

# **Learning Never Ends**

## **A Reflection of Learning to Shape the Future**

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Seven-year-old Thomas Aquinas is looking out the window of St. Elsewhere Grammar School, dreaming of a white Christmas, though there isn't a snowflake falling. Quite merrily though, he sings under his breath: "Jingle bells, jingle bells, jingle all the way. Oh, what fun it is to ride in a one horse open sleigh. Heh!!!!" Wildly, he taps on his desktop to keep time. Other students start to laugh nervously and look over from their computer screens, ignoring the images of a spinning, pre-historical Earth, its slowly dividing continents, and the good Sister Emmanuella.

As Thomas's concert turned from jingling bells to chestnuts roasting, Sister "E" grasps a ruler in her hands until her knuckles turn white. She shakes her head and almost laughs herself. The imp, she was sure the next tune would be about misfit toys or as he sang, "*mixfit* toys." Well at least he wasn't dancing up and down the aisles today like last Friday. But with Thomas Sister Emanuella thinks it is something every day if not every period which at worst caused him to dispense with the reality around him and at least leave the page the other children were turning. A child with imagination certainly, he had just asked if the dinosaurs had guardian angels, and if there were a special dinosaur heaven for good dinosaurs like Aladar. He was at least a curious child. For most of the school day, Thomas seems to be in his own world. She wonders if he is ADD and should be taking Ridlin. "Come, children;" Sister Emanuella says while pointing to the overhead projector, "name all the continents with me. We will be making our continents out of Sculpey this morning, and rewriting one of the world-making myths for homework tonight."

Amazingly, Sister Emanuella believes that the launching of the Information Age, with computers, Internet, and projectors have not made her teaching easier either for students like Thomas or those with normal attention spans, the electronic innovations of the last fifteen years have just made her lesson plans more complex. Like her, David Rose, Ed.D., and Anne Meyer,

Ed.D. (n.d.) argue that, “While assistive technologies are of tremendous value, they will not provoke fundamental changes in education for most students with disabilities. Next-stage educational technologies will go beyond providing better access to existing methods and materials; they will embody fundamentally different concepts of learning (and thus teaching). They will change the learning goals, the teaching methods, and the means of assessment for all students.” (p. 2)

Rose and Meyer (n.d.) indicate that the new learning environments incorporate three levels of support and challenge in the Universal Design for Learning design (p. 5):

1. Multiple Means of representation - provide basic access and multiple routes to meaning for all students.
2. Multiple Means of expression - alternatives that involve rich mixes of writing, illustrating, speaking, video-making, and drawing. The method of evaluation will suit the task and the means. Students will be required to meet a higher standard of expressive literacy—knowing in what contexts (for which purposes and for which audiences) to use text, images, sound, video, or combinations of media. Evaluation will be sensitive to purpose, audience, and the strengths of the learner. The creative expression of students with motor difficulties will not be evaluated via handwritten assignments.
3. Multiple means of engagement - cognizant of the centrality of motivation in learning, and of the individual differences that underlie motivation and engagement. As a result, and given the flexibility of new media, they will provide alternative means of engagement—more novelty and surprise in the learning environment.

Now all these things, multiple means of representation, multiple means of expression, and multiple means of engagement were possible before computers sprang into the classroom, but they took more time and planning. More paper, more paint, more glue. Now students like Arthur and Thomas could printout their drawing of the splitting continents with a keystroke. And hopefully, the drawing would make it to the refrigerator like hers had thirty years ago.

Thomas’s rendition of *Mixfit* Toys, reaches a crescendo when Sister Emanuella storms down the aisle, her dark robes flowing out like a great blizzard. Waking from his daydream or

cognizant of impending doom, Thomas blurts out from mid-note, “Pangea turned into two new continents Laurasia and Gondwanaland, which then formed the seven continents: Africa, Antarctica, Asia, Australia, Europe, North America and South America . . .” Master Aquinas looks up into her furious face with his expansive blue eyes and a crooked grin. Innocence melts the tempest. “My screen froze,” he apologizes and points at the Macintosh that some parent donated. “Like Sponge Bob Square Pants.”

