

Software & Information Industry Association

e-Testimony Submitted by the
Software & Information Industry Association

Web-Based Education Commission

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The Software & Information Industry Association (SIIA, <http://www.siiia.net>) is pleased to submit the following views and recommendations to the Web-Based Education Commission. SIIA and our member high-tech companies are very supportive of the Commission's efforts to examine the many evolving education and policy issues relevant to education's increasing use of Internet technology. We look forward to the resulting recommendations and to working with the Commission to realize the virtually unlimited potential of web-based education.

SIIA is the principle trade association of the software code and digital content industries, representing more than 1,000 leading high-tech companies that publish software and digital content for business, education, consumers and the Internet. More than 300 of SIIA's member companies serve the education market, and are partnering with educators to improve educational opportunities and achievement through the integration of technology into teaching and learning. Our members develop and produce educational software and web-based products, including education portals and e-learning platforms. At the same time, all of our members depend on the nation's schools to provide students with the knowledge and skills necessary to become productive citizens and help fill the nation's need for skilled high-tech workers.

Our comments begin with a vision of web-based education and then present a number of policy recommendations under the headings of Strengthening Online Software & Content, Enhancing Long-term Investment, and 21st Century Regulatory Environment.

VISION OF WEB-BASED EDUCATION

Education presents one of the most dynamic and beneficial applications of the Internet. By providing both access to quality education anytime and anywhere as well as a tool that enhances learning, the Internet can empower students to take control of, and accept responsibility for, their learning. The high-tech and education communities are partnering to transform this vision of active and engaged learning into a reality for all students, creating a revolution in education perceptions, practices, and structures and changing both the process and the business of learning. (See "Education Anytime, Anywhere" in *SIIA's Building the Net: Trends Report 2000; Trends Shaping the Digital Economy* at <http://www.trendsreport.net>.)

Students and teachers at all levels of education are taking advantage of four complementary and integrated Internet-based learning enhancements:

- Access to Content: The Internet is making information available to learners as never before, driving the thirst for knowledge and enabling real-time, real-world exploration from the desktop.
- Distributed Learning: The Internet is providing all students with unparalleled access from a distance to courses that integrate rich curriculum, expert instruction, and global discussions.
- Individualized Learning: The Internet is providing the tools to tailor content and instruction to the unique learning interests, needs and styles of students. Students can learn at their own pace -- from home, school, or work -- and be directed through integrated diagnostic assessments to linked, supplemental enrichment or remedial curriculum.
- Improved Communications: The Internet is facilitating efficient and effective contact and enabling teacher peer networks, student interaction with instructors and a diverse virtual student body, and increased parent involvement.

The combined result is an Internet-based education tool that supplements and enhances the teaching and learning process and its staples of teachers, books, and classrooms. By enabling students, educators and parents to improve the efficiency and effectiveness of teaching and learning, technology is improving educational opportunities and outcomes. Web-based education will increasingly challenge and improve long-standing education models by both opening the learner market to non-traditional providers and shifting educational empowerment from the institution to the individual. The Internet is creating similar benefits in educational management, including e-commerce savings in school procurement, improved accountability through efficient information collection and analysis, and ease of software maintenance and upgrade. Technological developments and access will continue to dramatically enhance web-based education, including hand-held computers, e-books, thin clients, two-way interactive video and voice streaming capabilities via broadband, and product interoperability (see SIIA's School Interoperability Framework project at <http://www.sii.net/sif/overview.html>).

POLICY RECOMMENDATIONS

Maximizing these benefits will require a supportive policy environment that: (1) neither prejudices nor inappropriately favors technology and web-based education over "traditional" education; and (2) relies to a great extent on consumer empowerment and market competition to meet education and education-technology needs. Local, state and federal policies must: enable and encourage the continued creation of digital content; support long-term investment in technology infrastructure, research and development, and training; and reform regulations to fit this new paradigm. With such policies in place, the Internet will increasingly help transform and improve educational opportunities and achievement.

STRENGTHENING ONLINE SOFTWARE & CONTENT

The integration of high quality digital content is critical to the success of web-based education. While access to computers and the Internet are necessary pre-conditions, their core function and value is to deliver software and content. Similarly, access to any online content is not sufficient. Most of what is available at no cost on the Web is information in the form of primary source materials and stand-alone lesson plans, rather than instruction; but students and educators require effective and appropriate learning resources. While the raw information is potentially valuable, the tremendous time and effort of a talented teacher is necessary to incorporate it into the curriculum. However, most do not have the luxury of such resources.

