

Mock Challenge Grant Applications

PHOTOCOPY
PRESERVATION

Challenge Grant Application Form

a. Eligibility

The definition of this community is geographical (San Diego region) initially although the project will migrate naturally to other regions and other types of communities.

b. The Plan

How is the Community defined

The community is made up of the following groups. Please note the contributions of each.

* Lightspan will design/develop curriculum-based software for home use, the titles for this project will be at no cost to users. Since the equipment will be in most homes around the country, there will be a market for these titles and future ones. Teachers will select and program the lessons and students will have to do this work. (Because of it contains a descrambler, the box will not dispense games, shopping, et.al. until the work is done.)

* Regional Bell or cable operator will wire the schools, homes, and businesses. (Schools will be wired at no cost or cost shared by DoD; the minimal equipment costs will be shared by school district, businesses, DoD, and federal grant funds. Educational tariffs will be instituted by then.) This community will be able to boast that it has the information infrastructure so that medical and manufacturing companies could move there and automatically have access to the information tools they'll need in the next century.

* Adult training company (technical training) and/or community based organizations will provide adult training at low cost

* DoD/ARPA will provide connectivity costs so that in future years, the target group of military children can be followed. Military families have additional needs. They move around often and their children must give up friends, often at crucial times in their lives. DoD will network and connect to the NII those schools in the targeted area in which military children attend. They will

also network and connect to the NII all other schools in the community. In following years, they will network and connect to the NII the communities to which the original children have moved and which wish to make a commitment to this project, thus scaling the project wherever possible.

* Chamber of Commerce will survey its member businesses, identify areas for skills development, training needs, and job requirements. It will take the lead in helping people get jobs after they have completed training in this program. The local business community (chamber of commerce) will identify the employment needs (Eg. computer repair), agree to place in jobs first those students who learn with this method. They can identify the set of skills that people should learn and entice new businesses to relocate to the region, which will create more new jobs and economic growth in the area.

* Apple Computer will donate its next generation of set-top boxes (here called Teleputers) to targeted homes and schools for the purpose of this test. Teleputers must incorporate telecommunications tools such as two-way Mosaic. Currently, Apple is developing set-top boxes (to be announced in the fall); within a year, the cost will be in the \$100-\$250. range. Because they will provide television/cable/movies/shopping on demand, they will be in many homes. (As game machines and VCR are currently.) The Teleputer is a future version of this machine.

* Sidewalk Studio and other home CD-ROM edutainment producers and educational software developers will donate time to design, develop, and test a prototype product for school or home use. This product must conform to educational specifications determined in collaboration with the educational and home community. This will also serve to educate the community about educational software issues. In addition, ARPA will work with the educational community to determine applicability of advanced applications (Eg. online simulations) for learning and for development of interoperable, inexpensive, CD-ROM based prototypes (Eg. Physics explorer).

* Schools will work with the business and home community to share ideas, collaborate on prototypes, and to facilitate understanding of one another's needs and fears. Teachers, software developers, and collaborations of educators and others will design and develop curriculum based

software and authoring tools. (These affordable programs will allow children to manipulate an environment, try alternative scenarios, and collaborate to solve real problems.) The students will contribute work that investigates the economy, ecology, and history of the region. They will analyze their findings and put it on the community gopher, which is centrally located in a school. They will confer with experts on the NII and provide scientific data to local agencies (such as water quality tests to EPA) and provide the research capability for these agencies to learn about the locale through many willing student investigators.

* Two-year postsecondary institutions will devote one or two of their course offerings (and instructors) to the community for Teleputer learning and/or traditional learning of targeted employment skills. The 2 year postsecondary institutions and adult training company and/or community based organization will develop interactive curriculum for adults to use at home to learn crucial occupational (and perhaps basic) skills.

* Four-year institutions of higher education will collaborate with schools to design, develop, and implement in-service and pre-service courses in new methods of teaching and new tools.

* TERC (Global Lab) and other developers of networked science activities will welcome teachers and students into their communities of scientists online and in workshops.

The project will be managed by the school system in collaboration (and with any additional personnel paid for by) the Department of Defense.

The Vision

This application proposes that an economically impacted area be targeted for use of the new inexpensive, interactive Teleputer (television monitor, set-top box with motherboard, mini-keyboard and real keyboard). The purpose will be to use emerging technologies to provide interactive and collaborative learning experiences for children in school as well as to link schools with home. In addition, we will provide after-school learning and adult learning (adult literacy skills, training for job placement, and ESL). We will also connect children of military families to one another and to their extended community of friends. The Teleputer will be the next generation

of videogame/VCR in one. Learning will be available and encouraged anytime and anyplace.

