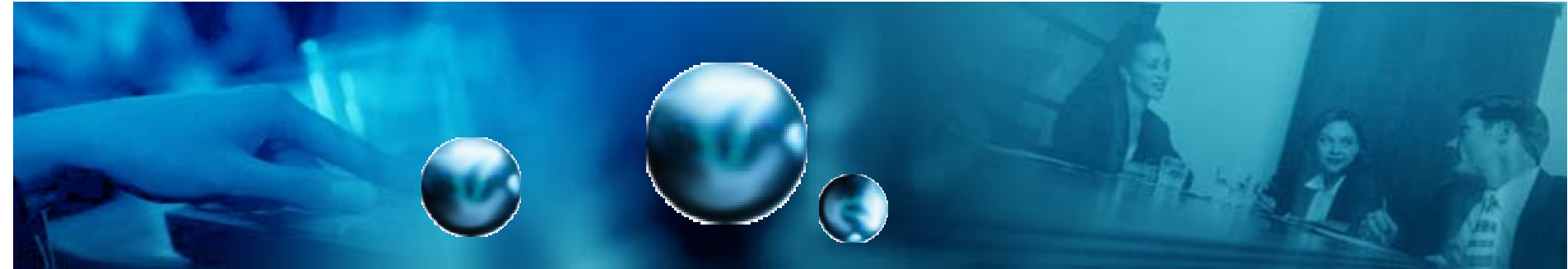


Science and Math Academy for Rural Teachers

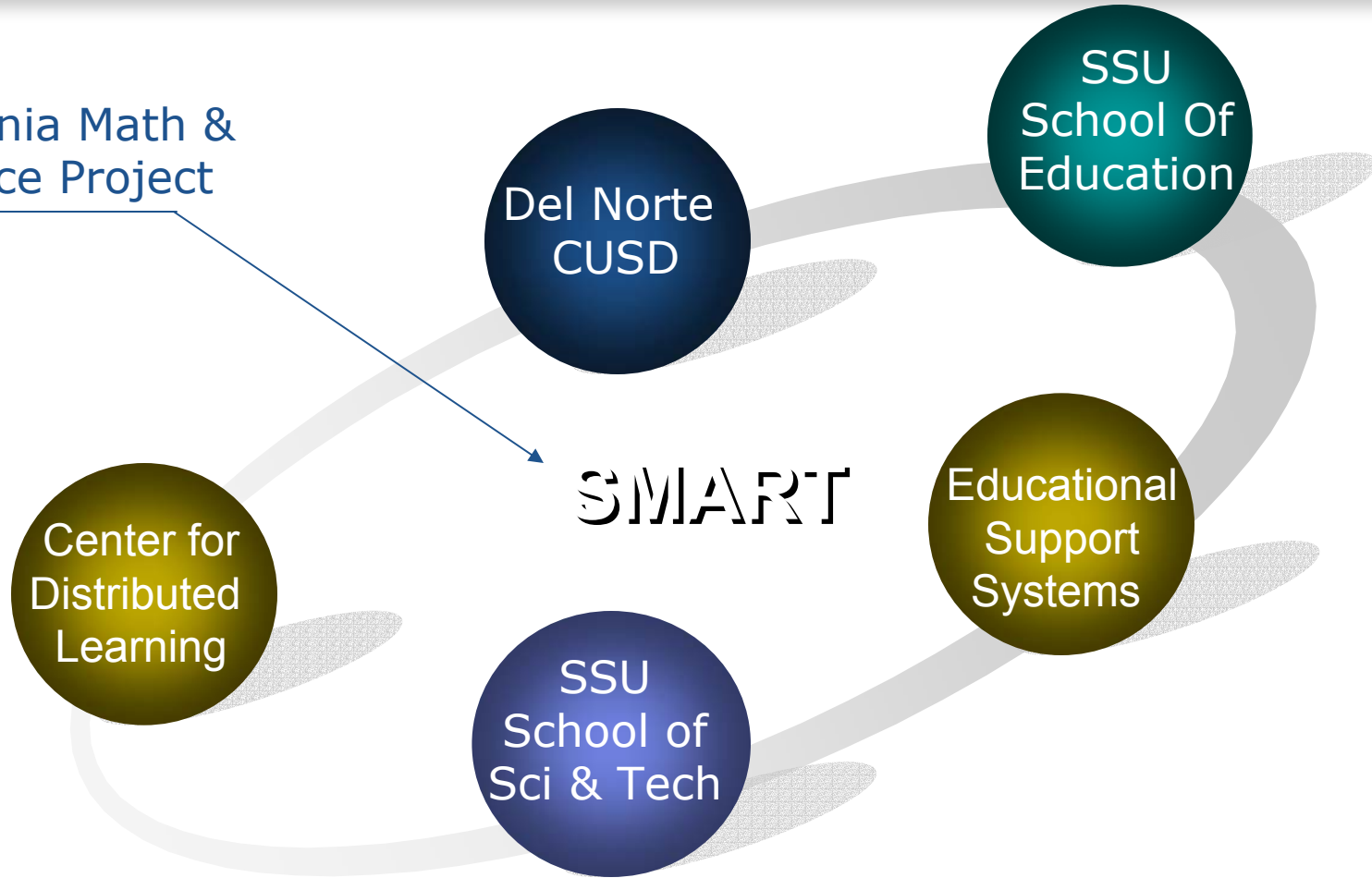


Brett Christie, Ph.D.
Sonoma State University



SMART Consortium

California Math &
Science Project



Del Norte County



- Del Norte County is in the northwest corner of California.
- Though the county is over 1000 sq miles, the total population is 27,000.
- Population density is 27 persons per sq mile (CA = 217 per, square mile)

