

**‘TEACHING WITH COLORADO’S HERITAGE’  
FINAL REPORT  
GRANT #NE-10006-01**

**TABLE OF CONTENTS**

FINAL REPORT .....	<b>2</b>
APPENDIX A: Program Agendas .....	<b>20</b>
APPENDIX B: Distance Learning Documents.....	<b>32</b>
APPENDIX C: Workshop/Institute Documents.....	<b>41</b>
APPENDIX D: Teleconference.....	<b>46</b>
APPENDIX E: Data.....	<b>57</b>
APPENDIX F: Participation .....	<b>69</b>
APPENDIX G: Cynthia Stout’s report on standards alignment.....	<b>71</b>
APPENDIX H: Library Research Service report.....	<b>74</b>
APPENDIX I: List of lessons in database, a sample lesson.....	<b>92</b>
APPENDIX J: Professional/Staff development lessons, on-line course .....	<b>116</b>
APPENDIX K: ”Teaching with Colorado’s Heritage: A Manual for Program Development” ...	<b>132</b>

**Collaborative Digitization Program  
University of Denver  
Penrose Library  
2150 E. Evans Avenue  
Denver, CO 80208-2007**

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May 1, 2004

**FINAL REPORT**

Through 'Teaching with Colorado's Heritage', Colorado educators are finding that using digital primary source materials is a cost effective way to meet state educational standards, increase test scores and skills in reading, and still provide content-rich curricula for their students. As a librarian in Pueblo CO put it, "The 5th grade tests this year included a question about analyzing a cartoon. My students really had a leg up by having already had experience with analyzing historical images such as those from the CDP database".

These educators are also finding that using digital primary source materials helps with traditional students as well as those with special needs, or English as a Second Language. As a social studies teacher in Fort Collins, CO, noted "80% of my students are visual learners, and using primary sources as a supplement to the textbook really motivates and helps them to learn challenging material".

Through this program, we have been able to provide in depth expertise to educators of all skill levels all over Colorado, from urban to rural schools, each setting with its own inherent set of challenges. In addition, we are able to disseminate our material to educators all over the country, through on-line lessons, instructional modules and a nationally televised teleconference.

Finally, the Colorado Digitization Program has been able to explore a set of different models for reaching out to teachers and school media specialists across the state, and can share information about the benefits of each model in helping teachers understand the power of digital primary resources in the classroom.

**Overview:**

This IMLS Education and Training grant undertaken in 2001 enabled the CDP to create "Teaching with Colorado's Heritage", a state-based school librarian and teaching training program that has comprehensively trained over 200 educators how to search for and use digital primary source material and how to integrate content-rich technology with state-based standards. Digital primary source material available through Heritage Colorado (developed by CDP Partners through IMLS Grant #LL-90094-99) and through the Library of Congress American Memory website was the primary content for the program. We increased awareness of digital primary source materials through hour-long classes to education students and current educators, as well as sending promotional material to 1572 school media specialists in Colorado. Sixty-five lessons using digital primary source materials were created by participating educators, and are now available to educators nationwide through the CDP website and Colorado Department of Education's on-line database, Standards in Action. In addition, the 79

participants of our regional and week-long workshops were required to train at least three other educators in their school building about these resources, establishing a successful "train the trainer" continuum. Estimates of up to 10,000 K-20 educators, librarians and archivists from around the country, participated in 'Digital Treasures for Teaching and Learning' a two-hour live teleconference conducted with a panel of experts to highlight 'Teaching with Colorado's Heritage' and how other states could develop a similar program. Long term sustainability of the educational program is guaranteed with the development of "A History of Us" workshops with Rocky Mountain PBS, through an existing professional development venue, the National Teacher Training Institute, in place in over 30 states. Another workshop is already scheduled for April 2004. Also, sustainability has been created through CDP's Educators Website, which includes professional development lessons, tools for using primary source materials and a six-week distance learning course with material created through this program. All are freely available for educators and professional development staff in school districts.

By offering four models of continuing education, CDP was able to test innovative technology-based approaches to education and training to compare effectiveness with more traditional approaches, and to increase the number and demography of educators who were able to participate. CDP took the concept of the Library of Congress American Memory Fellows Institute (AMFI), which had previously trained 10 Colorado educators during the program based in Washington DC. The first model offered here in Colorado was a week-long face to face Institute model. CDP then brought an adapted program to both a state and regional level to train Colorado educators how to search and use digital primary source materials. The adapted program involved a shorter face-to-face component and offered a web-based course for continued learning of the same content offered in the week-long environment. In both of these primary models, we adapted the AMFI to meet Colorado needs, such as including subject areas in addition to humanities, to align content to Colorado state standards, and to develop partnerships between educators and cultural heritage institutions. The third model is the integrative model, demonstrated, as explained above, through a partnership with Rocky Mountain PBS' National Teacher Training Institute.

In summary, CDP has tested several models of professional development for training Colorado educators how to integrate content-rich technology with state-based standards, to maximize the attendance and success of the participants. In addition, CDP has provided awareness and knowledge of the thousands of digital primary source materials that will help to engage students, excite them about learning, increase their critical thinking, reading and information literacy skills.

## **Narrative**

### **Goals:**

- Improve school librarian and teacher awareness of digital primary resources through an innovative training model for delivering the Library of Congress (LC), American Memory Fellows Institute at the state level, through a combination of traditional and technology based learning techniques.
- Improve librarian and teacher skill levels enabling them to integrate digital primary resources into their lessons, by making available and using the CDP enhanced LC AMFI materials for use in both approaches, incorporating additional materials that support Colorado educational standards and state and local resources.
- For librarians and teachers taking existing training and continuing education programs, improve awareness of digital primary resource materials by integrating the "Teaching with Colorado's

Heritage” program into existing and ongoing teacher and librarian training programs. For undergraduate teacher training programs, improve awareness of digital primary source materials by providing information on the Teaching with Colorado’s Heritage Program.

