

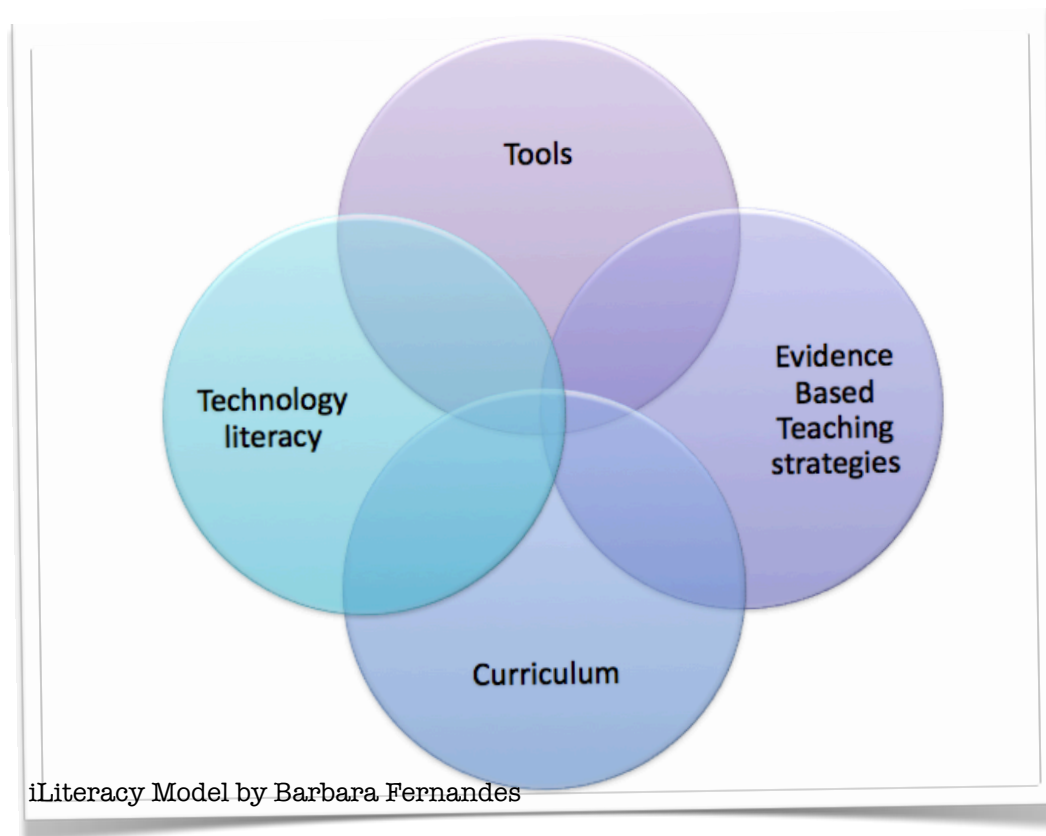
Embracing the need for a revolution in education through iTechnology:

Understanding the iLiteracy model for teaching all.



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The iLiteracy Model



Teaching in the technology revolution era requires education to evolve in order to provide students with the support they need to become participants in society. It is time for us to teach our children to become an ever evolving learner; but we must first educate our educators to become ever learning educators. Before students are able to meet the demands of this globalized world, educators must achieve a level of proficiency and become literate in the four areas of the iLiteracy Model.

The iLiteracy Model proposes that educators must be competent and knowledgeable in four areas:

1. **Tools:** e.g: iPads, iPods, Computers, Apps, Tablet computers, etc.
2. **Teaching strategies:** small groups, modeling instruction, etc.
3. **Curriculum:** Math, literature, reading/writing, etc
4. **Technology literacy:** updating apps, accessibility features on devices, updating operational systems, etc.

These 4 areas work together in building the knowledge and proficiency educators must obtain in order to prepare their students. While curriculum and evidence based teaching strategies are already part of the training received during their education and in-services; the tools must be embraced and provided by educational institutions and technology literacy must be achieved through frequent training and constant use.

While these four areas are interconnected and may not be separated at a practical level, we will attempt to discuss each area separately for didactic purposes only.