“Sister E” clucks under her breath, shakes her head, takes a deep breath, and nods to Mary Ellen.

“Shove your desk next to hers, and obey our rule of Silence!” Technology, she believes is as much a curse as a blessing, maybe more of a curse. There was something honest about her cutting out the outlines of the continents, coloring them, and sticking them to pasteboard. Thomas and his ilk would mouse their way through the same thing in seconds: outlining the maps of the changing continents, saving and inserting them to a different document, and then using a program like Photoshop to brush in the colors. Quick, easy, no messes, no spills. No glue in the hair, no paint on the desks. Almost disinfected. If the screens worked. If the printer cartridge had ink that was. Sometimes the devil himself must consort with the machines, she thought to herself. Bending over and rebooting the machine, she wondered if her brother at East Indian Springs Elementary had such technological problems. She thought not. These antediluvian Mac’s seemed to crash way too often. Basil was always boasting about his Dell Computers. He had a classroom of Dell Pentium 4’s. She had whatever the parent’s donated and whatever the Vice Principal, Brother Chandler, could cobble together. Sometimes his cobbling worked, sometimes it didn’t. There was a whole row of IBM’s with dead screens in the corner.

“As the developers of computer hardware and software recognize the benefit that can

be derived from all individuals being able to use the same computer equipment and software applications, the concept of universal design in the development of new products becomes more accepted, and built-in access becomes more readily available.” Richard Riley, Secretary of Education (“Ensuring Access to the General Education Curriculum”, 1999).

More chuckles to her right and the loud pouting of a female voice: Mary Ellen was complaining. Thomas had clicked a few strokes and now was gazing at a falling snow on Mary’s screen from a live feed in Canada. She clucked again, and Mary took over the keyboard. Ach. At least Mary knew how to send email at seven-years-old, and she knew how to fend her way about the net. Quite different from children her age even five years ago. A young woman of the future, who would have to be reckoned with. Truly, though the last Governor of the state had ensured that all schools in the state had email accounts few of the nun’s at St. Elsewhere would send email, much less take the children to the computer lab. Even for Sister “E” who took advantage of the mundane as well as the mystical computers were a mixed blessing. “Most educational technologies in classrooms are at the early stages of adoption. Like most new technologies in the early stages, these educational technologies are presently being used in “traditional” ways, they are new tools being used to do “old” things. Word processors, calculators, and electronic learning games are good examples—these tools provide improvements in efficiency over print-based technologies (e.g. pencils and paper) but they do not fundamentally change the nature of the educational enterprise.”

Emanuella had spent hours with her sisters to try to catch them up to the lay teachers and those like her brother who taught at public schools. It was trying because some of the lay teachers had invested in lap tops, enrichment and remedial programs in Mathematics, English, History and Social Science brought them into the classrooms for their students. The students

were allowed to take them home for extra points. But all found out soon that no matter what programs the teachers offered, only some students could take advantage of them. Children whose parents did not have the latest Pentium could not run some of the programs. Students whose parents owned IBMs could not use the MAC programs. It was a modern day Tower of Babel. The teacher's program could not talk to the student too often.

The mismatch of technologies was only one of the problems. Like other parochial schools, St. Elsewhere had no real director of technology, and no real vision of what was needed. A teacher could not teach a series of unrelated lesson plans. Teachers needed a unified unit plan a series of connected unit plans to make up a semester plan. To direct others, one must have a direction.

Assistive Technology with the universal design approach can benefit everyone, rather than just include the individuals with disabilities. “When universal design principles are applied to physical space layout, accommodations are built-in rather than added as an afterthought.” (“Ensuring Access to the General Education Curriculum”, 1999)

Sister Emanuella wanted Thomas, Mary, and her other students to be on the same ground as her brother, Basil's students. In some ways her dream was as fanciful as Thomas's. The divide between public and private seemed to be a growing abyss. Some researchers were more hopeful so Sister “E” kept dreaming. “The result of new technologies will be a re-centering of the core agenda of schools on learning instead of content. This will be fostered by advances in our understanding of what learning really is, how diversified it is, and which methods—such as Universal Design for Learning—are articulated and flexible enough to meet the diverse learning needs of all the students.” (Rose & Meyer, n.d.)