Sonoma State University



Serving Rural Teachers & Students

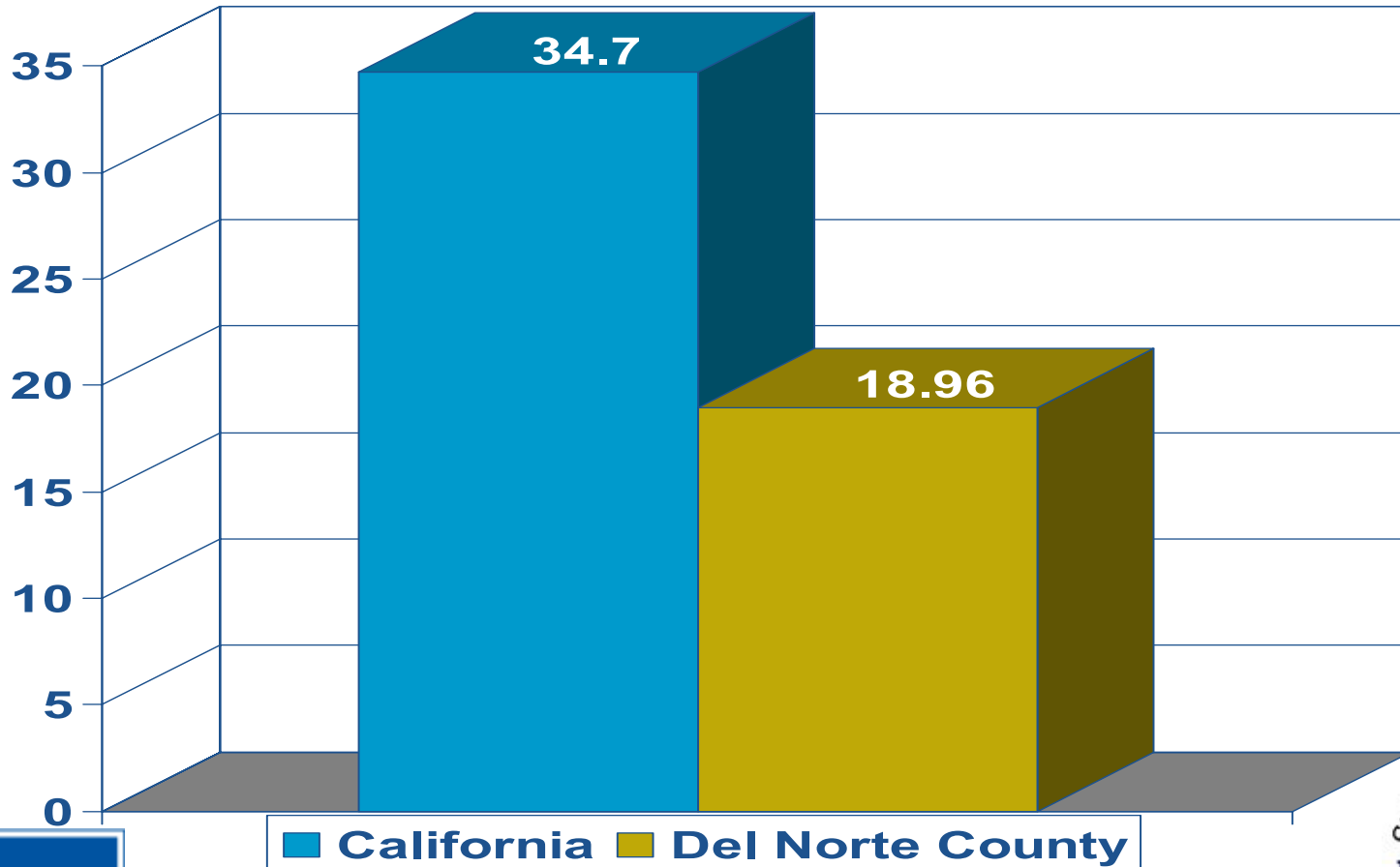
- This is a land of extremes –the scenic beauty of Del Norte County is offset by severe economic problems. The logging industry, once a source of wealth, has all but disappeared. The other major industry – fishing – is likewise disappearing.
- 14% of student population includes two tribes of Native Americans – the Tolowa and Yurok.



