WHITE PAPER – The Role of Internet and Computing Core Certification (IC^3) in No Child Left Behind

By John Ebersole

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Executive Summary

The clock is ticking for educational institutions across the country. U.S. standards outlined in the No Child Left Behind (NCLB) Act have riveted education and government sectors on issues surrounding academic standards. With the clarification of NCLB to cover technology in Title II, Part D, there is also increased urgency around setting and raising technology skills standards.

A recent release from the U.S. Technology Administration stated that "America's competitiveness in the knowledge-based economy depends on the skills and abilities of our workforce… Advanced technologies have the potential to boost the capabilities, productivity, and flexibility of American workers"*. With large federal education funding on the line, schools, as well as local and state governments, are more driven than ever to prepare students for the digital economy and its competitive job market.

Although NCLB is U.S. centric, the outcome of improved standards for education has global implications. Hence, NCLB has attracted the interest of The Global Digital Literacy Council and this author. Competition in a global economy has driven countries to examine infrastructure improvements to enable success in a business climate made possible by the Internet and technological advances. In the case of NCLB, the ability of future U.S. workers and companies to compete in global markets will depend largely on the success of NCLB and other initiatives tasked with raising the bar for digital literacy.

Internet and Computing Core Certification (IC^3) offers immediate and effective relief for state and local governments, as well as educational institutions wrestling with the challenge of providing measurable results mandated by NCLB. With billions of dollars hanging in the balance, IC^3 is the best solution for providing affordable "rigorous evaluation", "timely information", "electronic means" of reporting, and "research-based" certification for providing benchmarked progress towards digital literacy at least by the "eighth grade". IC^3 achieves the objectives set out by NCLB for "public-private partnerships" focused on providing "high-quality professional development programs" for educators to ensure "highly qualified" classroom instruction. This fact opens the door for federal budget participation in programs leveraging IC^3.

Origins and Mandates of the No Child Left Behind Act (NCLB)

Submitted in 1983 to President Reagan, the education report titled "A Nation at Risk," outlined problems in our nation's education system and challenged America to begin the process of reform.

In the ensuing two decades, many attempts were made to make improvements. Student-to-teacher ratios went down. Per-pupil spending went up, along with teacher salaries. Despite all of these efforts and hundreds of billions of dollars in increased spending, student achievement did not improve.

Threatening the U.S.'s ability to compete in global markets, new solutions have been sought after. In that search a key ingredient was found missing from previous reform efforts - accountability.

"No Child Left Behind holds schools accountable for results", stated Rod Paige, U.S. Secretary of Education. It provides unprecedented local control and flexibility. It focuses on instruction and methods that work. It empowers parents with information and choices for their children."

Clarification of the Role of Technology in NCLB

"Technology empowers the education reforms of No Child Left Behind by expanding educational opportunities for students, equipping teachers with engaging instructional tools and enabling parents to become more involved in their child's education", stated Paige.

Not only does technology empower education as stated by Paige, "digital liteRacy" has joined Reading, wRiting, and aRithmetic as a fourth "R". Stated another way, the 3 R's have been replaced by the 3 C's – Computing, Calculating, and Communicating. Without basic computer and Internet skills students and teachers are crippled in their ability to advance scholastically and in the workplace.

For this reason Title II, Part D of NCLB clarified and elevated the role of technology skills in achieving all aspects of the Act. Specifically, NCLB now includes support of a comprehensive system that "effectively uses technology…to improve student academic achievement". It further promotes "initiatives involving public-private partnerships" that facilitate digital literacy and access. In addition, technology is deemed to play a preeminent role "to enhance the ongoing professional development of teachers, principals, and administrators".

The Need for Independent Digital Literacy Standards

NCLB requires "rigorous evaluation" and measurement. The reporting requirements of the Act are not for the faint of heart. Plans for action with measurable goals are being reviewed on a state by state basis. Measurable outcomes with regular improvement

must be demonstrated, placing huge responsibility on state and local entities for meeting legitimate standards of excellence in education.

In the case of technology, "every student" must be "technologically literate" by the end of the eighth grade. This sets a high bar, but leaves room for error for states defining "literacy". An unbiased, independent, and expertly crafted standard holds the greatest hope for compliance.

Global Origins of Internet and Computing Core Certification (IC³)

The vendor neutral Internet and Computing Core Certification (IC³) (www.certiport.com/ic3) is now used in over 60 countries. IC³ is the first global Internet and computing literacy measurement that can truly be considered a standard. Initial global surveys and participation by hundreds of subject matter experts, including many educators, laid a firm foundation for standardization. Other assessment programs have broad regional reach and market penetration, but the absence of psychometrically validated research, development, and delivery processes fail to qualify them as true measurement standards. The absence of timely updates further diminishes other assessments' value for relevancy and currency.