When Emanuella read Rose and Meyer (n.d.), she was the convert. “New Technologies

are changing our concept of the nature of learning, media, the learner, teaching and learning, and assessment.” But the actualization of the dream in her community seemed distant. Perhaps it would be Thomas’s children who would reap the harvest.

Surely she wanted to still be teaching to see Thomas’s or Mary’s children see wall size screens show the continents drifting apart or the dinosaurs coming out of the sea. Surely, Thomas’s son will almost be able to touch the many-faceted snowflakes in twenty years: snowflakes that will be able to morph into fractals and then back again. “The technologies of the future will be more, not less, diverse, and they will engage many kinds of learners. The implicit goal of education will change from homogenization (all students pointed toward one outcome and measured by one yardstick) to diversification—identifying and fostering the inherent diversity among all of them, identifying new kinds of learning, new kinds of teaching, and new kinds of success.” (Rose & Meyer, n.d.)

“Only connect.” The line from E. M. Forrester burst into her consciousness. When the connections were stronger, were equal, when the student in the Barrio was connected at the same speed as the student on Park Avenue. The Information Age would be a blessing. When the student in Nigeria at the same access as the student in Bethesda, the connection would be complete. Sister Emanuella smiled at Master Aquinas and took his hand. There was always a time for rejoicing in her classroom. “In terms of learning, universal design means the design of instructional materials and activities that makes the learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember. Universal design for learning is achieved by means of flexible curricular materials and activities that provide alternatives for students with differing abilities.” (“Ensuring Access to the General Education Curriculum”, 1999).

“Only connect,” she whispered down to the beaming seven-year-old. “According to Skip Stahl, Director of Professional Development at the Center for Applied Special Technology (CAST), curricula should be designed to incorporate the prerequisites of learning: Information must be accessible, support for the development of skills must be available, and the learner must perceive the learning to be important. These prerequisites should be built into curriculum in the following ways (“Ensuring Access to the General Education Curriculum”, 1999).:

- \* Provide multiple representations of the information being presented.
- \* Provide multiple or modifiable means of expression and control.
- \* Provide multiple or modifiable means of motivating and engaging students.

“Children we must never forget our dreams.” She started, happy that another child had taught her something. “We must hold them close; we must make them come true.” Thomas constantly reminded her to make light of life. With all his antics, he was a blessing. Especially, in this season of blessings. Yes, he took a little extra time, but like the computers, he was able to expand even her ancient horizons. Technology redefines how teachers teach the material and how students learn. Instead of having students drag and drop whole paragraphs with the help of a computer to answer questions at the end of the chapter, teachers are challenged to go beyond the tasks that can be handled mechanically by the computer and engage the students with higher level thinking activities. (“Universal Design in Action”, 1999). “Perhaps we can take a moment for song.” Thomas can lead us in a carol or two. She looked outside the window to see if it would snow on cue. The clouds were gray, but not unloading. She signaled Laura and Mary to pull down a local radio station on their computers. Other students followed. Soon the room was full of music. Thomas opened up his song about mismatched toys. The other children joined in with enthusiasm. In a moment or two the music seemed sweeter than the church choir. Joy filled the room.

So much for the continents. Sister Emanuella's foot tapped to the beat as she got the Sculpey from the back cabinet. Soon it would be time to show the children how she wanted them to do their homework. Retelling and rewriting the world myths using their grandparents as storytellers had always been a favorite when she had attended St. Elsewhere's decades ago. Of course, now she would implement Wiggleworks for her students. It was an early literacy software program that has many universally designed features.

Sister Emanuella looked up suddenly. The class was totally quiet. A first. Little Thomas was pointing out the window at the first flakes of snow. "Back to our work," Sister "E" smiled. "You will have plenty of time to play in the snow, after we have written our stories."

## References

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