIX

A.1 Teacher Consent Form

PALAVER TREE ONLINE
TEACHER CONSENT FORM

You are being asked to volunteer for a research project. This project is concerned with teaching young children about literature and history by using the Internet. Students will interact with elders, using a software system called Palaver Tree Online. Palaver Tree Online is a research project of Amy Bruckman (PI), Jason Ellis (PI), and the Georgia Institute of Technology.

For your class to participate, you must complete this permission form. In addition, each participating student must return a form signed by both the student and a parent.

Palaver Tree is an online community that supports kids interviewing elders on the Internet to build up a shared database of oral history. For more information on the software, please see http://www.cc.gatech.edu/elc/palaver/

In order to study the effectiveness of the software, we will do some or all of the following:

- Sit in on a number of the classes to see the software in use first-hand.
- Administer a survey to the classes that participate before and after they use the software.
- Interview a subset of the students before and after they use the software.
- Videotape some of the classes.

We believe (but can not guarantee) that students may gain a new perspective and understanding of history and literature. We are also possibly exposing the teachers to new ideas for teaching about these subjects.

The risks involved in this study are minimal. Every effort will be taken to assure the confidentiality of participant comments in interviews, and test results will be presented anonymously.

Reports of injury or reaction should be made to Amy Bruckman at (404) 894-9222. Neither the Georgia Institute of Technology nor the principal investigators have made provision for payment of costs associated with any injury resulting from participation in this study.
For research purposes, interviews and some classes will be recorded. All information will be kept confidential, and will be used only for research purposes. Descriptions your online experiences may appear in written and oral presentations of the results of this research. All efforts will be made to protect the identity of the participants; therefore all names and identifying information will be changed to insure confidentiality.

Your have rights as a research volunteer. Taking part in this study is completely voluntary. If you do not take part, there will be no penalty. Either you may discontinue your participation at any time with no penalty. If you have any questions about your rights as a research volunteer, call or write:

Barbara S. Henry, Manager, Contracting Support Division  
Office of Contract Administration  
Georgia Institute of Technology  
Atlanta, Georgia 30332-0420  
(404) 894-6944

Your signature below indicates that the researchers have answered all of your questions to your satisfaction and that you consent to your participation in this study. A copy of this form will be given to you.

Participant's Signature ________________________________ Date: ___________

Investigator's Signature ________________________________ Date: ___________

In order to access the community, you will need a username and password. Please indicate your desired Palaver Tree Online username and password below, along with your full name and e-mail address.

Username: ____________________________ (2 to 20 characters)
Password: ____________________________ (4 to 10 characters)
Full Name: ____________________________
E-mail Address: ____________________________

Please place this form and your student forms in the same package and mail them to:

Jason Ellis  
College of Computing  
Georgia Institute of Technology  
Atlanta, GA 30332-0280
A.2 Student Consent Form

PALAVER TREE ONLINE
STUDENT PERMISSION FORM

Your child's class is being asked to volunteer for a research project. This project is concerned with teaching young children about literature and history by using the Internet. Students will interact with elders, using a software system called Palaver Tree Online. Palaver Tree Online is a research project of Amy Bruckman (PI), Jason Ellis (PI), and the Georgia Institute of Technology.

For your child to participate in this project, both you and your child must complete this permission form.

Palaver Tree is an online community that supports kids interviewing elders on the Internet to build up a shared database of oral history. For more information on the software, please see http://www.cc.gatech.edu/elc/palaver/

In order to study the effectiveness of the software, we will do some or all of the following:

• Sit in on a number of the classes to see the software in use first-hand.
• Administer a survey to the classes that participate before and after they use the software.
• Interview a subset of the students before and after they use the software.
• Videotape some of the classes.

We believe (but can not guarantee) that students may gain a new perspective and understanding of history and literature. We are also possibly exposing the teachers to new ideas for teaching about these subjects.

The risks involved in this study are minimal. Every effort will be taken to assure the confidentiality of participant comments in interviews, and test results will be presented anonymously.

Reports of injury or reaction should be made to Amy Bruckman at (404) 894-9222. Neither the Georgia Institute of Technology nor the principal investigators have made provision for payment of costs associated with any injury resulting from participation in this study.

For research purposes, interviews and some classes will be recorded. All information will be kept confidential, and will be used only for research purposes. Descriptions of your child and records of his or her experiences may appear in written and oral presentations of the results of this research. All efforts will be made to protect the identity of the
participants; therefore all names and identifying information will be changed to insure confidentiality.

