

Co-creating an Enabling Reading Environment for and with Namibian Children

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ABSTRACT

Namibian children's appreciation of literature is falling behind. While children develop functional literacy, enough to search the web and read for information finding, their skills plateau due to their limited forms of reading. Thus this paper draws on a participatory approach with different stakeholders aiming to co-create a stimulating and enabling reading environment for Namibian children.

Four different participatory workshops were designed to discover ways to deepen the reading culture, in particular by exploring contexts in which children would read and also author books. Acknowledging the different roles of stakeholders in an ongoing national agenda of enhancing the Namibian reading culture, it becomes clear that the various aspirations of children as expressed in their designs need to be accounted for, interpreted and translated into a feasible plan of action. The paper outlines a way of using participatory design workshops at a number of levels to obtain design inspirations for further interventions towards enhancing kids' reading experiences.

CCS Concepts

- Social and professional topics → Children
- Human-Centered computing → Participatory design

Keywords

Participatory Design; Design Collaborative; Reading Culture; Children; Workshop

1. INTRODUCTION

Literacy rates are continuously increasing worldwide [30]. Literacy and education are recognized as avenues to opportunity and equality for all and are embraced in the global UN Sustainable Development Goals [31]. However the reading culture seems to be decreasing among the youth in general, with reading used largely for communication and information finding. The basis of a reading culture is the practice of reading, appreciating, sharing, discussing and creating the written word in many forms, including classical and contemporary works, books poetry etc.

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We distinguish literacy, the ability to read, from the notion of a reading culture, in which people engage with non-fiction and fiction on a daily basis for pleasure beyond scholarly or professional requirements. A new study shows that children read for fun less and less as they get older, with 45% of 17-year-olds saying they read by choice only once or twice a year [2]. Research released from Common Sense Media [6] shows that not only do reading rates decline as children get older. Their study reveals that "in 1984, 8% of 13-year-olds and 9% of 17-year-olds said they "never" or "hardly ever" read for pleasure. In 2014, that number had almost tripled, to 22% and 27%". Functional literacy in which people read in order to search for necessary information or in social media is different from absorbing oneself in imaginative prose for pleasure. Reading literature or other cohesive texts extends the capacity to engage with the written word, increasing vocabulary and time spent immersed in appreciating the written works.

In countries with oral language traditions, such as Namibia, there are challenges to grow a reading culture beyond communication and information finding. Historically local cultures are oral rather than written and there is a lack of relevant literature written in local languages. Learning to read at school, children use materials written in English, which presents extra challenges for young children whose first languages are African oral languages. The parliament in Namibia conducts debates in English, and Namibia aspires to education in the highest levels of English in order for Namibia to have opportunities to best participate in the global environment. Moreover the written word is seen as one way to strengthen and grow local oral languages by fostering the writing of local stories, which can be told in written, oral and multimedia forms. It is seen as supporting rather than displacing the oral tradition. The growth of a reading culture offers many benefits, however, in order to create a reading culture, attitudinal change has to take place' towards reading and writing for pleasure.

Educational research has focused on many aspects of literacy development, including the sociocultural context in which literacy develops and the link between a child's development of spoken language and subsequent ability to read. However many economically disadvantaged children have difficulty in the early years of schooling, as a result of the failure to learn to read. If the child does not learn to read well within the first few years of school, then the chances of poor academic performance increase significantly. In the Namibian education system high failure rates were recorded especially among indigenous children who entered school with no prior English language skills, which added an extra burden to the child's learning. A recent educational reform has introduced the teaching and learning at primary schools in indigenous languages, yet with an acute lack of written materials in indigenous languages.

Considering the general lack of access to reading material and the cultural background of most Namibians to be rooted in an oral ethos brings about different challenges in terms of

establishing a reading culture. Personal observations have revealed that Namibian children respond favorably to reading activities when embedded in storytelling or drama activities. This fusion suggests an elegant transition from oral to written narratives.

Advocating a national agenda on enhancing Namibian's reading culture and the one of upper primary children in particular we follow a participatory approach to technology design involving different stakeholders. We postulate that technology mediation can overcome the current reading apathy of children in Namibia. Smith et al. [26] "argue that designing novel technologies for hybrid spaces of activity and interaction demands a focus on social practice, space and technology to be instantiated in a collaborative and iterative design process". Avoiding an often technology-driven approach we first dwell in the social and physical reading space. Thus a number of participatory workshops were held to conceptualize a socio-physical context providing an enabling reading environment for Namibian children.

