



## **REPORT**

# **California ICT Digital Literacy Leadership Roundtable**

**Convened in Sacramento  
November 16, 2007**

**Prepared by**



**For**

**California Emerging Technology Fund**



## **Excerpt from the Declaration of Principles**

### **Building the Information Society: A Global Challenge in the New Millennium**

#### **Our Common Vision of the Information Society**

**We, the representatives of the peoples of the world, assembled in Geneva from 10-12 December 2003 for the first phase of the World Summit on the Information Society, declare our common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights.**

- Each person should have the opportunity to acquire the necessary skills and knowledge in order to understand, participate actively in, and benefit fully from, the Information Society and the knowledge economy. Literacy and universal primary education are key factors for building a fully inclusive information society, paying particular attention to the special needs of girls and women. Given the wide range of ICT and information specialists required at all levels, building institutional capacity deserves special attention.
- The use of ICTs in all stages of education, training and human resource development should be promoted, taking into account the special needs of persons with disabilities and disadvantaged and vulnerable groups.
- Continuous and adult education, re-training, life-long learning, distance-learning and other special services, such as telemedicine, can make an essential contribution to employability and help people benefit from the new opportunities offered by ICTs for traditional jobs, self-employment and new professions. Awareness and literacy in ICTs are an essential foundation in this regard.



GOVERNOR ARNOLD SCHWARZENEGGER

November 16, 2007

***California Emerging Technology Fund***

Greetings to all those participating in the Digital Literacy Leadership Roundtable.

Your fantastic work to improve access to high-speed digital technology is enhancing knowledge, opportunities and the overall quality of life for the people of our state. You are keeping California on the cutting edge of information and communications technology, and I appreciate your commitment to promoting investment, innovation and greater digital literacy throughout the State.

Digital literacy is an indispensable part of the twenty-first century. By working to incorporate greater technological literacy into governments, businesses, schools and communities across California, you are helping our state to remain at the forefront of the modern global economy.

I applaud everyone who made today's roundtable possible, and I especially thank Sunne Wright McPeak, Professor Barbara O'Connor, Secretary Victoria Bradshaw and the Kempster Group for their tremendous contributions to this important mission. Your efforts will have a profound economic effect on our state and its residents for years to come.

Please accept my very best wishes for an insightful and successful event.

Sincerely,

A handwritten signature in black ink, appearing to read "Arnold Schwarzenegger".

Arnold Schwarzenegger

## ***Acknowledgement and Appreciation from California Emerging Technology Fund***

This report provides the summary and recommendations of the California Emerging Technology Fund ICT Digital Literacy\* Leadership Roundtable convened in Sacramento, California on November 16, 2007.

The ICT Digital Literacy Leadership Roundtable involved key stakeholders from education, government and business to discuss the issues and challenges in education and workforce development regarding digital literacy and to reach consensus on the need for a California policy framework. It is on behalf of the Board of Directors of the California Emerging Technology Fund and the Leadership Roundtable participants that we thank all those who contributed to the policy discussion and recommendations in this report.

We appreciate the support of Governor Arnold Schwarzenegger and are encouraged by his acknowledgement that digital literacy is an indispensable part of the 21<sup>st</sup> Century, and should be incorporated into governments, businesses, schools and communities across the state for California to remain at the forefront of the modern global economy.

We are grateful to Secretary Victoria L. Bradshaw, California Labor and Workforce Development Agency, for her contributions to the focus and substance of the Roundtable. Her insights to the needs of the workforce and the benefits to the economy added significance to the purpose of the Leadership Roundtable.

We thank the representatives for Secretary of Education David Long and Superintendent of Public Instruction Jack O'Connell for their contributions regarding the need for digital literacy in education and their commitments to providing leadership to move forward.

Certainly, the ICT Digital Literacy Leadership Roundtable and this report would not have been possible without the contribution of expertise and time by the extraordinary participants who helped craft this consensus document recommending a "Call to Action" for California to become a leader in ICT digital literacy. We greatly appreciate their assistance and support to ensure that California students and workers are digitally literate and adequately prepared for a 21<sup>st</sup> Century knowledge-based economy and society.

