"IT IS MAGIC": A GLOBAL PERSPECTIVE ON WHAT TECHNOLOGY MEANS TO YOUTH

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Abstract. As technology becomes ever more pervasive, it is increasingly important to understand the relationships between technology and youth. We seek to understand this bond at a global level. We have conducted focus groups and video diaries with middle-school aged children in three different countries: Hungary, India, and Morocco. Our exploration has yielded five themes highlighting the emotional perspectives of youth regarding the devices in their everyday lives: 1) awe and appreciation, 2) fun and entertainment, 3) boredom, 4) communication, and 5) negativity. This paper discusses these themes and their significance.

1. Introduction

Technology literacy has become an important skill for an individual's success both in academic life and the industrial world. In one recent survey, 87% of Americans said that "using technology effectively" was a very important skill for youth to have in the 21st century (The Henry J. Kaiser Family Foundation, 2004). Children spend hours interacting with computers, playing games, and communicating with friends over the Internet (Bruckman, et al, 2011). "Digital technologies" are increasingly important for children (Carrington and Robinson, 2009). Technology not only plays an important role in the lives of adults, but also has great influence on children.

Extensive research exists in the area of children and technology, but there has been very little regarding the emotional attitudes these devices evoke in young people and the extent to which those attitudes are present internationally. In this paper, we describe a study offering perspectives from multiple cultures examining these questions: What does technology mean to youth? What emotions and sentiments do young people hold for the loss of access to these devices?

Our findings suggest that there are strong emotional ties between children and the technologies with which they interact. We found indications of deep, positive

attachment to everyday devices, and we also noted volatile reactions when the children were posed with questions about the loss or absence of those items. Lastly, children did not always perceive technology positively. We will explore these findings by way of five themes discovered during our analysis.

2. Methodology

Our study consisted of a combination of focus groups and video diaries conducted in three countries: Hungary, India, and Morocco. The children in all three countries came from middle to upper class families. They had exposure and access at home to much of today's popular technology, such as video games, mobile phones, computers, and the Internet. By engaging participants from three separate countries with very distinct cultures, we hoped to approach this topic from an international perspective, capturing the views of young people around the world.

Focus groups were composed of three to five students aged 10 to 15 years, separated by gender. Questions were semi-structured, targeting the children's use and understanding of technology. These sessions were approximately one to one-and-a-half hours in length and documented with video and/or audio recording equipment. Video diaries were recorded by four to seven pairs of students at each site with one primary student and an assisting partner of the same gender. Diary students were assigned a set of tasks directing them to document and describe devices in their homes, technological experiences with their family members, and to share their opinions.

Table 1. Participants by gender and country.

	Hungary	India	Morocco
Female	23	24	11
Male	26	23	15

Data collection for the Moroccan video diaries is ongoing as of this publication, but all other audio and video recordings were transcribed and cross-coded using a grounded theory approach. Two researchers coded the data in a two-step process. First, high-level themes were identified. Next, lower-level categories in the data coded and compared to generate the themes presented in this paper .For the Hungarian students, transcriptions were translated from Hungarian to English. For the other two countries, all participants responded in English, however, this was not their native language.

3. Discussion

In our analysis, we focused on occurrences in the data exploring the meaning of and the emotional attitudes toward technology. General thoughts on specific types of technology and the reactions stirred by the loss of technology were also evaluated.

Our study examines the emotional reactions and attitudes toward technology at a high level of granularity. At that level, there were no differences identified between

the participant groups from the three different countries. All participants came from middle class families with very similar access levels to technology. They use the same devices, use similar or the same applications in all three countries, and have very similar emotional reactions toward technology. The similarity of the technological context probably has a strong impact on their attitudes and may counter cultural differences.

In the focus groups, we for examples of the most often used and favorite technologies; then, we asked the children to extrapolate on their experiences with those items. Across cultures and countries, we found many similarities in the responses. Five themes emerged from our evaluation: Awe and Appreciation, Fun and Entertainment, Boredom, and Negativity. We present these themes in order of their overall frequency.

3.1. AWE/APPRECIATION

Students in every country expressed a sense of awe and a deep appreciation for the presence of the devices in their lives. They spoke often and sometimes at length about both the importance and the sheer necessity of technology. This theme presented itself at different points in the focus groups and in the video documentaries.