The workshops were held during an international conference, at a local school and during a national book fair event in order to promote and explore a novel kind of reading culture in Namibia. Design inspirations for promoting a reading culture were developed with different methods and audiences. One approach engaged participants of a conference organized in Namibia to draw out ideas and methods from their wide collective experience in international and local contexts, even though the international participants had very limited experience of Namibian contexts. The other three sessions involved Namibian children as co-designers. The different workshop approaches enabled the team to gain diverse perspectives. The three different workshops with child participants enabled the children to develop their creativity and design skills through understanding and comprehension of forms, materials, processes, innovation, collaboration, sustainability, problem solving and transforming problems into opportunities. Before describing the workshops and their results in detail we briefly present related work.

2. PARTICIPATORY DESIGN BY CHOICE

2.1 Changing cultures

When seeking to change a culture, design must explore many facets rather than simply the opportunity for one product or service. Design is a key site of cultural production and change in contemporary society [11]. Blomberg and Darrah [3, 4] have proposed anthropology of services with implications for service science and design by exploring people's actual practices. In the field of design anthropology practitioners participate in multidisciplinary design teams working towards concrete solutions for problems that are sometimes ill-defined [11]. Our approach builds and extends upon designing services based on practices by bringing participatory and co-design to the wicked problem of promoting a reading culture.

In this case the researchers and designers sought to create new reading experiences by using participatory design (PD) as a development and ideation approach. PD emphasizes stakeholders' influence in all stages of the design process and it allows the children to not only be users, with a given a voice in the process, but also to have power to make concrete design choices [5]. Participatory design methods were chosen for this research because such methods present an opportunity to develop collaborative solutions to address the challenge of youth reading in Namibia. Participatory design has always focused on involving people in the process "as a partner" [25].

Thus the use of participatory design is often advocated when developing new and innovative solutions.

2.2 Designing with children

Alborzi et al. [1] and Druin [8] emphasize that when we design technology or services for children, it is important that we include the children so that the technology tools designed support children in ways that are useful, effective, and meaningful for their needs. Read et al. [22] distinguish different levels of participation varying from informant to design realization. Druin [8] suggests to consider children as design partners who negotiate group decisions with adult team members as equals. Yet they have noted unequal power relationships between children and adult team members as a notable obstacle to building an effective design relationship. Alborzi et al. [1] and Taxen et al. [28] both noted that the power structure between adults and children was difficult to change especially in a school environment. In some other cases adults feel uncomfortable working with children or children are not used to provide critical feedback [22]. Children aged between 7 and 10 are considered the ideal participants, due to their emerging capacity for reflection and abstraction, and their lack of preconceptions about the design domain [22].

A number of successful methods have been devised to facilitate children's participation in design. In the early nineties, Muller [16] developed the PICTIVE approach that used a paper and pencil based method to facilitate direct involvement of non-computer literate users. This was well suited for children as they neither had access nor the skills to use more sophisticated prototyping tools at the time. Read et al. [21] have demonstrated the affordances of materials, such as PlayDoh to engage children in the design of organic user interfaces. Van Doorn et al. [32] have explored an alternate approach of persona co-design, namely children eliciting goals, wants and characteristics from their grandparents. Children then integrated requirements into a storyline that they transferred to persona-templates first, and finally grounded personas in a concluding co-design gathering.

Equipped with numerous methods and techniques to engage children, a number of co-design projects have emerged, especially in learning contexts such as schools and museum settings. Roussou, Kavalieratou and Doulgeridis [24] have used a participatory design methodology with children, within the context of an informal educational institution, specifically the National Gallery of Art in Athens, Greece. There a group of 11 year-olds spent part of their summer learning about art conservation in order to design an on-line art education program targeted to children of their age. They found their process of designing an educational website with kids to confirm many of the findings of other well-known researchers in the field, including the problematic power and gender issues and challenges. In addition they note that this was an exceptional case, because despite the low cost of the participatory design method, it proved to be demanding in terms of the museum resources required, namely the art conservators' time.

Kam et al. [14] have undertaken participatory design intervention with rural school children in India. Their study showed that hardware innovations must be accompanied by software that targets local conditions and needs. These however can only be established within a participatory design approach with local school children and other stakeholders. They conclude that contemporary efforts to extend the information technology revolution to these underserved communities are not likely to succeed, if we have not listened closely to the local communities when designing technology for their needs.

3. PROMOTING READING INITIATIVES

3.1 The Namibian reading context

Many Namibians and especially learners have demonstrated a weakness in reading, even though the illiteracy rate is not so high. There is a significant lack of non-academic books, magazines, cartoons and even on-line localized readings for youth in Namibia. Printed material as well as technologies and internet services are not affordable to the majority of Namibian families.

A vicious circle forms as the lack of a reading culture in Namibia contributes to an underdeveloped publishing industry, which is characterized by inadequate and unavailable reading material for children, which in turn fosters a weak reading culture.

