

Exploring Video Games and Storytelling Experiences Through Participatory Design

This research was conducted over the course of 8 weeks at the Columbia City branch of the Seattle Public Library, with the purpose of exploring how video games might be used in storytelling experiences. Our project was run through a class, Participatory Design in Libraries, taught by Professor Jason Yip of the UW Information School, with help from Professor Jin Ha Lee and Kung Jin Lee. The work was sponsored by Foundry10, as well as well as the Seattle Public Libraries.

For weeks 5-8, groups of students took turns designing our own participatory design sessions. I have included below contextual information from the class about the schedule, my group's design plan for Week 5, and our design recommendations based on qualitative analysis of the data gathered.

All names of children have been changed to protect their identities.

PARTICIPATORY DESIGN SESSIONS- SCHEDULE

****Week 1-Human Obstacle Course***

The first session was a warm up session for children and adults to think about designing together. The activity done for this session was human obstacle course where children and adults have to design an obstacle course where the obstacles are human and that people have to pass by the obstacle.

****Week 2-Bags of Stuff***

We conducted a low-fidelity prototyping session using arts and crafts materials (e.g., papers, cardboards, feathers) to create a design that showed how to use technology in storytelling. The children worked in a group of five people (three children and two adults per group).

****Week 3- Stickies for Mario Maker (as a game and content creator)***

To evaluate Mario Maker as a video game, we chose to have kids write down their likes, dislikes, and design ideas on sticky notes. Children played the game freely, mostly focusing on the content creation portion of the game. Children indicated what they enjoyed and liked about the game (likes) and what they found frustrating and/or difficult (dislikes). Children and adults spent time creating their own levels with little guidance. For 'Design Ideas' children write down any of their ideas on how to make it better. As well, we encouraged all adults to write down their likes, dislikes, and design ideas with children. At the end of the session, we created affinity diagrams by clustering the likes, dislikes, and design ideas into similar themes.

**Week 4- Stickies for Mario Maker (as playing levels with stories)*

We used the same technique from Week 3, but during this session the evaluation was on Mario Maker as playing levels with story elements. Story elements included text, comments, narrative, and structured plot. Again, children indicated their likes, dislikes, and design ideas for Mario Maker as a storytelling tool.

From Weeks 5 to 8, the masters students created and lead their own co-design sessions.

**Week 5-Story Cubes*

In this session, we focused on how children could generate stories. We used the idea of Story Cubes, a set of dice that have icons to them to help inspire ideas for story elements. For the first half of the session, children and adults tried to create stories using the Story Cubes. In the second half, the group created their own Story Cubes with a blank box for them to draw on.

**Week 6-Libraries and Librarians*

In this session the design goal was to determine how children interact with librarians and libraries and what the role of libraries/librarians are for story generation. In the first half of the session, some of the children and adults explored the library, while other children spent time interviewing a librarian. In the second half of the session, the groups created a skit about the librarian/libraries to demonstrate what their ideas were of libraries. We ended the session with a discussion on how children conceptualized libraries and librarians roles in story creation.

**Week 7- Creating Stories with Paper Mario Characters and Elements*

**Week 8- Translating Week 7 Stories into Mario Maker*

The number of people in one session were approximately 30. The 15 children at the Seattle Public Library came on a regular basis with 1 or 2 people absent in some sessions. In case of adults, at least one groups of 7 to 8 students from the University of Washington joined the sessions. There were two professors, one teaching assistant, and one librarian who came as a regular basis too.

WEEK 5 SESSION DESIGN- STORY CUBES

Facilitation Date: November 3

Group Members: Hitomi Bloom, Ashley Lindsay, Rachel Mahre, Priyanka Kshirsagar, Sara Cordes

Theme: Narrative Design

Design Goal

Our goal is to explore how kids create narratives and stories. Some questions we will approach include:

- What elements do the kids find most interesting? What elements do they dislike?
- How do the children make decisions when faced with open-ended tasks?
- What are some techniques to keep the children engaged during a repetitive sequence of events?
- How can we better understand the associative thinking process of children? i.e., What relates to what? What makes sense, and what doesn't?

Design Techniques

Our technique is storytelling and design through the use of Story Cubes, which are a product developed to foster creativity through storytelling.