Your child has rights as a research volunteer. Taking part in this study is completely voluntary. If your child does not take part, there will be no penalty. Either you or your child may discontinue your child's participation at any time with no penalty. If you have any questions about your rights as a research volunteer, call or write:

Barbara S. Henry, Manager, Contracting Support Division
Office of Contract Administration
Georgia Institute of Technology
Atlanta, Georgia 30332-0420
(404) 894-6944

Your signature below indicates that the researchers have answered all of your questions to your satisfaction and that you consent to your child's participation in this study. A copy of this form will be given to you.

Participant's (Student's) Signature ________________________ Date: ___________
Parent/Guardian Signature ______________________________ Date: ___________
Investigator's Signature _______________________________ Date: ___________

In order to access the community, you will need a username and password. Please indicate your desired Palaver Tree Online username and password below, the student's full name and a parent or student e-mail address.

Username: ____________________________ (2 to 20 characters)
Password: ____________________________ (4 to 10 characters)
Student Full Name: ____________________________
E-mail Address: ____________________________
A.3 Kid Pre-Interview Script

PALAVER TREE ONLINE
KIDS INTERVIEW QUESTIONS

General
-------
What is your name?
How old are you?

Tell me about yourself as a student.
* What kind of student are you?
* How do you feel about your classes?
* How do you feel about your teachers?

What do you like most about school?
What do you like least about school?

Tell me about your experience with computers.

How long have you been using computers for?
Have you used the Internet? For what?

History
-------
What is history?

Does history effect your life? Why/why not?

What is the most important thing that has happened in your life?

Is there any history in your neighborhood?
If so, what? If not, why not?

Tell me about your history class.

What do you like most about history class?
What do you like least about history class?
Would you take another class like your history class?

Elders
------
What is an elder?
* How old?
* Your parents, your grandparents?

What is an elder like?

Tell me about your experience with elders.
* Do you know any?
* What are they like?

What do you like most about elders?
What do you like least about elders?

What have you learned from elders?
Would you like to be an elder?
A.4 Kid Post-Interview Script

PALAVER TREE ONLINE
KIDS POST-INTERVIEW QUESTIONS

General
-------
What is your name?
How old are you?

Palaver Tree Online
-------------------
Tell me about your History class.
What do you like most about your History class?
What do you like least about your History class?

Tell me about your discussion with the elder.
* What was the name of your elder?
* What did you talk about?
* How did it make you feel?
* Did you learn anything from it?
* How do you feel about your elder?
* Did your exchange with the elder help you with your project?
* What is the most important thing you learned from your elder?

Tell me about your PalaverStory.
* What did you do it on?
* How did you decide what your topic would be?
* Did you use resources outside of Palaver Tree Online?

Feedback.
* What did you think of the feedback you got from your elder?
* Did you get feedback from others as well? Who?
* Did the feedback help you in revising your PalaverStory?

What did you like most about using Palaver Tree Online?
What did you like least about using Palaver Tree Online?

Did using Palaver Tree change how you think about anything?

Any feedback on the software?
Would you use Palaver Tree again?

History
-------
What is history?

Does history effect your life? Why/why not?
* What historical event has touched your life the most?

Elders
------
What is an elder?
* How old?
* Your parents, your grandparents?

What is an elder like?

Tell me about your experience with elders.
* Do you know any?
* What are they like?

What do you like most about elders?
What do you like least about elders?

What have you learned from elders?

Would you like to be an elder?
A.5 Elder Post-Interview Script

PALAVER TREE ONLINE
ELDER POST-INTERVIEW QUESTIONS

General Background
-------------------
Where are you from originally?
When were you born?

What is your trade? What kinds of jobs have you held?

How much schooling have you had?
What subjects did you enjoy?
What subjects did you dislike?

Have you done volunteer work before?
Have you participated in a project like this before?

Historical Knowledge
---------------------
What does the word "history" bring to mind for you?

What historical events had an especially strong impact on your life?
Where were you when you heard about it?

What people had an especially strong impact on your life?
* historical, personal

What is the most important thing that happened in your life?

Computing Technology
----------------------
Tell me about your experience with computers.
* When did you first start using them?
* How do you feel about computers?

How do you feel about using computers in a project like Palaver Tree?

Where did you access Palaver Tree from? Home, work, both?

Kids
----
Do you have kids?