1. The tools

While we have evidence to show that families with better access to books and higher educational levels are directly related to student success, will we soon see a shift in which families that have access to technology tools be directly related to student achievement? Today the students who would not normally have access to books at home can at least have access to them in the school environment and free public libraries. However, if the parents cannot provide tech experience to their children and schools are not providing this level of access, how will students from lower economic backgrounds succeed in the future society? Tool literacy has to become as basic as traditional literacy.

a. Technology & ADL

The touch technology has become part of essential functions in society such as filling up a gas tank, driving around town using GPS devices, making bank transactions and many other activities of daily living. While basic activities of daily living (hygiene, feeding, dressing, elimination, etc) do not directly involve the use of technology; instrumental ADL (managing money, shopping, telephone use, use of communication devices, etc) are changing at a speed never seen before.

As the tools evolve, the need for training also does. In order to provide users with appropriate training on new devices needed for participating in society, instructors (educators, speech therapists, AT specialists, occupational

therapists) must also become proficient on the use and appropriateness of the new technology.

Over time, functions that could once be performed by avoiding the use of technology; will soon not be able to be completed without at least basic proficiency of these tools. Thus the need for an urgent intensive update in current teaching methodology and curriculum. This urgency especially applies for special education curriculum; whose individuals may significantly benefit from the use of assistive technology.

b. The tools

While the focus of the iLiteracy Model is the mobile touch technology, all technology and innovation must be at least investigated and paid attention to as they may become fundamental to our human participation in society.

School districts in the United States have started to embrace the use of iDevices (iPads & iPod touches) as possible educational tools. This is just the first step towards preparing students for the new “tech era”.

The iDevices



The iDevices bring with them the possibility of a dynamic learning experience in which students are engaged in learning the curriculum while becoming proficient with using tools that may become an intrinsic part of participating in society. While many may unfortunately advocate that teaching the curriculum is the sole purpose of the school, we have to start realizing that

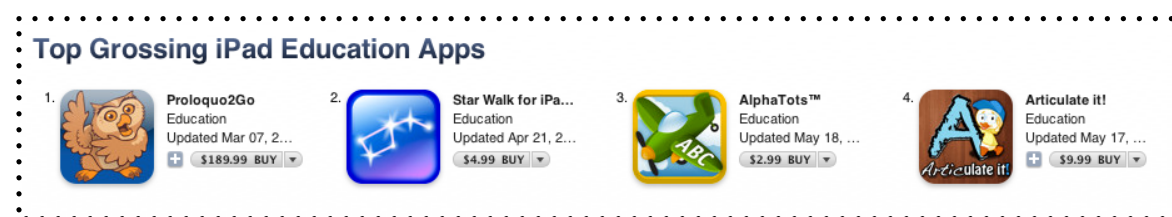
depriving students of achieving technology literacy through intensive use of these tools may hinder their ability to be successful in the future. Learning the tools has become as important as learning the curriculum.

The iPad is a device developed by Apple,inc. which allows users to access the web, e-mail, and perform a variety of functions using a multi-touch screen. In conjunction with apps, the iPad can be transformed into an assistive device for

communication and learning. Due to its intrinsic versatility, the iPad is reshaping the use of technology and making it into the lives of individuals who otherwise would never have access to basic communication devices and learning devices.

While it was possible to learn content in the past without the need of learning the tools, today learning to use the tool can be fundamental to learning and teaching content. Educators must familiarize themselves with new technology tools. Understanding how they work, how to maintain and care for the devices, and access its functions is not longer solely a need of the “technological support”. Educators must become the new technical support.

The Apps



With over half a million apps on the iTunes app store, and hundreds of new apps being published daily, educators and parents must constantly seek updates on what is available and what is needed. While the “App A” is the one that meets the needs of this student today, it may be obsolete tomorrow but educators and parents may not even know of its existence yet.

While the market of traditional educational materials has been very slow in providing up to date materials; and not releasing revised editions until decades have passed, the tech era can make apps and devices obsolete in as fast as 6 months. Both app developers and device manufacturers have been able to meet the demands of an ever changing world.

This constant rush for improvement also brings up a responsibility of constant updates by educators to learn new features, requirements, and usability characteristics of new devices and softwares. Never before the need for in-services and constant training has been this intense. Are educational institutions and educators ready for this challenge?

Pitfalls

The combination of an open source publishing platform (iTunes) and the much overdue need for affordable and available tools can also be a dangerous situation, in which consumer, educators and parents, have not yet been informed about potential pitfalls. A shift in mentality “ the student/my child need the best device” to “what does this child needs” needs also to be made for apps for learning and communication apps. The model of one app fits all should be avoided at all costs as we know each student learns differently.

