

3D-prints and Robots Play a Part in My Story. Participatory Learning Action and Content Creation in a Library Maker Space

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Abstract:

Book trailers and short how-to-use-the-library films. Mobile storytelling. Animations and user-made materials. New literacies. The use of mobile technology in creating content with children and young people has become an integral part of our work, since the first tablets and smartphones were obtained to our library in 2011. Another big change occurred when we started building a maker space and brought 3D printers and robots to the library during the summer of 2013.

Our library has had the opportunity to adapt and introduce new ways of using technology in learning to teachers and school groups. The fact that mobile technology makes content creation easier than ever before, is both an opportunity and a challenge. When we involve children in creating materials that are not only for school and learning, but for a public library to use and publish in the library and online, it brings a real edge to the action. The big issues of media education: privacy, good and bad digital footprints and understanding copyright are well addressed when we do not only talk, but create and publish.

When it comes to technology, we are not experts, but curious amateurs and co-learners. Mobile video tips and tricks were not taught in the university, neither was 3D printing. All this brings the old wisdom on the importance of imagination vs. knowledge to a whole new perspective. The act of introducing new, surprising technology mixes well together with introducing the world of books, fantasy, and fiction.

Keywords: mobile technology, digital literacy, creating content, maker space, children and youth

1. Introduction: the role and tasks of Finnish public libraries in learning

In Finland, public libraries play a part in primary and secondary education. In schools, teacher librarians are rare but on the other hand, public libraries are expected to collaborate with schools. The objective of the public libraries, as stated in Library Law (1), is to promote equal opportunities for citizens to pursue personal cultivation, literary and cultural interests, continuous development of knowledge, personal skills and civic skills, internationalization, and lifelong learning.

The authors work as librarians for children and young adults in Tapiola Library, Espoo City Library. In our library, the resources allocated to school – public library collaboration are rather good, and there are trained library professionals in focusing in the task. Collaboration with schools is seen as an essential part of building the significance and the meaning of the library. Learning to use the library isn't self-evident; it varies a lot from family to family, kid to kid.

We all love raising readers, but not every child is going to be a heavy user of non-fiction. Access to stories and information, in many different formats, and the capability of voicing one's own story, should all be cherished in the library. Multiliteracies, curiosity and imagination are qualities needed by each child and society. Building digital critical skills and raising curiosity are tasks libraries should adapt in the age of visual information and user-generated content.

As the authors' work focuses in children, youth and collaboration with schools, other learners and library users will not be discussed in the paper.

2. Participatory Learning, Mobile Technology and MakerSpace

Learning by participating and doing suits the library particularly well, as the setting alone calls for exploring and action, not just observing or listening. The children get out of the school and find themselves in an intriguing environment, and should not be asked to be passive.

The new technical innovations provide many opportunities for teaching at the library. Technology increases children's motivation to learn and it is important that they find the actual teaching experience interesting. Instead of lecturing to groups of children, we at the Espoo City Library are working to get children to actively participate and create content in various workshops.

Whether the children in question are in kindergarten or at school, they all can and want to do things on their own. They use many different devices in their daily lives, and this is why we feel that we shouldn't make a distinction between libraries and leisure time, but rather consider technology as a natural part of life and the teaching at the library.

Teachers rarely have the opportunity to spend time getting acquainted with the new technology in order to effectively teach these skills to their students. For this reason, teachers often wish for workshops where their students can make use of new technology.

We were curious to combine mobile technology and learning in the library since the beginning of the tablet computer and smart phone era. First devices were obtained to our library in 2011. We mainly use iPads, as the amount of useful and available apps was good compared to other devices, especially in the early days of tablet computers.

The intensity, in which the children dug into the given task, when given iPads for the job, was a surprise from the beginning. Although children love their games, they've been very focused in the tasks given. Most children have an iPad at home that they use to play with. At the library, they learn to use and enjoy the other properties of the device. The difference of working with pen and paper, seems to be that when using mobile technology, all kids in the group are eager to participate.