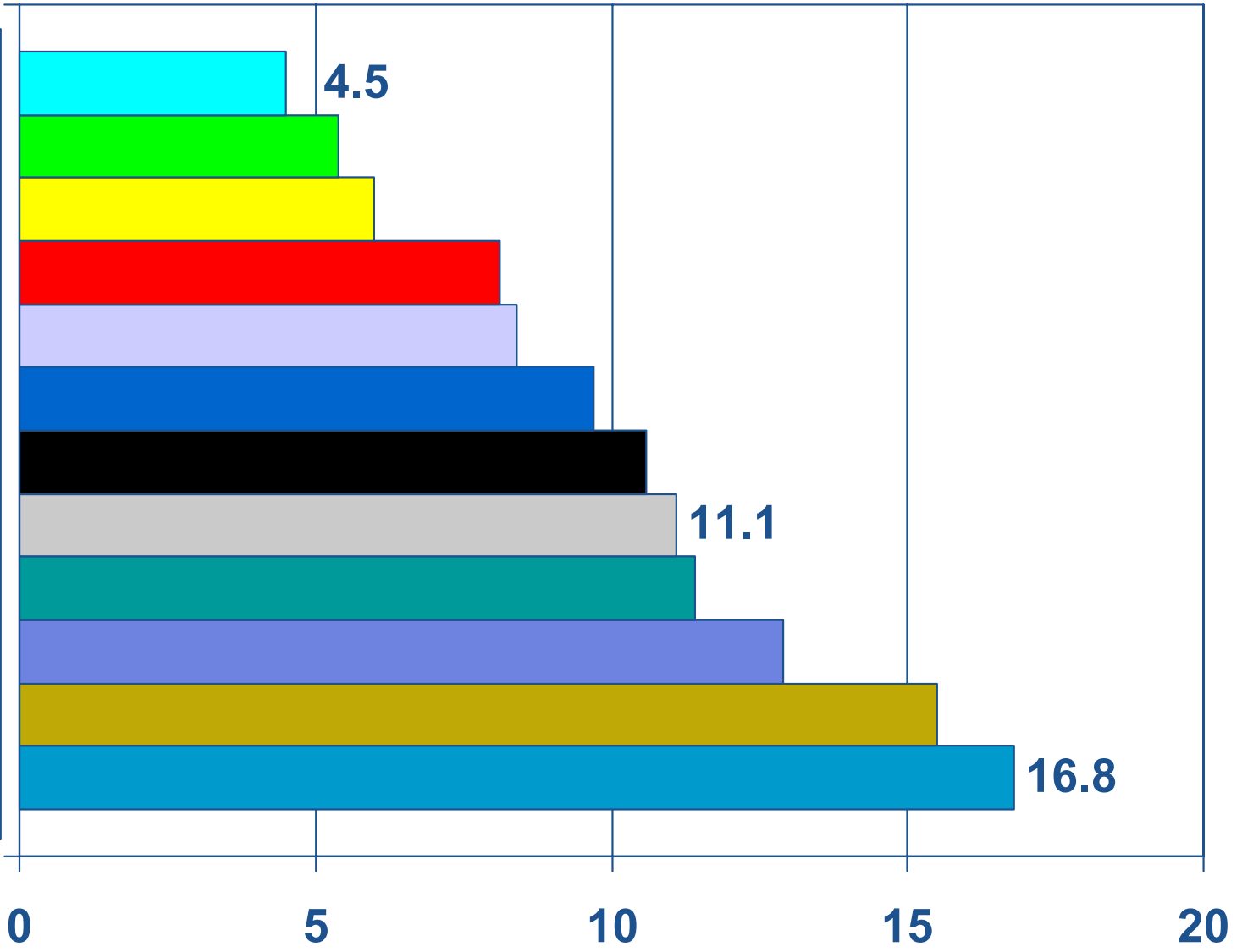
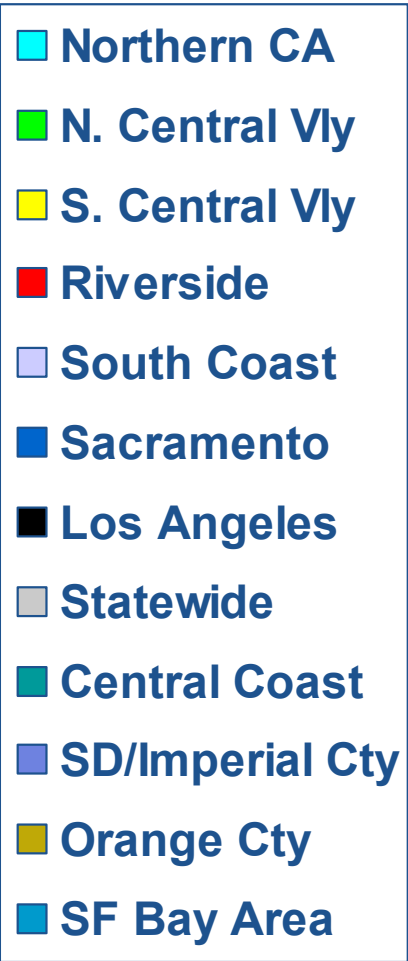


