



Multimedia Literacy Activity: Motivating and Engaging Young Urban Learners

by

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INTRODUCTION

Over the past several years, researchers and practitioners in education have been attempting to understand young children's "engaged learning" in the classroom.

That pursuit has led the researchers of this study to create Technology-Rich Authentic Learning Environments, or TRALE, a program developed as a part of the program on "Fostering Educational Resilience and Learning Success" at the Laboratory for Student Success at Temple University. TRALE identifies and defines essential characteristics of environments that support young children's engaged learning. The TRALE project creates "authentic learning experiences" using computer technology in early childhood classrooms.

One goal of the TRALE project is to understand why children from urban environments demonstrate interest, perseverance, and accomplishment in some contexts but perform poorly on standardized tests that measure school achievement. Yekovich & Walker (1998) have shown that when TRALE is implemented effectively and continually the increase in children's achievement—as

measured by standardized tests—is greater than in comparable, non-TRALE classrooms.

During two years of project implementation at an urban public school, the researchers addressed the following two questions to understand the process of engaged learning:

1. Can young children learn to work independently using multimedia authoring systems such as *HyperStudio* (Wagner, 1995)?

2. Does *HyperStudio* provide a motivating context for young urban learners? (*HyperStudio* is a software program that allows users to combine text, graphics, sounds, animation, and video to create interactive programs without having to know a programming language.)

This *Spotlight* summarizes two investigations into these questions.

CREATING MULTIMEDIA STORIES IN 2ND GRADE

During the first semester computers were used in the TRALE classrooms, the researchers observed one student teacher using *HyperStudio* to help students create their own stories about sharks. Each student's "program" was a shark story that included graphics, text, and the ability for user

interaction (Fig. 1). By clicking on images, the user can view animation effects, hear sound effects, and hear the author reading a portion of the story.

Engaged learning in this context was observed in several interesting ways. The children in this class, who were below the norm in reading and writing, did not exhibit much interest or enthusiasm for sustained literacy "seat work" such as pencil-and-paper work sheets. However, that behavior changed dramatically when *HyperStudio* was used. Children worked at their desks for relatively long periods preparing text, even though the writing was frustrating and labor intensive for them (Fig. 2). Children who could not write became enthusiastic about dictating their ideas and seeing them typed into the computer. With the help of the student teacher, the students drew and painted pictures on the computer and created sound effects, working intently for long periods with minimal supervision. The students spent many hours exploring the sound, animation, and picture libraries, searching for the right effect. When students were paired at a workstation, they collaborated freely and solved problems. The