- Demonstrate ways digital primary source materials can be used by school media specialists and teachers.
- Expand use of digital primary source materials in the participating school librarians’ buildings.
- Enhance student use of digital primary resources.
- Broadly disseminate information on how others can modify the AMFI program for state and local use.

## **Organization:**

### *Advisory Group*

Four previous participants of the American Memory Fellows Program, a representative from the State Library, a District Librarian, and CDP staff made up an advisory board that met bi-monthly. This group was responsible for choosing program content, workshop structure, and adapting the program to the distance learning environment.

### *Staff*

The Principal Investigator on the grant is Nancy Allen, Dean and Director of Penrose Library of the University of Denver. As of January, 2004, Nancy Allen is also the Project Manager, replacing Liz Bishoff, the previous Project Manager (and previous Executive Director of the CDP). Nena Bloom is the project coordinator on the grant, joining the program from a National Science Foundation funded educator outreach program at the University of California and the Bay Model Museum in Sausalito, California. Lisa Diedrich is the administrative Assistant. Dr. Cynthia Stout, a curriculum coordinator for the Jefferson County School District was hired as a consultant to help with content and standards based and Kevin Rundblad was hired as a consultant to help with technical support, especially for the development of the distance learning component of the teacher workshops.

## **Major Achievements**

### *Professional Development Programs*

Four different models for professional development training were developed:

- Model 1: Summer Institute model
- Model 2: Regional Workshops model
- Model 3: Integration model
- Model 4: Teleconference model

In-depth descriptions for Models 1-3 are available in "Teaching with Heritage Colorado: A Manual for Program Development" (see Appendix M). Model 1 was held in June 2002 for 6 days at the University of Denver with 24 participants. Model 2 was held from January 2003 through May 2003 through a combination of web-based distance learning training and face-to-face training at four different locations in Colorado (Longmont, Denver, Monument and Ridgway) to a total of 54 participants. Model 3, a collaborative workshop with Rocky Mountain PBS, was held at the University of Denver in June and November 2003 to a total of 95 participants, as a part of the National Teachers Training Institute, and in June 2003 to 23 participants as a part of the Technology in Education Conference in Copper Mountain, Colorado. Model 4, described under *Teleconference*, below, was held as a two hour live satellite teleconference on October 10, 2003. Estimates indicate that as many as ten thousand individuals participated. Agendas for all models can be found in Appendix A and Appendix D. Further documents about Models 1 and 2 can be found in Appendix B and Appendix C.

In addition, the project coordinator and others presented at many different venues, including Library System retreats, various teacher in-services, and the Telecommunications Cooperative for Colorado, an organization of higher education distance learning educators. A complete list of presentations can be found in Appendix F.

#### *Train the Trainer Concept*

From using previous "Teaching with Colorado's Heritage" participants as presenters and facilitators, to requiring all participants to create and teach a staff development plan, we relied on the "train the trainer" concept, to propel the success of our program. This concept works on several levels: educators who are currently teaching the material to their students are able to give educators who are new to the material an "inside" view of what works and what does not work when using primary source materials with students. Also, by giving educators the opportunity to present, this further cements their understanding of the material. It has been documented in a study by the National Training Laboratories that learning is increased through teaching. The highest retention of newly learned material occurs through teaching. Access to the model of average learning retention rates utilizing different teaching methods can be found at <http://www.tcde.tehama.k12.ca.us/pyramid.pdf>. Finally, the "train the trainer concept" promotes the continual dissemination of using primary source materials, to teaching teams as well as other educators in the school building.

#### *Website*

The Educators section of the Colorado Digitization Program includes a myriad of resources for educators and students, including access to the Heritage Colorado Database, professional development lessons, staff development plans, tools for using primary source materials, a six-week on-line course for educators, and announcements about upcoming workshops. There is also a database of lessons created by educators as part of Teaching with Colorado's Heritage, as well as from other projects, Colorado's Main Streets, Western Trails (funded by Grant # NL-10024), and previously funded digitization projects (funded by Grant # LL-90094-99). (See appendix I).

#### *Lessons for students*

As a requirement of the summer and regional workshops, participants created lessons using primary source materials in their subject areas, for use with their classes within the following semester. Requirements included aligning the lesson to Colorado Model Content Standards (see [http://www.cde.state.co.us/index\\_std.htm](http://www.cde.state.co.us/index_std.htm)) and piloting the lesson in the classroom. Best Practices were encouraged. Working with our consultant, Dr. Cynthia Stout, a lesson format was created that followed the guidelines of the Colorado Department of Education (CDE) (see Appendix C).

After piloting and revising the lessons based on experiences in the classroom, lessons were submitted to CDE's Standards in Action Website and put in a database accessible through CDP's Educator website. The lesson database is searchable by subject, grade level, key word and by Colorado Model Content Standard.

All lessons include relevant handouts, worksheets and rubrics in downloadable PBF format as well as editable Word format. This has resulted in truly useful lessons that other teachers can take, edit if necessary and use in their classrooms. The range of subjects was from history to business and marketing, and included grade levels 3rd through 12th. Lessons focus on everything from learning how to search to learning how to analyze documents. See a list of all lessons and a sample lesson in Appendix I.

Educational Resources Information Center (ERIC) has solicited the CDP to add these lessons to their database. This database is an international resource funded by the U.S. Department of Education, with thousands of users worldwide, who use the database to find educational materials. Adding our lessons to the database will significantly increase our ability to disseminate lessons created through TWCH. Because of current restructuring of ERIC, we cannot submit our material until later in 2004.