Education publishers are therefore acting as key partners to fill this need. They develop and package online learning resources in a manner that adds value to content and enables fluid and effortless integration into the curriculum. Publisher research and development ensures web-based educational content is learner-appropriate and safe, reflective of the curricula, matched to state standards and

assessments, and incorporates effective pedagogy. Without such private-sector efforts, learners and instructors could be easily overwhelmed by both the plethora of unrefined online content, as well as the challenges involved in delivering education over the web. Well-crafted public policies are therefore critical to supporting these existing efforts and ensuring all students have access to high quality digital content.

School Resources

SIIA Recommendation: Empower consumers/educators to meet their needs through the market by increasing and targeting public investment in education technology.

Direct public investment is critical to ensuring the availability of high quality digital content for the elementary and secondary grades, as well as for other government-supported educational institutions. Targeted state and federal education technology funding has provided schools with the resources necessary to purchase technology infrastructure and online instructional materials and services. The resulting demand has stabilized this new market, created competition among vendors, and spurred innovation and quality products. Policymakers should expand this efficient market dynamic by continuing to empower consumers (i.e., school educators) in the following ways:

- (1) Increase the targeted investment in education technology to maintain the forward momentum in these critical early stages of integrating and bringing to scale technology.
- (2) Target resources to high-need communities to ensure all students have access to high-quality web-based education, including both the targeting of technology program funds to schools lacking computer and Internet access and the targeting of other program funds to economically disadvantaged districts and students.
- (3) Enhance a school's flexibility to meet education and education technology goals in two ways. First, allow educators to use technology funds to best meet any and all of their education technology needs, including infrastructure, software and content. Second, enable educators to determine which delivery method or medium -- traditional textbook or online curriculum -- is most appropriate to meet their specific education goals when using non-technology program funds.

Public-Private Partnerships

SIIA Recommendation: Rely primarily on the private sector and public-private partnerships to meet the demand for creating web-based software and digital content, and ensure government efforts do not distort or weaken this efficient market dynamic.

While government should encourage the creation of web-based software and digital content, it should not view the ease of distributing such materials over the Internet as carte-blanche cause to produce and make available these materials on its own and/or for free. Instead, such government action must be evaluated on a case-by-case basis to ensure it is not beyond its mission, does not distort educational decisions, and does not weaken the overall supply. When it comes to such products and services, education has long been served, and is nearly always best served, by the free-market convergence of supply and demand. In this regard, web-based curricula is no different than textbooks, desks, and computer hardware -- the public sector is neither well-positioned nor well-equipped to produce these products for schools.

In general, government grant-funded software that is provided for free has ultimately proven to be insufficient and non-sustainable. Initial development of technology-based instructional materials often accounts for a minority share of its life cycle cost. As a result, such government-funded products usually

lack the infrastructure and investment necessary to enter the market (e.g., marketing), sustain the product (e.g., technical assistance), and update and improve these products over multiple generations. The result has most often been failed implementation, including the failure to reach the intended audience and make it past release 1.0. In addition, most such grant-funded and free products are not large-scale and high-quality enough to provide the value educators are seeking.

By largely relying on free market mechanisms and creating incentives by which private sector profit-making coincides with public goals (e.g., school technology funding and opening R&D competitions to the private sector), public policies will create an environment in which providers meet education needs. Competition will spur innovation, improve quality and reduce consumer costs. To the extent that government inappropriately competes in the software and curricula market via the Internet, it will produce the following negative consequences: (1) create disincentives to private investment; (2) perpetuate the notion that web-based products are free and thereby force the private sector to turn increasingly to alternative business models, such as when products are provided at reduced or no cost in return for advertising; and (3) ultimately limit choice and facilitate a more standardized, quasi-national, curricula.

In fact, the federal Office of Management and Budget (OMB) Circular A-76 states: "In the process of governing, the government should not compete with its citizens. . . . it has been and continues to be the general policy of the government to rely on commercial sources to supply the products and services the government needs." In this spirit, to the degree that government carries out its critical goal of funding education, including online curricula, SIIA urges this be accomplished primarily by empowering educators through grant funding to purchase the products and services that best meet their needs.