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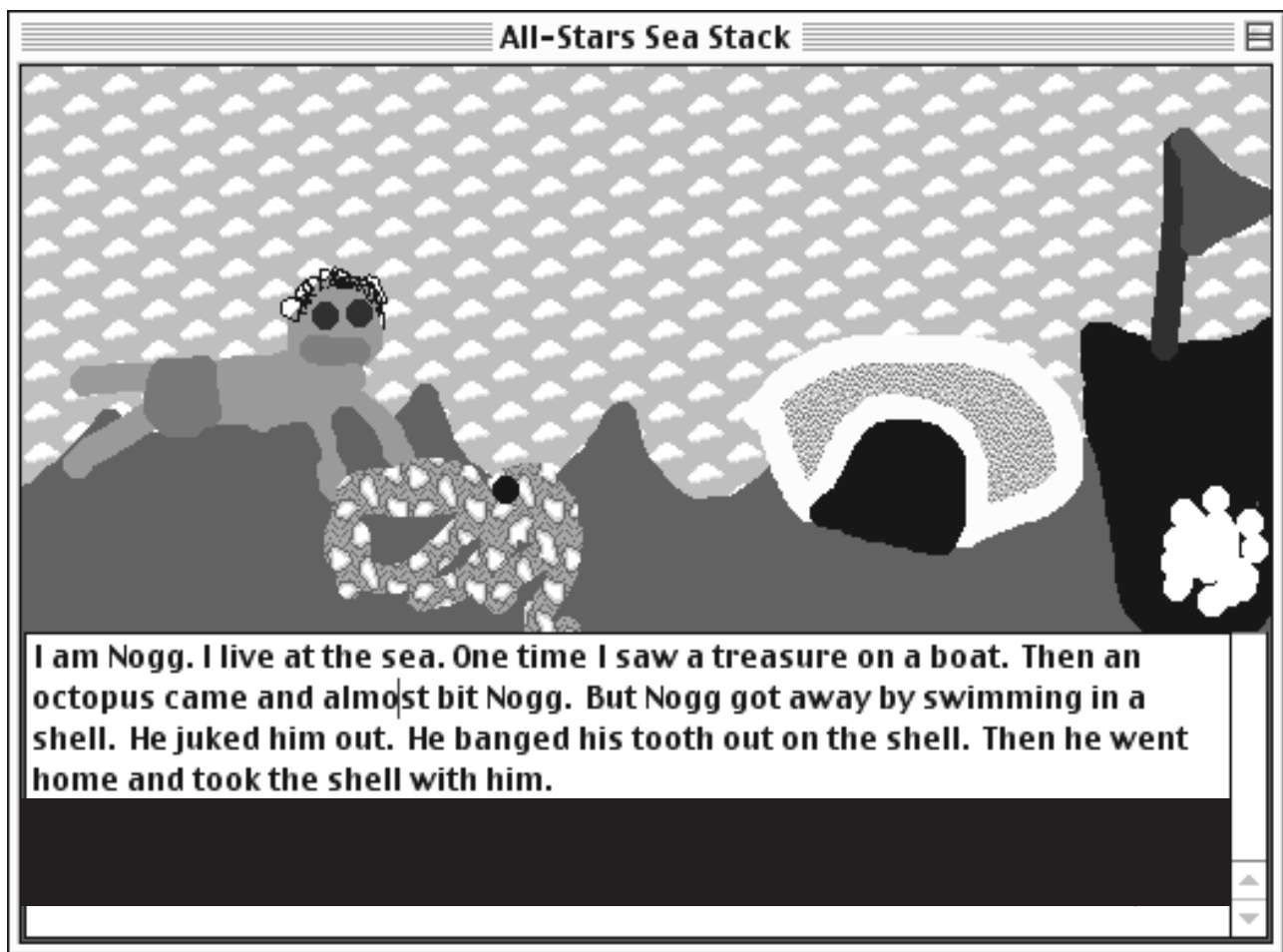


Figure 1: With the help of student teachers and a software package called HyperStudio, second grade students can write, draw, and create sound effects for in-class work. In the example above, users can select Nogg or the octopus to hear sound effects.

result was children creating wonderful stories without having to be wonderful spellers and without having mastered the conventions of standard grammar.

Equally importantly, the authors found that *HyperStudio* created a new form of literacy experience for the children. In traditional classrooms, “meaning” is conveyed solely by words and organized in a linear fashion. *HyperStudio*, on the other hand, allows students to produce literacy products that involve words, pictures, and sounds in a less sequentially structured manner (Fig.3).

The children particularly enjoyed recording their voices and listening

to themselves as the different characters in their stories. Interestingly, the interactive nature of the stories helped those who could not read to gain some understanding of the other children’s work.

The first set of observations raised several questions. In the initial writing activity, the students needed a high degree of support to use the technology. How useful would *HyperStudio* be if there was only one teacher in the classroom?

Additionally, while this effort capitalized on the multimedia aspect, each story was only a single card (i.e., screen), which the students used to create the electronic book

Sea Stories. Could each child learn to build more complex stories, using the software to its fullest advantage? And could a child control this medium to independently engage in and produce a different form of literacy product? These questions will be explored in future research.

A THIRD GRADER’S WRITING EXPERIENCES

During the second semester, faculty and graduate students from the TRALE project worked one-on-one with 16 children, four from each grade level K-3. The protocol included weekly reading and writing tasks, all of which were videotaped

for the purpose of examining literacy growth at a fine-grained level. From these protocols, the researchers also hoped to understand the effect the task had on the student's level of engagement.

To investigate engaged learning, it is important to observe the chronology of the child's actions. This observation should: (1) reveal the underlying reasons for the student's actions and (2) produce an explanation of why *HyperStudio* changes the child's perception of writing as a boring, tedious task to an activity that is meaningful.

A third grader named Lavon participated in this study. For Lavon, the weekly reading task went smoothly, seemed easy, and appeared enjoyable. However, Lavon showed a clear lack of

enthusiasm for the writing task. Initially, he chose to write very little or nothing at all. Finally, he wrote about a rhinoceros.