#### *Basic computer skills training*

When we began 'Teaching with Colorado's Heritage' our assumptions were that the educator participants would be supplementing existing skills computer technology with new skills in finding and using digital primary source materials. We were immediately surprised that our assumptions were wrong. Many educators did not have basic skills, and these skills needed to be an integral part of our workshops, otherwise any new information about digital primary source materials would be useless. This eye-opener made our workshops much stronger; Educators left not only with new ideas, new content and new partnerships, but also with skills in word processing and internet use, as well as how to teach digital content in classrooms without computers.

#### *Standards-based lesson training*

Though we had assumed that participating educators would know how to create lessons aligned to Colorado Model Content Standards and information literacy standards, state requirements, (educators responded on pre-workshop evaluations that they were experienced and confident with aligning lessons to state standards), we quickly determined from reading drafts of their lessons that this was not the case. In order to create lessons that could be used and useful, we ended up spending time teaching them this process. The benefit of adding this instruction to our workshop was that educators are able to take this skill with them to all future teaching assignments. See Cynthia Stout's report in Appendix G.

#### *Teleconference*

CDP contracted with the College of DuPage to produce a 2- hour satellite teleconference about using digital primary source materials, entitled "Digital Treasures for Teaching and Learning," available nationally to institutions that had a satellite downlink. The \$500 registration fee was waived if at least two K-12 educators participated. This supported dissemination of the material within the K-12 community, as well as promoted relationships between educational institutions at all levels and libraries. CDP staff worked with the College of DuPage staff and an experienced television producer, Jim Nocera, to put together the format of the program, a script and a group of expert panelists, including a representative from the Library of Congress. Topics included: how using primary sources motivate students and promote critical thinking skills, exploring the Heritage Colorado and American Memory websites, and how to incorporate photos, maps and documents into student activities. The program also included information about how CDP put "Teaching with Colorado's Heritage" together, and how other states could create a similar program. A copy of the program is included in DVD format. A webliography was created to give participants supplemental information to the teleconference (see appendix D).

The COD report is included that discusses how they advertised the program and a list of participating institutions (see appendix D).

### *Collaboration with Cultural Heritage Institutions*

TWCH emphasized the importance of establishing relationships between classroom educators, and educators and archivists from cultural heritage institutions (CHIs). Students should have the opportunities to experience actual and digitized primary source materials. Local CHIs have a wealth of locally significant resources, and teachers often are not aware of them. Educators and archivists from CHIs also benefit from the collaboration by understanding their audience. To this end, representatives from CHIs presented at the summer institute as well as at the regional workshops. More information about this collaboration is available in Appendix M and a full list of participating CHIs is available in Appendix F.

### **Program Assessment**

*Outcomes Assessment:* As stated in the outset of this report, there were a number of desired outcomes.

*"Improve school librarian and teacher awareness of digital primary resources through an innovative training model for delivering the Library of Congress (LC), American Memory Fellows Institute at the state level, through a combination of traditional and technology based learning techniques"*

(a. MEASUREMENT: Through pre-and post tests, assess the level of participant learning in each of the approaches. Conduct focus groups and/or interviews with teachers, librarians, and school administrators, measure satisfaction with the different approaches.)

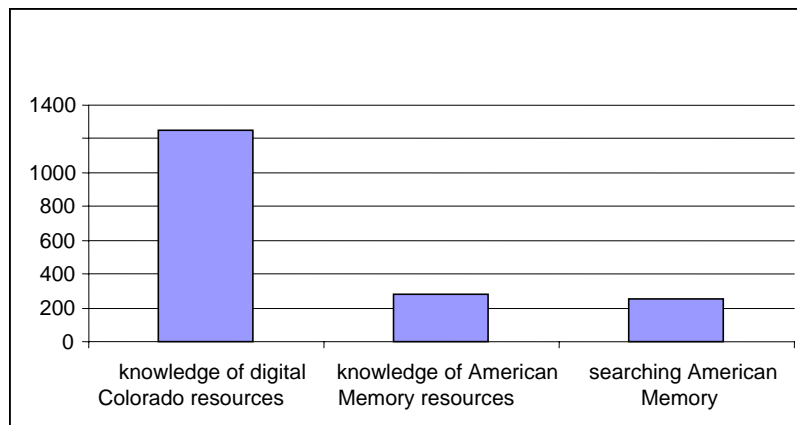
### Assessment of Experience and Confidence

Prior to the workshop, though a majority of participants said that they preferred to use primary sources in their teaching, less than half had used digital primary sources with students. Their knowledge of available resources and confidence in teaching with these resources was low (See Appendix E, Table 2).

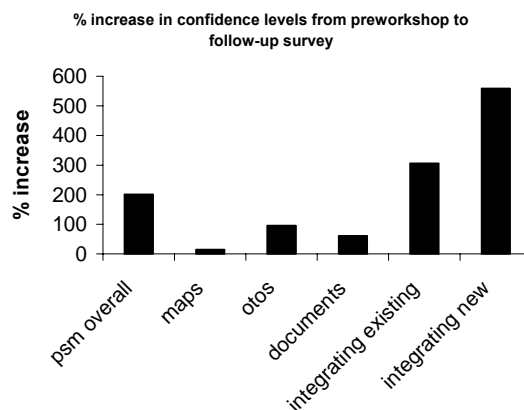
Through the course of the workshops their knowledge and confidence in searching and teaching with primary source materials and integrating primary source materials into lessons improved dramatically. Six months to a year after the workshop, their knowledge and confidence was even higher (See Appendix E, Table 2 and Graph 2).

Though, prior to the workshop, participants from both models expressed high levels of experience and confidence in on-line searches, there was little expressed experience or knowledge of digital Colorado collections or the Library of Congress American Memory collections. There was a dramatic increase in their confidence and knowledge in these resources after the workshop (Graph 1).

