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The Thinkfinity Center for Innovative Teaching, Technology and Research

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Pilot Project: Technology Integration in Underserved Schools using Thinkfinity, Spring 2008, Final Report

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Pilot Project: Technology Integration in Underserved Schools using Thinkfinity
Spring, 2008
Pace University Computer Learning Center
Final Report – June 18, 2008

Introduction

The Pace Computer Learning Center has been involved in helping teachers learn to integrate technology using Internet resources since 1997, when, under a grant from the then Bell Atlantic Corporation, over 900 teachers were trained over a three year period.

Since that initial project, PCLC has continued this work with New York City and Westchester private and public schools. Most recently, funding has come from the Facilitator Center, an organization serving non-public schools in New York City and the Hudson Valley.

This pilot project was conceived as a way in which PCLC could use its experience and expertise to present Thinkfinity to teachers in schools with fewer technical resources than typical public schools, or with special needs for students and teachers, and then to enable those teachers to explore and utilize the resources of Thinkfinity in lessons and activities. Since we had not focused on Thinkfinity before we were interested in finding out how it would be received, and also whether the concentration of resources within Thinkfinity would help teachers move faster along the path to technology integration.

The project team consisted of the director of the Pace University Computer Learning Center, Sylvia Russakoff, and two master teachers, Babette Kronstadt and Anita Tumminelli. In addition, Debra Blaustein, a graduate student at the Pace University School of Education, assisted at many of the sessions.

Project Goals:

1. To enable teachers in schools with fewer technical resources than typical public schools, or with special needs for students and teachers to explore the resources offered by Thinkfinity.

2. To fill gaps in the technical skills of each teacher so that they can use these Thinkfinity resources more easily and effectively.

3. To support teachers as they create and use technology-rich lessons and activities.

4. To get feedback from teachers on their experience with Thinkfinity in this project that will inform our methods and procedures for future groups.

Assumptions:

- Technology is a means to an end, not a goal in itself. The goal of using technology is to enhance student learning.
- Many teachers in the target schools make limited use of activities where the students are actively engaged in using technology to create knowledge or otherwise expand their learning opportunities.
- Within each school there is great variation among teachers in access to technology, technical skills and previous use of technology in the classroom
- In order to make best use of Thinkfinity and technology in general, teachers need to feel more comfortable and gain confidence.
- Because teachers have different gaps in their technical skills, a short course of individualized training is the most efficient way to address those gaps, solidify each individual teacher's skills and raise confidence in using technology.
- If teachers are not accustomed to using technology in the classroom, even when they find good online resources they may not be able to use them effectively. Individual support in creating lessons develops effective approaches to using technology.
- Teachers in non-public schools lack the support available in most public schools. Therefore, a key aspect of our program was to provide the one-on-one support needed so that the needs described above could be met.

Project Description

Three schools were selected for the project:

- The Immaculate Conception parochial school in Tuckahoe, NY (K-8)
- Good Counsel School, in White Plains, NY (K-8)
- The New York School for the Deaf, White Plains, NY (K-HS)

All of the schools have principals and high-level administrators who strongly support this project and are invested in its success.

The project consists of three stages –

- **Introduction.** In the introduction, potential participants attended an overview session, in which a Pace instructor showed them Thinkfinity and demonstrated selected sites showing how technology could add value to a traditional lesson. After learning basic Thinkfinity search techniques, participants were invited to spend time exploring the site, and were encouraged to share lessons and interactive activities they found. Teachers were asked to identify one or more areas of the curriculum in which they would look for resources in Thinkfinity, and would be interested in using them in a lesson or other learning activity.

- **Group sessions.** Once the principals had confirmed the final list of project participants, each group received approximately 8 hours of group instruction, in which all the Thinkfinity partners were explored. Teachers learned how each of the partner sites is organized, the best search techniques, strengths and weaknesses of each partner, and they identified and noted some of the

resources appropriate for their own classes. Teachers attended these group sessions regardless of their level of experience in technology integration and general skill level. Teachers in two of the schools were given flash drives on which to save URLs of sites that were of interest to them as it was not unusual for teachers to find an appealing site and then be unable to find it again. Teachers were encouraged to save web logs of their searches on the flash drives as well. In the third school teachers used their own laptop computers and saved resources they found as bookmarks.