In early 2016, a visit to five primary government schools in Katutura, an informal settlement in Windhoek, clearly indicated that even though many of the government schools have school libraries, they are not functional for children. Surprisingly some of the schools had part time librarians who indicated that they would like to organize the libraries and bring them to the point where children could read and borrow books, but they do not have time because they are already teaching full time. All the schools agreed that it would be ideal if the school or government could hire a full time or part time librarian. If the schools have functional libraries, they will be able to give the children wide and easy access to reading materials, introduce the children to books at an early age, reduce the children's dependence on the teachers as the only source of information, and also successfully instill the culture of reading.

For these reasons, the researchers were inspired to create interventions aimed at addressing this challenge, in the hopes that these efforts would be useful in assisting to influence the culture of reading in Namibia. Four different initiatives were undertaken over the period of one year in order to find strategies and gain design inspirations to create an enabling reading environment for young Namibians.

3.2 SINCO Workshop

The first intervention was part of an international conference. It was a three and half hour prototyping workshop where the aim was to ideate new solutions for fostering a reading culture and finding solutions to ensure access to reading material for all learners of Namibia. The design challenge here was linked with the current situation of the inadequate focus and support for children to creating and promoting a reading culture especially at Namibian schools. In the workshop, participants discussed whether the reading weakness could be a question of interest, language, access, or cultural habits. New ideas were generated aiming to find strategies to encourage young Namibians to engage in reading through facilitating easier access. Different stakeholders -learners, citizens, book publishers, designers for digital & online publishing- were invited to participate in this workshop. Several of the participants were from other countries. Although they did not have much knowledge of Namibian culture, they brought into the mix a variety of experiences and understandings of how children learn to read in different cultures.

There were seven participants in this workshop, four international researchers in the field of participatory design and three Namibian citizens. The workshop was called "Co-Design in Action with Children", but there were no child participants in this workshop. The initial aim was to design with children but because of timetable and location issues children could not participate. The study was feeding into a national campaign on increasing a reading culture, thus adults were equally important stakeholders. Adults also play a key role in realizing new

concepts and it is important that they participate so that design includes their views and does not generate resistance to change. All of the adult participants could see the situation from a family's perspective. They also had second hand knowledge from children and their reading experiences as many of the participants had children of their own. The general aim was to start exploring the local context and also to get outsider ideas for a local challenge.

In general, the participatory process involved the use of brainstorming and low-tech prototyping tools to capture and demonstrate the ideas of the participants. In this case, a workshop was planned around service prototyping method called SINCO (Service Innovation Corner) [23]. SINCO represents a theatrical hands-on approach to participatory design. In SINCO fairly cheap technological equipment and some props are used to facilitate discussion and ideation between stakeholders. Experience of the current situation can be created fairly quickly and then altered as participants elucidate further details about it by acting it out with props. The SINCO method has also been successfully used with children in the participatory development of situation-aware safety services [19].

The use of participatory tools is often advocated when developing new solutions for communal challenges. In this case a sequence of situations was used as an experiential script, a story, for developing new ideas and viewpoints to local reading challenge. In this workshop two common techniques in service design were used, namely, persona profile [7] and A Day in the Life storyboard [27]. Personas are fictional profiles that represent a "character" with which the participants and design teams can engage. Personas act as a constant point of reference during the development process, helping focus on users' states of mind, behaviors and attitudes [9]. Persona supports the creation of empathy with end-users [17], and a dialogue between stakeholders complementing scenarios and other methods [20]. Nielsen [18] facilitated the co-design of personas for product innovation. Through role-play activity a sound understanding of users' needs and aspirations emerged via participants acting out personas that elicited technological items via visualizations, empathetic and emotional elements. Nielsen [18] concluded the above allowed designers to understand users by facilitating communication among many stakeholders.

For the SINCO workshop a persona profile of Berhane, a 9 year-old Namibian boy and his school day with other children, was storified by using A Day in the Life storyboard. The A Day in the Life method collates the research material on a particular type of user in order to create a descriptive walkthrough of his/her typical daily activities. At the workshop the SINCO method was used in order to bring the persona profile and Day in the Life story alive so that participants could experience it and also further develop and modify it.

The day in a life of Berhane consisted of eight moments, including moments from waking up to being in the school, going to see friends and visiting a Namibian Book Fair and finally eating dinner at home. The day in a life of Berhane story was exaggerated so that as many as possible of the real life problems and challenges would become evident through the visualized story. The story of Berhane, his family and friends was created before the workshop by workshop organizers. A questionnaire about their children's reading habits was done for three Namibian parents and this information was used as a starting point for creating the story.