In an attempt to motivate and engage him further, the researchers suggested that he might want to write an article for the school newspaper. He rejected this idea emphatically, stating that there were better places for other students to learn about rhinoceroses (e.g., the Discovery Channel).

Faced with persistent resistance, the researchers then decided to explore the writing task using *HyperStudio*. To their surprise, Lavon became very enthusiastic. He was willing to plan, draft, and revise—via paper and pencil—in order to create the model for his “program.” Over six weeks, he developed his ideas, wrote story-

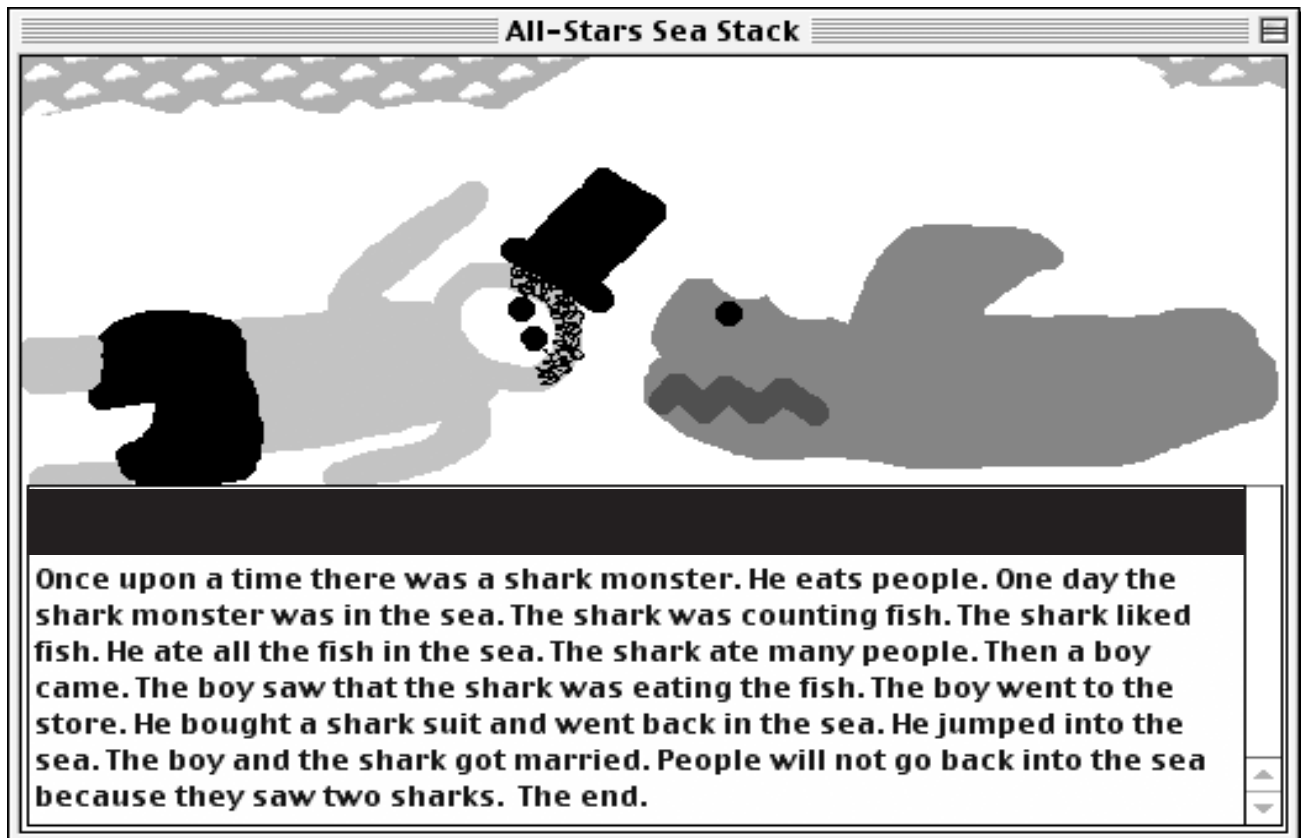
boards, and created a multi-card interactive program in *HyperStudio*. He worked independently with the palettes, menus, and icons of the authoring software.

What contributed to the change in engagement? According to the TRALE model, there are five essential characteristics of good instructional practice: goal-directedness; authentic context; use of technology; multiple modes of representation and expression; and community/shared responsibility (Walker & Yekovich, 1998).