The tasks given are often not only for learning, but we aim for user created content that is somehow useful for the library. Children have for example created educational films, for other kids and library users to learn from, and book trailers for reading promotion. Creating something that is for public use, not just a school task, always gives an edge to the action. Of course, issues of privacy and copyright need to be well looked into. These are also critical things for children to learn, and learning in action, not just in theory, has proven to be effective.

Tapiola Library MakerSpace saw daylight summer 2013, when we got our first 3D-printers and a sewing machine found a space in the library. The devices, the role of a MakerSpace and libraries in future have ever since been explored and discussed when working with children in the library, and in the content created by them.

3. Action! Create! Stories and examples

An African Night in the Library: User-created educational films

6th graders are invited to spend the whole night in the library. It's called an African Night, as the concept is inspired by a small African library, the Greenwell Matongo Community Library in Windhoek, Namibia. There, kids volunteering for the library are rewarded for their work for example by inviting them to a Night in the Library, with treats and a movie and a special night just for them. The way the Namibian children were eager and happy to help and to be useful, was one of the things that inspired me on my working visits, and made me have a different perspective to my work at home, too.

In our Finnish version, we've combined work and fun. Children are given the task of creating short, educational films that we can use when telling about the library. The tasks have been quite specific: how to check out a book, how to make a reservation, introduce the MakerSpace, give a short introduction to what 3D-printing is about, for example. After working for 3-4 hours, the films are ready for a premiere. The evening is concluded with a movie, and started with telling a story about the kids of Greenwell Matongo and a very short introduction to mobile video story telling.

When it comes to video making, we are as much amateurs as the children are. We've used our librarian skills of acquiring and choosing information, and selected some basic mobile video tips and tricks to teach the children before they start making their own films. The small tips have been well listened to and useful, and I believe we have been able to raise curiosity

to learn more about the ways of film and moving image in storytelling, skills that will be of growing importance in the future and that are not very much looked at in school.

We dreamed of making our own short videos already before we had the tablets. The tablets made it happen. You can carry out the whole task from filming to editing and publishing using a single device. Movie editors in tablets are simple enough to just start using, without prior experience of editing.



The Scavenger Hunt: Moomins and QR-codes

QR-codes give us a handy way of bringing intriguing internet materials into action in the library. In our Moomin workshop, we had both Swedish and Finnish speaking 4th graders working together, exploring, hunting and comparing information about the beloved Finnish fairy tale characters, Moomins, and the author Tove Jansson, and at the same time doing something very concrete: decorating our Library Bus with Moomin quotes, cut with the vinyl cutter of our MakerSpace.

The preparations at school included reading Moomin books, in search for interesting quotes. The citation hunt generated many good discussions already in the classroom, the teachers told us. Creating something together was a fun way to bring together the two different language groups, and children were so proud of their chosen quotes, and how they turned out.



The Robot Week

The Robot Week was a joint project of Espoo Libraries and Finnish speaking schools. 3rd graders spent a whole day in the library, participating in workshops about robotics. Lego robots were coded to do simple tasks, robot poetry was created and stories about useful school or library robots were created and animated using iPads and the Puppet Pal app. During the week, the workshops took place in five different libraries.

The Book Trailer Workshops

Book talking is a widely used and well-loved method of reading promotion, but as fascinating as it is, book talking done by the librarian is an adult in action, not the child. We wanted to get our children and teenagers more involved, and started experimenting with doing book trailers.

8th graders were given brand new YA fiction to choose from, and some time to read the book. There was a list of things to consider while reading: how to introduce the main character, the setting, and which episode or a part of the story should the trailer tell, to grab a reader's interest.

The trailers were produced using iPads, iMovie and a couple of other apps, and Creative Commons licensed photos searched from the internet. Searching for photos was the most time consuming and challenging part, but important lessons about copyright were learned, and search skills refined.

The trailers created look like their makers. The boys' book trailer about Rick Yancey's 5th wave has grammar errors, excess use of capital letters, and works like magic when shown to other teens. The workflow is completely documented in our blog (2).