Research & Development

***SIIA Recommendation:** Enhance industry's ability to address education needs by both targeting government R&D to fill the gaps in private research and allowing private entities to compete for R&D grants.*

With the web-based education revolution at a relatively early stage, a considerable R&D effort will be necessary to determine the most effective tools and models. In light of the size and scope of this challenge, SIIA supports the need for an enhanced federal R&D investment. Because industry continues to make significant capital investments to research and develop education software and digital content, these public resources must be appropriately targeted and designed -- including adherence to the government competition issues outlined above -- to fill the gaps and enhance industry's ability to deliver effective products and services.

Industry's investment is epitomized by the multi-year, multi-million dollar investments made to deliver products to market, while many online materials are further updated to ensure timely content. In fact, some of the most appropriate federal R&D investment has recognized these efforts by targeting areas, such as bilingual education, not adequately addressed through private R&D. This public and private investment has born great results. An August, 2000 review by SIIA of existing research found that education technology increases educational opportunities and student achievement, and that the degree of effectiveness depends on the match between such variables as students needs, software design, education goals, and educator training (See the *2000 Research Report on the Effectiveness of Technology in Schools* at <http://www.siiia.net/divisions/education/pubs.asp>). Of course, there is much that remains to be discovered about technology, it's relationship to learning, and the most effective uses and pedagogical approaches.

SIIA encourages the federal government to continue this investment while taking steps to ensure the topics are the most current and relevant and the results are adequately disseminated to influence practice. More specifically, federal research and development should adhere to the following guidelines:

- (1) Federal R&D should be focused long-term basic research, large-scale empirical evaluations, smaller and under-served niche markets, and other R&D that better identifies effective models, the factors that determine effectiveness (i.e., what interventions work best with students of what learning styles and under what conditions), and ultimately how these models can be replicated.
- (2) Federal R&D should allow for-profit entities to compete for federal research grants to ensure the best proposals are funded and the results of those R&D efforts are brought to market. Due to the lack of incentive in the system, the results of government-funded R&D too often remains locked in a report, rather than incorporated into practice and product development. In contrast, in order to stay competitive, education publishers operate at the cutting edge of research and work closely with educators to understand and respond to their needs. As a result, companies are often in the best position to identify research gaps, respond in partnership with practitioners, translate findings to software and digital content, and ensure these resulting products are made available.
- (3) Federal R&D should strongly encourage or require partnerships between education, industry, and institution-based researchers to ensure the efforts are shaped by practice and the results, in turn, help to mold that practice. In fact, publishers frequently follow this model now by partnering with educators to conduct their research and development.

Clearinghouse of Web-based Education Content

***SIIA Recommendation:** Ensure a public clearinghouse of technology-based instructional materials is created in partnership with industry, is designed to reflect the new technology paradigm, and is based on objective measures.*

In answer to a growing demand, publishers are creating numerous high-quality, timely and sophisticated technology-based instructional products and services. In response, some state and federal policy makers are looking to develop clearinghouses that provide educators with a one-stop shop to find technology-based products that meet their teaching objectives. We also note that a number of clearinghouses are established or being developed by non-government entities, perhaps minimizing the need for a government version.

In either case, the publishing community strongly supports an instructional materials clearinghouse that allows educators to find appropriate products. SIIA member publishers make significant investments to develop and test high quality, effective products, and welcome the scrutiny of third-party evaluations. Of course, the success of such a clearinghouse requires that its criteria and review process be crafted through an education-industry partnership, fairly represent publishers and their products, and neither chill the market nor the choices available to educators. SIIA has developed the following principles to ensure such clearinghouses are successful and effective:

SIIA Principles for Technology-Based Instructional Materials Clearinghouse

1. **Develop in Partnership.** The clearinghouse must be developed in partnership with the publishing community to ensure the instrument is effective, cost-effective, and timely for both educators and publishers. Without the strong participation of publishers, educators are left with fewer choices and a diminished understanding of what is available, and the clearinghouse is ultimately left with a disappointing level of success. It is therefore critical that the clearinghouse both involve the publishing community from the outset of its development and reach out regularly to garner publisher input and address concerns.