Sincerely,



Sunne Wright McPeak, President and CEO  
California Emerging Technology Fund

## EXECUTIVE SUMMARY

The California Education Technology Fund (CETF) convened the *ICT Digital Literacy Leadership Roundtable* to seek input into the development of a California ICT (Information and Communication Technologies) Digital Literacy Policy\*, and to identify elements of an Assessment Framework necessary to measure digital literacy skills in education and the workforce.

The Leadership Roundtable brought together thought leaders, educators, experts, practitioners, and business leaders to provide collective input about what ‘digital literacy’ skills and assessment should mean for California in the 21<sup>st</sup> Century. It aims to take a giant step forward by presenting these recommendations for a California ICT Digital Literacy Policy and a framework and action plan to implement tangible metrics for assessing education and workforce digital literacy skills.

### **Key considerations of a digital literacy policy are to:**

- Capture the full opportunity for California and all of its citizens to fully and competitively participate in a 21<sup>st</sup> Century global economy while enjoying access to and use of advanced technologies.
- Include all California citizens, firms, institutions and governments in the benefits of 21<sup>st</sup> Century global economy and citizenship.
- Support a statewide mindset that encourages digital literacy and the possibilities technologies can bring to improving our quality of life in the 21<sup>st</sup> Century.
- Encourage institutional support of digital literacy strategies in government, education, business and other entities in order to enhance the opportunities for positioning California as leader in technological innovation and workforce readiness.
- Support benchmarking and metrics that ensure California’s digital literacy policy framework is comprised of elements that reflect globally accepted standards.
- Develop timetables and milestones to ensure appropriate accountability for assessing progress and ultimate success.

Recent innovations in broadband technologies and applications have increased the potential, for economic and social development and empowerment of individuals and communities. Affordable communication services, the growth of global networks, and mobility made possible by these technologies and applications are creating new growth opportunities for those poised to take advantage of them. Yet these trends also make more acute the risk that poor policies and unwise investments will leave certain sectors of our society as well as nations and states further behind in an increasingly open and competitive global economy.

The proposed California ICT Digital Literacy Policy is intended to embrace California’s attributes of high quality of life and livelihood; stability and unity; good governance; a well educated and learning society; and a strong and competitive economy capable of producing sustainable growth and shared benefits.

*\*The terms “Digital Literacy” and “ICT (Information and Communication Technologies) Digital Literacy” are used synonymously in this Report.*

The participants of the Leadership Roundtable have reached a consensus on the basic elements of ICT digital literacy that must be included in a policy for California, and make the following recommendations to policy makers, educators, and the business community. Recommendations are summarized below and discussed further in the report.

### **Policy Makers**

1. Enact a California ICT Digital Literacy Policy.
2. Include Digital Literacy – 21<sup>st</sup> Century Skills - as a priority in the State of the State Address.
3. Serve as Champions of Digital Literacy.

### **Educators**

1. Adopt a *California Performance Skills Framework for Education*.
2. Adopt new approaches to professional development emphasizing skills based and performance based learning.
3. Align standards and frameworks to global digital literacy requirements.
4. Provide incentives to teachers to achieve digital literacy credentials, and incorporate digital literacy into their teaching practices.
5. Mandate such credentials for pre-service teachers.
6. Reward and recognize best examples.
7. Re-focus the California Community Colleges on serving as the hubs of communities for workforce skills development by reconnecting them to state workforce initiatives.
8. Consider creating professional development courses for in-service teachers focused on integrating technology across their curricula.
9. Consider creating a Masters Degree in Internet Teacher Education.
10. Consider adopting practices other states have found effective.
11. Take accountability for articulation of workforce for global transferability with ensuring all certification to global standards.

### **Business**

1. Reach consensus on *California Job Skills for 21<sup>st</sup> Century Framework for Employment*.
2. Take ownership of a digital literacy action agenda.
3. Showcase success and reward success.
4. Conduct wide scale benchmarking.
5. Establish short-term and long term measurable outcomes.
6. Create mechanisms including job banks for applicants who are benchmarked and meet the performance standards.
7. Create economic metrics that clearly demonstrate the value to all Californians.