Serving Rural Teachers & Students

Percent K-12 Graduates Eligible for 4-Year Colleges/Universities



Percent Graduates Eligible for University of California





SMART Participant Vignette

Tracy is an experienced 5th grade teacher in Del Norte County. Upon review of student standardized test results, she has concluded that there are gaps in knowledge in both science and mathematics, compared to state standards. The problem is that Tracy's preparation in science and math was very limited and she has not had access to professional development that would provide her with the content knowledge or instructional skill to help her students.





SMART Participant Vignette

Fortunately, the district has just announced a partnership with Sonoma State University which will bring scientists and mathematicians to Del Norte County and will use the Internet to enable her to continue her work with them throughout the school year. The promise of this kind of assistance was indeed heartening. On the other hand, the needs of her students were great and she had a lot to learn...





Vision, Goals and Outcomes

Professional development partnership

**Improve teachers' content knowledge,
instructional strategies, and assessment.**

**Increase student enrollment, diversity and
academic performance in science & math**

**Create online video professional development
resources focused on ↑ academic performance**





Progress Diagram

Summer Institute I

Teachers involved in 40 hrs of F2F professional Development. Pre-testing.

Academic Year

Videoconference sessions and online learning modules. K-12 classroom implementation.

Summer Institute II

Teachers involved in 40 hrs of F2F professional development. K-12 evidence.



K-12 High Speed Network

- In September 2004, the California awarded a \$21m contract for the administration of K-12 HSN.

"The development of the Network is a major step forward in bridging the digital divide between students who have access to a high-quality educational network and those who do not," said O'Connell. "I want to congratulate the County Office for taking on this project that will provide a vital resource to students in our goal to increase rigor and academic achievement in school."

(State Superintendent, Jack O'Connell)