- **Individual Sessions.** In the final stage of the project, teachers continued to research Thinkfinity resources, and constructed one or more learning activities, working one-on-one with a Pace instructor. As described earlier in this report the purpose of this close supervision is to provide support at the teachers' level of sophistication, teach additional technical skills, reinforce the need for technology to add value to the lesson, help each teacher see ways to add additional value through other technologies, and raise the level of confidence with which each teacher can approach the presentation of technology-enhanced curricula.

Training Materials

The team creating the training manual combined new material they created for this program with pages from the Thinkfinity teacher training manual that was found online in February, 2008. In this way there was no duplication of effort.

The manual includes:
- Short PowerPoint presentation on appropriate use of technology in education
- Information on how to find lessons that align with New York State standards
- Searching for resources from the Thinkfinity home page
- Common and Unique Features of Thinkfinity Web sites (from the Thinkfinity manual)
- Each content partner section includes
  - A mission statement from the partner (from Thinkfinity)
  - An overview of the partner, including searching from within the partner site
  - Sample lessons
  - Teaching Scenarios (from Thinkfinity)
- Examples of sites created by current and former teachers in Pace programs

Highlights of the two parochial schools (Good Counsel and Immaculate Conception):
- Every teacher at both schools, with one exception, found some activity, lesson or resource from Thinkfinity that they were able to use with their students. The one exception was a religion teacher whose teaching was closely allied to the textbook and diocese test.

- In addition to finding resources they have already used or will use this year, many of the teachers found sites that will be useful for parts of the curriculum covered earlier in the year.
- The instructor introduced the use of Web Logs at both schools. The Web log is a Word document containing a table, and teachers can copy, paste and annotate URLs they find helpful so they could find the site again and see how they had intended to use it. Many of the teachers found this useful particularly when they used both home and school computers to do their Internet searches. There may be less need for something like this when My Thinkfinity becomes totally operational.

Immaculate Conception Highlights:

- IC has a number of SmartBoards in its grade 5-8 classrooms, and the teachers were not using them effectively. The curriculum was adjusted to provide instruction on the Smartboard for these teachers, and they became enthusiastic about Thinkfinity once they saw how easily the Smartboard could be used in their work.
- Due to the variation in technical abilities and resources, a number of different skills / activities were focused upon in the one-on-one sessions.
- Two of the teachers who did not have SmartBoards in their classrooms wanted to become familiar enough with the SmartBoard so that they could take their students into the lab. One teacher had limited her students' web-based activities to self-contained review games. She found several interactive websites that she could use in full-group instruction. Another teacher found two interactive Read-Write-Think student activities that she wanted to assign for homework. However, she is first planning on using them on the SmartBoard with her students to demonstrate the use of the tools and teach the concepts the students should be using.
- Several teachers who had used the Internet mainly for stand-alone reinforcement activities wanted to work on integrating them more fully into lessons. In one case a teacher designed a student page so that all of the resources, motivation, etc. were in one place. In another case a teacher designed a worksheet that guided the students through a virtual tour so that the students would have a focus for each stop on the tour and would use the information to answer questions involving higher order thinking skills.
- Most of the teachers had gaps in their basic computer or browsing skills. Depending on needs, the teachers worked on skills like using and organizing favorites, using the Find on Page, History and Back features, creating more effective searches, using Copy and Paste to paste URL's into student pages or a teacher log. All of these helped teachers improve efficiency when using the Web, increasing the likelihood that they would continue to boost their use of technology.
- All of the teachers have teacher pages on Student Notes.com. Many did not know how to add Web links to their teacher page. Once they learned how to do this, they were able to incorporate links to Thinkfinity web sites in their homework assignments.