### **California Emerging Technology Fund**

1. Serve as catalyst for the California ICT Digital Literacy policy initiative and a public education awareness campaign.
2. Foster a hierarchy of projects throughout the state that can serve as models for digital literacy and for wide scale benchmarking efforts
3. Create a statewide data base of “brokers of expertise” in digital literacy.
4. Delineate and map existing/ongoing strategic initiatives across all stakeholders identified above to coordinate with CETF initiative

## **INTRODUCTION**

The participants of the California Emerging Technology Fund (CETF) ICT Digital Literacy Leadership Roundtable represented the business, education, government, non-profit organizations and communities sectors. Many of the participants are recognized globally for their expertise and pioneering work in the area of digital literacy. Individually, and as a group, they have provided input and expertise to international and national bodies focused on digital literacy policy and assessment.

The Leadership Roundtable was convened in Sacramento on November 16, 2007 at the invitation of CETF to discuss the importance of digital literacy to California education and workforce, and to reach consensus on a recommendation for a State of California ICT Digital Literacy policy.

Each participant brought a unique perspective and a solid knowledge of the subject matter to assist in crafting California's policy and framework recommendations. Collectively, the group is now committed to work collaboratively under the guidance of CETF to ensure that a California digital literacy policy recommendation is implemented in a way that is consistent with international efforts, and that the framework and elements are in alignment with education and industry standards for student and workforce certification.

The stakeholders in this Leadership Roundtable have the knowledge base, the will, and the collective means to work in harmony with California's policy makers to ensure that once a solid digital literacy policy is in place that the necessary frameworks and metrics for measuring digital literacy skills will be available. Furthermore, they are committed to assisting CETF in building public support and understanding of the issues and needs to ensure that California's students, workforce, and citizens are prepared with the skills they need to live and work in the 21<sup>st</sup> Century.

## **PERSPECTIVE OF THE LEADERSHIP ROUNDTABLE**

The Leadership Roundtable considered a wealth of resources, best practices models and other digital literacy policy initiatives in its deliberations. The facts make it clear that California is lagging behind much of the world in adopting a digital literacy policy.

The World Summit on the Information Society (WSIS) held in Geneva in 2003 reaffirmed on a global level the need for digital literacy skills in the 21<sup>st</sup> Century. Since the WSIS released its consensus report, momentum has been building globally for standardization and assessment of digital literacy skills, and prior efforts throughout the world have gained a legitimacy of mission. The United Nations, Organization for Economic Cooperation and Development (OECD), and many other international policy entities have already convened task forces focused on the importance of ICT indicators and digital literacy. European countries now use standardized ICT literacy assessment metrics as benchmarks for employment. Schools in many countries are now requiring assessment of digital literacy skills in the basic testing programs. Digital literacy is fast becoming the new literacy of the 21<sup>st</sup> Century.

In the United States, a wide range of business, government, and research organizations are also calling for students to master digital literacy as an integral part of essential and critical 21<sup>st</sup> Century life skills.

## **Definition of ICT Digital Literacy**

According to an international independent panel of experts convened by Educational Testing Services (ETS) in 2001, ICT digital literacy was defined in the following way:

**ICT (Information and Communications Technology) Digital Literacy is using digital technology, communications tools and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society.**

This definition has become the basic concept upon which other national and international efforts have built policy and frameworks.

## **Status of ICT Digital Literacy Implementation**

Organizations and private sector companies, such as the International Society for Technology in Education (ISTE), Consortium for School Networking (COSN), the Partnership for the 21<sup>st</sup> Century, ACT, Certipoint, International Computer Driving License (ICDL), Verizon, and Microsoft, among many others have been instrumental in advancing the debate on the need for ICT digital literacy assessment in education and the workplace.

At the national policy level there are discussions advocating the incorporation of digital literacy skills into the revisions of No Child Left Behind (NCLB) policy, as well as workforce initiatives.

Across the country several states have either integrated their ICT standards (sometimes referred to as digital, media, or information literacy) into their state educational standards while others are in the process of developing and integrating them.

The ability to access, evaluate, and use information from a variety of sources as well as to critically analyze it and even produce it are seen in policy initiatives in states such as New Hampshire, Missouri, North Carolina, Oregon, Wisconsin, Ohio, Florida, New Jersey, and Texas.

