
1-to-1: Lead with Vision

First let's talk about the learning, then we'll talk about technology
John Abbott

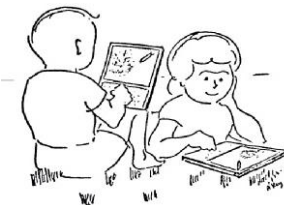
Background: A Vision of a Powerful Thinking, Learning, Doing Tool

Today we are fortunate as educators to have an increasing availability to a body of knowledge surrounding learning which has been generated by scientific research. Through thoughtful study and action, teachers can translate this research and the accompanying principles for action into rich and effective 1-to-1 class environments. At the heart of this work are the teachers pedagogical understanding and practices (the beliefs, understandings, and skills of 1-to-1 teachers), including: how students learn, how much students can learn in the course of their class, and the types of instructional practices, student engagement tasks, and technology learning tools that best produce the desired results. Learning about the historical development of and purpose for laptops informs teachers about the types of 1-to-1 pedagogy they should develop.

Computer scientist [Alan Kay](#) is identified as *one of a handful of visionaries most responsible for the concepts which have propelled personal computing forward over the past thirty years* (Wikipedia). In 1968 he envisioned a learning tool for children that would provide them with opportunities previously unavailable; a tool that would provide the *ultimate creative environment for students of all ages* ([Time magazine, April 2013](#)).

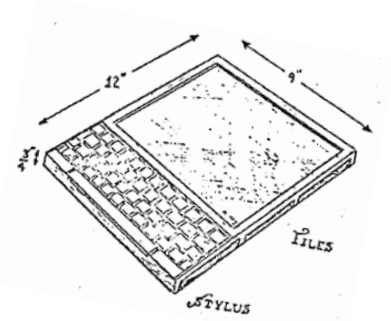
In 1968, I visited Dr. Seymour Papert, at the MIT Artificial Intelligence Laboratory. Seymour was working with kids, teaching them to use the LOGO program that they had designed there. By learning to use the program and doing some simple programming, these kids were able to learn meaningful mathematics and to understand the foundations of some very powerful mathematical ideas. The computers made this possible.

I had been working on a desktop personal computer in the late '60s, but on my return plane ride back from Cambridge, I realized that the desktop computer was really just a phase, and that what



we needed to be doing was working on a computer for children. I remembered reading about how the printing press led to a huge change in how ideas were argued. The reliability and accuracy of printing allowed people to present their ideas with fewer claims and more logic, with less allegory but tighter reasoning. So I wondered how computers could change the way ideas are presented and tested. More and more, I was thinking of the computer not just as hardware and software but as a medium through which you could communicate important things...an instrument whose music is ideas...The important thing here is that the music is not in the piano. And knowledge and edification is not in the computer. The computer is simply an instrument whose music is ideas. For me, the potential of computers as an aid to learning was and is, in itself, a validation of them. Just as the book was an extension of oral medium, so is the computer an extension of the print.

Based on his experiences, Mr. Kay would go on to develop in drawing the [Dynabook](#). He envisioned a tool that would take its users from what he saw as the current reality of the desktop, that of passive receivers, to becoming active creators, with all forms of media available upon command. His theory was that if students were given the right tool, resources, and opportunities they could learn the necessary concepts, and they could also apply these concepts in new and, until then, unheard of ways; that they would learn more and faster if they were given a powerful tool for thinking, learning, and doing/creating. Although the Dynabook was not developed physically to a point where it could be used en masse by students, Kay's vision led to the first portable computing devices and the potential for 1-to-1 classrooms today.



The vision of technology, and specifically laptops, being used as a powerful thinking, learning, doing tool by students was first translated into action at [Methodist Ladies College](#), an independent girls school in Melbourne, Australia in 1990. The principal of the school, David Loader and three fifth grade teachers, [Steve Costa](#), Jenny Cash, and Andrew Strooper learned [powerful lessons](#) that provided an example of the possibilities.