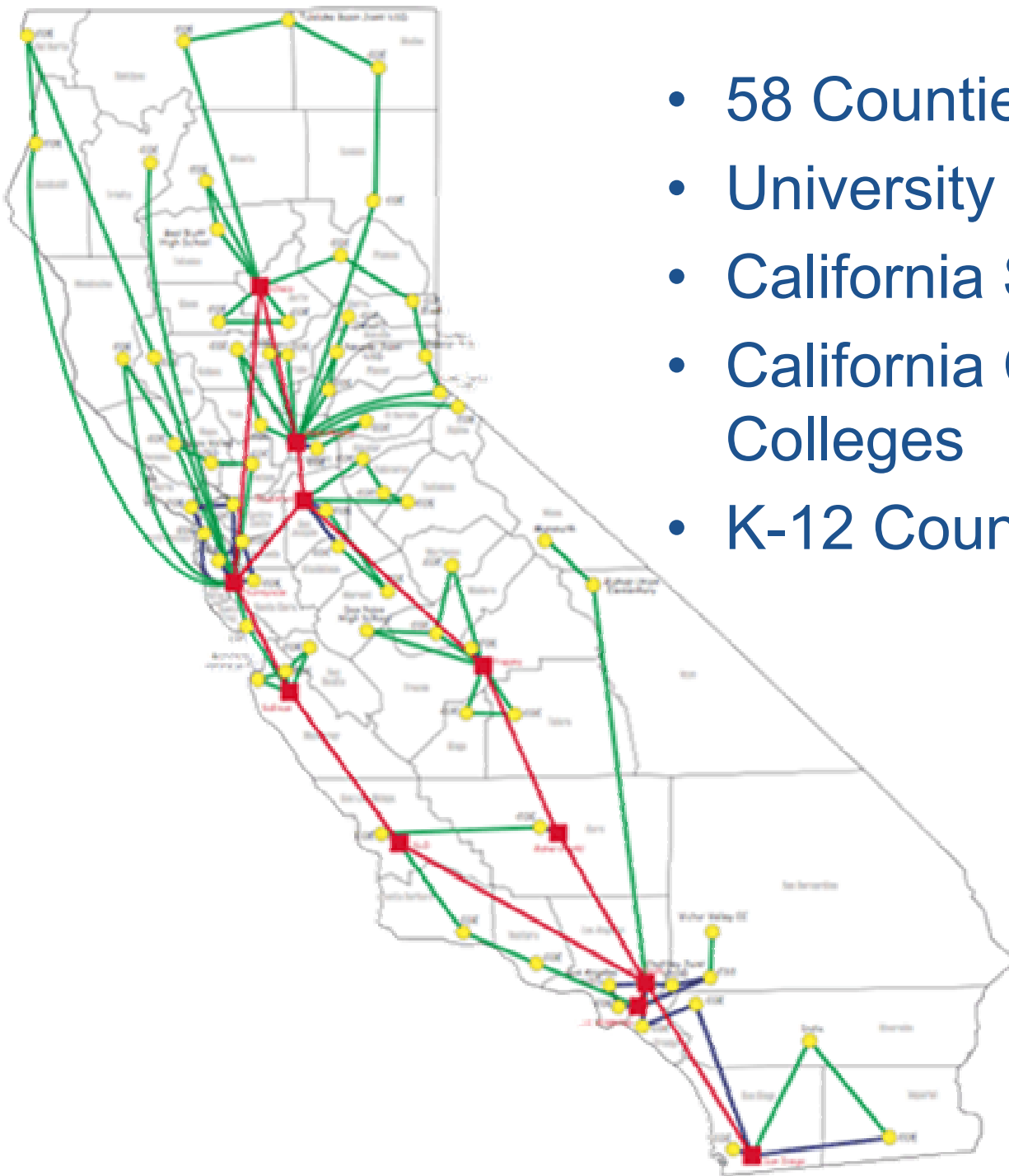


K-12 HSN and SMART

- Enhanced Student Instruction
- Dissemination of Teaching Resources
- Professional Dev & Staff Training
- Student Assessment
- Library Resources
- Student Support
- Administrative Support



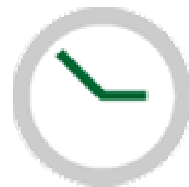
- 58 Counties
- University of California
- California State University
- California Community Colleges
- K-12 Counties and Districts





California VC Network

- A robust system to facilitate the scheduling and support of videoconferencing in California schools.
- Automated notifications between participants and technical staff, collect and report data on usage, collect and report evaluation data, and make videoconference setup and coordination more efficient in general.



K12video.ORG
Connecting California Schools

www.delnorte.k12.ca.us/smart





MA in Education

- In conjunction with SMART, SSU is offering a 2-year, online MA in Education.
 - Core MA courses
 - Curriculum, Teaching & Learning concentration
 - Educational Technology area of emphasis
 - Math/Science cognate
- These students never have to leave their county, as the program is *delivered* to them.





Typical Program

Fall 04	Math Content Educational Technology Praxis
Spr 05	Special Studies in Biology Technology, Pedagogy & Society
Smr 05	Math Methods The Reflective Educator
Fall 05	Curriculum Dev: Theory, Practice & Evaluation Research Paradigms in Education
Spr 06	Teaching & Learning: Res & App in the Classroom Educ Multimedia & Internet Resource Development
Smr 06	Instructional Design & Tech Supervised Study for the Cognate



**60" monitor with
Instructor cam on top**



**60" monitor with
Student cam on top**



Instructor Table



Use of WebCT

- Syllabus: objectives, requirements, materials, etc.
- Dynamic calendar for planning, due dates, and announcements.
- Assignments module for instructions, requirements, grading rubric, due date and support files (e.g., tutorials, articles).
- Tool for asynchronous discussions that can be grouped by topic.
- Chat rooms that can be used for whole group or planning groups for respective students projects.






Online Tech Infusion Tutorials


- Macromedia *Captivate* is used to develop Flash-based tutorial movies.
- WebCT is used as the method to organize and deliver these tutorials.
- Students go to their Assignments menu and for each tech infusion assignment, there is a tutorial movie.
- This reinforces the face-to-face and VC demos.
- Students are able to control and replay the videos at will.




