Abstract

Challenged by our 7th U.S. Secretary of Education, Rod Paige, when he said *"Dream how technology can not only improve education but also transform what we think of as education,"* we made this dream a reality in an elementary classroom in the Bronx. The dream of improving and transforming education through technology became possible as a result of collaboration between the New York City Board of Education's Region 2 and Fordham University's Educational Technology Center, fondly known to us as R2DII. As a Reading and Academic Intervention Specialist, assigned to the First Grade classrooms at the P.S. 83 Annex during the 04/05 school year, I had the unique opportunity to introduce instructional technology to seven year olds. What a challenge! The way to get the students focused on their travels through the Net was through a WebQuest. In the Butterfly WebQuest, the students' concentrated on three specific roles: Researchers, Scientists, and Dieticians. Websites were available to search for the answers to the questions appropriate for each role. Judging by our National Standards in Language Arts, Science, and Technology, the results of the traditional and alternative assessments given to these students are clear indications of reaching high performances, way above their grade levels. The final written presentations of these students were equivalent to those expected from a third grader's reading and writing abilities. Their knowledge of science content reached the outer limits of a fourth grader's benchmarks. Their competencies in the operations, concepts, productivity and research tools of computer technology were within the spectrum of a fifth grader's accomplishments.

A TRANSFORMATIONAL PROCESS:

Facilitating WebQuests

by

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> **"Information Literacy" is a term coined by library and information professionals.**
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> **Debbie Abilock, Editor of Knowledge Quest, and a group of Bay area librarians,**
>
> **came up with a revised definition…**
>
> ***"Information literacy is a transformational process***
>
> ***in which the learner needs to find, understand, evaluate, and use information***
>
> ***in various forms to create for personal, social, or global purposes."*** **(Abilock, 2005)**

Challenged by our 7th U.S. Secretary of Education, Rod Paige, when he said "Dream how technology can not only *improve education* but also *transform* what we think of as education," we made this dream a reality in an elementary classroom in the Bronx. Dr. Paige would be proud to know how wisely the funds from the No Child Left Behind/Title IID Enhancing Education through Technology grant are being utilized.

The dream of improving and transforming education through technology became possible as a result of collaboration between the New York City Board of Education's Region 2 and Fordham University's Educational Technology Center, fondly known to us as R2DII.

I was among the first cohort of teachers who received face-to-face training by professional developers and on-line modules in technology research from August 2004 through April 2005. One workshop a month took place at Fordham University and one visit a week at school sites, and for me this visitation consisted of both an observation and a conversation by a team member from the University. The aim of this program is the *integration of instructional technology into classroom teaching and learning* with the primary goals of *raising student achievement levels*, particularly in literacy and mathematics. As a Reading and Academic Intervention Specialist, assigned to the First Grade classrooms at the P.S. 83 Annex during the 04/05 school year, I had the unique opportunity to begin to introduce instructional technology to seven year olds. What a challenge!

The three initial questions I had to address were:

1. Would I be able to carry out projects with two computers and one printer in a corner of a room during two forty-five minute periods each week for the duration of the year?

2. How would this technology best be utilized in order to "explode their brains" as the classroom teacher, Joanne Cioffi, felt certain I could achieve in my new "techy" capacity?

3. Would there actually be an increase in student learning for six above grade-level students and six below grade level students?

Conversations with Theresa Lupo, my Fordham University professional developer began with inquiries concerning any previous exposure with educational technology. For me, there were two things I had already accomplished: One, a course called "*Survey in Communications for Teaching and Learning*" from the Learning Technology Department of Mercy College and two, twenty-four hours of professional development workshops offered by Teaching Matters, Inc. called "*Teaching with the 'Net @ School anytime*" a course that introduces teachers to compelling ways the Internet can enhance teaching in core subject areas.

When I showed, Theresa, my mentor from the Fordham's RETC program an original web-based assignment that I composed and posted on *Filamentality,* a WebQuest builder on the Knowledge Network Explorer website, she encouraged me to continue using the WebQuest format. I followed her advice and utilized WebQuests as both a teaching tool with twelve students from Joanne Cioffi's classroom and as a learning tool with the K-4 teachers from P.S. 83 and another group of teachers from the RETC program.

After half a dozen attempts at adapting to this new medium, I discovered that the key to a good WebQuest is in its design. It is much more than a search through designated resources on the Net. A useful WebQuest requires students to analyze and record only the relevant information, select a graphic that appropriately illustrates the gathered information, and apply all learnings to a culminating event that transcends traditional assessments.

Since WebQuests are multifaceted assignments, students were hooked into working the Quest by an intriguing scenario. For example, in the Monarch Butterfly WebQuest, the students were told

that they would be working at the Bronx Zoo alongside the Zoo's Director, and their assignment included being responsible for designing a butterfly garden and determining the appropriate accommodations for their Mexican visitors. To make it even more interesting, the students were given a website with butterfly-related words in Spanish.

The way to get the students focused on their travels through the Net was to assigning roles. In the Butterfly WebQuest, the students' concentrated on three specific roles: Researchers, Scientists, and Dieticians. Websites were available to search for the answers to the questions appropriate for each role. For example, the Researcher had to find out what the new arrivals should look like, the Scientist had to study the life cycle of the insect, and the Dietician had to learn what the butterfly likes to eat and drink.