To better understand the design implications of our technique for intergenerational participatory design, we will examine it using the 8 dimensions discussed in “FACIT PD: A framework for analysis and creation of intergenerational techniques for participatory design,” by Walsh, Foss, Yip, and Druin (2013):

1. Partner experience	Low: The participants will be crafting a story through drawing (either the adults, children, or both); there isn't a ton of design experience required
2. Need for accommodation	Low: Like the storyboarding example in Walsh et al., for any participant who felt unable to communicate through drawing, another teammate could easily step in and help.
3. Design space	Medium to well-defined: The first activity, where the designers are asked to create a story with a specific ending, a specific character, and the elements they role is still fairly open ended, but with some structure. The design of the Story Cube is well-defined; the participants will be creating their own design of an already existing product.
4. Maturity of the design	Early: This design session is hoping to better understand the ways which video games can be used to tell stories, and this session is an early exploration of how stories are created and what elements go into them.
5. Cost	Low-medium: Besides the cost of the drawing materials, the primary cost associated with this technique is the purchase of the Story Cubes, which are fairly inexpensive.
6. Portability	High: The paper with the stories and the designed cubes can easily be moved.

7. Technology	Low: The technique doesn't use any high-tech elements.
8. Physical interaction	Low: Because the participants will be drawing, most of the design session should take place seated at a table or on the floor.

Overarching plan

Circle time (15 min) –

- Question: “Who is your favorite fictional character? Why?”
This is a lighthearted and fun question that will get the kids thinking about their favorite stories and characters, which they might draw from when creating their own in our activity.
- The activity will be introduced: this week, we are going to be both game players and game designers. Introduce the Story Cube and what it does.
- Then, we will separate people into 5-8 groups (depending on the turnout). Each group will be comprised of two adults and two children. We will try to group kids of the same age groups together and have groups of mixed genders.

First half of activity (25 min) - Using the Story Cubes to create a story

- Each group will have a large blank piece of paper with a treasure chest in the corner, and a printout template for a character that they can color in however they choose. They are told that their character is an explorer trying to reach the treasure.
- The facilitator will direct everyone to roll the story cube three times -- once in the beginning, and two more times spaced 10 minutes apart. The groups will have to incorporate their rolls into the story they're building.

Second half activity (20 min) - Create your own Story Cube!

- Each group will now be given materials to make their own Story Cube (foldable cardboard or paper templates, and markers). They can decide what goes on each side, and how they will use it. This is a chance to critique the first half of the session: what would they have done differently if they were the designers?

Presentation / Discussion time (15 min)

- Each group will describe their cube and the thought behind it.
- Connecting this week's activity with the past two weeks of playing Mario Maker, the discussion question will be: How is telling a story with games different than telling a story with a book? How is it similar? As people answer the question, one of the facilitators will take notes on the board.

Data collection

Circle time: During circle time, it might be interesting to capture the answers kids give to the question. The idea is not to draw insights from the mere answers that kids give to this question. Rather, it would be interesting to see if what the kids say now also reflects in the design decisions they make during the design activity. One of the group members can keep taking field notes during this time to capture the answers. A video recording of the circle time would also be a good point of reference.

Story-Making Process: During the story making process, it would be important to capture the design decisions kids and adults make. To begin with, the way they shape their explorer and the story they create. The drawings that they make on the sheets would artifacts that can be used for analysis.

It would be useful to see what appears on the cube when the kids roll it every time and what do they interpret as.

While we would have the sheets of paper that the kids draw on, it would be helpful if the adults make a note of the three cube rolls. It would also help to note if the kids don't like something that appears on the story cube, and choose to roll it again.

It would be also helpful if the adults could make a mental note of places where the kids feel stuck or express themselves as they draw. Mentioning these things in their memos would help use this data for analysis.

Cube Creation: As the kids build the cubes, we would keep those with us as artifacts for reference.

While the kids draw on the faces of the cube, we could also ask them to write a word or two about what the drawing is. This is because the drawings might get difficult to interpret or might represent something different than what we think.

In case the kids find it difficult to do both, draw and write, we could ask the adults to help them.