One of the goals is to redefine the nature of school. Learning tools such as the Teleputer will encourage interactive, collaborative, hands-on work and collaborative presentations and performances for assessment and learning purposes. Students who pursue their studies in this manner will be preparing for the 21st Century. There is just so much time during a school day, for students to continue to pursue serious study, they must be able to do so from at home. Learning must be on demand.

Let's look at an example. Four students are part of a cohort of young people who study and learn together. Today they are using the next generation of Scholastic's "Point of View" software/ history processor. They are tracing the roots of racial discrimination through the history of the United States. They know that voting is a key issue and understand the issues that one student's grandparents (who volunteered in the voter registration efforts in the South in the 1960's) told them. Now they want to determine the number of African-Americans who registered to vote after the conclusion of the Civil War. Their hypothesis is that they will see a significant increase in numbers. What they find is a dynamic map showing the population growth of Blacks in states and the corresponding map that shows no growth in voter registration. To find the answer to their question, "Why did this happen?" they must search bibliographies of speeches, novels, biographies etc. to learn about Jim Crow laws and the era following the Civil War. What they are really doing is studying history, geography, and literature in a thematic fashion so that it all makes sense and is related to the world. Students typically find the array of subjects offered in school quite disconnected and confusing; thematic study helps them understand complex interrelationships. They spend time over a weekend, using the online video libraries to watch part of the PBS Civil War series and to check footage of the 60's struggles for justice. They prepare a report on the status of civil rights today, including a 1994 New York Times series on poverty in Selma, Alabama.

Another group of youngsters is conducting a study in the community in which all elementary students are chipping paint from their classrooms and homes for lead testing. The results may lead to a school newspaper series. The EPA has been alerted to their efforts and has encouraged them to share their findings online. These youngsters are doing real science and the

results will be valuable to their community. The EPA has acquired a large group of researchers to provide important data that they could never have the time to accumulate.

In all activities, students are encouraged to share their work with collaborators in other locations. To do this, they must hone their thinking and writing skills. The knowledge that there is a real audience for their work (not just a teacher) encourages them to do carefully crafted work.

The National Education Goals (in order of priority for this application)

3. Student achievement and citizenship

Because the school day is short and subjects are not taught so that they are related to one another in any cohesive way, students need extra time at home to continue their work. Some need the time to extend the range of activities while others need time to complete assigned tasks. They will need a way to work collaboratively with other students and to engage their parents for feedback. This extra time plus building of work habits and parental involvement will help students care more about schooling than they do now.

4. Teacher education and professional development

The 4 year institutions of higher education and the school system will collaboratively design pre-service and in-service activities. Methods for delivery will include traditional means and use of Teleputers.

5. Mathematics and science

One extended community is the community of scientists. Connection with real science (and concomitant math activities) leads students to view these subjects as part of their world and not just as school subjects.

6. Adult literacy and lifelong learning

By encouraging adults to learn new work skills at home using a Teleputer, they will develop their competitive skills and become part of the workforce. In addition, people will be able to learn English as a second language easily and privately via Teleputer

2. School completion

Students and adults will have the opportunity to complete school at home via Teleputer. In addition, students will be able to make up any work at home and expand their learning via Teleputer.

8. Parental participation

This project will build a solid connection between home and school. Parents will be active partners in their children's learning because they can monitor school and home work via Teleputer.

1. School readiness

Since the machines will be in the home and older children (and adults) use them, the opportunity exists for younger children to use them as well. (Perhaps Fisher-Price will design "My first Teleputers" for them and there already exists a huge software market for young children.)

Resources

Private and government resources are mentioned above.

- What key problem will the federal resources available under the grant resolve?

This is an excellent question. In this case, it will provide seed money where the market is not readily apparent at the moment and will allow networking infrastructure and equipment to be cost-shared among several entities. In addition, federal determination will drive educational tariffs rather than the current prohibitive costs.

Success

Measurement of success is in several areas. If more jobs are created and the community increases its economic health, the program will be seen as successful. In terms of student learning, if we create a group of students who spend time learning rather than surfing or finding unacceptable forms of boredom prevention, we will have succeeded. Standardized test scores are no measure of real understanding for the complexities of the next century. If we accept

performance assessments as a measure of learning (and involve the community in making the evaluations of successful learning), we will have succeeded. If we engage not only students but all community members in learning and understanding the needs of learners, we will have succeeded. If people for whom English is a second language find comfort levels and jobs using English, we will have succeeded.

