

“We Have these Rules Inside”: The Effects of Exercising Voice in a Children’s Online Forum

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Abstract

The spread of digital technology and an accompanying new digital culture are giving rise to a profound revision of views about the ages and stages of human development. Much of what has been written about this change concentrates on the negative effects of digital culture on children – they will grow up too soon, will be exposed to negative influences, will no longer play outdoors or with real human friends. But there are also many potentially positive effects of digital connectivity on children. This chapter describes Junior Summit '98, an online forum and in-person summit that gathered together more than 3000 children from 139 countries. The children, without adult input, debated the role that technology could play in improving the world for children, came up with action plans, voted for delegates to represent them at the in-person summit, and began to implement their plans. This chapter examines the results of participating in the Junior Summit community, and adopting such an increased role on the world stage, on children's feelings of self-worth, their belief that they can change the world, and their ability to *raise their voices*. In fact, children seem to have emerged from the experience of participating in the Junior Summit with increased feelings of self-efficacy. They have continued to voice their opinions, to act on these opinions, and to make themselves heard by the decision makers of the world.

*I was earlier like an unlit lamp. Jrsummit has lit a spark in me.
So, now I spread the light around. I talk to my friends, read
newspapers, do not take any injustice lying down.
- Pooja, India*

*Some kids do really bad things and get a lot of publicity.
Some kids do great things but get very little publicity.
This will be a story about kids all across the US and the
world who are working together to do something globally great!
- Jason, USA*

Introduction

The discussion of the role of computational technology in children's development has become increasingly polarized over the last year or so. On the one hand we find a frantic push to place computers and Internet access into all U.S. schools, based on a belief that computer-literacy will increasingly be required for success in the job market (Committee on Information Technology Literacy, 1999), and on the other hand, a frantic *push-back* to place a "moratorium" (Cordes, 2000) on children's access to computers, based in part on a belief that the negative effects of computers on children have not been sufficiently studied. Clearly the answer lies at neither end of this long spectrum, and a careful review of existent studies shows a number of benefits, a palmful of harmful effects, and a plethora of unknowns (Wartella, O'Keefe, & Scantlin, 2000). History teaches us that whereas initial fears about movies or radio or television concern the very presence of the medium, it is the content of the medium – the message – that must be evaluated and improved. However, one difference between the computer and earlier media is that never before has a technology so effectively allowed people from around the world to congregate. Never before has a technology been so fundamentally *bi-directional*: allowed those who consume to also create. That is, with this particular technology, the medium is available for anybody to create the message. Although it would seem as if such a technology would be lauded for its ability to allow community, quite the contrary has been the case. Many believe, as forcefully expressed by Hern and Chauk (Hern & Chauk, 1997) that

The Internet, after the automobile and television, is the third technological innovation this century powerful enough to challenge and mutate our disintegrating collective vision of community. Although useful for exchanging e-mail and performing fact-based research, the Internet inherently denies and denigrates the crux of direct democratic theory, the possibility of face-to-face relationships.

In this chapter I discuss an Internet-based democratic global learning community. The Junior Summit program was a 2.1 million dollar international project that brought together 3000 children, aged 10 to 16, from 139 different countries, in an online forum that allowed the children to communicate with each other across languages on topics of international concern. This forum culminated in a 6-day program at MIT (November, 1998) where 100 of the children (from 54 countries) met with world leaders, heads of industry, and international press to describe, get feedback, and garner support for their ideas about how to use technology to improve children's lives. The children then returned to the online forum to implement the projects that they had designed, and to amplify the voices of the Junior Summit by bringing in more children from their respective communities. The community was democratic in the sense that children decided on the topics of interest, organized themselves into workgroups, elected delegates, and determined outcomes. In the remainder of this chapter, I first describe the philosophical and design underpinnings of the Junior Summit – the notions of voice, underdetermined design, designing to the lowest common denominator – then turn to the organization of the program, some outcomes to date, and the lessons we can learn in order to use the Internet and other communication technologies in the service of children's well-being.