Graph 1: % Increase in Knowledge of Resources from Pre-workshop to Post-workshop.



Graph 2: % Increase in Confidence Levels from Pre-workshop to Follow-up Survey.

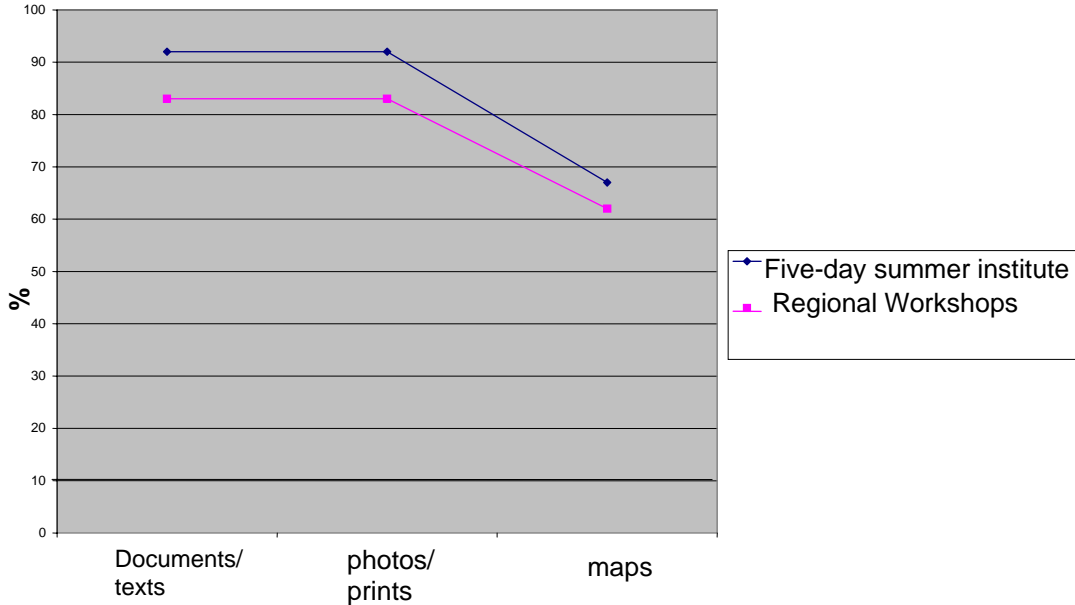


Interestingly, confidence levels were higher 6 months to a year after the workshop as compared to immediately after (Appendix E, Table 2). This indicates that confidence levels rise as teachers continue to work with and teach with primary source materials.

Results from the Library Research Service study show that summer institute respondents had a higher level of confidence teaching with digitized maps, documents and texts and photos than did respondents from the regional workshops (Appendix E, Table 2, and Appendix H). When including respondents from the final two regional workshops (not included in the LRS study) this overall trend still exists, but differences between the two models are less defined for teaching with photos/prints and maps. This suggests that learning how to use digitized primary resources in the classroom may be more effective when participants are physically present (Appendix E, Table 2 and Graph 3).



**Graph 3: Differences in Confidence Levels in Teaching Different Formats**



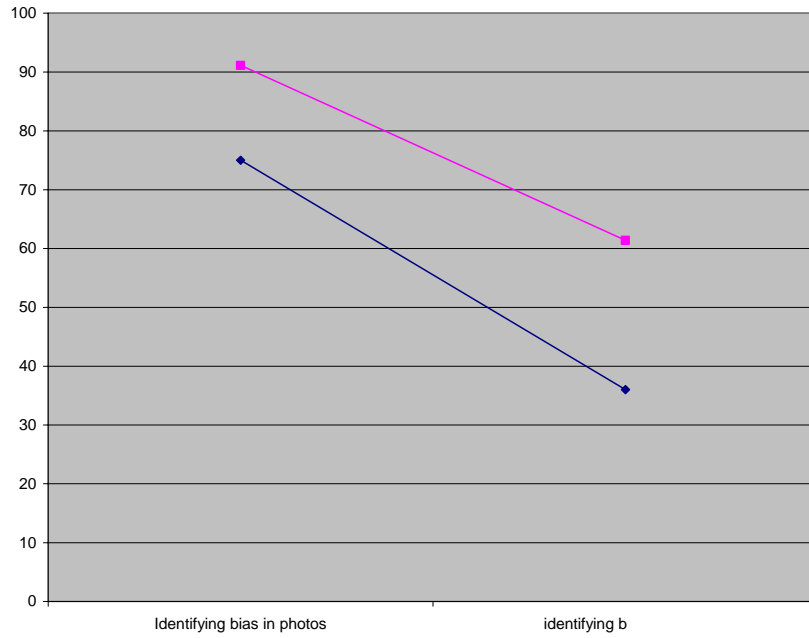
### Assessment of Learning

The follow-up workshop survey assessed knowledge of searching for and using primary source materials. Participants show high levels of understanding and knowledge retention of many subjects, such the ability to search by media type in the Library of Congress American Memory Database, and the ability to browse categories in the Heritage Colorado Database (Appendix E, Table 6). See LRS report for survey questions (Appendix H).

The regional workshop respondents showed greater comprehension of bias in primary source materials than did the summer workshop participants (Graph 4). As stated in the LRS study, "These findings suggest that learning to analyze digitized primary sources was more effective during the two-day/distance learning sessions" (Appendix H). The final regional workshop respondents, (not included in the LRS study) scored the highest on questions about bias, further confirming these results (Appendix E, Table 6). Reasons for these differences could be due to instructors more clearly defining certain concepts as the workshops progressed, or the increased amount of time available for learning the material. Regional workshop participants had three weeks prior to the class and two weeks following the class to complete on-line components, such as threaded discussions and activities.