2. Reflect the New Paradigm. The clearinghouse criteria and process should reflect qualities that make technology-based instructional materials unique and in high demand. An evaluation survey must therefore respond in-kind to the diversity of goals and designs among products and services, including such valuable features as timeliness, customization to diverse learning needs and styles, collaborative nature, multimedia ability, access anytime and anywhere, variety of delivery mechanisms (i.e., web-based, stand-alone software, etc.), and continually evolving technology. For example, many web-based products includes regular, even hourly, changes in content; and a clearinghouse must ensure this feature is accounted for in both its representation to educators and its evaluation. As such, it is critical that any clearinghouse be based on this technology paradigm, and that these new tools are not simply fit into a static paradigm designed for print or basal materials.
3. Address Educator Needs. The clearinghouse should be designed to address the most pressing needs of educators and provide that information in a clear and concise format. It could provide everything from a catalogue of products and correlation to state and national standards to an evaluation of products with an interface for educator reviews. The first step in creating this type of mechanism is to identify the priority needs of educators and the publishing community. Clearinghouse organizers should prioritize the most critical goals and work in stages to expand its features to address other needs as deemed necessary and practical.
4. Use Objective Measures. The clearinghouse should be based on objective measures that are widely accepted by publishers and educators. A publicly-funded clearinghouse must not rely on opinion or subjective judgement, because research has demonstrated the effectiveness of technology-based tools and instructional materials depends largely upon the appropriate use of the product and the training of the educator. To that end, SIIA strongly supports the inclusion of a correlation to state standards and assessments, which are often included in the development of products and represent a clearly defined measure for their evaluation. To the extent a clearinghouse includes other measures of effectiveness, it should look to objective criteria that enable a product to be compared against its design goals, including instructional/learning model, knowledge type(s), technology, and other functional characteristics. Finally, a clearinghouse must use reviewers who are well-trained in the goals and appropriate use of technology and of the particular product. Most importantly, it is critical that all products be given a level playing field and that reviews remain impartial.
5. Web-based and Interactive. The clearinghouse should employ the technology that it is reviewing, and should therefore be Web-based and interactive. It should be housed online and provide educators the opportunity to link to all products, which may include online demonstrations. The clearinghouse should be a center of information, and therefore include feedback and appeals provisions for educators and publishers.

Copyright Protection

***SIIA Recommendation:** Encourage the development of web-based education products by both maintaining current copyright laws that balance the rights of publishers with the needs of educators as well as closing unfair loopholes regarding states and databases.*

U.S. copyright law has long protected the ownership rights of content producers, thereby maintaining the market incentive necessary for creators to invest, innovate, and meet the demand for content. With the advent of the Internet as a revolutionary distribution network, copyright law is even more critical to the protection of digital content. As evidence of this, copyright law was amended

significantly in 1998 by enactment of the Digital Millennium Copyright Act to address many of the new challenges posed by the Internet and digital distribution systems. While web-based distance education presents a unique challenge, SIIA believes it is premature to respond by amending existing intellectual property law.

At this stage in the development of web-based education, current law appropriately balances the online protection of content publishers against the fair use of copyrighted materials for education and related purposes. New and ever-changing education and business models, licensing practices, and digital rights technologies must be allowed to evolve unfettered by a legal framework that could create barriers to such developments and reduce incentives among the very content providers who are so critical to web-based education. Under current law, education providers are working closely with publishers on a case-by-case basis to meet the legitimate needs of both parties.

With that said, there do exist two significant loopholes in copyright law that unfairly penalize both content providers and many education institutions. In the first case, federal courts have ruled that state universities, as well as other state entities, cannot be held liable for monetary damages resulting from their copyright infringements. As a result, state universities may use copyrighted works without gaining authorization from or providing compensation to the copyright owner, and they run little risk of being sued by the copyright owner for these activities. State universities that exploit these rulings gain a competitive advantage over private institutions -- who must continue to purchase or license copyrighted products -- and create significant disincentive for educational publishers.

In the second case, existing copyright laws do not adequately protect traditional and electronic databases from piracy. Database publishers invest tremendous amounts of money, time and resources in researching, compiling, updating, marketing, and disseminating databases to the public. Under current U.S. law, however, anyone can easily copy an entire database, call it their own, and distribute it to others; and there is little the original database compiler can do. As a result, many web-based education products and services such as Internet filtering and portal sites are at risk, creating disincentives for their creation. SIIA therefore urges Congress to remedy both situations by passing legislation that would adequately protect database producers against database piracy and subject states to the same copyright remedies as all others.