Initially I set up and modeled what to do to log on, open the hyperlinks, take notes, cut and paste into a word document, edit the report and select graphics. Then slowly I eased my way out by turning over these responsibilities to the students. While they were involved in reading and responding to the tasks on the websites, I became a facilitator of the students' learning. In this new capacity, I observed their needs and assessed their accomplishments. If the students had a situation which they could not work out among themselves, then I stepped in to assist with further demonstrations and explanations so that they could continue on with their work.
Throughout the Quest, the students were reminded of their original mission of butterfly keeper as they completed the simpler projects, such as, finding out the answers to specific questions:

"How can you tell a Monarch from a Viceroy butterfly?"

"What major change in shape happens in the last stage of the life cycle?"

"What's the difference between nectar and host plants?"

These questions were there as stepping stones to prepare the students to have the ability to explain the type of environment that would be appropriate for raising butterflies, especially Monarchs. However, when the students attempted to complete the final written assignment, they were unable to do so. Therefore, they had to go back and review some of the previously visited

websites and brainstorm with concept maps to visualize and organize their thoughts. In order to bridge the gap between where they were and where they needed to be, it was necessary for me to locate another detailed website on butterfly gardens and to give the students more time to explore and discuss what they found on the extra site. This scaffolding eventually helped the students to determine what should be available in their butterfly gardens. They were now able to apply what they learned and answer the concluding question: ***"What type of environment would you need to keep Monarch butterflies safe and healthy while they are in your care?"*** As the original developers of the WebQuest envisioned (**ozline.com, 2005**) this was the point where the students newly acquired information underwent a ***transformation*** into a newly constructed understanding. The most difficult aspect for me in creating this WebQuest was assessing the students' progress. How could I prove they had significantly learned the concepts that I wanted them to learn? How could I validate the usage of teaching through technology? There are answers to these questions are found in various research studies, such as, ***student-centered and project-based instruction*** (CEEP, 2005), ***cross-curricular thematic instruction*** (eThemes, 2004), ***effective integration of technology into teaching and learning*** (Internet4Classrooms, 2005). I could especially relate to the ***instructional strategies that make a significant difference in the achievement of all students*** (NETC*, 2005*), since these teaching strategies coordinated with my original training as a Reading Specialist from the Department of Specialized Services in Education at Lehman College, City University of New York.

I wanted to provide more concrete proof of their ability. Therefore, I included a multitude of assessments, both traditional and alternative. First, the students were asked to list what they learned. They were also given handouts taken from one of the websites. They were asked to label the diagram of the butterfly and to fill in the blanks about the butterfly's life cycle with a word bank and definitions on the page. However, alternative assessments also took place on a daily basis before, during, and after each lesson. These assessments consisted of informal observations, group and individual discussions, and portfolio collections.

The students were given ample opportunities to demonstrate their competence as the Zoo Director's Assistant in charge of Monarchs. They could chose to: 1) make a model of a butterfly house out of a shoe-box, 2) draw an illustration of a butterfly garden, 3) describe the places in the garden that included the life cycle stages of a butterfly, 4) cut, paste and edit information about butterfly garden preparations, and 5) compose a report about our Monarch Butterfly Garden. Judging by our National Standards in Language Arts, Science, and Technology, the results of the traditional and alternative assessments given to these students are clear indications of reaching high performances, way above their grade levels. For example, the written presentations are equivalent to what is expected of a third grader's reading and writing abilities, their knowledge of science content reaches the outer limits of a fourth grader's benchmarks, and their competencies in the operations, concepts, productivity and research tools of computer technology are within the spectrum of a fifth grader's accomplishments.

In cooperation with the Fordham University RETC program, we received our own custom-designed website powered by SchoolFusion, a Web-based communication provider for K-12 schools. Prior to having this website, all the WebQuests we used were on floppy disks and placed on the classroom computer's hard drive. However, by the middle of the school year, all of the WebQuests that I selected and created for the First Graders were posted on our class website. This feature gave us easier access to our resources and the final presentations of all twelve of the participants were listed under the "Class Files" section for everyone to see. (**AIS, 2004**). Towards the end of my experience with RETC, I found a new mentor, Barbara Bray, the President of My eCoach, a professional learning company where teachers can choose and use different strategies and methods to teach content through various project builders. Barbara virtually coached me in the publishing of my Custom Builder Project, and now I have two links -- one for students and one for teachers. These websites are more professional-looking versions of my Monarch Butterfly WebQuest.

A team of curriculum and technology specialists from the eCoach program advocate that "integrating technology into classrooms changes the way teachers teach and children learn where everyone becomes a learner and no one is the expert anymore." Austin, Besa, Brian, Cristina, Hannah, Jacquelyn, Christie, Daniel, Christyann, Stephanie, Hysen, Fabian and I are living proof that this statement is true. I was learning things right along with the students, and there were times when they were teaching things to me. Therefore, it seems appropriate to say that similar to the caterpillars in the Butterfly Garden in Ms. Cioffi's classroom, these "techy" students and I underwent a *transformational process* of our own.

The First Grade Monarch Butterfly WebQuest is now being featured on the home page of **My eCoach, 2005**. I am looking forward to continue working with students on these incredible teaching and learning tools called WebQuests.

Camille LoParrino ████████ holds a NYC license and NYS certification in Reading. She is on sabbatical for the 05/06 school year and using this timeframe to work towards an M.S. Ed in Educational Technology. The basic premise of her work is to design an integrated curriculum around a central theme, incorporate all of the Language Arts with the science and social studies content areas, and use computer technology as a tool to teach and learn.