### Graph 4: Differences in Analyzing Primary Sources

Differences in Analyzing Primary Sources



### Assessment of Satisfaction

There was a high rate of satisfaction with both models overall (Appendix E, Table 1). Participants felt that the learning experiences were valuable and would recommend the experience to others. There was also a high rate of satisfaction with the distance learning component of the regional workshop, though some participants were dissatisfied with this type of learning experience.

The rural workshop participants from southwestern Colorado (participants lived and taught 300 miles from metro Denver) had the most favorable response to distance learning, with all responding that they were very satisfied or satisfied with the distance learning component. Possible explanations for this would be that because of their distant location, they had the most experience with distance learning, or most willingness to embrace the new technology as a way of increasing their chances to receive professional development opportunities.

Many participants of the distance learning component liked that the distance learning components were self-paced throughout the week, allowing them to fit the lessons into their busy schedule. Other comments included:

"The discussion board helped to make this online course work for me. Although, it was also very time consuming to try to read the responses of others and carry on with everything else a teacher has to do in the course of a week. I realize how valuable the interactive piece is for me a teacher and learner. I am glad I took this class." - *regional workshop participant*

"I like having both the on-line interaction and the in- class interaction. It lets you have the best of both worlds and helped me to become more confident in using the computer and searching for lesson plan ideas and materials!" - *regional workshop participant*

There was a learning curve for many participants to get used to the Blackboard software (required of a distance learning course). We tried to circumvent this problem by providing a two hour in-person training session before the start of the course. Of the ten people who signed up for the course and had to drop out before the course started, only one dropped out because of fear of the technology (other reasons for not starting the course included family emergency and schedule conflicts). We also tried to circumvent the learning curve by providing phone and e-mail technical support. This support was used by several of the participants, and is highly recommended for any course requiring a high level of technology. Negative issues with the distance learning component included frustration with the CD-ROM, dislike of the video presentations, frustration of the CD-ROM functionality for Macintosh users, and that the distance learning component took a lot of time and at times was tedious.

### Assessment of the Teleconference

(MEASUREMENT: Using an assessment instrument, measure satisfaction with the teleconference.)

Participants of Model 4, the satellite teleconference "Digital Treasures for Teaching and Learning" had a strong overall impression of the program, and felt that the program format was appropriate for learning the material (Appendix E, Table 9). Program participation was very high for such a teleconference, and many participants felt that the topic was relevant for their institution and content needs. In addition to school media specialists and classroom teachers, similar audiences as the other models, participants of this model were from a very different audience, and included academic and public librarians, library directors, and others. This indicates that increasing awareness and knowledge of how and why to use primary source materials through this venue filled an important void.

### Assessment of ability to integrate primary resources into lessons

*"Improve librarian and teacher skill levels enabling them to integrate digital primary resources into their lessons."*

a. MEASUREMENT: Teachers and librarians use the enhanced materials successfully in the training program, demonstrating the ability to integrate Colorado digital primary resource materials as well as those available through the American Memory Project into lessons.

Teachers involved with the Institute and the Workshops did indeed integrate primary resources into lessons. The lessons are posted on the CDP website and are available for analysis and use by other teachers. We asked Cynthia Stout, Curriculum Consultant, to write a report of the increase in skills and abilities by participants as they learned to integrate primary source materials into lessons. Her report indicates that these new skills are not easily measured by data, but rather by interacting with the educators as they learned to use primary source material in their lessons. Her report is included in Appendix G.

b. MEASUREMENT: Conduct focus groups and/or interviews to determine how teachers incorporated the materials into lessons, what barriers to use they encountered, satisfaction with the new resources, and feedback on ways teachers have been able to meet state standards.

The majority of respondents indicated that their lessons focused on teaching students to search, analyze, and integrate primary sources into reports, although some focused on only one of these skills (Appendix E, Table 3).

Difficulties that were encountered using digitized primary sources included time constraints, access to materials due to hardware or software issues, managing the activities in the classroom and assessing the usefulness of the source (Appendix E, Table 5). Time constraints pose the greatest barrier for the majority of the respondents followed by accessibility of the sites. The LRS study found that almost half of the distance learning participants considered management of activities in the classroom an area of difficulty, whereas none of the summer institute participants considered this an area of difficulty. LRS suggested that teaching and learning classroom management activities is more successful when participants are within a classroom environment as opposed to a virtual environment. LRS also considered that length of time since participants were actively involved in the institute was an important variable (Appendix H). However, none of the respondents from the final regional workshops (not included in the LRS study), also distance learning participants, considered management of activities in the classroom an area of difficulty. Therefore, it appears inconclusive whether the forum for teaching and learning classroom management activities or the length of time since participation in the workshops has an effect on success of learning classroom management skills.

Some participants voiced concerns that they did not have enough up-to-date computer equipment (or any equipment) in their classes or schools, or did not have high speed internet connections. We worked with these educators to determine solutions to these problems, such as printing off the materials ahead of time and having students work with the printouts if there are no computers available, or having students work in small groups that rotate through the computer "station" if there are only a few computers available. Also we informed educators that many schools have firewalls or censoring software, that could be a barrier to accessing to certain primary source materials, therefore it is always important to check access before trying to use them with students.

The LRS study found that summer institute respondents showed greater satisfaction with the Library of Congress American Memory site for locating primary source materials, while the two-day distance learning participants were more satisfied with the Heritage Colorado site for locating primary source materials. The regional workshop respondents that were not included in the LRS study all responded that they were equally satisfied with both American Memory and Heritage Colorado for locating primary source materials.

Assessment of integration of the TWCH program into existing and ongoing training programs.