ENHANCING LONG-TERM INVESTMENT

Technology Funding

***SIIA Recommendation:** Increase, target and sustain public funding to ensure education technology is brought to scale, updated and improved, while avoiding reliance on donated computers.*

Several years into the recent boom in education technology, the danger exists that policymakers, educators, and the public may view these costs as one-time capital expenses, therefore slowing its integration before it becomes sustainable. Yet, as any business can attest, technology costs are a dynamic budget item, requiring continued investment in infrastructure, software, support and training. For example, educational software and content is an ongoing cost, resulting both from payment plans such as subscription fees and from upgrades to meet evolving needs and take advantage of new standards. Similarly, hardware has about a five-year life cycle. SIIA therefore urges increased, targeted and sustained public funding to ensure education technology is brought to scale, updated, and improved to maximize its effectiveness.

The business world can also attest to the fact that technology will increasingly improve operations as its use is refined and users grow more proficient. Meanwhile, at these early stages of integrating education technology and bringing it to scale, targeted investment is critical to maintaining forward momentum, ensuring educators are not inappropriately forced to choose between funding technology or funding other critical school expenditures, and encouraging educators and technology providers to strive for the most efficient and effective use. In addition, these technology resources must be targeted to disadvantaged communities and students. While great strides have been made to reduce the digital divide, continued and expanded efforts are needed to ensure all students have access to high-quality web-based education. School access is especially critical among poorer students who may not have the benefit of home or community Internet access.

Finally, SIIA does not believe government subsidies, including tax incentives, for companies to donate computers is a sufficient solution. Schools must be provided the funding to purchase new computers that meet their needs, and not be instead required to take second-hand and out-dated equipment that often requires significant refurbishment costs and prevents a school from implementing its desired technology plan, system and software. Perhaps the greatest danger, already born out in many cases, is that policy makers will view computer donations as a substitute and significantly cut needed technology funding.

Teacher Training

SIIA Recommendation: *Increase the investment of time and resources in teacher training at all levels of government and among all educational institutions as a critical component to the success of web-based education.*

Perhaps the most critical investment necessary to the success of web-based education is the training of educators at all levels. For example, only about one-third of public school teachers now rate themselves as prepared or very well prepared to take advantage of technology in their classroom. SIIA therefore urges significantly increased investment of time and resources at all levels of government and among all educational institutions.

Technology provides educators with exciting new tools that can transform in a positive way their methods and role, and invigorate their experience. Most profoundly, the Internet can maximize a teacher's time and effect by enabling them to replace, in part, many rote and group activities with individualized instruction in which the teacher serves as mentor and guide to a student's self-paced and self-directed learning. This paradigm shift in teaching stands at a very early stage, and educators therefore need training and practice to understand this dynamic and learn how to best integrate technology into the curriculum. They also require ongoing, onsite maintenance and support to enable them to focus on teaching. Absent such support, the many benefits of web-based education could be undermined. Such training should be designed as follows:

- (1) Technology training should be targeted to all educators, including through pre-service and in-service training of teachers and professional development of postsecondary instructors.
- (2) Pre-service training will require that schools of education devote increased attention and resources, including upgrading their technology, revising their curriculum, training their professors, and partnering with industry and K-12 schools.
- (3) In-service training should include intensive day or multi-day forums as well as activities that are sustained, ongoing and integrated into an educators regular teaching schedule.
- (4) Technology training should both combine specific programs and activities focused exclusively on technology, and should also be integrated into all professional development activities so that

technology is not viewed as a distinct and separate aspect of teaching but rather as an integrated tool to accomplish any and all teaching and learning goals.

- (5) Educators should be encouraged to take advantage of web-based training to support their own professional development, including through distributed learning and on-line communities of teachers.
- (6) Schools and educators should be provided flexibility in their use of public resources to obtain training from whichever provider best meets their needs, whether that be a non-profit entity or the many for-profit entities that are already partnering with schools to integrate technology and are therefore well-positioned and well-qualified to provide the necessary training.

21st CENTURY REGULATORY ENVIRONMENT

To the degree that education is governed by various local, state, regional and federal laws and regulations, web-based education is and should be subject to the same oversight in the name of ensuring quality and protecting students. At the same time, such oversights should be minimal in nature, recognize that technology presents unique challenges and opportunities, and thereby create an environment in which web-based education can test its full potential and meet its full demand. This will require public policies that neither prejudice nor inappropriately favor web-based education, and rely to the greatest extent possible on consumer empowerment and market competition.