Tell me about your experience with adolescents.
Have you ever worked with them before -- in school, at home?
Any good stories?

Palaver Tree Online
-------------------
How did you find out about Palaver Tree Online?

How did you expect kids to react to your stories?
Was their reaction different from what you expected?
Tell me about your discussion with the kids.
* Which kids did you work with?
* What did you talk about?
* Did you learn anything from it?
* How did it make you feel?
* How do you feel about the kids?

Did you look at other interview discussions?
* What did you think of the other elders' responses?

Did the kids make a project based on your stories?

->YES:
  Tell me about the project based on your experience.
  * What was it about?
  * What did you think about it?
  * How did it make you feel?
  * Did the kids use their interview with you in creating it? If so, how?
  * What kind of feedback did you give to the students?

->NO:
  Tell me about the projects you commented on.
  * What were they about?
  * What did you think about them?
  * How did they make you feel?

What did you think of the other projects kids made?
Did you give others feedback?

What did you like most about using Palaver Tree Online?
What did you like least about using Palaver Tree Online?

Did using Palaver Tree change how you think about anything?

Any ideas for improving the Palaver Tree software?

Would you use Palaver Tree again?

Any questions for me?
A.6 Teacher Pre-Interview Script

PALAVER TREE ONLINE
TEACHERS PRE-INTERVIEW QUESTIONS

Background
------------
Please state your name.
What subject(s) do you teach?
How long have you been teaching?
How do you feel about technology?
Have you used computers in the classroom before?
* What did you do?
* How did it turn out?

Your Classes
------------
How would you describe yourself as a teacher?
How many classes do you have each day? What kind?
How would you describe your classes?
* How do you organize them?
* Good vs. bad students?
How do you feel about the prescribed curriculum?

Special Projects
-----------------
Have you done any special projects before?
* What did you do?
* How did the students react?
* How do you feel about it now?
Have you ever done anything like Palaver Tree Online?
* Oral history?
* Online work -- e-mail, web, etc.?

Palaver Tree Online
-------------------
How do you feel about Palaver Tree Online?
How do you envision Palaver Tree working in your class?
* What role do you want it to serve?
* What do you hope kids will get out of it?
What curricular goals do you think it will meet?
A.7 Teacher Post-Interview Script

PALAVER TREE ONLINE
TEACHERS POST-INTERVIEW QUESTIONS

Background
---------
Please state your name.

How do you feel about technology?

Palaver Tree Online
-------------------
How did you expect Palaver Tree Online to work?
How was that different from how it actually worked?

Tell me about your experience setting up Palaver Tree Online.
* How was the elder recruiting interface?

Tell me about your experience with the kid-elder interviews.
* What did you think of the discussions?
* Do you feel like you had enough control over the discussion?
* Did elders behave in the way you expected?
* What happened in the interviews that was unexpected?
* What do you think kids learned from the interviews?
* How could the interviews be improved?

Tell me about your experience with the PalaverStories.
* What did you think of the projects kids created?
* How was the quality of the students' work compared to their projects?
* What do you think they learned from doing them?

Tell me about your experience with the PalaverStory feedback.
* What did you think of the feedback kids got from elders?
* What did you think of the feedback kids gave to each other?
* What do you think they learned from the feedback?

How did using Palaver Tree Online make you feel?
How was it different from the projects kids normally do?

What did you like most about using Palaver Tree Online?
What did you like least about using Palaver Tree Online?

How do you feel Palaver Tree Online fit in to the prescribed curriculum?
* What curricular goals did it meet?

How much effort was it for you to manage Palaver Tree?
* How does the effort level compare to bringing real elders to the class?
* Would you be comfortable doing it on your own?

Would you use Palaver Tree Online again?
### A.8 Kid Pre- and Post-Attitudinal Survey

**Palaver Tree Online Kid Survey**

#### History

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>History is important in my everyday life</td>
<td></td>
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<tr>
<td>I am good at history</td>
<td></td>
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<tr>
<td>History is difficult</td>
<td></td>
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<tr>
<td>History is boring</td>
<td></td>
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<tr>
<td>I like studying history</td>
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<tr>
<td>History provides heroes that I can look up to</td>
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<tr>
<td>History has affected my family</td>
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<tr>
<td>History is just a bunch of dates to remember</td>
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<tr>
<td>I could be a historian</td>
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<tr>
<td>History is easy</td>
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<td></td>
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<tr>
<td>History is exciting</td>
<td></td>
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<tr>
<td>I am a part of history</td>
<td></td>
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<tr>
<td>Historians read books</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Historians interview people</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I am not good at history</td>
<td></td>
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<td></td>
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<tr>
<td>History has nothing to do with me</td>
<td></td>
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</tr>
<tr>
<td>I want to be a historian</td>
<td></td>
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</tbody>
</table>

