Divergent Convergence Part 2:

Teaching and Learning in a Transmedia World

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Our school is going paperless, what will this mean for our library?

Our students are getting Netbooks, how can I help teachers make this transition? How can I leverage the power of transmedia materials to promote reading?

As students spend an increasing amount of their time with technology-based resources, the teacher-librarian must help learners shift from being passive receivers of information to active readers, evaluators, thinkers, creators, and innovators.

We can immerse young people in an exciting world of information and inquiry where divergent resources converge to form webcomics, interactives, digital projects, and technology-enhanced learning. The key to this convergence is providing young people with the knowledge, skills, and dispositions necessary to understand how information and technology can be used to construct knowledge.

Part two of this series explores ways to design learning environments that address the needs of 21st century learners. We will explore the potential of emerging cross-genre, transmedia resources as tools for motivation, differentiation, collaboration, and connections.

FLUID ENVIRONMENTS AND TRANSMEDIA WORLDS

Deep media, reading mash-ups, chaotic experiences, immersive games, interactive storytelling, genre-mash, and participatory media are all words associated with fluid environments and transmedia worlds.

In her upcoming book *Fluid Environments for Life-Long Learning: Cross-Genre, Multi-platform, Transmedia Worlds*, Lamb states, fluid environments involve using multiple modes of communication to convey a complex, interactive message. Information flows smoothly from one media to the next. The strengths of each media create synergy. The result is something more dynamic than could be done in a single medium.

In transmedia storytelling, integral elements of the story are told through different media and each media type provides distinct contributions to the participant's understanding of the story. Participants may have many different entry points into the story and are able to extend the experience through their contributions (Jenkins, 2006).

Spy mysteries such as Patrick Carman's *Trackers*, trackersbook.com, are designed to engage readers in a multimedia world. By combining a book and a movie with web site materials, gadgets, social networks, and other technology elements, young people are drawn into an alternative reading experience. These transmedia worlds are not intended to replace the book. Instead, they expand the reader's experience beyond the printed page. Students read the book, watch the videos, and break the codes through online resources, puzzles, and games.

Drew Davidson (2010) points out that "cross-media communications helps provide overall learning experiences that take advantage of all the media used and incorporated together. The variety of media can help learners engage content according to their strengths and ideally help them improve across the board. Learners can be encouraged to investigate a topic across media and learn more in their exploration." For instance, Global Conflicts, globalconflicts.eu, is a computer game series that immerses young people in real-world simulations while addressing social studies standards.

WEB-BASED LEARNING RESOURCES

When we think about reading as part of the learning process, trade books and textbooks come to mind. However what if we no longer had paper books?

It will be increasingly important for the classroom teacher and teacher-librarian to develop a collaborative relationship. Together they can explore the wide spectrum of electronic and interactive

Figure 1. Trackers

reading materials and consider new ways to think about infusing web-based materials into teaching and learning.

A unit about poison and pollution begins with a historical video called Budworm City, archives.cbc.ca/environment/natural_disasters/clips/6960/, from 1957 showing how the pesticide DDT was used in the 1950s. Students then explore the PBS Front Line's program Poisoned Waters, pbs.org/wgbh/pages/frontline/poisoned-waters/, to investigate issues related to water pollution. From there, students read local online news resources to find out about pollution close to home.

Rather than simply providing links to text, images, or videos, the educators develop scenarios that bring these resources to life and provide a springboard for student projects. After a visit to the EPA's Biological Indicators of Watershed Health page, epa.gov/bioindicators/html/benthosclean.html, students are asked to create a transmedia project that incorporates factual information about creatures that are healthy and unhealthy for water systems along with a fictional story. While one group makes a video at a local pond, another group conducts online interviews with government officials, and a third group brainstorms

ideas for a fictional story set in their hometown. The groups come together to produce something greater than the parts.