Discussion / Reflection Time: While one of us can take notes on the reflection that goes on, a recording of this part of the session would be helpful to refer back to. The responses that we get from kids and adults at this point would be critical inputs for creating design guidelines.

Limitations and challenges

In terms of group dynamics, we have decided to keep the ratio of adults to children even to better balance power. In previous sessions, having one adult and three children per group tends to result in the adult taking a more supervisory role rather than a co-designer role. Having at least two adults per group will hopefully allow for more balanced participation. For collaboration, we think that having the group roll the story cubes more than once allow people to suggest aspects of the story without controlling the outcome. However, we decided to only have the cube rolled three times to decrease the variance of length and depth that the narratives we create will have.

We anticipate the images on the cube causing confusion, and hope that by discussing what appears, we will be able to more collectively generate a story. Realizing that the structure of the activity includes unpredictable results, we have decided that in addition to a character and goal prompt, we have included blank paper to offer different solutions to mitigate the difficulties of conforming to said prompts. With the second part of the activity, we expect the adults to be aware of, and make an effort to include everyone's ideas in the creation of a new cube. Ideally, a discussion based on what kinds of things are going on the cube will be collaborative and thematic as opposed to everyone choosing a side of the cube and drawing whatever they want. In order to determine the extent to which this has occurred, it will be brought up during discussion time.

Summary of the session

This Friday Rachel, Sara, Ashley, Hitomi and Priyanka were the first group to lead the SPL session. The goal of the session was to explore story telling with the help of games. While we were expecting 15 kids, only 10 turned up. However, that too worked well as we ended up having 5 groups of 2 kids and 2 adults each.

As planned we had our first circle round, where Rachel asked everybody, “Who is your favorite fictional character?” There was a broad range of answers, from animated characters to dolls to all-time favorite Star Wars. The idea was to set the tone for the activities to follow. After the circle time, we had kids and adults form their groups. We gave each group a drawing sheet with a picture of a treasure chest at one end. We also gave them a character, who we called an explorer. However, they were free to add detail to the character. We asked them to create a story for their character to reach the treasure. To aid them with their story, we asked them to use Story Cubes. We asked them to roll the Story Cube three times, once at the beginning and twice more spaced 5 minutes apart. We had the groups work on their stories for 20 minutes.

We then followed this with another activity, where we asked the groups to make their own Story Cubes. We gave each team a cardboard box that had 6 faces. The teams drew their story cubes on these boxes. We gave the teams 20-25 minutes for this activity. While some teams used all the time to draw their cubes, others decided to roll them and see how they worked. This was followed by a discussion time, where we reflected upon what the teams did in both the activities. Priyanka initiated the discussion asking the teams to talk about their stories and story cubes. The objective here was to understand their design decisions for their stories and their cubes. We also asked the teams to reflect upon the characters they created. It was interesting to see some teams brought out a lot of detail in developing their character than the rest. We also reflected on whether the teams, especially the kids, liked some structure in the form of a character and the treasure chest. While most of the kids appreciated the structure, a couple of children expressed that they would prefer no structure.

What worked

Fortunately, there was much that went well in this session. The Circle Time question got the kids thinking about characters and stories right off the bat, and we found that many kids thought back to this question while designing their own characters and stories later on. During the main activity, there were five groups of 4-5 people, with balanced ratios of adults to children and children in similar age groups working together. All of the groups seemed to work well together and produce cohesive designs. For groups where kids were reluctant to share or contribute ideas, having two adults to get the ball rolling and give encouragement worked well.

While creating their stories in the first half of the activity, we found that having a bit of structure but largely giving the kids a blank canvas worked well. While some participants expressed that they wished they had more freedom, others said they liked the structure because it made it easier to come up with stories quickly. The kids also found very creative ways to work within the constraints. One example of this is that they had various things in their treasure chests, including gold, potions, dinosaur bones, maps, and fire extinguishers. Rolling the dice three times also seemed to be a happy medium -- some groups wanted to roll more, while others struggled to catch up.

While making their own Story Cubes, the groups moved at different paces -- but rather than creating conflict, this actually ended up working well. Groups that got done early used the rest of their time to play with the cubes they made and tweak their ideas, while slower groups ended up having enough time to finish. Some of the cubes had themes and others didn't, but all of the cubes were very helpful in seeing what kids find important in storytelling. They had a variety of elements, including conflict, tools, weather

events, places, and even abstract concepts such as death and time.