#### Language Arts

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing is hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to read</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Reading is important</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---</td>
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<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>I am a good reader</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I like to write</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing is important</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I am a good writer</td>
<td></td>
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<td></td>
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<tr>
<td>Speaking in front of people is hard for me</td>
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<td></td>
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<tr>
<td>I like to discuss stories with other people</td>
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<tr>
<td>My parents encourage me to read a lot</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Writing is easy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading is hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elders</th>
<th>very untrue</th>
<th>untrue</th>
<th>no opinion</th>
<th>true</th>
<th>very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know people who are a lot older than I am</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Elders can teach young people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have nothing in common with most elders</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Elders are valuable members of our community</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Young people can teach elders</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Elders and young people have a hard time communicating</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Older people are boring</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have learned something from a elder</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>An elder has learned something from me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have a lot in common with most elders</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I enjoy spending time with elders</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Older people are interesting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Elders cannot teach young people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Young people cannot teach elders</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Elders and young people communicate well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Elders offer little to our community  1 2 3 4 5

The post-survey contained an additional page with the following short-answer questions:

• What did you like **most** about using Palaver Tree Online?

• What did you like **least** about using Palaver Tree Online?

• Did using Palaver Tree Online change how you think about anything? If so, what?

• What would you change about the Palaver Tree Online software?

• Would you use Palaver Tree Online again? Why or why not?
A.9 Elder Post-Survey

This survey was distributed via e-mail to elders after their participation was complete.

PALAVER TREE ONLINE
ELDER E-MAIL SURVEY

First off, thank you so much for working with the kids in Palaver Tree Online. They really enjoyed it!

We are actively working to improve Palaver Tree Online for future elders, students, and teachers. Your feedback is an important part of this process!

If you could take a few minutes to answer the following questions, it would help us out a great deal as we work to make Palaver Tree a better experience for all involved.

1. What changes would most improve Palaver Tree Online?

2. How did you feel about your discussion with the kids?

3. How did you feel about the project kids created based on the discussion?

4. Your participation in Palaver Tree Online lasted approximately 6 weeks. Is that amount of time good for you? Would you have liked your participation to be longer or shorter? Why?

5. Did you have any trouble using the software? Do you have any suggestions for improving it?

6. What did you like BEST about participating in Palaver Tree Online?

7. What did you like LEAST about participating in Palaver Tree Online?

Thanks for your help!

Jason
REFERENCES


VITA

Jason Benjamin Ellis was born on November 19, 1971 in Ann Arbor, Michigan. He moved to Silver Spring, Maryland not long thereafter, where he grew up. He graduated from Springbrook High School in White Oak, Maryland in 1989 and began undergraduate studies at the University of Maryland, College Park. While obtaining his undergraduate degree, Jason worked part-time as a programmer at Information Data Systems in Silver Spring, Maryland. He graduated with a B.S. degree in Computer Science with Honors in 1995. Immediately after graduation, he began working at the Human-Computer Interaction Lab at the University of Maryland as a member of research faculty. He worked with the Maryland Department of Juvenile Justice to develop new user interface, called ProgramFinder, to help place troubled youths in appropriate programs. In Fall 1996, Jason began his graduate studies in Computer Science at the Georgia Institute of Technology. While there, he was a member of the Future Computing Environments Group, the Electronic Learning Communities Group, and the Graphics, Visualization and Usability Center. He worked on developing multi-user applications for small devices under the supervision of Gregory Abowd and on technological support for online oral history under the supervision of Amy Bruckman. During the summer of 1997, he interned at Xerox PARC with Elizabeth Mynatt, where he worked on Audio Aura, a system that provides peripheral awareness via audio. During the summer of 1998, he interned at IBM TJ Watson Research Center with Wendy Kellogg and Tom Erickson, where he developed prototypes of a next generation online community for the workplace. For his thesis work, Jason developed Palaver Tree Online, an online community that supports kids interviewing elders to build up a shared online database of oral history. With the guidance of Dr. Amy Bruckman, Jason completed his thesis and received a Ph.D. in Computer Science from the Georgia Institute of Technology in 2003.