Many types of online resources can be tied into these types of paperless projects:

Electronic Books

From web comics to e-novels, online reading has come a long way. Fun Brain, funbrain.com/brain/ReadingBrain/ReadingBrain.html, was an early leader with titles such as *Diary of a Wimpy Kid*, wimpykid.com. This series began as a web book, funbrain.com/journal/Journal.html. Google Books, books.google.com, contains many partial and full view books that can be read online. KidJutSu, kidjutsu.com, provides access to popular e-comics titles. Signed Stories, signedstories.com, includes sign language and subtitles for many stories, while Storyline, storylineonline.net, provides books read aloud by celebrities.

Engaging Web Sites

Seek out high-quality, interactive resources that involve participants with content in meaningful ways. For instance, the I Was Wondering web site, iwaswondering.org,

What will **robots** of the **future** be like? Will they simply be hi-tech toys like they are today? Not if **Cynthia Breazeal** has her way! She imagines a day when robots will be **friends**—like Luke Skywalker and R2-D2 in *Star Wars*.

Hi, Kismet.
How are you today?

Cynthia Breazeal: Comic   CLOSE

Figure 2. I Was Wondering

YA NON-FICTION

SCHOOL CONNECTIONS (DEWEY 300):

Booms and busts: An encyclopedia of economic history from Tulipmania of the 1630s to the global financial crisis of the 21st century. James Ciment, ed. 3 vol. set. Sharpe Reference, 2010. $339.00. 978-0-7656-8224-6 .Grades 9-12. This set supports economic and history curricula regarding the precedents of the current global economic predicament. Included with a listed of major booms and busts is a glossary, topic finder, and comprehensive index.

Immigration: This land is whose land? (Controversy!). Lila Perl. Marshall Cavendish, 2010. $21.90. 978-0-7614-4232-5. Grades 8-12. Covering timely American studies topics, the set focuses on such topics as Illegal Drugs, Health Care, Identity Theft, and others. *Immigration* asks the question "Cultural Invasion" or "Cultural Enrichment?" to encourage critical thinking by students trying to find where they stand on this issue. Included with chapter notes is a timeline, further information, an index, and a bibliography.

Struggle for equality: Landmark court cases. (Lucent Library of Black History). Stephen Currie. Lucent Books, 2010. $32.45. 978-1-4205-0122-3. Grades 7-12. Each book in this large series features different, wide-ranging issues of African American History, including entertainers, inventors, religion, and more. Detailed chapter notes, an index, and more information on books, DVDs, and web sites complete this volume.
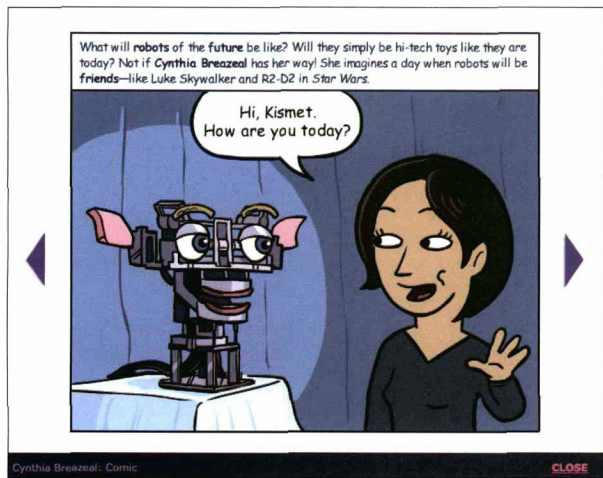
from the National Academy of Sciences shares information about scientists through scrapbooks, comics, games, and interactives.

Interactive Readings

Many museums are using interactives as a way to promote exhibits as well as teach content area skills through reading, writing, and interactive learning experiences. For instance, Anthropology, amnh.org/ology/anthropology, from Ology is a great introduction to the Silk Road that includes art, music, math and science along with social studies topics.

Journals and Online Tools

Many news organizations are expanding the way they present online content to include animation, multimedia, and social tools. The American Museum of Natural History's Science Bulletins, amnh.org/sciencebulletins, incorporate Google Earth resources.

Social Tools

Increasingly, web sites are incorporating social tools such as Flickr and YouTube. Check out My Moon, www.lpi.usra.edu/mymoon/.

