

II. EXECUTIVE SUMMARY

California continues to face growing populations of alternative certification and uncredentialed teachers in the classroom. To date, the Teaching and Learning Interchange (TLI) has made significant progress in its mission to develop a research-informed model for using technology as a medium to distribute content-based instruction, inquiry into effective classroom practice, and to facilitate access to new teacher support for this population of teachers. The TLI addresses the critical need for pre-interns (uncredentialed teachers serving full-time in classrooms) to meet California's academic content and teacher performance standards through online and face to face tutoring.

The TLI has continued to mobilize its resources and broad base of support to accomplish its goals. Recent redesign of the state standards for teacher proficiency in the subject matter areas has resulted in the concomitant change in the rigorous subject matter exams pre-interns must pass in order to enter a credential program (formerly the SSAT, MSAT and Praxis exams, now CSET.) In mid-May we hosted a series of institutes where we assembled experts from the subject matter panels , test design teams, and representatives from our county offices to create full courses of test preparation and support for use during the next school year. We will begin capturing tutoring sessions on video for on-demand viewing by participants in the courses in 2003. .

The TLI developed several video streamed examples of classroom practice to use as pedagogical tools for new teachers to view accomplished teachers applying their knowledge of subject matter in their diverse classrooms. These lessons demonstrate also demonstrate infusion of technology into the teaching and learning process. They have been developed using case study methodology by our Video Case Study team of experts.

Through a relationship developed with the New Teacher Center at University of California Santa Cruz, we will begin offering video-based *Initial Teacher Training* via the Internet. We have developed resources to support new teachers with lesson plans tied to state content standards. Beginning in December, the TLI will begin offering online courses in test preparation to support uncredentialed teachers to pass the California's rigorous subject matter exams called CSET.

In August, we added two new partners to our grant: the Solano County Office of Education pre-intern project and the San Diego County Office of Education Professional

Development Online Production group. In October, the TLI was invited to present at the Statewide Pre-Intern director's meeting by the California Commission on Teacher Credentialing. We demonstrated our technologies to the participating directors from pre-intern programs in county offices of education across the state. When our products go online in mid-December, we anticipate that our participant base will have doubled in size from the original grant proposal.

Our evaluator has continued to survey participants to obtain guidance on prioritizing the work of the project from their point of view. County Office directors have decided which of the end-user technologies they will employ in their work with the pre-interns teachers their projects serve. Two others allowed participants to provide the project with direct feedback on our progress from their point of view.

The Exploratorium Teacher Center in San Francisco has continued to support our work through subject matter tutoring in biology, chemistry and physical science and the development of our online test preparation courses in general science, biology, chemistry, physics, geoscience, and earth and physical science... The Exploratorium master teachers tutor online and face-to-face and have allowed the project to videotape their science lessons which we have posted on LessonLab. To this end, the Video Case Study Team met in July for three days in Monterey, CA at the California State University to design the online test preparation program, pre- and post-test samples, and Blackboard courses. The VCS has also been successful in identifying necessary components of project videos and is informing our partners Apple, Lesson Lab, and the New Teacher Center on how to design these video-based lessons to specifically meet the unique needs of uncredentialed teachers.

Another partner, Apple Computer, redesigned its online resource for teachers entitled the Apple Learning Interchange (ALI). The TLI has posted resources there that include samples of student work, assessment tools, professional development resources, lesson plans, reflections and related materials. These will be tied to our larger database, conference forums and website via the FileMakerPro database currently being designed by our partner, InResonance. Our goal is to create a single source website that integrates all of our partner's technologies; where uncredentialed/alternative certification teachers can find support with subject matter, classroom management, lesson plans and classroom pedagogy.

III. PROJECT STATUS

The TLI added service to pre-interns in one additional County Offices of Education (COEs) in Solano, bringing our pre-intern program partnerships to 12. We have doubled the audience for our services to seven more counties than the proposal identified. These extra avenues for distribution will help ensure that all aspects of the prototype projects will occur as planned. All corporate partners are actively involved and several new partnerships have been forged.

Based on the advice from the PT3 grants management office, the TLI leadership team has established four goals/objectives:

- 1) The TLI will provide internet-based subject-matter competency training focused upon science.
- 2) The TLI will present video investigations into classroom practice in the teaching of science.
- 3) TLI Project participants will demonstrate competency with selected elements of the state’s recently adopted Technology Standard for teachers
- 4) 80% of TLI Project participants will demonstrate the ability to design and implement a technology-enhanced K-12 student lesson in the classroom.

The work of the TLI in year one and two has focused primarily upon preparing Science and Special Education teachers with the hope of expanding to Math in year three if funding is available.

