Help Me Understand How to Resolve These Mysteries

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INTRODUCTION

Make no mistake, unless the nation's schools achieve a world-class technology infrastructure within the first several years of the new millennium and learn how to effectively use the already impressive and rapidly expanding new technologies in school management, instruction, and assessment, our students will not be prepared to meet the challenges of the 21st century, and the quality of our nation's future will indeed "be at risk." Since the innovation and economy of this great nation is also the main energizer for advancing the standard of living worldwide, it is even more imperative that we, as rapidly as possible, close the huge technology gap that exists between schools and the greater American society.

SELECTED BARRIERS

- **Educators are either ignorant or naïve about the impact of the new technologies:** The overwhelming majority of educational leaders do not understand the degree to which technology has changed our world, changed the content and processes of the core subjects taught in the schools, and changed the way enterprises are now managed and evaluated. They do not believe that this powerful technology revolution requires dramatic changes in them or in schooling as we know it.
- **The new technologies are not "just a set of new tools!":** It is folly to describe the new technologies as "just a set of new tools." The computer (and the growing array of marvelous technologies it has spawned) is a "once in a century" invention. Rather than being new instruments for a toolbox that would help us do the same old things more effectively and efficiently, the new technologies have transformed the way we think about things, the way we see things, even the "way we do life." They have, almost overnight, created a global universe where the whole of human knowledge and the whole of humanity are almost instantly accessible to every one of us. It is indeed an amazing New World. How fortunate we are to live in these times.
- **The new technologies— a transformational educational approach that has yet to be tried:** How can we truly evaluate the effectiveness of technology in schools when not one of the nation's more than 112,000 schools has an ideal technology infrastructure—let alone the time and funds to train its teachers, administrators, and students to effectively use whatever technology does exist. According to the CEO Forum, the overwhelming majority of schools have a totally inadequate technology infrastructure.
- **We are a nation of hypocrites:** We proclaim to the world that our children are our most precious resource and the keepers of our future. Time after time, surveys on social priorities give education the highest scores, yet we have found ways to provide every major part of society with cutting-edge technology, except our schools. Although there is a very clear and critical "digital divide" between the affluent and the poor, between the suburbs and the inner cities, between Anglos and minorities, there is an even more serious "digital divide" between the nation's schools and the technology-centered society that supports them. Both "divides" are serious threats to the economic welfare of this great nation.
- **There is currently no substantial body of relevant assessment tools:** Technology critics cry out for a clear demonstration of how the new technologies can improve test scores in the basic

subjects—which is impossible, since we would be using 19th century measures to determine the success of 21st century educational approaches. The content and nature of the core subjects have been dramatically transformed by the new technologies, and only measures that involve these new technologies can accurately evaluate real student achievement in those subjects.

- **The new technologies are not expensive:** Almost all discussions about obtaining needed new technologies emphasize the "high cost" of those technologies. Yet, desktop PCs and peripherals can be purchased for well under $1,000, laptop computers for $1,200, and thin clients for $300. The cost of GPS instruments, handheld digital devices, digital cameras, data loggers, and a myriad of other new educational technologies have plunged dramatically—even more than predicted by "Moore's Law!"

POSTLOGUE: "SCHMIEDER'S MEASURE"

We will not have truly transformed the nation's schools into 21st century learning centers until any one of us can randomly pick a school system, a school within that system, a time of day, a classroom to visit in that school at that time, and find that: the learning in that classroom is technology-centered, linked to the vast and timely resources of the Internet, and orchestrated by a teacher well-trained in the use of the new technologies.

REFERENCES

Schmieder, A. (Ed.). (2002, September) *Nowehere in technology: All children left behind,* (p.16-17). Augsburg College and JDL Technologies.

The CEO Forum: School Technology and Readiness. (2001, June). The CEO Forum on Education and Technolgy, (p.30)., Washington, DC.