Good Counsel Highlights

At Good Counsel students also go to computer class once a week with a computer teacher. The teacher of K – 3rd grade often coordinates lessons with the classroom teacher. She attended the first two whole group sessions and has used a number of the Thinkfinity sites with the students. The teacher of the 4th – 8th grade students mainly teaches computer skills or helps with research projects the students are doing for the classroom teachers. The lab is also large enough so that teachers can bring their students to the lab when it is not being used by one of the computer teachers. Several, but not all, of the teachers have access to electronic white boards. Each classroom contains some computers for student use although the quality and quantity of computers varies.

Many of the things covered in the individual sessions were similar to those covered in Immaculate Conception:
- Basic computer and Internet search skills and expanding ideas to effectively search. For example, one teacher was doing an activity on rural, suburban and urban environments but could not find good multi-media or interactive sites. By exploring new search strategies she was able to use the Thinkfinity search and Google to find appropriate sites.
- Inclusion of Internet links in PowerPoint presentations so that the teacher could access all websites as part of her presentation. Previously the teacher would put the PowerPoint presentation and each web site on different computers and move from computer to computer as each was needed.
- Refresher on creating a student page including links, images, backgrounds, etc.
- Good Counsel is using a privately created Web page. The instructor worked with the designer to set up an easy way for teachers to include links within this site.
- Much of the work revolved around selecting appropriate sites and incorporating them into lesson.

New York School for the Deaf Highlights

- All students 9 years and older, and all teachers at this school have their own laptops.
- Because the inability to hear limits a child's ability to form an integrated view of the world appropriate to his or her age, the teachers are hungry for ways in which technology can help to bridge this tremendous gap and make events, concepts and ideas understandable to their students in a more sophisticated way.
- In addition, since the students need so much individualized attention teachers need interactive sites that students can work on independently, building their own learning and understanding while the teacher is engaged with another student.
- Most of the teachers in this group have become extremely enthusiastic about Thinkfinity – and several have accumulated long lists of sites they are already using and will use in the future.
- The two teachers with the least competence and confidence are using Thinkfinity in much more limited ways.
- A constant challenge in this environment is finding sites that are appropriate for students whose reading levels are much lower than their chronological age, and whose learning curve is much flatter.
- To be successful in this environment, sites must depend on visual appeal.

- One teacher, whose students are reading the *Bridge to Terabithia* found a site that showed the art museum visited by the students in the book. Students loved this and were able to become more sophisticated in understanding the role of the museum in the book.
- Another teacher who is covering Recycling, found the Thinkfinity resources appropriate and exciting for her students.
- For one teacher who was significantly ahead of the others in skill and experience, the group classes were not helpful, but in the one-on-one sessions the instructor was able to guide her to math manipulative sites she had not seen, and she became very excited and motivated.
- In addition, this teacher found sites related to the upcoming Olympics that she is already using with her students.

Uses of Thinkfinity

Teachers use Thinkfinity in different ways. Although the focus was on finding activities or resources that the students could do online, many of the teachers also used the lessons to develop new approaches or motivational questions for lessons. Student pages were given to students.

- Students used interactive activities.
- Teachers found resources in Thinkfinity or Thinkfinity reviewed sites.
- One teacher had her students use Thinkfinity as the one search engine to find information for their earth day science projects because she felt this was a safe, focused search engine for them to use. Students modified their experiments based on what they found; others used the lessons to find motivating questions to include in the write-ups.
- One teacher absolutely loved Thinkfinity; she felt it totally transformed her ability to use the Internet by greatly cutting down on her search time. Her husband, a teacher not it the program, also found it a valuable source for primary sources.
- Another first-year teacher who is very comfortable with Thinkfinity, but has no reservoir of lessons to fall back on, preferred using the reliable sources she has already known, and used this as a secondary search when her other resources weren't effective.
- Most teachers used Thinkfinity resources along with others; if Thinkfinity Search and Google were both used, information found on one could help with searches on the other.