## **Where is California on ICT Digital Literacy?**

California has several digital literacy initiatives in various sectors. For example, the California State University (CSU) System has taken a step forward towards incorporating a digital literacy policy into its student performance requirements. The CSU recently undertook a major pilot project effort with Educational Testing Service (ETS) to lay the foundation for assessing the ICT literacy skills of its students. These efforts at CSU are growing and gaining momentum. However, the project did not include all campuses system wide, and while an innovative step it still falls short of a cohesive statewide education policy for ICT digital literacy. Committee efforts are moving forward at the Chancellor's Office level to consider a policy endorsement or mandate. Likewise, in the Bay Area several community colleges worked with International Computer Drivers License (ICDL) on a pilot project in ICT digital literacy assessment. However, there has been no collective effort to develop a standard framework and metrics for measurement on a statewide level.

Ten years ago the California State Department of Education issued an advisory report *Connect, Compute, Compete* urging that ICT digital literacy standards be adopted. A decade later, there is still no California digital literacy policy in place.

The lack of a coherent California state policy and poor integration or scaling of pilot initiatives, have led to random adoption of different standards, unnecessary duplication of effort, or just institutional inaction due to lack of guidance and information.

### Perspective of the Leadership Roundtable

Roundtable Participants believe that **California policy makers need to adopt an ICT Digital Literacy Policy for the 21<sup>st</sup> Century.**

In doing this, California does not have to reinvent the wheel. Solid progress has already been made in the area of digital literacy policy and assessment. Frameworks and assessment instruments exist that offer good models for required elements and metrics. These basic elements of digital literacy have been endorsed by the World Summit on the Information Society (WSIS) and are being adopted globally.

They are:

BASIC ELEMENTS OF DIGITAL LITERACY ASSESSMENT IN EXISTING FRAMEWORKS	
Elements	Definitions
Access	Knowing about and knowing how to collect and/or retrieve information.
Manage	Applying an existing organizational or classification scheme.
Integrate	Interpreting and representing information - summarizing, comparing, contrasting.
Evaluate	Making judgments about the quality, relevance, usefulness, or efficiency of information.
Create Information	Generating information by adapting, applying, designing, inventing, or authoring information.
Ethical and Human Element	Developing and practicing ethical, cultural and societal attitudes toward technology uses.
Note: Existing international and national digital literacy frameworks and assessment instruments all share these common elements.	

This Leadership Roundtable supports the basic elements of this framework, and endorses using this as the basis of digital literacy benchmarking and assessment in California education and work force preparation. Of course, California may have unique needs and requirements in adopting its own state policy.

Therefore, other considerations and indicators for digital literacy to consider may include:

SUPPLEMENTARY INDICATORS OF DIGITAL LITERACY FOR CONSIDERATION IN FORMULATING CALIFORNIA REQUIREMENTS FOR DIGITAL LITERACY	
Indicators	Definitions
Work Skills	Demonstrating knowledge, skills and understanding of concepts related to their application to engage in ongoing professional and career development and lifelong learning.
Definition and Context	Determining the concept of digital literacy, its culture and its social effects.
Public Awareness and Motivation	Introducing to the general public issues related to the digital culture providing a favorable environment.
Critical Consciousness and Participation	Creating critical and collective consciousness that has social responsibility as a priority for social progress in every activity promoting digital literacy.
Pedagogy and Tutelage	Promoting support and tutoring systems in all digital literacy activities stimulating activities.
Balance and Solidarity	Undertaking public and social actions to providing fair and equitable access and use.
Institutional Innovation	Involving government, education, business and other entities so that they support, change, renew and take advantage of the technological changes.
Social Cohesion	Ensuring social justice and solidarity rather than creating a digital divide.
Quantitative and Qualitative Indicators	Complementing current quantitative indicators with qualitative approaches that take into account the point of view of "actors" and participants, drawing attention to social habitual uses.

Unlike the basic elements of digital literacy which are common in all digital literacy policy and frameworks, the supplementary indicators referenced above are optional.

Effective digital literacy policy is dependent upon policy makers providing wide-spread access to ICT, including broadband through relevant universal access policies and programs. Some *key policy actions* which are integrally tied to successful implementation of sustainable digital literacy skills are:

1. Facilitating access to information.
2. Provision of ubiquitous broadband capacity.
3. Ensuring availability of services at affordable costs.
4. Supporting public awareness and motivation efforts.

*Key Challenges* to the adoption of an acceptable and sustainable ICT Digital Literacy Policy include:

- Policy maker and stakeholder awareness.
- Integration with other policies and priorities.
- Relevance and usefulness of policy and projects.
- Transparent decision making procedures.
- Comprehensive rollout plans with milestones, success criteria and regular reporting of progress.
- Sustainability.