Challenges

One challenge was that we had assumed that kids would be eager to share their ideas and draw. For some of the kids this was certainly true, but other groups had more difficulty in getting kids to voice ideas. Abdiel and Jimmy, for example, were really reluctant to get started. About halfway through the first activity they started joining in, at first directing the adults, and then drawing themselves. The second activity where they designed a Story Cube really helped them come out of their shells, possibly because they were taking turns drawing on their own sides, rather than collaborating on something together. Having several kids with outspoken personalities in the same group was also a challenge. It was difficult to make kids compromise once they had an idea in mind, even after an adult would recommend making the compromise. At the end, the kids started drawing whatever they wanted to draw. I think if we were to do the activity again, making groups more balanced with outgoing kids and shyer kids might help encourage everyone to contribute.

Another challenge was the restriction to three rolls of the Story Cubes. We had some groups finish quite a bit earlier than others, and many wanted to add more to their stories. After finishing the second activity, many groups went back to add more to their stories. In the future, it would be interesting to try the activity without limits on the rolling of the Story Cubes, to allow the kids to add as much as they want to their stories.

It was also challenging to get the kids to think about what elements might be good in a story, rather than just random elements they came up with. While the cubes may have included elements that they thought were cool or good to have in a story, it was hard to get them to think about why this might be, or how they might impact a story. It just seemed to be whatever was on their mind at the time, with no regard to theme or concept.

Takeaways

We found that the kids really seemed to enjoy the activity. Juan was also pleased that the activity could be taken and used immediately in the broader library program context without much difficulty in adapting it. The concepts that the discussion developed were the importance in character development, setting and conflict in stories, and the presence of tools for the characters to use to progress through the story. Though structure was very important, we found that it did not need to be as specific as we originally thought. Giving the kids a vague character role and goal that they could then develop specifics for seemed to be the right amount of scaffolding to provide a platform to begin without being overly restrictive on content. Many of the teams seemed to take on a theme or process that could be seen throughout the story the created in the first activity and the cube they created in the second activity. We think that the active participation in narrative creation allows for a more productive engagement with the design process. This seemed to be supported when the discussion brought in the point you play in and with narratives games, while you only can read narratives in books. We also determined that if this activity were to be done again, tying the concept of narrative into the Mario Maker sessions or tying the story cube activity into video games more might be beneficial in connecting games to storytelling.

FINAL DESIGN RECOMMENDATIONS

Ashley Lindsey and Priyanka Kshirsagar
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Kids have difficulty paying attention to both the video game aspect and the storytelling aspect at the same time.

One potential challenge we foresee in using video games to help facilitate story time is the challenge kids face in paying attention to both the video game and the story being told simultaneously. In our work with KidsTeam, we found that while the kids were actively involved in the playing Mario Maker, it was difficult for them to focus on anything else. A first cause for this might be that the kids were excited by the prospect of playing video games, and so once they got started it was hard for them to switch to focus on other things. An example of this was in Week #3, when Stanley and Tony were so excited to play they struggled to take part in the Stickies activity, or break away at the end of the session (Analytic Memo, Ashley Lindsey). The environment was also one that contributed to a generally excited atmosphere that made it hard to stay focused- it was after school on Friday, they were surrounded by a bunch of other kids, and they were in a place where they encouraged to express themselves. Perhaps scheduling on a less exciting weekday and allowing more time with the games to allow the newness to wear off could help in avoiding overexcitement.