After presenting this story and discussing the backgrounds to Namibia's reading culture, international and local adult participants started to solve together the challenges of Berhane's story. Participants discussed different ideas on how to motivate Berhane to read more and how to make reading

more fun. One of the ideas discussed was how a child's favorite book character could be "present" in a child's room (Figure 1). Also different methods for motivation, like collecting stars in order to get something desirable, were proposed and discussed.



Figure 1. Participants testing their idea of how children's favorite book character could be present in a child's room.

Participants produced many ideas for school activities regarding reading (Figure 2). One of the ideas was that there could be a "reading tree" at the classroom where all the students could add a leaf when they have read a book. Another concept was to use different kinds of games as a fun way to know more about writing or different genres. Participants also discussed the role of libraries in relation to reading. For example schools could support different ways of donating books or even organizing a way to lend books so that all students do not have to buy the same books. Students could also author and illustrate their own books.



Figure 2. Participants testing how a read-thon or other reading competition could work in practice.

Finally participants discussed the role of homework and the role of parents in getting their child interested in reading. One of the ideas from overseas was a "reading folder". Here the school would give a child a book to read with his or her parents and the parents would need to sign that the book is read. This would give a "nice compulsion" at home to spend time to read together.

The aim of this workshop was to develop understanding of alternative approaches for enhancing the reading culture. Prototyping also enabled international participants to familiarise themselves with children's situation and Namibian context through Berhane's story. The results showed that many different environments, like homes, schools or libraries, could support better children's reading and make it more fun. The next step was to involve children in the development of a new enhanced reading culture. A new workshop for children in a local school was planned. The next workshop focused on designing ideal reading environments with children.

4. AMAZING KIDS WORKSHOP

In the search for design inspirations the next step was to involve the everyday life experts to the design process. In June 2015 researchers and designers from Namibia University of Science and Technology, PACO Design Collaborative, and University of Lapland started a collaborative effort in which a participatory design workshop was run to explore children's own ideas on

how to enhance their reading experience. A two-hour workshop was held with 20 children, aged between 9 and 11 from the Amazing Kids private school, in Windhoek, where they participated in the design process as designers of alternative reading experiences. The aim of the workshop was to encourage the children to design fun reading solutions that would suit them and also to encourage them and other children to read more.

4.1 Children as Design Partners

In this workshop, a fun but still educative process was ensured by using a participatory design approach. PACO's designers' expertise and knowledge was used in the design and execution of this workshop. PACO is a design collaborative, which means a flat and open organization with a non-hierarchical structure. PACO has worked before with children and they have developed a workshop structure for teaching children about design but at the same time designing something that is interesting for children. This approach enables children to develop the creativity and design ability through understanding and comprehension of forms, materials, processes, innovation, collaboration, sustainability and also problem solving. The aim was to show children how to transform their creativity into concrete and communicable solutions.

The session was held in the school library where children could move around and see books for inspiration. The workshop started by facilitators telling the children about their favorite story books, what they like about those and how books and reading have influenced them in their personal lives. The idea behind this was to convey why reading could be interesting and useful, and to use this activity as an icebreaker to help the children get over their fear of failure and to get them to start talking about their ideas.

Information about the reading background of the children who attended the Amazing workshop was gathered at the beginning of the workshop. Most of the children responded that the books they read are in English and they're from the school library. Most of the children read books from the school library when recommended by the teachers. The Afrikaans speaking children expressed that they also have books in Afrikaans at home.

The workshop consisted of seven short phases:

1. Introduction – during the introduction session, the facilitators introduced themselves to the children. The children were informed of the aim of the workshop.
2. Briefing - following the introduction children were informed of the phases of the workshop and explained the four facilitators' role of guiding them through the process of designing their own best reading experience.
3. Forming groups - during this phase the children were placed in different working groups (Figure 3). This was gamified. Children pick a colored paper from a bag and the same colors formed a group.



Figure 3. Forming of the groups.

4. Discussion - posing questions to and from the children to stimulate their creativity. The idea was to stimulate their thinking process in form of a free discussion and to reinterpret reading as an experience or a book as a service. Posting "what if" questions was seen as a useful tool, with facilitators aiming to get children to come up with their own what if questions.
5. Design process - during this phase, it was up to the facilitator to assess if the questions posed by the children would lead them to designing more of an experience, service or product solution. The children were given an opportunity to pick through different materials they could use during their design process (Figure 4). The children were encouraged to use the materials given to make their thoughts/designs tangible. During this phase many children showed enthusiasm. They also worked well with other students especially when they were deciding on what to do and what materials to use. Each child had an opportunity to give their suggestions and they continued to build on top of each other's ideas. One hour was reserved for building and visualizing their reading concept.