Lavon's writing behavior clearly showed how a task with these characteristics engaged him in learning, and thus supported the TRALE model.

First, Lavon's *HyperStudio* project was *goal-directed*. In the weekly sessions where Lavon

Figure 2: Researchers for the TRALE program found that children, such as the author of “The Shark Monster” (below), are eager to work for relatively long periods preparing text for their electronic stories.



resisted, the goal to get a written product was clearly the researchers' goal, and not his. The resistance continued until he was able to answer the question, "Why should I write?" Once he developed the goal to create a computer presentation, writing became an essential tool rather than a boring task.

In addition, the writing activity became *authentic* once it was placed within the context of a computer-based presentation. Now he could share information with his classmates in a context he felt was appropriate.

Clearly, the *use of technology* played an important role in his motivation, involvement, and persistence. Other comprehensive research has also illustrated the deep involvement that occurs when students use computers to create learning tools (Harel & Papert, 1990; Lehrer, 1993).

HyperStudio also provided Lavon with a medium that allowed for *multiple modes of expression and representation*. As noted earlier, not being limited to a string of words on a paper seems to be particularly appealing to young urban learners.

The final important characteristic of good instructional practice is *promoting community and shared responsibility*. Community often involves a group of people who share the responsibility of successfully completing a task. Lavon defined part of his goal by including his classmates as members of a shared audience. Lavon became a producer of information that reached his community. The researchers simply provided technical assistance for him to complete his goal.

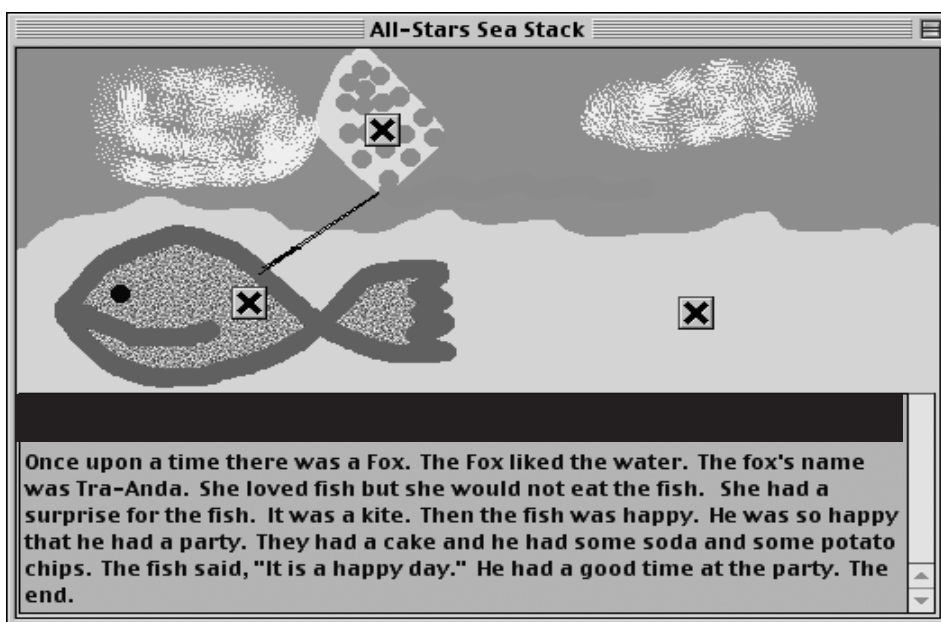


Figure 3: The computer program *HyperStudio* allows young students to learn literacy in a manner different from the traditional "linear" approach, conveyed solely by words. In "The Fox" (above), words, pictures, and sounds are used to tell a story of a fish who was given a kite.

CONCLUSION

Can young children learn to operate independently with *HyperStudio*? According to the researchers of this project, that goal is a very real possibility. However, neither the time nor the method used in this study was adequate to give a definite answer to this question. The researchers did observe that these children learned to operate easily within the hypermedia environment even though they had little computer background.

Does *HyperStudio* provide a motivating context for young urban learners? According to the authors, the answer is a resounding *yes*. In both classroom examples, the students enthusiastically engaged with the computer and were not frustrated by their lack of skill. They also enthusiastically spent time to discover the effects they wanted.

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