The nature of the games themselves can also contribute to how well the kids are able to focus on a story. Games where there is an adversary, or where the player needs to actively avoid danger to avoid dying, require the player's undivided attention. Kids struggle to recognize and understand stories in these kinds of situations. During Week #4, we had the kids mention that the difficulty of the gameplay got in the way of enjoying the stories, with one child saying, "When it's hard, you don't understand how the story will go" and an adult mentioned that when they got stuck it made them lose interest (Video 4, 4:13-5:00). Both problems, the excitement of the kids over the games and the challenges and the cognitive load required by the action of the game, make it difficult for them to focus on a story at the same time. To help address this problem, we recommend that either the first exposure to the story should come before the child is immersed in the game or uses a game design that doesn't require as much of the child's attention. We had success with the first during Week #7 where we had a design activity that asked the kids to come up with stories with the Mario characters on paper the week before we asked them to translate the story to Mario Maker. By asking the kids to make the story first, they were able to focus on the story without the technical challenges required with the video game. It is also important to lower the cognitive load during game play in order to allow kids to focus on the story. This might be done by pausing game play to introduce parts of the story, by reducing gameplay elements requiring immediate attention and action (such using puzzle mechanics rather than having enemies to fight), and preventing the player from "dying." The latter was suggested in Week #4 (Video 4, 5:58), this suggestion came up since many of the levels were unbeatable, and the kids were unable to focus on the stories because the gameplay was so difficult and they kept losing and having to start over. By giving the kids a clearer idea

of what the story is beforehand and reducing the number of things they have to focus on at once, the comprehension of the story told through video games should improve.

Different kids want different levels of creative freedom in creating stories

Another challenge we encountered was the variety of preferences as to how much structure the kids wanted to have when beginning to build their stories. We found that there was tension between wanting everything to be available and having a blank slate vs. knowing what to do with that and wanting some sort of template (Week #3, Video 3, 25:00). For Week #5, one group struggled because with coming up with a story that didn't have any required starting place, just a general character and an end goal. Even with provided elements from the Story Cubes, they needed significant guidance from the adults to build their story (Group Plan & Memo). With our small group, it was difficult to discern any patterns as to whether factors like age, shy vs. outgoing, or prior experience with video games play a role in determining whether an individual wanted more structure or not, but this might be something to explore in the future.

Games for children to create stories should support these differing levels of desired guidance. A game which has different modes such as no structure/starting from scratch, basic structure, and a well-defined structure, would allow children to choose what they felt most comfortable with. This could also help support storytelling under different constraints such as time. When the kids have longer to work on a story, they might prefer to create the story in the game from scratch, whereas if they are on a tight schedule it would be better to have a pre-structured game that they can just plug their story into.

The tools we use can both facilitate and restrict creativity and our ability to tell stories.

A question that came up regularly in our participatory design sessions was the idea of whether Mario Maker and the other tools used allowed us to create the things we wanted. We ought to consider the how the tools we use might constrain creativity, both technically and in how we think about stories. Any game that we try to build a story in is going to have technical limitations that constrain what kinds of stories we can tell. For example, one dislike that was mentioned by the kids about Mario Maker during Week #3's design session was that they could only play as Mario. During week #7 where the kids were creating stories with Mario elements on paper, several groups had Princess Peach be the main character on a mission to save Mario (Video 3, 15:45). This is a story that the kids could not have technically created in Mario Maker. Mario Maker has a predefined character, design elements, and narrative style. The kids mentioned in Week #7 that they enjoyed that "[they] could make up whatever we want," with the freedom to add other elements such as lava, a phoenix, or a spaceship (Video 3, 8:16). It also is important to consider not just technical limitations, but the ways in which using a defined set of tools shapes how we think about the stories we tell. There are inherent biases built into the tools we use - we see this is with Mario being the main character rather than Princess Peach, a distinction noted by the kids (Week 7, Video 3, 15:45).

Acknowledging that the tools we use constrain what kind of stories we can tell, there is a definite benefit to using tools to create stories. During week #7 the kids noted that compared with the game they

weren't able to easily add more space, that it was a lot of work to add elements (particularly those that were repeated frequently), and that they wished they could add animation (Video 3, 8:50, 20:09, 22:01). In thinking about how we create stories with video games, whether using paper, Mario Maker, or another game, it is important to consider the limitations of the tool and how they might influence the kids design work. Future design sessions might explore how we might use a combination of videogames and other elements (drawings, audio, video, etc.) to allow greater creativity and customization within the story.

Different children have different preferences about the mediums through which they choose to express their stories.