## ICT DIGITAL LEADERSHIP ROUNDTABLE: A CALL TO ACTION

The gap between those able, and those unable, to participate in the knowledge economy has been termed the “digital divide.” This digital divide is evident within nations, and between the developing and the developed world. It also is evident within California, as a gap exists based on geographical location, socio-economic status, the availability or not of advanced ICT and broadband capabilities, and the understanding of how to apply and use the technologies once they are available. While significant steps have been made within California to ameliorate or bridge some of the digital literacy gaps, there remains an absence of a coherent and sustainable public policy that will encourage support and understanding of the importance of 21<sup>st</sup> Century skills for education and the workforce.

It is the opinion of many, including the California Emerging Technology Fund and the participants of this Leadership Roundtable, that *California must take immediate steps to enable all of its citizens to participate meaningfully in the knowledge society and the 21<sup>st</sup> Century workforce.* The gaps that exist can be overcome with a clear vision, commitment of resources, and a sound policy that moves California and its citizens forward in harnessing the benefits of the Information Age. A consensus on a Digital Literacy Policy for California would be a giant step forward in bridging the digital divide, and in ensuring that California’s citizens are ready for the workforce and a competitive global economy.

The dangers posed by complacency regarding the digital divide, and the risks of having its citizens being excluded further from the knowledge economy and social development should propel the California policymakers to adopt a digital literacy policy framework.

It will be necessary for appropriate institutional arrangements to be created so that all stakeholders can rise to the challenge of implementing this ICT Digital Literacy Policy for California.

This Leadership Roundtable is committed to working together to further digital literacy policy in California, and calls upon other business, education, community and policy leaders to join with them.

### CALL TO ACTION BY THE GOVERNOR AND LEGISLATURE

The Roundtable recognizes and encourages the Governor to continue as the most prominent champion of ICT Digital Literacy for California. This role should be the flagship component of an education agenda as well as a statewide agenda. Leadership support and personal endorsement is fundamental for successfully incorporating digital literacy into education and work skills preparedness. The Governor and his Cabinet, especially the Secretaries of Education and Labor and Workforce Development, have the prime platform and opportunity to advance ICT Digital Literacy. A “call to action” and challenge to business, education, and the citizenry to empower all Californians with 21<sup>st</sup> Century ICT Digital Literacy skills ought to be communicated in a major policy address by the Governor.

Equally, the Legislature must be pro-active in authorizing a digital literacy policy for California. This legislative action is critical to rally the public and key stakeholders. This policy will in essence “memorialize” the importance of rethinking basic literacy for the 21<sup>st</sup> Century and will lay a foundation for a public call to action.

Civic leaders are critical to the success of this agenda. Employer organizations, economic development groups, children’s advocates, community-based organizations serving youth, and many others have crucial roles to play in achieving success.

California’s policy and action needs to address skill levels and competencies in individuals, but must also position the state with global benchmarking and accountability standards. Most importantly, California must not reinvent the wheel. Policy makers and civic leaders can learn from existing digital literacy policy models and best practices, and use these examples to move expeditiously and to even “leapfrog” to restore California to a global leadership position in 21<sup>st</sup> Century innovation.

The Leadership Roundtable recommends that the Governor and the Legislature enact a state policy in 2008 that does the following:

- ❖ States the goal that California citizens will be digitally literate.
- ❖ Calls for a *Roadmap for Success* which identifies the critical components for achieving digital literacy skills for educational and work force success.
- ❖ Requires standardized metrics for benchmarking and diagnosis, and measuring progress toward the goal of a digitally literate citizenry.
- ❖ Ensures equity to California’s underserved.
- ❖ Includes special assessment tools to address cultural and linguistic relevance of diverse populations and ubiquitous access to all geographic areas.

Digital literacy is not only about education and the workforce preparedness. It is key to a full and successful life in the 21<sup>st</sup> Century. Children, youth, young adults, underskilled workers, underserved families, each require a different approach. The importance of addressing children in schools, the community and at home cannot be understated, as their needs will be greater as ICT is further integrated into all aspects of their lives.