Voice

One of the principal concerns that emerges in contemplation of technological 'progress' is that those whose stories have not been heard (girls and women, ethnolinguistic minorities, developing nations, children) may be even more silenced as technology advances. As a designer of new technology for children, and as a developmental psychologist, I wished to ensure that the bi-directional promise of computers be upheld and that technology not become increasingly more America-centric, more English-centric, more geared to selling stuff to children, rather than eliciting words from children.

My earlier work investigated computer games for girls, and I designed and implemented several new technologies in this arena, as well as writing on the topic. I argued that girls were not being taken into account in the design of computer games, however designing games “specially for girls” risks ghettoizing girls as a population that needs 'special help' in their relation to technology. In contrast to this stance, my own design work contributed games for both boys and girls that encouraged them to express aspects of self-identity that transcend stereotyped gender categories. In a volume co-edited with Henry Jenkins (Cassell & Jenkins, 1998), researchers in education, psychology, cultural theory and technology, along with the foremost players in the industry of computer games for girls, contributed chapters on the topic of implications of the "girls' market" in computer games. My own contribution to the volume (Cassell, 1998) focused on what I termed “feminist software design” and how to apply it to the design of storytelling software for children. Modeled after feminist pedagogy (Lewis, 1993), my design philosophy of FSD rested on five principles:

- Transfer design authority to the user
- Value subjective and experiential knowledge in the context of computer use
- Allow use by many different kinds of users in different contexts
- Give the user a tool to express her voice and the truth of her existence
- Encourage collaboration among users

I argued that storytelling systems were the ideal genre for experimentation with this design philosophy, and that, additionally, the ideal way for girls to learn about themselves, and to construct their selves, is through first-person storytelling and other kinds of participatory narratives. What is meant by “storytelling” here is not professional storytelling: fairytales, re-tellings of Goldilocks, Disney’s version of “Winnie the Pooh”. Instead, an approach consonant with construction of social identity gives girls the role of narrator and also allows them to choose whether to be the subject of the narration—that is, to give them voice. This enables them to tell whatever story they like, while the computer constructs a willing listener. It is a way for a child to represent his or her unique perspective on the world—the first-person

perspective—to the world. As Ochs and Taylor write (Ochs & Taylor, 1995), “[G]ender identities are constituted through actions and demeanors. . . among other routes, children come to understand family and gender roles through differential modes of acting and expressing feelings in narrative activity” (p. 98).

Some of the issues that face girls in the U.S. and elsewhere are similar to the issues faced by other children outside the mainstream – racial minorities, children from developing nations, children with disabilities. These children are at risk of not being taken into account in the design of technology, but yet there is likewise a danger of marginalizing their participation if we design technology only for them. It is for children who fit into these categories that empowerment, self-efficacy and the notion of *voice* take on importance. The term 'voice' in narrative theory has referred to whether an author speaks through a narrator or a character, or speaks as herself - it is the taking of different perspectives on a story. But, popular books on adolescence, and much feminist theory, use the terms "voice," "words," and "language" metaphorically,

to denote the public expression of a particular perspective on self and social life, the effort to represent one's own experience, rather than accepting the representations of more powerful others. (Gal, 1991: 176)

The Junior Summit was designed to allow children to deploy their voices – to be heard in a very essential way. That is, the Junior Summit was designed to allow children of all sorts, from everywhere, to come to know their own experience as primary, to try out versions of themselves, to tell their stories, to describe their version of the world, and learn to trust the value of their perceptions. These opportunities, we believed, would allow the growth of self-efficacy – the belief that they can have an effect on the world around them.

Underdetermined Design and Designing to the Lowest Common Denominator

The technology and design of the Junior Summit focused on bringing voices to the table that are not often recognized, and giving them the means to be heard. This included (a) setting up computers and Internet connections for needy participants so that not just the “digerati” were involved, (b) training to

ensure that moderators were prepared to help children reach beyond clichés (the “children say the darnedest things” statements that so often define children’s contribution) to the areas in which they could make truly valuable contributions, and (c) designing the interaction among the children, and the shape of the online space in such a way that children were helped to respect one another's views during the summit, and to increase their role on the world stage afterwards.