5. Selection Criteria

The questions posed are interesting, but do you intend for them to carry equal weight? Are these the most important and/or only bases of evaluation? I'd like to see educational criteria required and/or a description of how the project will lead to systemic reform and/or restructuring. How long does a project need to be deemed successful or a failure? (How many failures have we funded?) Is there a requirement that there be considerable dissemination - of successes and failures - so that others can learn? How does the project scale? How is it sustained after the life of the grant? In the case of severely impacted communities, success is relative. (In areas of considerable immigration, the issues aren't resolved permanently; perhaps an ongoing method of dealing with them is what we should look for.)

4. Application

a. Eligibility

The definition of communities eligible for the grant would be broad. Communities could be geographic or they could be linked by a common interest or purpose (e.g. disabled groups, businesses with similar training requirements, physics or history instructors). All proposal teams would, however, be expected to include the following members: teaching institutions (schools, universities, colleges, training centers), local businesses, communication firms, software developers (broadly defined), and content specialists (e.g. historians, scientists, business specialists)

b. The plan

The core of the application will be a plan for developing and introducing innovative learning technologies into a specific community. The program proposed should represent a clean innovation in using technology to enhance learning productivity in the community, not a simple repackaging of existing assets. The plan should consider the following elements

How is the Community Defined

- Describe the specific groups whose learning productivity would be enhanced given success of the proposed project
- Describe the specific schools, businesses, individuals, and other organizations participating in the development of the plan and their previous experiences in learning productivity acting alone or as a part of the community
- Describe how the members of the community will work together to achieve the objectives of the plan
- Describe how the members of the community worked together to create the plan
- Explain the management structure that will be used to implement the plan if a grant is available.

What is the vision of the program defined; which of the Administration's lifelong learning goals does the program support

- Describe the ways technology can enhance the learning productivity of the targeted community and the specific kinds of benefits that can be achieved.

- Explain how accomplishing the goals of the program will enhance other goals of the community in areas such as youth employment, linking businesses to schools, linking parents to teachers and schools, bringing individuals with disabilities into mainstream employment opportunities, or helping small businesses and their employees keep pace with technical innovation.
- Describe the principles underlying the instructional program proposed: how well will it approximate the kinds of instruction available from an individual tutor, will it permit team as well as individual training, how will it be sensitive to the needs of minority groups?

What private resources are committed to the plan

- What kinds of financial or other commitments will be made by local communication companies (phone, cable, new entrants), and by other local to cover the cost of the hardware, software, maintenance and training needed to make the plan succeed?
- What voluntary contributions will individuals and businesses in the community make to installing and operating the needed equipment and to providing training.
- What evidence can be provided of the nature, kind, and magnitude of these contributions?

What government resources will be used to support your plan

- Identify how the community will make use of state and local education and training resources to support the program
- Identify how state and other regulatory authorities will work to create incentives for communication providers to connect the schools, companies, and other institutions participating in the program.
- Identify federal program funding or cooperative research programs already committed to tasks relevant to the plan and programs that would become available if the community is designated.
- Identify military or federal civilian training programs in the community that can participate in the plan.

What key problem will the federal resources available under the grant resolve

- Given the public and private resources available to support the plan, precisely what missing element will be covered by the federal program resources requested.
- Why would it be difficult for the community to fill this gap using alternative means?

What evidence is there that the proposed program will succeed and how will success be evaluated?

- What are the specific tasks and timetables that will be needed to implement the plan
- explain how progress toward the goals will be evaluated and what benchmarks will be established
- explain how the management of the plan will change in response to information available.

5. Selection Criteria

- How effectively will the programs help the community achieve the goals set out in the Goals 2000 and School-to-Work Act?
- Do the proposals suggest unique strategies for using technology to increase learning productivity? Will they encourage innovative strategies in pedagogy, accelerate the introduction of learner-centered, experience-based learning environments, and result in a measurably improved learning?
- Is the proposal an effective part of a larger community program to encourage learning productivity and programmatic changes in the communities education and training programs?
- Will the programs proposed have benefits to the nation outside the immediate community involved? Can the learning tools produced be readily transferred, replicated, or marketed to other national or international communities.
- Will the products of the proposal be widely available in the community?
- Does the proposal promise significant cost-sharing from the participants?