Special attention is required for students and workers with disabilities to access the tools they need to become digitally literate, and to be able to access the assessments themselves. This includes attention to learning management systems, central management systems and for vendors to address accessibility in their products, and addressing these issues at the very beginning of the planning and design phase, and in the policy itself.

## **CALL TO ACTION BY SUPERINTENDENT OF EDUCATION AND EDUCATORS**

Technology tools of the 21<sup>st</sup> Century are as fundamental to education as a pencil was to learning in past generations. These tools drive the need for digital skills to be embedded into all aspects of learning and are as important as the cognitive skills. Teachers themselves must be empowered for success by acquiring mastery of the digital literacy skills necessary for guiding project based learning approaches and performance based outcomes of their students.

In order to accomplish this, schools and teachers must adopt new priorities and approaches to professional development. There must be a “call to action” by the State Superintendent of Education and other educator leaders that reinforces the urgency of incorporating digital literacy skills into pre-service and in-service training.

In the 21<sup>st</sup> Century, a California high school exit portfolio should include a demonstrable knowledge of digital literacy skills to state standards. In fact, there should be specific recognition that alongside the required foundational skills literacy of reading, writing and math, the new digital literacy must have equal importance.

California is part of a globally competitive economy. Students will be entering a workforce that no longer has boundaries of time or geography. Workers from all around the world collaborate on projects. Their performance and skills sets are driven by global work requirements. California’s standards and frameworks should be in alignment with global standards for digital literacy if our students and workers are to be competitive and the California economy robust. While about twenty-five percent of the population earns a four-year degree, the workforce is driven by performance of the other seventy-five percent. Digital literacy standards need to be incorporated into the hiring and selection practices of employers and workers need to be certified to global digital literacy standards.

Roundtable participants emphasize that educators need to focus from the existing content based learning approach to project based and skills based outcomes. If fundamental cognitive and digital skills are present then content in what ever context can be acquired. The Roundtable recommends exploring roving “train the trainer” professional development projects to kick start new approaches to skills based and project based learning in education. California may want to consider adopting practices other states have found effective.

Benchmarking and measurable outcomes are essential and should be embraced if California is to reach a goal of digital literacy – many countries are already doing this on a large scale or country level – the metrics exist. California needs to have a “can do” mindset. Results of benchmarking and assessment must be calibrated to education and economic indicators important for California competitiveness, workforce preparedness, and student readiness. Digital literacy needs to be embedded into core requirements and into Advanced Placement (AP) instruction – starting with Science, Technology, Engineering and Mathematics (STEM). Digital literacy should be integrated into the high school Preliminary SAT and ACT assessments, and required diagnostics for mastery should be made available.

The education system is as equally vital as the workplace in embracing digital literacy, but clearly a long term process is required to transform the system. Nevertheless, in the near term there can be progress by an immediate focus on learning and the family. The home, libraries and community centers should be hubs of online learning activities with equitable access to digital learning skills and content. Broadband access to the home, libraries and community centers can help enable online self directed skills building opportunities for all students building toward the goal of a digitally literate citizenry. Administrators ought to promote ICT skills programmatically and financially. Equity in access and equipment is fundamental – administrators must support ways to offer creative ways to finance packages for educators to purchase equipment and use for home access. Early adopters and success stories should be highlighted and rewarded.

Incentives must be an integral part of a program for teachers. A campaign with focused messages to educators is essential – for example, “help me do my job better”, or “save me time” so that this is not considered just another “add on”.

The post-secondary level is as critical as the K-12 in achieving the goal of a digitally-literate California. The California Community Colleges need to once again take the leadership of serving as the community hubs for vocational preparation. The four year institutions should consider offering a Masters Degree in Internet Teacher Education with 75% of the requirements for the degree completed online. The post-secondary system must take responsibility for articulation of workforce goals and standards for certification and assessments that ensure global transferability.

The Roundtable recommends that education leaders adopt a “*California Performance Skills Framework for Education*” based on the globally-endorsed elements of digital literacy.