In my work on girls and computer games, I had developed an interface design philosophy called “underdetermined design” – designing just enough to make the system engaging, easy to learn, and intuitive, but not so much as to determine how to use it. Users themselves determined how the system was to be used. That philosophy was essential to the implementation of the Junior Summit online forum, but I found that I needed to extend it with a set of principles that I call “Designing to the Lowest Common Denominator.” Whereas most websites for children did and do feature as many bells and whistles as possible, appeal as much as possible to children’s love for the new, the novel, the technological, the Junior Summit was designed to the lowest common denominator: no feature of the forum was available to some children and not to others. All children were equal participants whether they used an Apple IIC, or a Pentium 4, whether they could support Flash plug-ins, or just e-mail, whether they logged in from a dedicated T1, or used a 1200 baud modem in the local Internet café, whether they were “clickerati” or had never before seen a screenⁱ. Under-determined design put all participants on an equal footing. And, with a simple environment, it was the children’s words that became salient, as opposed to the animations that adorned their personal web pages.

Implementation of Underdetermined Design and Designing to the Lowest Common Denominator

Many organizations have used communication technologies as diverse as the telegraph and television to bring children together. In autumn 1997, there were a handful of programs already in place that either gathered children on the Internet, or gathered children at an in-person summit to discuss the Internet. Though some of these programs were extremely impressive, there were a number of features common to most of them that diminished the impact of children’s own voices. In the following sections, I describe

how the Junior Summit differed from previous programs in terms of (1) the children who participated, (2) the format of the online forum, (3) the role of adults, (4) how the issue of language was dealt with, (5) the children's representation on the world stage, and (6) how talk might lead to action.

Design and Method

Participants

The vast majority of previous programs targeted children who were already online. The goal of the Junior Summit was to accept 1000 participants who represented every country in the world, those who used a computer on a daily basis and those who didn't know what a computer was, those who struggled to exist on the margins of their society and those who received every benefit their society has to give. In order to achieve this goal Junior Summit distributed entry forms in every way possible, so as to try to reach every child in every country. Following UNESCO, who carry out 90% of their outreach in English,

If you will be between 10 and 16 years old in November 1998 and would like to participate in the Junior Summit, you must submit an entry by March 31, 1998. We want to know how you see the state of children in your community and in the world, what changes you think can and should be brought about, and how these changes could be affected by the growth of the Internet and other new communication technologies.

In your application you should do one or more of the following:

- suggest an important problem (either local or global) that you think children should take action on.
- describe the work that you have already done to change the world, and how you would like to expand that work.
- discuss how the Internet and other new communication technologies can change the roles that children play in the world.

You can express your ideas in words, pictures, video, music, or any other medium (a web-site, a story). You can submit an entry as an individual or as a group.

Participation in the Junior Summit is for you if you have an opinion about whether people your age should have a greater say and a more active role in changing the world locally and globally.

Figure 1: Excerpt from Junior Summit Entry Form

French and Spanish, we sent out 80,000 copies of the entry form in those three languages, around the world: Entry forms were sent to every ministry of education in the world, all UNESCO offices, offices of Education International in 300 countries, the 2500 schools of the worldwide Associated Schools Project, the 850 members of the Association of Secondary School Principals, 300 offices of the Junior Achievement program, headquarters of Education International, and many NGOs and international conferences. Over 100 educational websites around the world linked to the Junior Summit '98 website. In addition, requests for entry forms received by fax and by mail were responded to, as well as a large number of requests by e-mail.