Strengths of Thinkfinity identified during training

- Search results were focused and appropriate for students.
- Good interactive tools
- Good student pages
- Even teachers with considerable Internet experience, found new sites or activities
- Helped integrate the curriculum – EconEdLinks used by a variety of teachers; some of the ReadWriteThink activities were used across the curriculum; social studies teacher found great sites in ScienceNetLinks and Xpeditions
- Helped give a new twist to the way lesson were taught in the past
- Many of the links included within lessons were excellent
- Good pointers to primary documents and pictures
- Students found many of the interactives motivating; loved the interactive pencil in some of the EconEdLink question sheet activities
- Many of the Interactives worked well with the SmartBoard
- Sites found on Thinkfinity led to other sites that were useful

Weaknesses of Thinkfinity Identified during Training

- Hard time finding good resources that K-2 students could use independently; many which claimed to be for that age group were too hard to use independently
- Thinkfinity needs better, more uniform way of indicating which lessons contained interactive activities or Web links that could be used by the students
- More lessons should have student pages

- While the EconEdLink student pages were useful with older elementary school children, those for K-2 students were too wordy and had language appropriate for older students
- Teachers need better way to access links included in lessons – some are found in general Thinkfinity search; others aren't
- Thinkfinity needs a better definition of "Resource Types"; in some of those classified as Interactive, the only interaction is with a worksheet
- Elimination of more nonworking links
- Monitoring of site to remove pages with sexual content. Two examples: search results for "Lewis and Clark" includes "Sex, Dog Meat, and the Lash: Odd Facts about Lewis and Clark" -- the first several paragraphs of the article talked about how the Native Americans offered L & C their women as sex partners. Animals of the Chinese Zodiac (Edsitement, K-2) lesson has several links to "Chinese Astrology" which heavily advertises and sells the author's book: Chinese Sexual Astrology: Eastern Secrets to Mind Blowing Sex
- Quicker response to questions sent to Thinkfinity – responses typically took longer than a month or were never received
- If My Thinkfinity is not yet available, that information should be given rather than asking teachers to sign up for resources and then not responding.
- Allow more in-depth search on individual partner sites

Final Teacher Evaluations

A sample evaluation is included with this report, as well as copies of the evaluations completed by participants (not all participants answered all questions).

Summary of Objective Questions		
Have you used Thinkfinity before?	**No** 24 (92%)	**Yes** 2 (8%)
Have you used one or more of the Thinkfinity partners in the past?	**No** 17 **Yes** 7 Read Write Think 4 Science Netlinks 2 National Geographic 1 Illuminations 1	
Will you return to Thinkfinity in the future?	**Definitely** 18 72% **Probably** 3 12% **Maybe** 3 12% **No** 1 4%	

Sample Topics Researched by teachers on Thinkfinity

Stock Market competition
Math flashcards
M&M bar graph
Math word problems
San Francisco earthquake
Acrostic poetry

Cause and Effect
Recycling
To Kill a Mockingbird
A Bridge to Terabithia
Making a Calendar
Civil War Divides the Nation

Building Chronology Skills
Underground Railroad
Interactive Body system
Reading Comprehension
Book Reviews
Greek Gods
Subject Verb Agreement
Middle East
Algebra
Cold War Timeline
Document-Based Essay

Money
Charlotte's Web
Virtual Fish Tanks
Nature and Nurture
Mixing colors
Perimeter and area
Simple Machines
Water cycle
Place value
Diary of Anne Frank
Where the Red Fern Grows

Samples of Teacher comments:

What other skills or important information did you learn during the training or individual sessions?

Copying live links onto a flash drive. JE, 1st grade

How to narrow a search. How to put a hyperlink into PowerPoint. PM, 6-8 Science

Great intro to use of Smartboard. Basic computer skills that I did not have. JB 2nd gr

Using a flash drive. CP, 3rd gr

How to create a WebQuest for students. SM, 5-8

Questions about SmartBoard were answered. DP 5-8 Math

Got a lot of help using the SmartBoard that I have in my room. MB (no grade listed)

Inserting pages of pictures. Splitting the screen to use the Internet and Word together.
MBM 4th gr social studies

Search engine strategies. Modifying a search. BC 1st gr

Using the Smartboard for class instruction. Placing links on Schoolnotes for homework.
Using a flash drive. NB 5-8 ELA

I learned how to use a flashdrive. I learned how to access Favorites. I'll be making
more use of Wikipedia too. RR Reading 5-8

Helped me to think more critically about how to integrate resources in my Smartboard
lessons. One-to-one sessions were beneficial. MY HS English

I learned how to rename a hyperlink. KW 4-8

The one-on-one work and brainstorming with peers was great. FJ English 1-4

How to swap between programs. New ways to cut and paste. VS 9th gr Science

Tips and suggestions for using the laptop. MK HS English

Did you find any of the partners particularly helpful? If so, how?