2. Evidence Based Teaching Strategies

Evidence based teaching strategies refer to using teaching methods that have shown to be successful with student learning. These “techniques” have received a lot of attention lately and educators are pushed to use effective strategies to help their students learn. Therefore, not much is needed to be addressed with regards to the need to train on this aspect of the iLiteracy. However, three key points must be discussed:

- a. The need to still use effective learning strategies when utilizing new technology tools;
- b. The importance of identifying specific teaching strategies for technology tool proficiency;

The need to still use effective learning strategies when utilizing new technology tools.

“ I was teaching my student to pronounce them sound “m” but the app gave me a word my child does not know: Mango- this app sucks!”. I heard this from a speech therapist, saying that one specific application for articulation was not appropriate because it included a vocabulary the child was not familiar with: Mango. My answer to her was: “why didn’t you use that as a moment for increasing the student’s vocabulary?” .

While teach students one specific concept using apps and the iDevices, known for providing automatic data tracking, built in reinforcers, and all things educators

would have to provide; many times they forget basic teaching principals and expect apps to do all the teaching.

iDevices and apps are not replacing the need for effective teaching practices. The educator must still apply his knowledge and skills and provide students with maximum learning possibilities.

In the “iDevices do it all era”, educators cannot treat these devices as televisions. If used as television rather than a tool for teaching, the devices lose their potential. While some apps can be used by the students independently, it can also provide the support that was much needed in education for focusing on teaching rather than tracking progress, and collecting data (which is now done automatically many times).

The importance of identifying specific teaching strategies for technology tool proficiency

Is there such a thing as evidence based techniques for teaching students when technology is introduced? We don't know that yet as innovation in any area always precedes evidence. Investigating this possibility should be the target of upcoming research.

Pitfalls

The need to innovate and progress precedes evidence based practices.

Innovation and research based methods aren't necessarily best friends. However, this should not hinder the possibilities that new trends can have a positive impact on our lives. While we have not yet research to show the impact the use of the iPad has on student learning and engagement; it is obvious to the naked eye the increased level of motivation and participation the use of the iDevices has brought to those implementing it with their students.

While we want to protect our children by avoiding the implementation of teaching techniques that can lead to lack of success, we also want to be able to track progress of each student overtime which is also a valid display of the success achieved by innovative technology when long term studies have not yet been published. Case studies can also provide valuable information about apps and devices that have shown to be effective to at least one student.

Educators and speech therapists have openly reported the impact the use of the iPad has on their student's behaviors.

Liberman, a Speech-language pathologist reported on the shift of student's expectations: "one session I pulled out a board game and my student said, "but it's not the iPad!". It is clear to the naked eye that student motivation has been one of the most obvious responses to the use of the iPad in education. Tracy Genaw says "They're more motivated to stay on task for longer periods of time." Renna Joy reports increased motivation, attention and engagement. Three key aspects of learning.

While these are just reports from professionals, rather than a full study, these reports must be taken into consideration as these are the professionals that directly work with their students. Such an apparent shift cannot be ignored.

Cindy Meester reports the following: "The kids are more engaged and focused within therapy when I use apps. I am able to use my iPad to increase turn taking and cooperation skills. The portability makes me able to take therapy anywhere! Access to videos, images, etc. is immediate and helps kids to see, hear and understand whatever we are learning."

3. Curriculum

The curriculum refers to what must be taught to students in the classroom regardless of which methods or tools are used. For example: students must learn how to read and write.

Each educator has a curriculum to follow provided by educational institutions. These vary widely depending on the state and country. However, it is a universal fact that schools will have a curriculum.

Students must master that curriculum (modified or not) in order to graduate. Despite the fact that many agree that the curriculum is outdated and does not reflect the reality of our students, this is a discussion for another write up.

4. Technology literacy

Technology literacy is one of the component on the iLiteracy Model that requires the most attention as of June of 2011.

Technology literacy refers to the ability to use tools proficiently as to provide maximum student participation to access the curriculum while focusing on teaching strategies. Getting wrapped up on how to implement the technology should not be an issue in the education of the future.

How can students be expected to become proficient in using technology when many times educators are not proficient themselves? How will students from lower social economic status perform on the job market that requires “tech literacy” when their possible only source of learning is not providing this exposure.

While the new generation accepts technology as a basic part of their lives, educators with “experience” need to consider becoming “technology literate” for the sake of their students.



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Barbara Fernandes has developed 22 Educational and Medical apps published by Smarty Ears (www.smartearsapps.com)



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