My Library in a Poster

4th graders were given a task of telling about the library or the meaning of reading in a single poster. We used iPads and the Phoster app, started off with an introduction to slogans, posters and visual design. The kids then chose, what they wanted to tell, and created posters. The 1st workshop took place in our brand new Library Bus Väkky, and the posters created in the one and a half hour session came to a lot of use. It was said, that no adult could have created such charming and original work in the given time.

Santa's Elves. A Photo Story

A group of six-year-olds visited us before Christmas. They first got to know the library on a tour where they saw all the things they could do there. After this they were divided into groups of three children, and were given the task of looking for and photographing Santa's elves that were hidden in the children's section.

Afterwards, we looked at the pictures together, talked about the things the elves had been doing, and at the end they listened to a Christmas story. The library visit was successful in many ways; the students became immediately very curious about the task when they saw the iPads. They worked very diligently and purposefully getting to know and taking pictures of the children's section.

Library Fun. A Seven-year-Old's Point of View

A group of seven-year-olds had a similar task where they were asked to take pictures of all the fun things to do at the library. They were visiting us for the first time and started out by getting to know the library with a librarian. After this, they too were divided into small groups to take their pictures which we later looked at together. Back in the classroom, they wrote captions on the photos and chose the ones to be published on the class blog. The visit to the library was seen as a fun and different experience and the students became familiar with the library and its services. The students were very satisfied with their photos and eagerly explained the fun things in them. The key here was to look at the library from a child's point of view.

The Math Bus

For the 2nd graders we did a project with the publisher Schildt & Söderströms in our Library Bus which at times was converted into a Math Bus. This meant that a mathematics lesson was moved to the Library Bus instead of a classroom. There were about ten students per class and they were given a brief description of the task at the beginning of the lesson.

During the lesson, the students were able to use the digital materials associated with their text books. In pairs, they also got to create math problems out in the school yard during the second half of the lesson. These problems were then photographed with an iPad. The last chapter they had studied at school was revised in the mathbus. At the end of the lesson, we

went through the pictures that the students had taken and they got to explain the mathematics in them. For example fractions: $\frac{1}{3}$ of the trees are pines, $\frac{2}{3}$ are birch and so on.

The students were very happy with the experience. One of them told me that he hated math, but that this was fun. Students learn in different ways and this one seemed to learn by creating things himself. The project was a success for many reasons: the students got to create math problems where the focus was on practice and understanding. It was also exciting for them to be able to use the digital material and that the teaching took place in a Library Bus. Making occasional mistakes along the way is also important as it's part of the learning curve; with each mistake the students are one step closer to learning. Using the Library Bus for various types of teaching has proved its worth. It's exciting and interesting for the students and adds a fun twist to the traditional teaching situation.

The Comic Workshop

Comics are something that all children like to read at some point in their lives. Comics are incredibly popular and our task is not to criticize them. Instead, we should introduce the wide range of comics to children, or why not help them make their own comics. It is natural to combine working with schools and comics as they are included in the school curriculum. After a talk on comics at a school, our library received a large class of 10 year olds wishing to have a comics workshop. At first they got to see pictures of cave paintings, hieroglyphics, and the Bayeux Tapestry and to think about the things that make a comic. We also discussed why comics can be important and when they are needed. The students talked about the comics they were familiar with and learned about new comics. They also got to try it out themselves by making a strip with three boxes. In the first box, they drew a stone, in the second one the stone became an animal, and in the third box, the animal was afraid of something. The students created fine comics very easily in just a few minutes. Last, but not least, the students got to work in small groups to make comics wall posters on different topics that are important in a library: how to check out books, how to get a library card, the reading dog Börje and reading tips.

After all the students had taken some pictures with an iPad, they got to open the Comicbook app to put together images for a comic. Most of them had not used the app before, but quickly got the hang of it. The end result was fantastic and the comics are now shown on a loop on the digital displays at the Tapiola library. By creating these comics, the students learned how with a few images and a little text it is possible to create important information. The fact that they needed technology in the process motivated them to make their own creations and also to consider how image and text interact in comics.