When asked what technology means to them, students had profound reactions: *"It is everything for me there is in life," (HFGB); "It is magic," (IFGG); "It means to me everything, my life," (MFGB).* The motivations for learning about technology were also explored with several boys in one Indian focus group echoing the same sentiment: *"…it fascinates us." "We get attracted towards it." "They are something special." (IFGB)* An Indian girl offered a similar and very striking reaction: *"Technology is everything God didn't give to us."* The sense of importance and appreciation was again reflected when they were posed with losing access to a favorite piece of technology. Some students were able to shrug off the loss of certain devices, many others responded with depression or anger. *"I would sit in the fridge,"(HFGB); "Life will become hell for me," (IFGB); "You will fight [the loss] to your life." (IFGB); "Without these, I don't think I would be able to survive… ," (IFGG); "I would kill myself—you know, I couldn't stand it," (MFGB).*

3.2. FUN/ENTERTAINMENT

Almost every child who was involved in this study has responded to our questions by mentioning how technology is fun and entertaining. In fact, so many of the children used these words that we felt it was appropriate to acknowledge, briefly, the potential for peer pressure, a common phenomenon amongst youths (Lewis and Lewis, 1984). Other sources for this repetition could be as simple as vocabulary constraints or the intentional and desirable outcome of reaching a consensus by using focus groups as a data collection technique (Acocella, 2011).

When we asked children to tell us what technology means to them, we found "fun" was frequently a key concept immediately following the mention of most any technology. For all three countries, this was the most common answer to the explicit question, "What does [this technology] mean to you?" Replies were frequently stated simply: "*It is entertaining,*" or, shorter still, "*Entertainment*", and, "*It is for fun.*" The children articulated a subtle distinction, attributing the fun of a technology to its use and not to its nature. A Moroccan girl, when asked about her laptop, said "*I think that it's*

pretty good thing – the laptop. And it's fun using it" (MFGG), and an Indian girl similarly stated: "*I think technology is fun and it can be used for other things," (IFGG).*

3.3. BOREDOM

Boredom was the second-most common theme after fun and entertainment, and we believe a very strong motivator in the use of technology. During our analysis, we came across several children expressing feelings supporting this concept. In answering questions pertaining to the potential loss of one of his favorite pieces of technology, a Moroccan boy said, "*If I couldn't use a computer it would be boring," (MFGB).* Another Indian boy echoed this sentiment, "*I can live without it, but I will feel very bored and unhappy... ," (IFGB).* A Moroccan girl answered the same question, stating, "*Well without it I was bored and I didn't have that stuff and I guess I'd be really, really bored," (MFGG).* Children perceive and use devices as boredom-killers. They turn to items such as video games, computers, and smartphones to lessen the feeling of being bored. Though the keywords "bored" and "boring" turned up often, this concept was also illustrated when the children referred to technology as a more general time-filler. Two children stated they use these when they have free time so it can keep them busy; a Moroccan girl said, "*...if I don't have [technology], I would just kill myself with work,*" *(MFGG).* This clearly indicates that technology is perceived as a reliable means to pass the time, but there is another side to technology and boredom that we will discuss later.

3.4. COMMUNICATION

When asked what technology means to them or what they think about technology, many of the children answered with *communication*. While this concept is not intuitively labeled an emotional response like other themes we have discussed, it appears to hold great significance to the children in our study. Their comments painted a picture of communication as a way to maintain personal connections and to preserve intimacy despite distance. One Hungarian girl said of cell phones, "*I can reach people. I can tell them anything,"* and another Hungarian girl in a separate group described her cell phone as, "*... a basic necessity." (HFGG).* Communication was also mentioned when discussing video games and their collaborative use online. One boy implied this concept when he said, "*Not necessarily when you're bored, but for playing with other people around the world, especially online," (MFGB).* When a Moroccan girl was asked what her thoughts were on the Internet, she said, "*Whoever invented it is awesome. Like I use it like for everything, for projects about any questions that no one can answer them, mostly for communication."* Another Moroccan girl also mentioned communication, saying, "*I can communicate, listen to music and it's easier to play games," (MFGG).*

3.5. NEGATIVITY

With the good there is also the bad. Even with all the positive emotional correlations with technology, the students were also willing to vocalize disappointment and displeasure with devices in their everyday lives. *"I don't like my phone so much, but sometimes it is good to be able to use it for what I needed. But I don't like it very much." (HFGG) "I just wanted to say I hate my current phone because my old didn't*

work and I have to use this one. But I will get a new one." (HFGG Similarly, while many children heralded technology as the boredom-killer, they also admitted sometimes technology itself was boring—even their favorites. *"I think they are fun, but sometimes they're boring." (MFGB) "It's a good game, but you can get bored of it." (HFGG)*

4. Conclusion

In the 21st century, using technology effectively is a very important skill for youth. Children interact daily with several digital and non-digital forms of technologies. Multiple studies have been conducted to understand the interactions between children and technology, however, little research has focused on the emotional side of these interactions. Here, we looked at the emotional perspectives and the global meaning of technology to children from three different cultures. We found the young people have strong emotional ties toward technology. The frequent intensity of their reactions suggests that they consider it both a treasured possession and a necessity. We also found children do not always perceive technology positively and they are able and prepared to express negative opinions on the very items they hold so dear.

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