### **CALL TO ACTION BY BUSINESS LEADERS**

Business leaders and educators participating in this Roundtable, in collaboration with policy makers, will take ownership of a digital literacy action agenda to yield immediate results. In order to ensure the CETF effort remains relevant and meaningful to all who participate, it is imperative that California businesses declare and demonstrate their support for this initiative. The effort must be clearly communicated, understood and embraced by the general public. The business, education, community and government leaders convened by this CETF Digital Leadership Roundtable are in agreement that they will take ownership for assisting in resourcing an action agenda that includes:

- ❖ Building a “*Roadmap to Success.*”
- ❖ Championing a public awareness campaign to build public support and understanding.
- ❖ Reaching out to peers in California to build and resource a strong coalition empowered with achieving near term action and results oriented outcomes.
- ❖ Building consensus at the state and local community levels by identifying “*Digital Literacy Ecosystems*” to drive models of excellence, benchmarking, and reliable metrics for success.
- ❖ Rewarding success to reinforce best practices, individual champions, economic results, and public awareness and support.

There is a critical need to focus on benchmarking large populations and providing appropriate diagnostics for citizens to self empower in order to acquire digital literacy 21<sup>st</sup> Century skills. An absolute buy-in to California becoming a leader in digital literacy by both corporate management and the unions is essential, or the mission will fail.

A digitally literate California is an achievable and lofty goal. Showcasing success and rewarding success, and creating economic metrics that clearly demonstrate the value to all Californians is essential; such as, identifying the number of new jobs created, tracking workforce growth, capturing employer metrics, and tracking average wage indicators.

But, there will be success only if the public understands the relevance at a personal value level and the impact individually on their own job and earning potential. In order to accomplish this, the business agenda must include a multi-faceted approach with:

- ❖ Workforce examples with skills training and job placement.
- ❖ Community value projects for digital inclusion.
- ❖ Government and human service examples for enabling the average citizen to access important e-health services or other conveniences.
- ❖ Engagement of the ICT, entertainment industry, and large employers statewide in both the media and applications requirements.
- ❖ Showcasing of collaborative models in underserved communities and in culturally diverse populations that have specific benefits and can be scaled.

Of vital importance is wide-scale benchmarking in each seeded project – with an action plan to benchmark of all of California in digital literacy indicators. Assessment must be done in a standardized and systematic way in order to effectively track progress and to diagnose digital divide gaps in workforce, education, community, and government.

Success must be measured, and there is an absolute need to benchmark and then establish short-term and long term measurable outcomes. Metrics need to meet global standards and will clearly demonstrate the value proposition for benchmarking and assessment needs education and the workforce. Benchmarking and establishing metrics must be done based on globally endorsed elements.

The Leadership Roundtable recommends that business leaders reach consensus on “*California Job Skills for 21<sup>st</sup> Century Framework for Employment*,” based on the standard global elements of digital literacy referenced in this report.

This Roundtable is committed to securing the commitment from employers to create an available job bank for project participants who are benchmarked and meet the performance standards. It is essential to determine the employer demand for digital literacy workforce – what jobs are now available and going unfilled – and what is the short and long term demand for California economic and competitive goals.

## **THE ROLE OF THE CALIFORNIA EMERGING TECHNOLOGY FUND**

The public needs to understand and appreciate the value and importance of becoming digitally literate to fully participate in a 21<sup>st</sup> Century society and workforce. The California Emerging Technology Fund has the mandate and the opportunity to serve as a catalyst to bring together the key stakeholders necessary to raise the level of awareness and a call to action. Workforce skills and digital literacy life skills necessary for 21<sup>st</sup> Century remain little understood by a large segment of the general public. The public will become engaged only by understanding through clear examples the personal relevance and urgency of being digital literacy.

An awareness program, including an outreach and public information, is needed to make the issue and goal easily understood for all the public and stakeholders. The campaign needs to create a “*sizzle and buzz*” with bumper sticker simplicity if the public is to latch on and buy-in to the challenge. For example, a simple theme to consider may be: “*California’s Got IT!*” This would drive an initiative at a state level, and then sub-themes could play off it, such as: “*I’ve Got IT*” - for citizens that become engaged, involved in the projects, certified - “*My Child’s Got IT*” for the Schools that promote digital literacy and project based learning, “*Our Teachers Have Got IT*” for the districts that support the training and the new approaches.

In tandem with the public awareness effort, CETF must work with policy makers to ensure passage of a sound policy for digital literacy.

