Connecting Science with Public: Comic Books and Libraries

Arsev Umur Aydinoglu
Doctoral Candidate
School of Information Sciences
College of Communications
University of Tennessee
arseven@utk.edu

Suzie Allard, Ph.D.
Associate Professor
& Assistant Director
School of Information Sciences
University of Tennessee
sallard@utk.edu
Overview

- Relevance
- Literature [Comics, Public Understanding of Science, Entertainment & Education Strategy]
- Research Question
- Methodology
- Results
- Discussion
Relevance

- Scientific literacy for citizenship
  - Nanotechnology
  - Genetically modified organisms
  - Global warming

- Formal Education

- Role for libraries
Literature

- Comics
- Wertham - negative
- The rest - positive
- The relationship between comics &
  - Art & aesthetics
  - Culture
  - Gender
  - Violence
  - Education (especially language)
Public Understanding of Science

- Medieval period with guilds (gunpowder, masonry, paper making)
- Medicine & public health
- Sputnik 1957 – Paranoia
- American Association for the Advancement of Science
- Popular science era
  - Books and magazines for laymen
  - Documentaries – even TV channels
Entertainment Education Strategy

“Process of purposely designing and implementing a media message to both entertain and educate” (Singhal & Rogers, 2003)

- Mexican soap opera – Simplemente María promoted:
  - Adult literacy & sewing classes
  - Health messages about safe sex practices
  - (teen pregnancy & STDs)
Research Question

- What does science, technology, and scientist mean to comic book readers?
Methodology

- Constructivist paradigm
- Deep interview
- Snowball & convenience sampling
- 7 interviewees (5 males & 2 females; 19-33 years old; different professions; 3 manga & 4 superhero readers)
Interview

- What is your favorite genre? Why?
- Who are your favorite heroes & villains? Why?
- What do you think about the scientists in comic books?
- What do you think about the use of science in comics?
- What is the role of technology in comics?
- What’s your opinion about the explanations in the comics that tell how something works?
- When you read something, do you check other sources?
- Do you think they are real/possible/exaggerated?
Results 1 / Characters

- **Heroes:** Spiderman, Batman, X-Men
- **Villains:** Magneto, Dr. Doom
- **Reason to like:** They are ‘real’
“You got characters in one way or other the good ones they connect on some level with the reader. Spiderman, everybody is at that point sometime. Everybody knows what it is like not be able to do, out of luck. Everyone knows what’s like to be discriminated. That’s what X-Men is for. It’s something that connect on various levels to somebody. And you can feel it.”
“Why Marvel? That’s a priority quite a few people take. Because DC characters are iconic and the only ones I listed before (Batman and Flash) are the ones that enough human nature attached to them, that they are not from another planet trying to interact with this planet. They are real people having to overcome limitations or things that they’ve been put into against their will or powers that they’ve been given that they have to understand that in order to relate exist and continue doing what they need to in this world to get by as well as use their power for a positive nature.”
“I don’t read DC because they have crappy story lines. ... The characters (in Marvel) look real to me. ... You don’t know what they are doing. They are trying to do the right thing. ... For Justice League, it is always black and white. ... Marvel characters so human.”
"The goal is not to educate, (the goal is to) entertain."
Evil or nutty scientist OUT

“I don’t like the idea of the evil scientist or the nutty professor in that matter. ... If it wasn’t such a common theme, it wouldn’t be bad I guess. A professor flips out once in a while - it happens in real life but it seems to me a pretty reoccurring theme in comics.”

If they are mentally stable brilliant, they do good things. If they have a personality disorder, they try to take over the world.
“... actually Grant Morrison did a story a couple of years ago where they use where the Sentinels turned into nanoids, then flow through mutants bloods to keep them in control. ... (I) had a friend at the University of St. Louis studying biomechanical engineering, studying how you can do this stuff in people, how you can put nanoids in someone. ... I learnt nanotechnology from comic books.”
“Some other pieces of equipment they used so called positron rifle which basically fires a beam of positrons to the target which reacts on the subatomic level resulting in explosion. ... They say that this space based weapon would be very effective. The problem of firing it into earth is because of air molecules.”
“Flash taught me physics. Because in order to judge how you gonna hit somebody, how far he goes back, how much you speed he is gonna pick up the velocity, acceleration, travelling. They taught me a lot. They taught me physics, they taught me vocabulary.”
"I thought the explanations were great. I thought they made perfect sense in my child brain. Some of them were hard to understand, they went so in depth. ... DNA, chromosomes..."
“Absolutely! Because it’s the science stuff or literary references they make, if something that I don’t know, I wanna learn more about it.”

“Oh, yeah! Absolutely! That’s the purpose of reading. In my opinion, in general, in could be a comic book, it could be a regular book, it could be a textbook, it’s to expound on a subject that you know nothing about or enjoy or want to know more about that.”
“Yeah, it does and that’s about as deep as it goes. I have never been spurn to see serious research from it. But, yeah, Google or Wikipedia or something. Because I wonder, for some things I realize that they are not outright also but exaggerations. It makes me wonder how much of it exaggeration here, what’s actually feasible.”
"Not initially. ... (after heard about neutrinos in chemistry class) ‘Are you kidding, that’s a real thing?’ Well then absolutely. Because, there is - what? A paragraph about text books in high school. Then I went and look more things up because this is something I heard a lot in my life.”
“I hear this many times as a comic book shop owner like being a bartender. You get to hear everybody. Always tell you about ‘I have this idea why a lightsaber should work.’ And then they start breaking it down. They tell you about taking Carbon and things, putting in a microwave, getting that blue arc and then saying ‘Now, we need something to contain the energy and have it slow like the lightsaber does as well as to absorb the energy that is released and turn it around and use the energy.’ You look at them and say ‘Get a girlfriend’.”
Results 5 / Reality & feasibility

“Who would have thought that you would be able to download movies or use a compact disc or the communicators on Star Trek are now cellphones.”

“I think that can change the world moves because kid opens a book, Spiderman and sees something, sonar. And decides ‘I like that, I’m gonna learn more about that’. So then goes to library, open a book, reads about sonar systems, the way it is used, communicate with whales. Next thing you know, you got somebody who can learn to communicate with another animal.”
“Absolutely, it’s possible. Uhh, OK, truth be told. When my mother was pregnant, she and my father had a car accident. This was back, they didn’t knew how bad the X-ray radiation on the children in the womb. ... So I got nuked as a kid (baby). That’s why my eyes are in a color that is not genetically possible. ... My spine, instead of straight, is curved - actually helix. ... Because this ... I just waited for all my childhood for my X-Men powers to kick in! ... I was almost depressed for a year. ... I can’t fly, I can’t shoot laser from my fingers.”
Discussion

- Entertainment & Education Strategy can be used because both soap operas and comic books
  - Audience & readers are emotionally attached
  - Narrative story-telling
  - Pleasurable activity
  - Spurring of interpersonal communication
What role for libraries?

- Subscription to online comics
- Community engagements

- What else?