Goal 1	<i>The TLI will provide internet-based subject-matter competency training focused upon science. GPRA 1.4</i>
Definition of Success	Implement the training and tutoring systems and have pre-interns attain the stated passing rates.
Progress	Partially Accomplished. The TLI piloted technologies for developing a preparation system including pedagogy and mentoring through the support of EducationTalk’s ClearPhone web-base video conferencing network and found them inconsistent in their ability to perform. We have moved to a more stable environment: BlackBoard. The results of our initial survey of Pre-Intern program directors across the state helped to identify that the subject area most in need of subject-matter preparation support are science and health (which is needed for special education candidates.) The University of San Francisco has developed online science classes to help pre-

	<p>interns develop subject matter competence. BlackBoard is the courseware application and will also be used for real time tutoring. Five science classes are planned and one has been completed.</p> <p>TLI has investigated offering test preparation for the CSET and is developing modules addressing the required domains. Science experts from Ventura BTSA, the San Mateo and San Diego Offices of Education, CSU Dominguez Hills, CSU Monterey Bay, CalStateTeach, and several high schools are developing content that addresses the state subject matter requirements and can be used as CSET test preparation resources.</p> <p>Exploratorium has continued as a strong partner. Eight experienced science mentor teachers have been selected to model instruction that will be videotaped, digitized and posted on the TLI web site for use by pre-interns and instructors of subject matter courses.</p> <p>CSET field test participants were interviewed to ascertain the manner in which items were constructed (not content related).. Test preparation resources will address test taking styles that are compatible with the design of the test.</p> <p>ClearPhone has proven to be an unreliable partner and alternative technology are being sought.</p>
Analysis	The content focus was determined by the survey of site directors. The training and tutoring systems are in place. As test results become known, a determination of success can be made. See Attachment 5 for survey information
Use of Evaluation Findings	These findings will be valuable in planning subsequent approaches to supplying support for other content area subjects. With the help of our evaluator, we have constructed feedback surveys which will be administered to participants in the online tutoring. CSET scores will be collected. Based on the results, the summer institute planning team will make appropriate changes in delivery.
Goal 2	<i>The TLI will present video investigations into classroom practice in the teaching of science.</i> <i>GPRA 1.4,</i>
Definition of Success	Pre-intern, coach and program director satisfaction with the degree to which the LessonLab videos can be produced so that they are perceived as useful in supporting uncredentialed teachers with gaining critical knowledge of actual classroom practice with diverse student populations.
Progress	Substantially Accomplished. TLI is coordinating the production of videos in several ways. The Santa Cruz New Teacher Project committed to produce videos. Ventura BTSA is also helping produce videos and is also developing subject matter content. The TLI and the CalState Teach Technology Enhancement Project (TEP) have begun

	<p>collaborating on this portion of the TLI project (the TEP is also a PT3 grant). We believe that this collaboration will result in a broader base of use for the materials produced by our grant – expanding the base of users to include intern teachers as well as pre-intern teachers.</p> <p>Apple Computer has redesigned its Apple Learning Interchange (ALI) and is continually adding teacher resources, including videos of exemplary instruction.</p> <p>Lesson Lab has produced three hour long videos that can serve as virtual classroom observation opportunities for pre-interns. Exploratorium teachers have been designated to produce videos in the areas of Chemistry, Biology, Physics, GeoScience, and Earth and Planetary science.</p> <p>The Video Case Study team met three times and continued to clarify the constituent components of a video case study which have been implemented in the design of our work with the San Diego County Office to develop our “Pedagogy in Practice” video series aligned with the state content standards and the CSET exams.</p> <p>Designated partners in the north and in the south will each produce three video cases in the coming year. Meetings have been set in January to finalize details.</p>
Analysis	The VCS team has been effective in defining what sort of video case studies will be used in the project. The format pioneered by LessonLab appears to offer the greatest potential to help pre-interns learn instructional skills and classroom management. .
Use of Evaluation Findings	Surveys of pre-interns identified what elements of the LessonLab approach were most helpful or not helpful. We utilized this information to change the method of using video to support pre-intern teacher development and repurposed our LessonLab videos to the “virtual classroom observation” role. Mentor teachers, site directors, and pre-interns participated along with our U.S. Department of Education project supervisor, Susana Bonis..
Goal 3	<i>TLI Project participants will demonstrate competency with selected elements of the state’s recently adopted Technology Standard for teachers. GPRA 2.1</i>
Definition of Success	80% of participants will demonstrate competency
Progress	Partially Accomplished. TLI has found that many of the technologies it originally desired to use extensively were either too complicated or unreliable. This was an invaluable learning process as we now believe that we have partners who will perform reliably and on schedule. For this reason we have kept our pilot groups small. We will be ready for our first statewide cohort of preinterns to participate this spring. Artifacts of select participating preinterns will be gathered and analyzed to determine if they have demonstrated competency in the following California State Credentialing SB2042 Standard 9 elements: b. Each candidate analyzes best practices and research findings on the use of