Figure 4. Children picking materials for their projects.

6. Presentations - the children had the opportunity to describe their project's outcome. Every group showed their outcome and explained it to others.
7. Award ceremony – here each child was presented with a certificate of participation and group photos of the facilitators and children were taken.

4.2 Workshop outcomes

The results of the workshop were colorful and creative. Most of the groups chose a cardboard box as a starting point. They modified that to suit their purposes and then visualized different aspects of their idea from that basis. One could see how proud the children were of the results. They also listened calmly to the ideas of other groups. It is notable how the tangible and social aspects of the activities are enjoyed so much and how these tangible and social aspects are expressed in the designs as well.

One group ideated an indoor-outdoor reading area where they can have a swimming pool and a fire area for reading (Figure 6, B). They also included a relaxing area where they can have a hot drink and sit on the bench to watch the leaves falls from the trees. Another group of students created a concept called "Girls' Island" (Figure 6, D) where they can have fun and read while listening to the nature sounds like ocean and feel the sand while they're reading. They also included a volcano near the Girls' Island. One group made an underwater cave with secret hiding areas to get away and read which seaweeds cover (Figure 6, A).

They also included a sofa that moves around on wheels. While they're reading they can also see the fishes, and they wanted to have a submarine for emergency. There's also a slide that goes under the sea to another cave.

Sport was another dominant item that a few groups incorporated into their design. Students wanted to connect reading and sport in a fun way. One group created a basketball court where they could play and be active but still read while having a break or waiting for their turn (Figure 6, C). One of the ideas was to have slogans and text from the books on walls nearby the court. Also another group created a basketball court with a carpeted reading area, because they wanted to make sure that they're comfortable when they're reading.



Figure 5. Some of the concepts children built during the workshop.

One student made a bag to carry books with her. She wanted to make sure that wherever she travelled she had a book to read. Also another student wanted to work alone. She made a traveling bag for books. She had to carry it everywhere she went so that she could have access to her books all the time. She ideated some interesting details such as stripes to make sure that she will not lose the books.

4.3 First reflections

A number of themes emerged in the children's products, such as nature (especially water), safety and escapism, and physical activities. Hohti and Karlsson [12] remind us of the complexity of interpretations of children narratives. They use a narrative ethnographical analysis of children voices, in an observational, participatory and reflective space. They conclude "that understanding voices as emergent and constructed simultaneously from available discursive, social and material/physical resources clarifies the obstacles and the challenges that exist on the way to children's participation". While the themes reflect on the one hand basic human desires such as safety, shelter and physical well-being they can equally be interpreted within the harsh social context prevailing in Namibian schools, including mopping, harassment, dull concrete buildings, and lack of sport offerings. Hohti [13] introduces nomadic thinking, a new materialist theory, to understand children's narratives within a relational context including the researcher and the research context. Thus the products such as the girl's island, the cave, the indoor-outdoor

space and the sport yard are to be interpreted in the relation of the foreign and local researchers, the school setting and the children themselves within the act of reading.

To obtain a general feedback on the children's experience in the workshop a questionnaire was distributed. All of the children expressed that this was their first time having a participatory design workshop, and they were keen for more similar kinds of workshops. In this workshop the ideas of children were quite freely explored and creativity was supported throughout.

For the next two workshops held at the Namibia Book Fair the aim was to focus on co-designing works of literature that would be interesting for children.

5. THE NAMIBIA BOOK FAIR

The Namibia Book Fair is an event that was held for the second time in 2015. The aim is to provide the space and atmosphere for the exhibition of books and works of literature, particularly, highlighting locally written and published works of literature, as well as aspiring local authors. Another aim of the fair is to stimulate new ideas and knowledge through seminars and workshops. The Book Fair is open for adults, such as teachers, parents, local writers and publishers but it was also planned to be an exciting environment for children and youth to visit. In order to continue promoting and exploring the culture of reading in Namibia through design interventions, two children's participatory design workshops were held during the Namibia Book Fair.

5.1 Children Comic Book Workshop

The first of the workshops was a comic book workshop where the aim was to help the children to design their own two page comic story in an effort to help promote the culture of reading in Namibia. The four day Comic Book Workshop started with eight students; however only four students completed the workshop, three children from primary schools and one from high school. Four children dropped out of the comic book workshop for different reasons, some stating that it was a lot of work for them to complete in a short period of time, some saying they had homework to do.