IC³ is the only such certification or assessment to rely on rigorous implementation methodologies that produce consistent results across industry markets and countries. IC³ is the product of a rigorous and psychometrically validated review and development process combined with a uniform implementation and data management system. This makes it possible for IC³ to uniformly qualify all markets it serves as digitally literate. With the rapid rate of change in technology, IC³ further ensures that state programs for teaching and measuring digital literacy will pass the test for relevancy and currency.

Unique Features of IC³:

- **College Credit**
- **Performance and Knowledge-Based**
- **Global Standard**
- **Professional Validation**
- **Foundation for Other Certifications**
- **The Start of IT Careers**
- **Accepted in 60 Countries**
- **Authenticated Digital Transcripts**
- **Government Approval**
- **International IT Support**

Reporting, Measurement, and Accountability

Under NCLB states must provide "timely information on the results" of standards measurement. This information must be "widely accessible through electronic means". This plays to one of the strengths of the IC³, a secure, global database of results that provides an Authenticated Digital Transcript to test takers and to those for whom they authorize access.

Since tests are always administered in a proctored environment and scored automatically, integrity of results is ensured. Storage of results in a secure, off site location provides educators, administrators, and government oversight representatives with a high level of confidence in exam results.

The International Society for Technology in Education (ISTE) has adopted IC³ to provide assessment tools for ISTE's widely adopted National Educational Technology Standards (NETS) (http://cnets.iste.org). Initially, ISTE will focus on assessment of teacher competencies using ISTE's NETS for Teachers (NETS*T) incorporating IC³ for basic computing and Internet knowledge and skills.

ISTE's leadership is critical as this juncture when states are recognizing the potentially huge cost associated with NCLB measurement. Frank South, director of technology and innovative programs for the Nevada Department of Education, expresses concern, "For budget spending at the state level, there's more emphasis on data collection than there has been on educational technology, and that's a direct result of No Child Left Behind. Existing jobs and resources are being redefined for data collection purposes instead of educational technology."**

Implementing IC³ as a state standard for technology literacy tremendously reduces the burden of measurement and allows states to stay focused on the business of education.

Best Hope for NCLB Success

As the clock ticks on towards NCLB deadlines, states are still wrestling with these basic issues of how to determine standards for students and educators. Recent reports suggest "that many states have spent the past year trying to define what they mean by a 'highly qualified' teacher"*. IC³ cuts through this quagmire of opinions and points the way to rapid compliance. With hundreds of experts worldwide contributing to the standard, IC³ has a tremendous head start on effectively measuring "highly qualified" teachers and "technologically literate" students.**

Available through thousands of testing centers in all 50 states, IC³ can be implemented rapidly without costly infrastructure changes. Utah, South Carolina, North Carolina, California, and Virginia are among the states that have demonstrated leadership in adopting the IC³ standard at some level for education. ACT, American Council on Education (ACE), National Skill Standards Board (NSSB), CompTIA, and

International Society for Technology in Education (ISTE) are among the organizations endorsing or implementing IC³ and recognizing the value of this true global standard.

State and local governments, along with educational institutions are faced with the daunting task of improving student and teacher performance, including and leveraging technology. With all that is required to reach NCLB objectives, integration of IC³ into current plans will accelerate state compliance and free up limited resources to apply to other areas of compliance for which solutions are not so clear.

About the Author

John Ebersole serves as Associate Provost and Dean of Extended Education at Boston University. In this capacity, he oversees Metropolitan College, the School of Hospitality, Summer Term, Distance Education, Corporate Education (IT and management training) and BU Global. Prior to his current position, Dean Ebersole held positions in higher education at Colorado State University and the University of California, Berkeley. He also held executive positions in business and the U.S. Coast Guard.

Ebersole is the Immediate Past President of the University Continuing Education Association and currently serves on the advisory board for Prometric's Certified Proctor Network. He holds graduate degrees in both business and public administration and has completed the coursework for a doctorate in executive education from The George Washington University. John may be reached at jeber@bu.edu.

About The Global Digital Literacy Council

The Global Digital Literacy Council represents a global delegation of key stakeholders- including corporate executives, government officials, academicians and industry luminaries focused on the identification of issues, definition of best practices, and research and development of programs related to Global Digital Literacy. For more information, please visit www.gdlcouncil.org.

For more information regarding Internet and Computing Core Certification (IC³) visit www.certiport.com/ic3 .

***Source: Press Release - U.S. Department of Commerce and the U.S. Department of Education www.technology.gov/PRel/pr031023.htm**

****Source: eSchool News – "State Ed-Tech Budgets are Shrinking, Survey Says" 12/12/03**

*****Source: Education Week – "In ESEA Wake, School Data Flowing Forth" 12/10/03**