	<p>technology and designs lessons accordingly.</p> <p>c. Each candidate is familiar with basic principles of operation of computer hardware and software, and implements basic troubleshooting techniques for computer systems and related peripheral devices before accessing the appropriate avenue of technical support.</p> <p>e. Each candidate interacts with others using email and is familiar with a variety of computer-based collaborative (applications).</p> <p>f. Each candidate examines a variety of current educational technologies and uses established selection criteria to evaluate materials, for example multimedia, Internet resources, telecommunications, computer-assisted instruction, and productivity and presentation tools.</p>
Analysis	Systems are still being developed with the help of our evaluator who, along with the project director, served on the state standards team. The director served on the ISTE NETS for Teachers team and has created an alignment grid combining both sets of standards for use in assessing our progress
Use of Evaluation Findings	When the selected elements are determined and an analysis of pre-intern performance is completed, the data can be used in planning how to target specified elements in the future.
Goal 4	<i>80% of TLI Project participants will demonstrate the ability to design and implement a technology-enhanced K-12 student lesson in the classroom. GPRA 2.1</i>
Definition of Success	Meeting the stated percentage and assessing the lessons in terms of standards based quality indicators.
Progress	Partially Accomplished. The TLI team has developed extensive resources inside the online courses to help pre-interns with the of delivery for the technology-enhanced K-12 lessons. Through the San Diego County Office of Education partnership we plan to fully integrate all of the work we have done so far into a single portal for alternative certification and uncredentialed teachers in CA classrooms. Our “e-Community” is up and running and our first resources and services will roll out statewide mid-December.
Analysis	Models of practice from accomplished teachers are in development. Our initial survey of the field told us that rather than teaching classes to preinterns about technology integration in the classroom, they needed for us to build a database of pre-intern appropriate resources that modeled the effective use of technology in the classroom from which pre-interns could glean lesson plans, assessment tools, classroom management techniques, how-to sheets. Samples of student work and reflections from both teachers and students are included. The project is not at the stage of having pre-interns produce lessons at this time.
Use of Evaluation Findings	Findings will be useful in planning subsequent systems for helping pre-interns integrate technology into their practice.

B. Consortium Partners

	Member Institution / Organization	Type of Partner	Date Added	Date Dropped
1	CCSESA California County Superintendents' Education Services Association	SEA	original	
2	Apple	For Profit Firm	original	
3	LessonLab	For Profit Firm	original	
4	EducationTalk	For Profit Firm	original	
5	WestEd	For Profit Firm	original	
6	CSU Monterey Bay	IHE	original	
7	inResonance (contracted services)	For Profit Firm	original	September 2002
8	California Council on Teacher Education	Other Non-profit	original	
9	Alameda County Office of Education	LEA	original	
10	Kings County Office of Education	LEA	original	
11	Los Angeles County Office of Education	LEA	original	
12	San Joaquin County Office of Education	LEA	original	
13	Santa Cruz County Office of Education	LEA	original	
14	Ventura County Office of Education	LEA	original	
15	Monterey County Office of Education	LEA	September, 2001	
16	Riverside County Office of Education	LEA	September 2001	October 2002
17	Sacramento City School District	LEA	September 2001	December 2001
18	San Diego City Schools (COE)	LEA	September 2001	
19	San Mateo County Office of Education	LEA	September 2001	
20	San Francisco Unified School District (COE)	LEA	October 2001	
21	University of San Francisco	IHE	October 2001	
22	The Exploratorium	Museum	November 2001	
23	California Science Standards Task Force	Other NFP (oversight of this body is through the California Commission on Teacher Credentialing)	October 2001	
24	PETPrep – PT3 Project at Pepperdine University	IHE	November 2001	

25	CENIC – California Educational Network Infrastructure Consortium	Other NFP	November 2001	
26	New Teacher Center at UC Santa Cruz	Other NFP	March 2002	
27	San Diego County Office of Education	LEA	August 2002	
28	Solano County Office of Education	LEA	August 2002	

V. SUPPLEMENTAL INFORMATION

For more information on California’s Subject Matter competency requirements intended to raise teacher quality relative to our first goal, please visit:

1. Multiple Subject Guidelines <http://www.ctc.ca.gov/credentialinfo/leaflets/cl674m.pdf>
2. Single Subject Guidelines <http://www.ctc.ca.gov/credentialinfo/leaflets/cl674s.pdf>
3. CSET (California Subject Examinations for Teachers <http://www.cset.nesinc.com>
4. Teaching and Learning Interchange <http://www.teachinginterchange.org>
5. California Pre-Intern Programs <http://www.ctc.ca.gov/pi/>

2002-3 Goals for the CCSESA Teaching and Learning Interchange Preparing Tomorrow's Teachers to Use Technology Grant

PARTNERS: CCSESA, CSU Monterey Bay, US Santa Barbara, Apple, LessonLab (LL), Santa Cruz New Teacher Project (SCNTP), InResonance, California Council on Teacher Education (CCTE)

PARTICIPANTS: Alameda, Kings, Los Angeles, Monterey, Santa Cruz, San Joaquin, San Mateo, Solano, Ventura County Offices of Education & San Diego City Schools, San Francisco Unified School District

Goal	By the end of year two:	Who? Level?	Timeline	Evaluation								
1	the TLI will provide internet-based subject-matter competency training focused upon science that includes online access to test preparation materials and subject matter content tutoring. Participating pre-intern candidates passing rates for requisite subject matter competency exam (s) for teacher licensure purposes will increase by 20%	Self-selected COEs and their pre-interns will use Blackboard and ClearPhone (when possible) for online courses, conferencing, whiteboard access and file exchange. (some partners may choose not to participate)	August – October 2002 & January 2003 training of instructors using BlackBoard/Clearphone software. Tutoring events between November 2001 and January 16, 2002 February 2002 Training of tutors using ClearPhone. Tutoring events February 2002-April 26, 2002	Satisfaction survey of perceived quality of test prep delivered via the technology (pre-interns, tutors and directors) CSET Passing rates for January 2002 and April 2003 exams (baseline from previous year and/or October 2001 rates)								
2	the TLI will present video investigations into classroom practice. Note: the Video Case Study leadership team will be composed of persons chosen for their expertise in specific aspects of this project, e.g., knowledge of text-based case studies, online professional development, internet use of video, etc.	<table border="1"> <tr> <td>S C N T P</td> <td>Studies of classroom management online will be made available through the TLI website to participating COEs</td> </tr> <tr> <td>L L:</td> <td>Case-based study and discussion of videos and other artifacts of classroom practice will be explored by self-selected COEs</td> </tr> </table> VCS team will design exhibits of classroom practice by experienced teachers including video..	S C N T P	Studies of classroom management online will be made available through the TLI website to participating COEs	L L:	Case-based study and discussion of videos and other artifacts of classroom practice will be explored by self-selected COEs	<table border="1"> <tr> <td>S C N T P:</td> <td>Classroom Management video project licensed and online in December 2002</td> </tr> <tr> <td>L L:</td> <td>Video examples of science classrooms online October, January, May and piloted by pre-intern study groups that includes master teachers to guide the discussion. Report of types and quality of interactions and participant satisfaction after survey.</td> </tr> </table> APPLE Exhibits up by January 2003: San Diego PDOP: production timeline in development – expected completion date June 2003	S C N T P:	Classroom Management video project licensed and online in December 2002	L L:	Video examples of science classrooms online October, January, May and piloted by pre-intern study groups that includes master teachers to guide the discussion. Report of types and quality of interactions and participant satisfaction after survey.	Survey regarding satisfaction with <ul style="list-style-type: none"> • The respective services • Means of access (CD or web) • Quality of product delivery Exhibits will be examined by self-selected COEs, then refined by the team Content analysis by CA Standards expert team. Case-based quality analysis by focus group at CCTE conference in May 2003. Analysis of related email discussions.
S C N T P	Studies of classroom management online will be made available through the TLI website to participating COEs											
L L:	Case-based study and discussion of videos and other artifacts of classroom practice will be explored by self-selected COEs											
S C N T P:	Classroom Management video project licensed and online in December 2002											
L L:	Video examples of science classrooms online October, January, May and piloted by pre-intern study groups that includes master teachers to guide the discussion. Report of types and quality of interactions and participant satisfaction after survey.											
3	80% of TLI Project participants will demonstrate competency with selected elements of the state's recently adopted Technology Standard for teachers.	Pre-interns, support Providers and Directors	May 2002	Post-participation survey of those using materials in goals 1 & 2 above.								
4	80% of TLI Project participants will demonstrate the ability to implement a technology-enhanced K-12 student lesson in the classroom.	Pre-intern participants will access InResonance database containing technology infused lessons.	InResonance database of materials incorporated into San Diego PDOP work by April 2003	Survey of pre-interns using the database and reflections upon the success via support provider observation comments (if available).								