Of the four participants two children indicated that they had created comics books at home before and for others this was a new experience. Those who had created comic books before had resistance towards learning new tricks and skills. They preferred their way of designing. On the other hand, the ones that had never created comics before were more open to learning new skills, and excited. During the comic book workshop children brainstormed, outlined, illustrated, wrote, designed and formulated stories for their own comic book. Utilizing comics, structure can be provided by locating the design problems, backgrounds of use, and product characters within a story and facilitating the children's ideas to complete that specific story.

5.1.1 Scaffolding Generative Ideas of Children

The Comic Book Workshop and the structure of the comics themselves provided an important means of scaffolding to support the children's idea development. Moraveji et al. [15] have studied using comics as proxies for participatory design with children. They state that instructional scaffolding is the provision of sufficient supports to promote learning when concepts and skills are being first introduced to students. These supports are gradually removed as students develop autonomous learning strategies, thus promoting their own cognitive, affective and psychomotor learning skills and knowledge. In another words scaffolding is the formal implementation of Vygotsky's "zone of proximal development", or the gap between what a child is able to do independently and what they can do with the help of a more

capable guide, like an adult or any other scaffolding support [15].

5.1.2 Workshop Activities

On the first day of the comic workshop a comic book author and visual artist Erik Schnack shared with the children a visual and detailed story on how he created his comic book called *Bullet Proof*. After Erik's presentation, the children were introduced to the comic workshop facilitators who guided them during the workshop.

The children were engaged in a discussion of the comic stories. This was an important exercise to help them come up with their own stories. The facilitators engaged each child individually by questioning and showing old comic books. They then helped them to come up with ideas on how to structure their stories. This exercise was followed by an interaction between the participants and the facilitators on how one can construct comic pages and panels (Figure 6). At the end of the first day, the participants were given homework to further explore the comic and illustrating world.



Figure 6. Children and youth making their own comic stories during the Namibia Book Fair.

On the second day the children continued working on their stories. Slowly they began with the drawings for their stories. Towards the end of the second day, the children were given an opportunity to share their challenges and they were given advice on how they might improve their work. By the end of the second day, the children were given homework again in order to keep them experimenting and trying out their own style. On the third day the facilitators reviewed each participant's work and gave extra support to the children who were facing some difficulties in finishing their comic books. The final day, the participants handed over their final work, which was framed and then displayed during the Namibia Book Fair.

5.1.3 Observations

The children who could draw well were able to finish their work quickly and by the second day they needed less support from the facilitators. On the other hand, the children who showed interest in drawing but could not draw well found it difficult to keep up with the schedule, thus they stayed in the workshop longer hours in order to complete their comic book. In the end the children expressed that the workshop helped sharpen their drawing and writing skills. Most of them asked about the next comic book workshop.

The first comic book falls under fantasy, which demonstrates bullying where one girl is a victim of another girl (Figure 7, A). Interestingly they have the same male friend who tries to help the two girls hang out together, but one of the girls refused.

The second comic book story is also a fantasy story, which emphasizes the importance of appreciating the present time, and to live in the present (Figure 7, B). The characters went back in time to 1977. While they were in the old time they realized that they didn't really like the old time as much as the present time.

Thus they traveled back to the present time with the time machine.

Another colorful fantasy comic story talks about a young lonely boy who is having a nightmare about his parents disappearing (Figure 7, C). Beside him is a sweet and calm friend telling him to concentrate and relax. The final comic is about power monkeys, as the author calls them, having an adventure by jumping on different trees and looking for bananas (Figure 7, D).



Figure 7. The final comic books from the workshop.

5.2 Make a Book in an Hour Workshop

A second workshop called “Make a Book in an Hour” was held during the Namibia Book Fair in order to motivate and assist the children to come up with their own illustrated story books within an hour (Figure 8). Working with a fairly short amount of time children were forced to focus on their first idea and making it as good as they could. This was shortest of all the workshops and even though there was some hurry to get things done, the workshop also showed how far it is possible to get by using design tools and a little bit of time. Also this workshop was held to help understand and promote the culture of reading in Namibia.

5.2.1 Workshop Activities

In this workshop the children were also given guidance for the first 20 minutes of the workshop. The facilitators explained to the children what was expected of them, and continued to suggest new ideas to children who seemed stuck and needed support and inspiration.

The children were provided with papers and colors, pencils erasers, scissors and glue to write and illustrate their own stories. Throughout the activity the children were guided and encouraged to think outside the box. Some of the children were given extra time to complete their books. After the activity, all the children left for home with their own books and the feeling of being proud authors.

5.2.2 Observations

The older children aged 8 and above needed less help and it took less time for them to come up with a story. However, the

younger children, such as the 4 year olds, took a long time to come up with their own story, and they needed extra help throughout the workshop. The researchers discovered that children are willing to read when prompted by adult and peers; when encouraged children are curious and enthusiastic about the reading process; when given options for creating a personal reading environment children feel empowered; participants responded positively to structured reading initiatives; a lack of children’s reading materials creates reading complacency.