*"Improve awareness of digital primary resource materials by integrating the "Teaching with Colorado's Heritage" program into existing and ongoing teacher and librarian training programs. Improve awareness of digital primary source materials by providing information on the Teaching with Colorado's Heritage Program to undergraduate education classes."*

Almost all participants of model 3, TWCH integrated into one-day workshops, recommended this type of setting to learn about digitized primary source materials (Appendix E, Table 7). Many responded that they were unaware of these resources before the workshop, and many were also unaware of what a primary source was before the workshop. A large majority were planning to integrate primary sources into existing and new lessons. Many participants said that they learned new ways to access and use primary sources in their classrooms.

Respondents from one day workshops were interviewed by a mini survey and a percentage of those were selected to be key informants, in interviews conducted by the Library Research Service (LRS). Another group of one day workshop participants were not included in the LRS report (because the workshop was conducted after the report was completed), but their responses on the mini-survey were strikingly similar. The only major difference in results (more than 8% difference) was that a larger percentage of the latter workshop participants responded that already were aware of digital primary sources, had used them in the classroom, and fewer of these participants wanted to learn more about primary sources (Appendix E, Table 7). The overall results of the LRS report was that introducing TWCH content within established training programs (model 3) is a successful way to increase awareness and knowledge of digital primary source materials, and that enthusiasm is high among educators about the availability of the materials.

*"The afternoon session about digitized primary sources was a huge unanticipated benefit of the National Teachers Training Institute." - key informant interview*

*"Our school can't afford the print resources to do research at this high level or currency. The benefits of having these types of sources available is priceless." - key informant interview*

The LRS report, including highlights of the key informant interviews, is available in Appendix H.

Originally, we intended to integrate TWCH materials into professional development programs through Colorado's Regional Library Service Systems and Board of Cooperative Educational Services (BOCES). We did present TWCH sessions to school media specialists and public librarians at several of the retreats of the Regional Library Service Systems (RLSS) in 2002 and 2003 (High Plains RLSS in Estes Park, Pathfinder RLSS in Crested Butte and Arkansas Valley RLSS in Pueblo), and Southwest Library Services in Durango offered professional development sessions in three school districts in 2003 (Appendix F). Unfortunately, due to budget cuts, the Regional Library Service Systems are being dismantled, and there are no longer professional development programs being offered through this

system. We contacted directors of each BOCES but determined that most of their professional development programs were for special education services, and not an appropriate venue for TWCH materials.

An introduction to TWCH materials was taught to three university classes in 2003. These included two classes at the University of Colorado and one class at the University of Denver (Appendix F). Because of a shortage of teachers, some students taking education classes are already teaching in the classroom, so some students could immediately see the need and use of primary source materials with their students. These introductory sessions were met with enthusiasm and interest, as students were not only introduced to new resources, but also helpful tips and lessons to support these resources.

In addition, an introduction to TWCH materials was presented to a group of community college and college professors at the 2003 Telecommunications Cooperative for Colorado (TELECOOP) Conference. Satisfaction with the session was high (Appendix E, Table 8).

### Assessment of production of lesson plans

*“Demonstrate ways digital primary source materials can be used by school media specialists and teachers.”*

(MEASUREMENT: Collect and post lessons developed by the teams on the CDP web site educators resources section and the Colorado Department of Education Standards in Action website (Appendix E).)

65 new lessons using primary source materials from Heritage Colorado, American Memory, and other repositories of digital primary source materials are now posted on the CDP web site and the Standards in Action database. These lessons are aligned to Colorado Model Content and Information Literacy Standards, and include necessary handouts and rubrics to complete the lessons. Many of these lessons have been piloted in the classroom by the educator author. Some of these high quality lessons have not been piloted, due to the educator author being reassigned to a different course. A list of these lessons and a sample lesson are available in Appendix I.

When made aware of these lessons other educators do see them as a valuable resource:

*"The lesson plans provided by the CDP will help to expand my use of technology in the classroom."- key informant interview*

Since these lessons are offered in editable Word documents, educators like the flexibility to be able to edit the document to fit their specific needs. *"Most people take these lessons and craft them to their own devices." - Workshop participant*

*"Expand use of digital primary source materials in the participating school librarians' buildings."*

(a. MEASUREMENT: School librarians will develop lessons to use in training teachers or students in use of primary source materials. These lessons will be made available via the CDP and CDE websites. Librarians will report the number of teachers and students attending such programs.

b. MEASUREMENT: A focus group of school librarian participants to determine the role of school librarians in use of primary source materials, lesson development, and impact on student learning.)

Through work with our consultants it became clear that not just school librarians but all educators are involved in training other educators about the use of new materials. These training sessions frequently occur as after school or lunch time team meetings, or more informally information sharing. We capitalized on this knowledge sharing network to train new teachers in the use of primary source materials.

Therefore, all participants in the summer and regional workshops wrote staff development plans (see Appendix C) to demonstrate how they would train colleagues in the use of primary source materials. Within a year after the workshop almost all of the participants have implemented the staff development plan with at least two colleagues in their school building. Several participants went much further and led district wide teacher or librarian in-services with large groups of participants (in Denver, Durango and Greeley, see Appendix F). Though many of these plans are very specific to the school building, a "model" plan for teaching colleagues how to use digital primary sources to teach model content standards in history, information literacy standards, and improve searching skills, has been included on the CDP website.

In addition, to expand the use of digital primary source materials in the schools, a majority of school media specialists have links to the Heritage Colorado Database on their school library home page.