During our design sessions, the kids encountered different ways to convey a story through their creations. In Mario Maker, stories were told through written text (both typed, written in patterns in the coins, and handwritten) and through pictures. There was variation in how the text as a storytelling element was received. During Week #4, some of the children struggled to read the story and keep track of dialogue while playing the game, finding the clues particularly unclear (Analytic Memo, Eliza Summerlin). About half of the kids really liked the story telling with the coins (Marc in particular), while the other half did not (Video 4, 3:09). Tabitha liked the idea of using pictures to help support the text (Week 4, Video 4, 6:04). Many kids disliked the handwritten text because they found it hard to read (Analytic Memo, Ashley Lindsey). We also discussed the idea of using text not just inside of the gameplay, but outside of it as well (Video 4, 7:10). Additionally, during Week #7, we discussed the role of narration in telling stories. Marc suggested that he liked having the story narrated because it meant that you didn't have to read (Week 7, Video 3, 21:00).

These preferences might arise from different factors. These might include personality, artistic ability, what reading level the child is at, their proficiency in the language, their visual/hearing/speaking abilities, what kind of story is being told, how many people are working on the story together, if it's in a videogame what else is going on around the character, and the kind of setting in which the child is creating or consuming the story. A solution to these problems might be to support kids in their individual preferences as much as possible, encouraging children to explore what mediums they like best. A child who doesn't like to read might prefer narration, a child who loves to draw might use pictures, a shyer child might prefer to share their story via text - each still enables a story to be told. Games that are used for storytelling should be able to support several different mediums in order to support individual creativity.

The role of group power dynamics when involving children in storytelling and game design.

Storytelling and gameplay essentially have a social dimension to them as often children are part of these activities in groups. During our codesign sessions there were instances that made us understand often participants who know a context better tend to overshadow others in a group activity of storytelling or gameplay. In Week 6 where the design goal was to understand the role of a librarian to help children create stories, we noted a different trend where some of the children kept silent while some of the adults dominated the conversations because the kids seemed unfamiliar with the work of a librarian (Analytic memo). The fact that experiences and context affect responses and participation came through in one of

the circle time questions, “What do you like to build?”. While the adults had a variety of answers such as websites, cakes, bonds, etc. owing to a larger number and variety of experiences, most of the kids had ‘lego structures’ as their response (Analytic memo, Priyanka Kshirsagar).

We also noted that kids who are more outgoing versus the ones who are quiet have an easier time pushing their ideas. Frederick who was part of all the PD sessions observed and raised a concern that striking a balance between the quiet and outgoing kids was critical (Analytic Memo, Frederick T Slyter).

An approach to tackle this is to let kids take different roles based on what they are comfortable with or good at. How we see this translating in storytelling is, some kids are more comfortable ideating and exploring while the others are keen to write or draw and actually implement things. Storytelling can accommodate participants that like to wear these different hats.

Another way to tackle this imbalance is giving a fixed amount of time as an opportunity to speak or share ideas in some form to each member of the group. This timeboxing technique is what scrum meetings in an agile workflow follow. This not just ensures and encourages every member to participate, it distributes power equitably and can help with managing time and schedule.

In terms of game design, the narrative can involve multiple players which would keep the baton passing from member to member. Games could also have situations that call for a simultaneous play where moves made by every member of the team are accounted for and are critical to a win or progress.

It is important for kids to develop their own characters in stories or in games.

Often video games such as Mario Maker have one protagonist that goes through the entire journey. Playing a particular game being the same character takes away novelty and gives a restricted gaming experience. In week 3, when the KidsTeam was trying to explore Mario Maker, one of the kids Rachel expressed “I would like Mario to wear different clothes.” Kachina in my group said, “It would be nice to have a Mario without a mustache”. While Mario Maker does allow for such customizations, the point here is that kids might want to spend time on creating and developing their characters. We tried to test this in our activity in Week 4, where we gave kids an explorer as a character for their stories. Kachina and Allen were immediately drawn to character design more than plot and wanted to focus on that aspect of the story. They started pulling ideas from all of their favorite characters to figure out what their main character would be like. They picked elements of appearance, personality, even an animal companion from the team’s favorite fictional characters.

Storytelling activities could have separate time dedicated to character development. For example, instead of asking kids to narrate a story, they could be asked to talk about the characters in their stories. Our activity in Week 5 involved the use of story cubes to develop a story. Kids could be asked to use story cubes to first develop the characters they would want the story to be around.