Figure 8. Children making their own books during the Namibia Book Fair.

Some of the children wrote fantasy stories about, for example, a princess and prince, while others wrote about their everyday life, including their immediate family members such as their brothers and sisters. Furthermore they talked about the activities they would like to do with their siblings.

6. STRUCTURING MULTI-STAKEHOLDER PARTICIPATION

The participation in gaining design inspirations to conceptualize an enabling reading environment need to be built on three pillars 1. supporting participants creativity, 2. supporting concretizing and moving from idea level to actual use level, and 3. supporting networks of active people, with children as design partners.

6.1 Facilitating Creativity

In all of the workshops the role of a facilitator was important. The role of the facilitator was to guide participants in thinking about Namibian reading culture and how the participants could be active participants in the development of that particular culture. Facilitators were accountable for planning the workshops and being experts in the methods that were used during the workshops. They also supported the creativity of the participants and gave means to make that creativity visual. The researchers found it challenging to help the children keep to time. On the one hand it was important to allow them to fully explore their creativity without telling them that they soon needed to be finished and on the other hand facilitators knew that concrete results would be needed in order for the workshop to be successful. To help keep the process going every group facilitator kept on engaging the children throughout the workshop by asking questions, stimulating “what if” ideas and giving them compliments when they achieved a milestone.

In the first workshop held the participants were adults and in the three workshops after that they were children. Method wise it looked like adults needed a bit more stimulating of their ideas through technological tools and storytelling while children did not question the task and were participating more enthusiastically in building of the concepts. Comparing the

Amazing Kids workshop with the SINCO workshop, it was clear that the children developed bolder, less conventional and more creative ideas. The success of all workshops was that the design task was understandable and opened up in such a way that participants could contribute to it.

During the workshop tools and methods from participatory and service design were combined. This was necessary in order to tackle the wicked problem of building a new reading culture. Different methods were tried out in different workshops and the aim was to allow participants to suggest solutions from their own point of view, not to determine the solutions beforehand or just have the participants to comment or evaluate something.

The aim in the workshops was also to stimulate participants' creativity through spaces and materials. In all of the workshops participants could choose materials that suited their way of working and concretizing ideas. Materials were always available for the whole workshop and participants could access those anytime they wanted. Also the workshops were held in environments that the participants did not visit every day. This was seen as a way to support wild ideas as in different kinds of surroundings, different kind of solutions can appear.

6.2 From Ideation to Implementation

The suggestions made during the SINCO workshop were further explored with a couple of local schools and community members where the ideas were further developed. These were the Amazing Kids workshop and the two workshops which were done during the Namibia Book Fair. When the Amazing Kids workshop was proposed, it was difficult to take it to a government school because they are focused on the syllabus, and they could not make provision for a workshop that could possibly enhance the culture of reading. On the other hand, the private schools are more flexible, however they were only able to avail two hours for a participatory design workshop. Another important suggestion is to reconsider restructuring the education system; in other words, the Namibian education system needs to be revised to become both syllabus and student friendly to give room to leisure reading. The hope is that the government could develop policies that require all government schools to have functional libraries.

Based on the survey result given to the children after the Amazing Kids workshop, they expressed that they would like to see similar workshops at their school or even at the library so that they can explore these ideas further. Most of the designs emphasized tangible and social aspects of being and reading, suggesting that a reading culture could be encouraged, not by simply focusing on individual reading activities, but by creating shared social, experiential and tangible contexts for reading. Because most of the children's concepts showed that they prefer to have a sound of the water while they're reading, or have a reading area near a sport field, the schools could be advised to play songs with ocean sounds in the library and also have a special corner decorated by the children with the ocean feel to make the children want to be in the library. It is also recommended that libraries create a small mobile library at the tennis court or near the sport field so that when the children takes break from playing sport, they can grab a book to read. In this way a continuous exploration and development of ideas is reached and children can enjoy their ideas becoming reality.

During the comic workshop it was discovered that children favored fantasy stories but they could not finish them due to limited time. In the future when running similar kind of workshops and initiatives it might be good to meet with the children, for example, one month in advance. The children and facilitators would then know the topics and stories that children want to show at the Book Fair. This way they could have an opportunity to finish at least five pages each with the goal of

publishing a comic book at every book fair. When the children start seeing their work published they hopefully will be motivated not only to participate in the comic workshop but to be involved in many other events and workshops where they are given an opportunity to design more concepts that could possibly contribute to the culture of reading.