When creating the lessons for use in the classroom, we allowed school media specialists to create a type of lesson that worked best for their specific situation. For instance, a school media specialist from Westminster, CO wrote "[A Wilderness Journey: Did Lewis and Clark Meet Jefferson's Expectations for the Corps of Discovery?](#)" for 8th Grade American History students, to be team taught with a classroom teacher, whereas school media specialists from Denver wrote "[Good Golly, Mrs. Molly](#)", a lesson about database searching to be used with all incoming freshman students in the required library skills class. We feel that because every school situation is unique, by allowing the school media specialist to develop a lesson that would work for their situation, we would increase the likelihood that the lessons would be successfully used in the future. As stated, a large percentage of these lessons have been taught in the year following the workshop.

*"Enhance student use of digital primary resources."*

a. MEASUREMENT: Focus group with school librarians and teachers to measure impact on student use patterns both for individual student activities undertaken in the library or specific classroom activity.

Educator and student use patterns were measured through the LRS study. Because the study was conducted in August 2003, too soon after the completion of the final two regional workshops (May 2003) to assess longer term use, these two groups were evaluated separately, in January 2004, but still using the same anonymous survey. Results were weighted and combined, thus the numbers reported will be slightly different than those included in the LRS report. Differences in responses could be due to different needs therefore uses of primary source materials by the remaining regional workshop respondents.

A large number of model 1 and 2 participants have used primary sources in the classroom since participating in the TWCH workshops, a 100% increase. Much of this involves having students use primary source materials as a part of their learning activities.

As stated previously, the majority of respondents indicated that their lessons focused on teaching students to search, analyze, and integrate primary sources into reports, although some just focused on one of these skills (Appendix E, Table 3).

When asked to evaluate the impact of these resources in the classroom, two-thirds of respondents observed increased comprehension of the subject areas using primary source materials and increased use of primary sources in student work. A majority of respondents observed students developing strategies

for locating digitized information, and slightly less than a third of respondents observed increased inference in student work (Appendix E, Table 4).

### Assessing dissemination of models and results

*"Broadly disseminate information on how others can modify the AMFI program for state and local use."*

(a. MEASUREMENT: Through presentations and publications share with the educational and cultural heritage community information on modification of the AMFI program, development and implementation of the regional program, and the introductory sessions.

b. MEASUREMENT: Expand the Educators section on the CDP website to include information on this project, including materials that enhance the LC AMFI program, online learning methodology, and Power Point presentations.)

We have presented to the cultural heritage community in venues such as the 2002 CDP leadership conference "The rubber hits the road-teacher using the digital collections- is it making a difference?" and the NSF-IMLS conference, to demonstrate how teachers are using the digital collections and to highlight the importance of continuation of school-cultural heritage institution collaborations.

We have developed "Teaching with Colorado's Heritage: A Manual for Program Development" to share with the educational and cultural heritage community information on modification of the AMFI program, development and implementation of the regional program, and the introductory sessions. This manual is available on our website for easy access by others, as well as included in Appendix K.

We also presented a synopsis of the program development process to the thousands of viewers of the satellite teleconference "Digital Treasures for Teaching and Learning", to highlight that development of an educational program such as TWCH is possible, and a successful way to educate teachers about the availability and use of digital primary source materials.

In the "Models for Professional Development" section on our website, we have included materials that will help practitioners develop similar professional development programs, such as "Teaching with Colorado's Heritage: A Manual for Program Development" and sample course agendas and syllabi for the different models.

### **Dissemination**

"Digital Treasures for Teaching and Learning" is available in streaming video via the Web. Also, tapes/DVDs are available for purchase through the College of DuPage. The College of DuPage has provided 75 tapes/DVDs to CDP that are being freely disseminated within Colorado as a resource for educators. The tapes/DVDs are available through interlibrary loan at all academic libraries in Colorado that support a college of education, 18 in all. DVDs were also sent to all Boards of Cooperative Educational Services (BOCES) in Colorado, 22 in all. BOCES support the public educational system of Colorado, by providing resources which can be more efficiently provided across school districts such as staff development. The remaining programs are being provided on a first come first served basis to district media specialists, for placing in their district's interlibrary loan. We believe the mailings have been effective in communicating information about the CDP's educator resources because the lesson plan mentioned in the cover letter for the DVDs has gotten over 550 hits in the month following this mailing, making it the most-downloaded lesson plan.



In addition we have sent out fliers approximately every six months to all school buildings in Colorado, promoting the *Heritage Colorado* Database and the lesson database, and announcing upcoming workshops. Bookmarks with images from *Heritage Colorado* and the URL of the website, especially designed for use by teachers and students have been included in these mailings to every school building in Colorado. Announcements about our programs have appeared regularly on various list-servs around the state.

A great vehicle for dissemination has been the numerous workshops and presentations around the state. These presentations are listed in Appendix F. In addition, Liz Bishoff is presenting major findings from this project at the JCDL conference in Tucson, AZ in June, 2004.

The website for educators is yet another dissemination vehicle, and one of the final activities at the end of the grant schedule is reformatting of the educator website to enable better search functions of the lesson plans prepared by teachers. As previously mentioned, all the lessons prepared by participating teachers are also deposited at the lesson plan website called Standards in Action, operated by the Colorado Department of Education (<http://www.cde.state.co.us/action/curric.htm>). The website also contains all instructional materials prepared for teachers attending workshops, and are being made freely available on the web. The instructional materials include both basic information on using computers and the internet, as well as the Teaching with Colorado's Heritage content created for the regional workshops. Finally, it is our intention to create a set of workshops on Web Junction, which is made available via OCLC and a major Gates grant. We are currently working with the state library to explore ways to mount the TWCH content there, since Colorado is one of the beta projects for the Gates project.

### **Sustainability**

The Educators section of the CDP website will continue to be a place for lessons written by educators, and for professional development information for educators. TWCH content has been turned into a thirteen module on-line course, accessible through the website. This will allow for continual professional development training for teachers about digital primary source materials (Appendix J).