Games could offer more flexibility in terms of leaving it on the player to pick the character they would want to take the journey with. The narrative for games could incorporate a set of characters that have specific characteristics and traits. Or games could have certain stages dedicated to defining your characters. In fact, in a game that can offer multiplayer support, while a player could work on dressing up or getting a character ready, the other player could work on the details of the journey the character would take. In week 5, one of the groups ended up creating their story cubes that would help with the design of a character.

Kids need support in developing stories and learning about different contexts of storytelling.

In week 1, during the discussion time after the Human Obstacle Course, Tony mentioned: “design is hard in the beginning because it doesn’t look like anything.” This brings out how the abstractness with designing an artifact or a story can be a blocker for kids to develop stories or for that matter even progress in a game. In week 5, when the KidsTeam was exploring Mario Maker, Marc and Kachina pointed out to the ‘coin’ symbol and said they did not understand what it was. The moment they saw a bunch of coins together, they understood that those were coins as that set in better context for them.

In week 6, when the design goal was to understand the role of a librarian, the groups that stayed behind in the basement first had less of a context and background than the groups who went upstairs and explored the library environment to make stickies. As a result, the groups that went up first had more questions to ask during their time in the basement later.

A good idea to always implement in a storytelling session or in a game is to set in the context in the beginning and touch base on the context periodically as it changes or as a reminder and finally summarize things in the form of takeaways. This is a good way to ensure that kids have enough direction for them to create a story or play a game. The discussion time in the design sessions proves to be a great checkpoint to understand if the kids were making sense of the design activities. In week 1, during the discussion time Rachel said “ designing is making something” and “this was a game where we made mazes”.

In week 5, when the KidsTeam was exploring Mario Maker, Marc chose to go around from one group to another to see what were they doing with the Mario Maker. This was again an indication that kids need and find their ways to get prompts to move with design. In another group, Paco and Scarlet said that instructions would help them understand what to do next (Analytic memo, Rachel Mahre). Games can offer examples of how some interactions are done or how particular parts in the game could be navigated through.

The success or failure in the game should not prevent a player from exploring the journey or the story in the game

As one of the participants of the study, it was a revelation for me that the narrative of the game Mario has a Princess Peaches that Mario rescues. This is because as a player I had never made it past the level where princess Peaches enters. Often games involve a fixed number of lives and the players end up focusing on staying alive which keeps them away from the intricacies of the journey in the story and also knowing what the journey is like beyond the stage that they make it to.

In week 5, as the KidsTeam was exploring Mario Maker, Allan, Marc, and his cousin landed on an underwater theme. Allan said “I have never seen this! It is so cool and modern”. As the kids continued their explorations Allan said, “I would want to fill up the entire space with coins and make an underwater bank.” In the context of getting to explore the story in a game irrespective of whether one wins or loses, Mario Maker gives a good ground.

Another aspect to let participants explore the narrative in the game is by having multiple roles in which they can play the game. Drawing from the Human Obstacle course game, while some kids decided to design the obstacles, some guided the adults through the obstacles, and the remaining took turns to play

both roles. In fact letting participants explore a game irrespective of a win or loss, might help them get better at a game.

Facilitating participants to navigate through a game, is also a way to aid explorations. Week 6 had kids suggest that librarians could help understand multiple languages, help with storytime. The suggestions also included that libraries could have resources such as illustrations and 3D printers that would help with storytelling and exploring the act of telling stories in different ways. One term that was used in the session was that of a 'Human spell check'. Kids probably need assistance with this aspect when they are writing stories. In week 5, Marc chose to go around from one group to another to see what were they doing with the Mario Maker. This was again an indication that kids need sources to explore and get inspiration for them to create.

References

- Druin, A. (2002). The role of children in the design of new technology. *Behaviour and Information Technology*, 21(1), 1-25.
- Walsh, G., Foss, E., Yip, J. & Druin, A. (2013). FACIT PD: A framework for analysis and creation of intergenerational techniques for participatory design. In Proceedings of the 31st International Conference on Human Factors in Computing Systems (CHI 2013). New York, NY: ACM.