Student Aid & Accreditation

***SIIA Recommendation:** Update policies and regulations to ensure web-based education is not inappropriately penalized and is able to compete with traditional educational models, and encourage governing bodies and institutions to develop and implement new competency-based criteria, models and understandings.*

A shift from institution-based to learner-based education requires that many practices and regulations be updated to reflect this new model. Those based on a seat-time (classroom- and semester-based) and single institution model must be changed to ensure web-based education is not prejudiced by long-standing rules and procedures regarding school accreditation, academic credit and certification, student financial aid, and other similar issues. Absent such regulatory evolution, web-based education will be unfairly prevented from both competing with traditional education and from achieving its full potential.

The current system creates a number of student barriers. Much of the difficulty stems from fixed-time and fixed-place assumptions. For example, federal student aid requires that an "academic year" generally include at least 30 weeks of instruction, and that a week of instruction includes at least twelve hours of "regularly scheduled instruction." However, one of the virtues of web-based education is its absence of regularly scheduled instruction in order to meet the important goal of self-paced learning. Similarly, these rules prevent schools from enrolling more than 50 percent of their students in distance education programs or offering more than 50 percent of their classes via distance education. While such student aid rules were promulgated with sound intent, these processes must be changed so that the quality of education, and therefore student and institutional eligibility, is determined not by outdated input measures but by more flexible participation and student outcome measures.

Similar problems exist with school accreditation, which is governed by a variety of federal, national, regional and state bodies. While there currently exist few virtual schools that offer courses directly to students over the Internet for academic credit and degrees, the number is expected to grow substantially in the next few years in response to student demand. However, the many accreditation requirements related to fixed-time and fixed-place are outdated in a model where teaching and learning

are online. Furthermore, web-based education crosses jurisdictional lines of accreditation, potentially creating conflicting guidelines and/or preventing student access.

It is therefore critical that this accreditation process and criteria be updated to recognize the unique characteristics of web-based education, while providers are also held to the same high standards as their competitors. Regulatory barriers must be minimized to enable the new web-based models to compete fairly based on the quality of their product and the satisfaction of their customers. It is also critical that the cooperation between traditional and virtual institutions be at least as seamless as that between traditional institutions. More specifically, students should be able to take advantage of all sound educational opportunities, and be confident their course credit can be transferred among schools of various types. Of course, the ultimate decision must be left to the institution, but policy efforts are appropriate in two ways. First, of course, is the effort to develop new standards and provide accreditation to those virtual institutions deemed worthy. Second is the effort to encourage institutions to accept the integrity of that accreditation and of those schools, and therefore the transfer credit and credentials of students. Similar efforts are necessary with regard to professional certifications.

These accreditation, student aid, and certification reforms present great challenges, but also provide great opportunities as to how we evaluate education and educational institutions. Most profoundly, the shift from a seat-time and single institution model to one based around student needs provides great promise of a parallel shift toward competency-based measures. While such outcomes-based measures are not new, their use remains limited when compared to education's goal of improving a student's knowledge and abilities. A second opportunity exists to enhance the cooperation among various institutions and governing bodies in developing common standards, models and agreements that will facilitate a new learner-based, multiple-institution education model. SIIA therefore encourages accelerated efforts among institutions and governing bodies to develop such criteria, models, and understandings.

Child Privacy & Protection

SIIA Recommendation: *Protect both child online safety and educational opportunity by avoiding inappropriate state or federal technology mandates and instead relying on balanced solutions, public-private partnerships, industry self-regulation and consumer education, and local parents and school boards.*

Reacting to concern about child online safety, a number of public policies have been proposed or enacted that would restrict both the information collected online from elementary and secondary school children and the content those students can access online. Education technology providers consider children's privacy, security and protection from inappropriate content to be a top priority. SIIA and its members are working with educators and policymakers to address these concerns, including through new technologies and evolving business models, with the aim of empowering customers to choose those models that best fit their needs. While this effort progresses, there is some concern that many proposed or enacted state and federal policies may be overly restrictive and produce unintended, inappropriate and detrimental educational consequences. SIIA therefore urges continuation of a strong public-private partnership to ensure policy solutions do not create prohibitively restrictive conditions that may chill development of, and student access to, web-based education. To minimize such risks, state and federal policymakers should defer first to the ability of local school boards, parents, and educators to balance their children's interests with local values and needs.