The participants of this Roundtable pledged to collaborate with CETF in implementing this strategy, creating a hierarchy of projects with incentives and timetables that include benchmarking, assessment instruments, and standardized metrics. It is essential to abandon assumptions that appropriate hardware, software and connectivity are always present and ready for use. Obsolescence and the lack of appropriate technical expertise in either the technicians who need to constantly support the systems, or administrators who are not themselves informed and digitally literate, continue to undermine the success of such ambitious initiatives. Appropriate curricula integrating technology across disciplines and professional development opportunities for teachers and administrators must also become a strong element of focus in such initiatives.

Projects which CETF is already considering funding should be the prime candidates for demonstrating the potential of digital literacy and for participating in a wide scale benchmarking effort. In addition, CETF should consider creating a statewide data base of “*brokers of expertise*” in digital literacy. This will be a large undertaking, and will require amassing the energy, resources and enthusiasm of many stakeholders.

Other state and local projects are already underway – such as the California Partnership for the San Joaquin Valley created by Governor Schwarzenegger – which can be included in a wide scale benchmarking and digital literacy certification model. To the extent possible, existing resources and ongoing efforts need to be leveraged in this regard. As we stated earlier, California does not need to reinvent the wheel.

This CETF Digital Literacy Leadership Roundtable is to be commended for taking the first step in the launch of this effort. CETF will continue to serve the important role of helping to guide the process. Policymakers, educators, business leaders, and most importantly the public, has to understand the urgency and personal relevance if they are to buy-in to being involved in the process. CETF is encouraged by this forum to take responsibility for the essential role of leading a high profile public awareness effort in collaboration with educators, community leaders, policy makers, and business leaders.

## SUMMARY

**Information and Communication Technologies (ICT) affect our lives every day – from interacting with our governments to working from home, from keeping in touch with our friends to accessing healthcare and education. California must become a global leader on ICT Digital Literacy for its students, workers and residents.**

The participants of the California Emerging Technology Fund (CETF) Digital Literacy Leadership Roundtable held a wide ranging discussion about digital literacy and its importance to the California workforce, economy, and education. The Roundtable was able to reach consensus on a number of important issues. Of prime importance, was agreement on urgency for students to be empowered with the critical project based learning skills required for a California 21<sup>st</sup> Century workforce. Furthermore, the Roundtable acknowledged that there is a serious supply problem of qualified digitally literate employees to fill current jobs in the California workforce.

Leadership Roundtable participants believe that it is necessary to “re-skill” large populations for new job requirements driven by the infusion of information and communications technologies into all aspects of the work place and service industries, and public sector services.

California policy makers need to address 21<sup>st</sup> Century life skills and workforce skills with a fundamental belief that a digital divide is unacceptable and all citizens ought to be digitally literate to have the equal opportunity to benefit academically, economically, and socially. In collaboration, we must create a goal of all Californians acquiring digital literacy skills and together build the action plan for success.

Clearly, information and communication technologies are driving the need for a fundamental change in the literacy skills required for California’s 21<sup>st</sup> Century work place, educational institutions, the community, and public sector services. Achieving the goal of a digitally literate California requires collaboration and a vigorous leadership in response to the “call to action” on the part of policy makers, educators, business leaders, and communities.

## **RESPONSE FROM THE CALIFORNIA EMERGING TECHNOLOGY FUND TO THE ICT DIGITAL LITERACY LEADERSHIP ROUNDTABLE**

The Board of Directors of California Emerging Technology Fund acknowledges the work of the ICT Digital Literacy Leadership Roundtable, and accepts the challenge to serve as a facilitator and catalyst in a statewide effort to implement a California ICT Digital Literacy Leadership Policy and Assessment Framework with a process for identifying curricula that meet adopted standards.

The Board of Directors agrees that California must address 21st Century life skills and workforce skills with a fundamental belief that a digital divide is unacceptable and all citizens ought to be digitally literate to have the equal opportunity to benefit academically, economically, and socially.

In 2008, CETF will continue to provide guidance to the work initiated by the Leadership Roundtable, and will explore avenues to reach out to policy makers, business leaders, educators, and the general public to implement the recommendations. Also, CETF will strive to raise the level of awareness and importance of digital literacy to the citizenry of California.

CETF considers this report as the first milestone in a broad-based strategy intended to ensure that California students and workers are digitally literate and adequately prepared for a 21<sup>st</sup> Century knowledge-based economy and society.

## PARTICIPANTS

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