The key to infusing online materials is the development of pathfinders to guide young people to the resources needed for particular assignments. The Australia pathfinder, web.me.com/cnewton54/Aussie, is an excellent example.

IMMERSING LEARNERS IN VIRTUAL EXPERIENCES

While online reading and interactive resources are a great place to begin, fluid environments immerse learners in virtual experiences where they can play, explore, and learn. In Generation Cures, kids.generationcures.org/play, young people learn about medical issues, cures, and philanthropy through a transmedia environment that incorporates storytelling, gaming, and exploration. The visual novel series Zebrafish, zebrafish.com, is an extension of this environment that includes animated webisodes, original music, and online events.
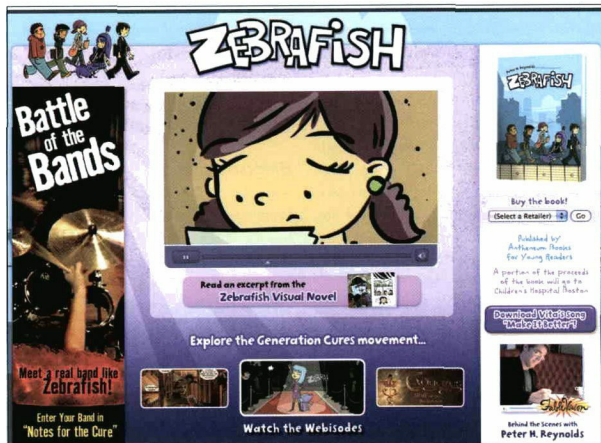

Figure 3. Zebrafish

ALTERNATE REALITY EXPERIENCES (ARE)

Patrick Carman provides ongoing alternate reality experiences (AREs) to go with his young adult book *Thirteen Days to Midnight*. The book web site, 13dtm.com, contains hidden video and other elements to spark conversation. The Facebook site reveals additional clues and information. These experiences immerse learners in the world of the book.

ALTERNATIVE REALITY GAMING (ARG)

Rather than immersing participants in an artificial world, the narrative elements of Alternative Reality Gaming (ARG) are accessed through a variety of real-world media such as Twitter postings and YouTube videos. Participants act as detectives following a storyline, collecting evidence, and solving puzzles to further the story. Television shows such as Flash Forward and movies such as District 9 have used this approach. Examples can be found at *Fourth Wall Studios*, fourthwallstudios.com; Wikibruce, wikibruce.com; and Unfiction, unfiction.com. This cross-media genre of interactive fiction uses web-based resources and social technologies to engage

participants in a gaming environment.

Many of these ARGs require participants to engage in real-world problem solving. With funding from the Corporation for Public Broadcasting, The World Without Oil, worldwithoutoil.org, was designed to call attention to and plan for a possible near-future global oil shortage. Although the real-time game ended in 2007, visitors can still explore the materials and re-experience the game week by week. Lesson plans are also available to guide teachers and students through the experience.

In Routes: Discover the Secrets in Your Genes, routesgame.com, users work their way through mini-games, a documentary and a murder mystery as they explore the world of genetics.

Helping someone find a Red Cross representative is the problem in the adventure game Traces of Hope, tracesofhope.com, from British Red Cross.

ENVISIONING THE NEXT GENERATION OF RESOURCES

The future is rarely what we expect. As a child, you may have envisioned moving highways, instead we got voice activated GPS. You may have expected to beam to other worlds like on Star Trek, but virtual
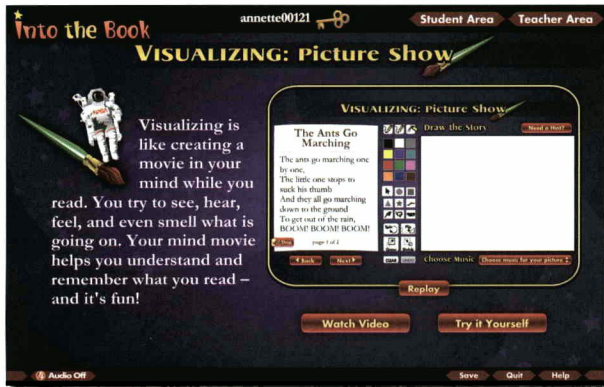
Figure 4. Into the Book

reality is as close as we have come. Immersive worlds such as Quest Atlantis, **atlantis.crlt.indiana.edu**, are just beginning to demonstrate the possibilities of these virtual worlds.