Colorado Department of Educations Standards in Action Database will continue to be a point of access for lessons created through TWCH.

Plans are in the works for continual insertion of TWCH material into existing professional development programs. Another National Teacher Training Institute, held in April, 2004 in Grand Junction, CO, will include a half-day session of TWCH.

Findings from the success of different TWCH models have been used to develop new professional development programs for CDP digitization efforts in Colorado, such as the Historic Newspaper Project ( IMLS Grant #LG-03-03-0126-03 ) and a proposed project in digital audio.

### **General Findings**

All four models received high satisfaction and awareness ratings from participants, indicating that TWCH successfully filled a needed void about the availability and use of digital primary source materials. Participants were enthusiastic about learning about these new and easily accessible resources, which were viewed as content-rich supplements to traditional textbooks, and tools to increase understanding and critical thinking skills in students across the spectrum of aptitude. The enthusiasm was contagious, and rather than being just another weekend commitment for busy and taxed educators, these workshops were energized and full of flowing ideas and collaborations.

Of the more comprehensive models, 1 and 2, the data and work output indicate that both on-site and distance learning have their strengths as successful models for professional development. On-site learning allows for more personal interaction and support, but distance learning reaches a wider audience, especially rural participants and participants who need greater freedom for scheduling their time. It was especially important to include some face-to-face time in the regional workshop model, and to provide technical support to the participants. Because a majority of the course content was to learn how to locate and use "on-line" content, the on-line environment of the course proved a natural fit.

A surprising finding was that despite ten years of requiring standards-based education, TWCH participants really needed experience and instruction on how to properly create standards-based curriculum. These participants took away with them new experiences, skills and knowledge, in addition to learning how to use digital primary source materials.

To meet Colorado needs it was important to adapt the AMF program. We successfully did this by including participants in many subject areas in addition to humanities, by aligning content to Colorado state standards, and by developing partnerships between educators and cultural heritage institutions. The Colorado consultants were invaluable for this process. We would recommend that any institution bringing a national program to a state or regional level, to be open to adaptations that will fit in with the local environment.

Model 3 also was a successful model. Many participants were pleasantly surprised by the insertion of TWCH materials into their professional development workshop. For the majority of participants this was new material, and fit well with both the Technology in Education and the National Teacher Training Institute structure and content.

Though Model 4, a satellite teleconference, was not truly participatory for the majority of viewers, the format was successful in reaching and educating a wide audience all across the nation. This format allowed TWCH to reach a different audience, the academic librarians and others who may be planning a similar digitization project of their own, and need to understand the needs of their potential users, K-12 teachers and students.

## **Budget issues**

Salaries and wages, fringe benefits and consulting fees all matched budgeted expenses. Nena Bloom was on family leave in the middle of the project, and Richard Urban was funded from this grant in her place. Travel expenses, especially travel related to the summer institute, were higher than anticipated, but promotional materials expenses were less than anticipated. The total difference in spending versus budgeted amounts across budget categories did not exceed 10% of direct costs. CDP purchased a laptop for the project manager, Nena Bloom, to use during the grant. That was not budgeted but fell within the materials, supplies and equipment amount budgeted overall. Web design work originally planned to be included in The Bishoff Group contract was included instead in the contract of the Colorado Alliance of Research Libraries.

Although all in-kind commitments are erroneously listed in the applicant column of the grant budget sheets, most of the in-kind was actually partner match, and this is accurately explained in the budget justification section of the grant application. In total, in-kind met and exceeded the budgeted commitment. Here is a statement of actual in-kind over the life of the grant, properly sorted into applicant and partner in-kind.

<i>Nature of in-kind</i>	<i>Applicant</i>	<i>Partners</i>	<i>Notes</i>
Salary – Nancy Allen	\$40,350		Additional \$16,050 because of project management during the 1-year extension
Salary – Advisory Ctte		\$12,960	Salary calculation includes additional \$4,320 because of meetings during the 1 year extension
Fringe – Nancy Allen	\$9079		Calculated on the in-kind salary
Fringe -- Committee		\$2916	Calculated on the in-kind salary
Curator honoraria		\$8250	The curators were willing to volunteer their time on the workshops, and did not require payment; this is therefore shown as match.
BlackBoard hosting	\$600		Time spent by DU Center for Teaching and Learning staff to renegotiate BlackBoard license, and enter all participant information into the system to enable DU to host.
Workshop participant travel	\$5076		It was possible to fund all participant and planning travel within the amount budgeted from IMLS funds, and it was not necessary to spend matching funds, largely due to the greater number of local participants. Even without applicant funding of travel, the budgeted travel amount was underspent.
Teacher course credit		\$6510	62 teachers paid \$105 each for continuing education course credit for the CDP workshops. The course credit is managed through Mesa State College.
Teleconference		\$47,425	The project budget projected 200 downlink sites, and the College of DuPage estimates that the average cost of hosting a downlink site is \$350. The actual number of downlink sites was nearly 1000 with an estimated attendance of 10,000. Downlink sites contributed \$25,000 in downlink fees, College of DuPage contributed \$22,425 in waived downlink fees and the 10,000 participants at \$35/hr. for 2 hours = an additional \$700,000 in participant time.
Totals	\$63,355	\$78,061	

Appendix A: Program Agendas

Appendix B: Distance Learning Documents

Appendix C: Workshop/Institute Documents

Appendix D: Teleconference DVD, announcement, webliography, report from COD

Appendix E: Data

Appendix F: Participation

Appendix G: Cynthia Stout's report on standards alignment

Appendix H: Library Research Service report

Appendix I: List of lessons in database, a sample lesson

Appendix J: Professional/Staff development lessons, on-line course

Appendix K: "Teaching with Colorado's Heritage: A Manual for Program Development"