I enjoyed using some of the graphic organizers in Read Write Think because we do not have Inspiration software, but the organizers are not very dynamic and do not allow for changes based on student needs.   MM, 4th grade

Read Write Think – I love the graphic organizers. BA, 3rd grade

EconEdlink! Love the student pages – they should all have them. 5-8 Soc Studies

Edsitement was particularly helpful for Social Studies. SM 6-8 Math

Science Netlinks is a fantastic resource for creating adapted units. VS 9th gr Science

Read Write Think- easy to navigate, lots of great lessons – practical, usable, interactive; easy to search. MK HS English

Do you have any comments about Thinkfinity's Search features?

In the Search box under Content Partners it would be helpful if the box kept what you searched for previously instead of clearing it each time. This makes it harder to refine a search. MM, 4th grade

I wish the search was more specific. I felt that some of the topics I found were too broad and not geared to younger children. BA, 3rd grade

Very easy to use and scroll through. NB 5-8 ELA

It is easy to navigate. RR Reading 5-8

What did you find particularly helpful about Thinkfinity?

That a topic search generated responses from various partners. It was easy to see what each offered by looking at the symbols. DP 5-8 Math

How easy it was to weed out what you didn't want, according to grade level/subject. SM 5-8

Thinkfinity helped to narrow the search for appropriate websites. MBM 4th gr social studies

Excellent resources with an easy interface   AD 5-8 Soc Studies

How all the info is collected & gathered for you – go to one place to get everything. MO no grade listed

The best think I found were activities that my students can use independently.   KW 4-8

It takes less time to search for what I need. RR 7-8 self-contained.

Varied topics and levels, very visual. RK HS Soc Studies

What could Thinkfinity improve?

 The only negative that I noticed was the limited primary resources. It seemed to be geared for upper primary and middle school aged children. JE, 1st grade

More world history information on partner. (Instructor's note: PM found some in Expeditions)   PM, 6-8 Science

More interactives for younger elementary students. DB, Kindergarten

I would like more science-related partners. MB (no grade)

Need to have more of a selection of activities and websites for grades 1-3. BC 1st grade

Illuminations activities are too limited – good for demonstration, not exploration. Need to provide more problems for students to work on. SM 6-8 Math

More material for children with limited language skills. MY HS English

The lesson plans are very long. It would be great if content partners would add subtitles along with sound for children who cannot hear. SM ELA Middle School

Conclusions

The pilot program was successful in each of the three schools. All schools invited PCLC back in the fall, hoping to both reinforce gains made in the spring and continue to improve skills and practices in the classroom with regard to technology.

- The vast majority of participants was receptive to and appreciated Thinkfinity, and will continue to use the site.
- While participants did not find Thinkfinity a perfect site and had many suggestions for improvement, they nonetheless recognized its value.
- Some teachers were so excited by Thinkfinity that they told instructors it changed the way they prepare lessons and teach almost every day.
- Almost every teacher in the program demonstrated individual gaps in technical knowledge that interfere with the ability to successfully integrate technology.
- The instructors and participants were very vocal in support of the individual sessions, and felt they should definitely be continued, as they address needs that do not belong in group sessions, but are critical nonetheless.
- The instructors felt that the group sessions, while still valuable, may be reduced from 8 hours to no less than 4.

- Teachers whose principals scheduled their one-on-one sessions during release times (subs were provided) were very appreciative; others whose prep periods were taken for the sessions mentioned to the instructor that they did not feel this was fair – although they also mentioned that the sessions were helpful.
- Limitations on the hardware available to them affected how innovative and creative teachers could be in their lessons.

The Pace University Computer Learning Center appreciates the opportunity provided by Verizon to work with these three groups of teachers and feels that substantial gains have been made.

Sylvia Russakoff, Director
Pace University Computer Learning Center