Many universities are involved with projects exploring the possibilities. The Entertainment Technology Center at Carnegie Mellon, **www.etc.cmu.edu/projects/currentprojects.php**, is working on these types of projects. Henry Jenkins refers to world-making as "the process of designing a fictional universe that will sustain franchise development, one that is sufficiently detailed to enable many different stories to emerge but coherent enough so that each story feels like it fits with the others" (2006, p. 293).

CONVERGENT APPROACHES: BUILDING MEANINGFUL LEARNING EXPERIENCES

Publishers are just beginning to produce the types of transmedia environments that will bridge genre and media format. Until these are available, teacher-librarians can partner with classroom teachers to combine resources that simulate this approach.

The Into the Book project, **reading.ecb. org**, helps children learn reading strategies through text and audio information, video examples, and interactive tools.

Electronic books from groups such as Starfall, **starfall.com**, and Sebastian Swan, **sebastianswan.org.uk**, provide basic in-

teractive elements that extend the reading experience including audio support, definitions, explanations, and fiction/nonfiction paired-reading.

Motivate

Interactives that incorporate cross-genre, multimedia, and transmedia elements are motivating for young people because they immerse students in meaningful tasks. In Lure of the Labyrinth, *labyrinth.thinkport. org*, middle school students work at their own pace through a pre-algebra game. With a username/password to track their progress, teachers can guide students through the series of activities two ways: using the story game approach that incorporates web comics, mazes, and quests for information or through the use of stand-alone math puzzles. The game story approach can also be connected to language arts and mythology.

Activities that incorporate a balance of critical and creative thinking are motivating for learners. Thinkport's Math by Design, **mathbydesign.thinkport.org**, immerses students in design problems. In the Design a Satellite, **eduweb.com/portfolio/designsatellite/**, young people select the technologies needed to create a working satellite. In the end, they see how their satellite compares to a real satellite. The Design a Cell Phone, **edheads.org/activities/eng_cell/**, activity asks students to help a

cell phone manufacturer design a phone for senior citizens.

Differentiate

Look for materials that provide choice, allow young people to work at their own pace, and provide feedback. Combine materials created specifically for educational purposes with primary source document collections and resources designed for the general public. Start at by completing the activities at Annenberg's Historical and Cultural Contexts web site, **learner.org/interactives/historical/**. Then, provide students with digital collections to explore such as the John Muir Papers, **library.pacific.edu/ha/muir/**, which provides photographs, journals, drawings, and correspondence.

Collaborate

Combine PBS videos (i.e. Curious George, Super Why, Arthur) and related books with online resources to lay the foundation for

Figure 5. Lure of the Labyrinth

collaborative work. On the PBS Interactive Whiteboard Games, **pbskids.org/whiteboard/**, page, a series of pre-K through Grade 5 games are listed. These interactives work well as shared experiences using an electronic whiteboard. Students can work together to solve problems and create their own.

Connect

Connect content to investigations across the curriculum. National Geographic's Seconds from Disaster, **channel.nationalgeographic.com/series/seconds-from-disaster**, resource contains videos, images, and interactives related to investigating real-world disasters. When combined with short stories, young adult literature, and graphic novels, the topic of natural disasters comes alive in the English, social studies, and science classroom. This experience can be extended with the simulation titled Sayani, **sayansi.ca**, about helping a community after a natural disaster.

MAKING IT HAPPEN IN SCHOOL LIBRARIES

Teacher-librarians can lead this revolution in teaching and learning by collaborating with classroom teachers to re-image curriculum materials, assignments, and assessments. For instance, the study of coalmine safety is often in the news. Rather than asking students to simply write a report, involve them in a dynamic inquiry that incorporates online news sources, web documentaries, and transmedia creation. The key is designing learning experiences that immerse young people in timely and meaningful topics.