29




30



31



32

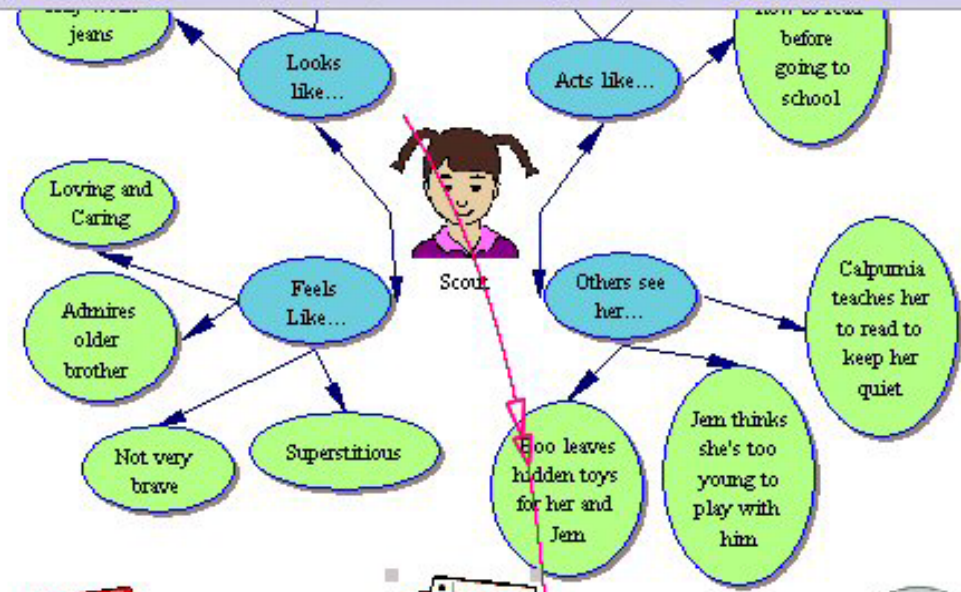


Inspiration® 7.5 Trial Edition - [Scout.isf]

File Edit View Text Symbol Link Effect Tools Utility Window Help

Outline RapidFire Create Link Arrange Note Hyperlink Spell Transfer

School



jeans

Looks like...

Acts like...

before going to school

Scout

Others see her...

Calpurnia teaches her to read to keep her quiet

Jem thinks she's too young to play with him

Boo leaves hidden toys for her and Jem

Feels Like...

Loving and Caring

Admires older brother

Not very brave

Superstitious

Vocab Web Page

Homework

Movie Review

Homework



Demo of a Captivate Movie

http://www.sonoma.edu/ctpd/smart/breeze_pres/index.html



www.delnorte.k12.ca.us/smart





Impatica Content Modules

- Some instructors have been using Impatica for enhancing their PowerPoint presentations.
- Impatica is easy to use and works as a plug-in for PowerPoint, giving less technology proficient instructors a sense of familiarity and security.
- These presentations also play within WebCT, allowing students to play and replay at their desired speed.





Conclusions

- Informal data show that participants in this program are pleased with the level of instruction and support given.
- This is due in no small part to the on-site coordinators that provide technical assistance and mentoring to the cohort.
- More data to be collected as the first semester comes to a close in December, 2004.



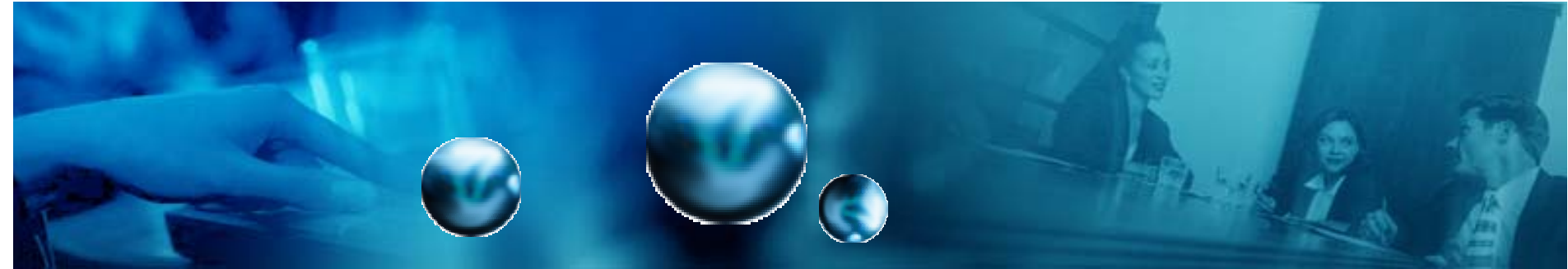


Conclusions

- Given continued success, Sonoma State has a model for developing additional MA in Education cohorts in other remote areas of northern California.
- There has even been interest expressed by southern Oregon communities.
- This not only allows the University to expand its service area, but gives the opportunity to further develop distance learning curricula.



Thank you,
for viewing this presentation.



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