Tompkins [29] highlighted various reasons why children should write their stories, of which some are based on Kenneth Hoskisson studies. Having children write stories is a means of teaching them to write and to read. Writing stories is also interesting and enjoyable for children. To impact children's writing, practitioners must use a mode that will be interesting for children and that will allow them to develop their imaginative and creative powers. Writing stories helps children use their intuitive and inventive minds and it is also an effective means of helping the children learn to read, to know about and understand literary devices, and to gain knowledge of grammatical structures they can use in their writing. Children can understand literary and grammatical structure by reading stories, by writing stories based on their structures, by discussing their writing, and by repeating the cycle over and over again. In addition to writing and reading in the workshops described in this paper, the children also used drawing, characters and colors. Working and creating a reading culture this way could also be motivating to kids who struggle with reading or beautiful handwriting.

Interestingly the children stories seemed to be influenced by western story books and TV rather than their own traditional stories. Stories and interest could be cultivated by supporting the children to translate oral stories in to visual ones. Children might be motivated by picking for example the best ten stories and publishing them for other children to read as well. Children could be given themes, for example to write about father's day, or nature, and some benefit from structure, as in the comic book exercise, while others might like the structure and theme left open so that they can write freely about whatever inspires them.

6.3 Creating an Enabling Reading Environment

One notable issue in all of the workshops was the amount of effort that was put in getting the right participants to each workshop. Local partners were important in doing this. This was the work of facilitators as well. Facilitators always contacted an organization or person they knew had connection to a group of people that might be interested in participating.

Involving the children in the design of their reading experience provided insight into what children's reading needs are in Namibia and also guidance on the approach to take, when designing services and products involving promoting the reading culture. There are a number of things that could be done in Namibia to enhance a reading culture such as creating an atmosphere for reading by creating safe and clean spaces for children to read such as after school reading programs and after school centers. These spaces could become a linkage between the government and the communities, and the linkage between schools and families to stress the importance of reading. When creating these spaces and linkages a participatory design approach with service design tools could be utilized in ideation, evaluation, and implementation but also in advocating on the importance of reading.

In making this happen different organizations and people could have different roles. Schools could create an environment that will make the children feel safe, relaxed, engaged, and want to read more. Creating local solutions that are interesting and suitable for communities is important. For example Amazing Kids Private School organizes each a read-thon where the children are encouraged to read books and to act out and present

small sections of the books. They also invite some members of the community to read stories to children and do puppet shows by using book characters. Institutions of higher education could invest in research related to enhancing the culture of reading, and also facilitate the implementation of the ideas that could be found relevant and useful.

7. CONCLUSION

Reading is essential to success in our society. The ability to read is highly valued and important for social and economic advancement [10]. The development of a reading culture is one that does not happen overnight. It must be cultivated gradually. In future it is important to develop partnerships with relevant stakeholders such as the ministries/government, civil society, local schools, community groups, and institutes of higher education. The Ministry of Education in Namibia could create and support environments that enable early childhood development and access to books.

Many of the cases and studies before have first focused on creating technological solutions yet with what describes as an 'ecological turn' equal attention must be given to the social, physical and technological space. Designing for a new reading culture requires creation of new ways of being, new thinking, new experiences and new services and contexts as well as new technologies. In the cases presented in this paper, the primary goal was to first obtain design inspirations for the creation of new reading experiences among children and youth within a socio-physical space. Ideation was not limited to technical solutions, but all kind of improvements in the current situation were supported in order to explore the possibilities for cultural shift in a participatory way.

This paper has described several different participatory design approaches for developing different aspects of a reading culture, such as designing tangible and social contexts for reading and production of written outcomes. SINCO drew upon personas, props and acting to develop an understanding of Namibian reading culture and also in proposing possible changes in homes, schools, libraries and a book fair to support growing that culture. The Amazing Kids workshop engaged kids in imaging and producing models of contexts in which they would love to read and also of systems that would support their reading. The Namibian Book Fair workshops engaged children as authors to make comic books and books children like to share and read. In each activity idea generation was scaffolded through props, stories, facilitation and other structures, such as the structure of a comic book.

The contribution of this paper is that it aims to tackle a national challenge in a creative and participatory way. Participatory design can be used to illuminate many aspects of a reading culture. Our approach combines participatory design with more method-oriented service design and also social design in order to co-design aspects of a building of a new reading culture. This approach at tackling many facets of a problem through PD seems promising.

When creating a reading culture, the role of children should not be forgotten. The rich culture starts from them. By involving them in the discussion and creation of solutions we are on our way to a more sustainable reading culture where solutions fit those using them. By building the culture from the bottom-up and in a participatory way all children can find connections to the interesting world of stories.

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