Begin by immersing students in the interactive web documentary set in China titled Journey to the End of Coal, **www.honkytonk.fr/index.php/webdoc/**. Ask them to compare this experience with the documentary Coal Country, **coalcountrythemovie.com**, set in the United States. Listen to the song Appalachian Soul, **coalcountrythemovie.com/bonus.html**. While some students may wish to continue their exploration of coal by reading *Coal: A Human History* by Barbara Freese (2004), others may choose to learn more about recent coal mine disasters in the United State and China by conducting a *Google News* search, **news.google.com**, or exploring the United States government perspective on Mine Safety and Health, **www.msha.gov/FocusOn/40thAnniversary/40thAnniversary.asp**.

The key is rethinking assignments, designing experiences that require deep thinking, and infusing text, images, audio, and video technologies that immerse young people in an engaging experience.

Teaching

Rethink your assignment. Provide young people with tools and resources. Then, let them develop innovative projects that incorporate text, visuals, audio, and video.

Provide effective pathfinders such as Buffy Hamilton's Jazz Age Roaring Twenties LibGuide, **theunquietlibrary.libguides.com/content.php?pid=37149&tsid=273429**.

Thinking

As you design learning experiences, look for opportunities to incorporate multi-platform resources and transmedia approaches. For instance, the award winning book for young people titled *Claudette Colvin: Twice Toward Justice* by Phillip Hoose (2009), features the little-known story of a 15 year old black girl from Alabama who refused to give up her seat on a public bus a year before the Rosa Parks story.

Technology

Think about new ways of teaching and learning through the use of media and interactive elements.

In the Colonial era project That a Man Can Stand, **dda78.edublogs.org/**, students invented characters. They used the blog format to write about the experiences of their character and share podcasts. Explore the characters of Eliza, **dturner78.edublogs.org/**, and Samuel, **mhamner78.edublogs.org/**. As a culminating project, they wrote a class book and made it available through Lulu, **lulu.com/product/paperback/that-a-man-can-stand-the-evolution-of-a-nation/4651913**.

CONCLUSION

Looking back, we had few resources and limited options for building dynamic learning environments. However looking forward, we have many tools to help students become independent thinkers.

The PBS Frontline program Digital Nation: Life on the Virtual Frontier, **www.pbs.org/wgbh/pages/frontline/digitalnation/**,

Figure 6. Journey to the End of Coal.

explores "what it means to be human in an entirely new world—a digital world." As teacher-librarians, it is our job to help students learn in this new world.

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GOOD AND FUNNY, OLD AND NEW

Giant size Little Lulu, vol. 1. John Stanley and Irving Tripp. Dark Horse, 2010. $24.99. 978-1-59582-502-5. Grades 4 and up. Maybe one comic strip in twenty is funny a decade after it first ran. Maybe one in fifty is still funny twenty years later. *Little Lulu* is one in a million. This two-and-a-half pound collection is heavy proof that the light humor of this crafty little girl is just as dead-on today as it was before most practicing librarians were even born. There is an elegance to the gags that drives these cartoons, a simplicity that makes them timeless.

King of RPGs, Vol. 1. Jason Thompson and Victor Hao. Del Rey, 2010. $10.99. 978-0-345-51359-5. Grades 7 and up. Shesh Maccabee is in his first year at the University of California at Escondido, and he is determined not to give in to his craving for video games. But it turns out there is a new distraction lying in wait for him, that demon-in-a-bottle your mother warned you against: table-top role-playing games! Every time Shesh is presented with a new game, he disappears into his rabidly funny alter ego, the best role-playing gamer the world has ever known. This is a gag that could grow tiresome very, very quickly, but Thompson has an abundance of ideas for detailed RPGs Shesh can conquer (to say nothing of Thompson's insights into the oddities of hard-core gamers), and Hao does over-the-top zaniness like no one else. *King of RPGs* is a comedy with its finger on the pulse of contemporary youth culture.