The Garage Band Ringtone Workshop

Many groups visit our library regularly, and it is therefore important to have some new and current activities and some new tricks up one's sleeve. We are happy to have a staff consisting of people with different interests. For example, we planned a workshop where students got to create custom ringtones for their phones with our cultural producer who specializes in music. First he taught me how to use the Garage Band app and quite soon after that we held several ringtone themed workshops together.

These workshops and learning to use the Garage Band app were geared towards 3rd graders this time. First, they got a short introduction to how the app works, and then worked in pairs

with an iPad to think about the ringtones they wanted to create. How should it sound when it's mom who is calling, what about the ringtone for a best friend? What instruments sound good together?

The students sat with their headphones, deeply concentrated, and tried things out. At times they wanted to share what they were doing with others and were eager to help each other out. Garage Band worked very well both for beginners and for those more experienced in music. During the lesson, they were all very concentrated in their work regardless of whether they played an instrument or not. They were all just as interested and capable of creating something – and proud of their ringtones. At the end of the lesson, the students eagerly played their ringtone compositions which were then uploaded to SoundCloud and sent to the parents by the teacher. To work at a library with children and technology is very rewarding; you learn along with the kids. A librarian who dares to try new things sets a good example; you don't need to know everything, it's OK to be an amateur. You learn the most when you step out of your comfort zone.

Learning the Library: the Secrets of the Shelves

Could you introduce, how the books are organized in the shelves, is something teachers often ask, when they ask for an informative visit in the library. The task of explaining the rather complicated thing was something I was happy to give away. The 3rd and 4th graders were asked to explore and document by photographing and filming different issues: alphabetical order, how to find a specific book, how would they classify books and what kinds of shelves would their library have, for example.

4. What happens next? Future ideas.

In near future, we are planning take a closer look in programming. First coding workshops were organized in Tapiola Library June 2014, with an open invitation to all interested. The workshops attracted 40-50 participants each. We had two expert volunteers planning the workshops, but also librarians needed to quickly adapt some basic skills, in order to be able to help. An iPad app Hopscotch proved useful with the youngest participants, while those who wanted a bit more challenge used Scratch and a language called Racket.

Creating animated stories by programming and coding poems is something we'll certainly try out.

Gamification is an approach with a huge potential and should be adapted to the library, as well. Coding an app for learning basic library skills should be fun, or writing a game script with WOW-like achievements in getting to know your library and librarians, reading and using the library, offering challenges and tedious but useful daily tasks to satisfy goal-orientated little humans.

5. Summary & Conclutions

By offering students different types of activities around literature, we can more easily reach those who otherwise would not come to the library and offer that little bit extra to those who read a lot. And above all, the library can have a surprise factor too.

It has become more and more important to document and to put in a recipe format the things we do with groups of children in different workshops. We happily share the documents on various forums and make them easily accessible to our colleagues. An idea becomes a good one only when you share it. We also make our work visible to our customers through Facebook, the library website, our blog and the digital displays inside the library.

Strong libraries and strong communities are both built with curiosity and innovation. Building significant, meaningful libraries is especially important, when it comes to children and teenagers and young adults. Libraries aren't noteworthy to our children de facto – the significance should be searched for together. Creating content, enabling children and teenagers to tell both their own stories and their views and stories about the library is essential to all parties. It is a powerful tool, when we need to find out, what libraries should be in the future.



This is how the story goes...

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References

1. Libraries.fi [internet]. Finnish Library Act [place unknown]; 2009 [cited 2014 June 3] Available from: <http://www.libraries.fi/en-GB/libraryact/>
2. My.kirjasto.ws [internet]. Kirjatrailereita [Espoo]; 2014 March 11 [cited 2014 June 2]. Available from: <http://my.kirjasto.ws/?p=31#comment-8>