With regard to student information, public policies often fail to adequately distinguish between they type and use of information, as well as the context in which the information is obtained. One-size-fits-all rules governing the online collection of student information, such as those requiring a parental opt-

in, may prohibitively restrict school-business partnerships to improve web-based education and provide low-cost technology access for disadvantaged students. Instead, such policies should treat personally identifiable information differently from anonymous and/or aggregated information. With the latter type posing no threat to student privacy or security, policies regarding its collection and use should be left to the discretion of local communities.

Similarly, state and federal rules governing the online collection of personally identifiable student information may prohibitively restrict the use of revolutionary education tools. With educational activities -- from traditional testing and test reporting to new customized learning tools that link assessments with curriculum -- increasingly online, even well-intentioned restrictions can create prohibitive barriers. For example, SIIA supports the Children's Online Privacy Protection Act (COPPA), which requires all Web sites to obtain prior parental consent before allowing children to provide identifiable information. However, there is concern that the law does not reflect the uniqueness of web-based education that increasingly blurs the lines between home and school, increases student opportunities, and takes place in many settings often without the presence of a parent. For example, in a school setting where technology is integrated into instruction, online curriculum must be treated like traditional curriculum, whereby teachers are entrusted to protect students. In light of the collective nature of K-12 education, policies that seemingly encourage a student's exemption from online instruction are likely to limit the online opportunities of the entire class. Ultimately, poorly crafted policies may exaggerate the "digital divide" by limiting a young student's ability to access e-learning opportunities at home, in school or in other learning environments.

Finally, high-tech companies are concerned that some policy efforts to shield children from inappropriate Internet content may unintentionally reduce access to web-based education. Specifically, SIIA believes it is inappropriate for federal or state government to mandate specific technology solutions, and therefore urges that no laws be passed that require schools and libraries to implement Internet filtering and blocking technologies. SIIA supports the desire for children to have an age-appropriate, safe and educational online experience. High-tech companies believe the decision for accomplishing this goal, as well as other education technology-related goals, should be made at the direction of local parents and school and library boards, and not through a one-size-fits-all mandate. Such a requirement fails to recognize constantly evolving technology, alternative strategies, and the prerogative of local citizens to make these decisions in light of unique local needs, values, and educational goals. The result is the usurping of local control and a signal from government to its citizens that they can not be trusted with their children's online safety.

Most communities are addressing this issue of student Internet access and have implemented such solutions as acceptable use policies, adult oversight, family education programs, and technological controls that best reflect local norms. A filtering mandate will reduce the implementation of such alternative and complementary strategies. While filtering technology can be effective, it may not be the perfect solution for all communities. Yet, federal endorsement through a mandate will inevitably create a false sense of security among many and curtail community involvement, parental decisionmaking, and the search for improved methods. SIIA members are especially concerned with the burden that such regulation would place on many schools and libraries. The meeting of such rules, the potential legal liabilities, and the reasonable but not insignificant financial and administrative costs of filtering will inevitably force schools and libraries to divert some resources away from other educational purposes, and could force some to simply eliminate Internet access.

As education technology evolves, the education and high-tech communities must collaborate to ensure these student privacy and protection concerns are addressed while minimizing adverse educational impact. Industry self-regulation must be the first response to help minimize perceptions of student risk, while education of consumers and policymakers can help ensure government regulation is narrowly and

appropriately targeted. In addition, reliance on elected school boards to look out for the best interest of their children when developing education-industry partnerships may often best address unique local concerns and needs.

The Software & Information Industry Association and its member high-tech companies are very supportive of the Web-based Education Commission's efforts to enhance public policies and ensure the benefits of the Internet are brought to all students. From Kindergarten to the corporate classroom, web-based education is challenging traditional views of teaching and learning, fundamentally changing many long-standing education models, and improving educational opportunities and achievement. While great strides have been made, this transformation is relatively young. Maximizing the benefits will require additional efforts and a supportive policy environment.

SIIA therefore urges the Commission to put forth recommendations that ensure public policies: (1) neither prejudice nor inappropriately favor technology and web-based education over "traditional" education; and (2) rely to a great extent on consumer empowerment and market competition to meet education and education-technology needs. With such policies in place, the Internet will increasingly help transform and improve educational opportunities and achievement for all students. SIIA will continue to work toward this goal, and looks forward to further efforts to develop and implement effective policies in cooperation with the Web-based Education Commission, educators, policy makers, and other stakeholders.