Entries were received from more than 8000 children in 139 countries, in 30 different languages, and every medium imaginable. Because of a zealous local NGO, nearly 400 entries were received from China. More surprisingly, more than 30 entries (from every child of appropriate age, as it turned out) were received from Nieuwe, a country of 1800 people -- so small that the mailing address reads "Nieuwe, near New Zealand." With the help of international graduate students and faculty from across MIT, 1000 entries were chosen, representing 3062 children between the ages of 10 and 16, from 139 countries. Entry criteria included:

- *Quality of entry:* Do they have creative ideas and visions about changing the world, particularly through technology? Are they able to articulate those ideas well, through some medium? Have they answered the questions?
- *Effort:* Seems to have invested time, care, and passion into the entry.
- *Commitment:* seems to take the project seriously, understand it as a valuable opportunity and responsibility, and indicate a commitment to participate regularly (i.e., don't just want to win a free computer).
- *Past experience:* Have they demonstrated their capacity to change the world, or a serious attempt to do so?
- *Fit the following description:* Children with the gift of expression through such media as language, music, and images. Children who can document the digital [or non-digital] state of children in their country or community. Children with a vision of how to harness the digital revolution in the service of kids. Children who can convince adults of this vision.

Examples of successful entries included a moving essay about female circumcision in Benin with documenting photos *taken by the 13 year old applicant herself* that described how access to

information about girls around the world could help local girls resist, and how technology could help in other ways.

Other successful entries included a video documenting the technological collaboration between an international school and a rural school for local children, both located in Tamil Nadu, in Southern India, and a sketch demonstrating how the energy gleaned from walking could be used to power technology located in shoes. Despite worries about fair, equitable, non-ethnocentric criteria for judging, it turned out that *passion* was the key criterion, and that it was quite simple to distinguish passionate essays from children who hoped to improve the world, from essays or drawings from children (or from adults behind the scenes) who simply hoped to acquire a free computer. And, in only one case did we later become convinced that a parent had written the entry and was continuing to write the child's contributions online.

Although neither gender nor age were taken into account in the judging, successful entrants were roughly 55% girls and 45% boys, and represented a bell-shape curve of ages. The gender mix was particularly interesting given that other online fora for children reported greater numbers of boys than girls, and that computers and new technology were still in 1997 perceived as primarily masculine activities. We guessed that the even gender mix was due to explicit wording in the entry form about a mix of boys and girls, and to the relative salience in the entry form of the notion of changing the world, with respect to the notion of new technology. Forty percent of the participants chosen did not have computer fluency. The minority of accepted entries came from children working alone – many entries represented the work of school classes or self-constituted groups. Thus, the 1000 accepted entries comprised over 3000 children.

Format

In previous online fora for children, topics of discussion, rules and interaction format were chosen by adults and policed by adults. Adult moderators on the Junior Summit forum were carefully trained to keep the discussion on track without directing the outcome, to make no decisions for the children, and not to influence the direction of the discussion. A striking example comes from the group that decided to work on the topic of “bringing about peace.” Early in the discussion, when the participants were

introducing themselves, a worrisome debate developed between an Israeli and a Palestinian child. In this debate the conversation soon turned personal, and even threatening, with one of the children talking about revenging the death of his uncle. The moderator was at first frightened and then managed to hold fast to the desire to let the children find their voices. Within a day or so, the other children in the topic group chimed in; one of the children in the debate stepped back and suggested that their conversations concern only the present and future, and not the past of their countries.

This topic group was subsequently more productive than many of the other topic groups, in terms of the numbers of concrete action projects suggested, more tightly knit, in terms of communication among the members, and more long-lasting, in terms of how long after the in-person summit this group continued to work together. This early chance to resolve conflict autonomously, without adult intervention, to learn listening skills, to use their voices to prevent harm to one another, seems to have allowed this group to feel more capable and more in control of their environment – more self-efficacious, leading to more action (Bandura, 1997). As one child from Norway remarked “We all are sharing one world and today's children are tomorrow's leaders. We have to start learning empathy and sympathy, not only in thinking, but also in handling.”

Excerpts from the beginning of the conversation, the point at which other children intervened, and the response by one of the fighting children, are reproduced below (spelling and grammar have not been corrected):

Palestinian Child: Axxxx, i am delighted to find a person from israel with me on the same topic, as i mentioned later i am palestinian , and i carry a Israeli ID (ta3odat zehout) and i beleive in peace, but not according to Madrid, Oslo treaties etc... i beleive in eternal peace , solutions that will get peace into the soceity not peace that we show the americans that we are living happily while the truth is that we are stabbing each other from the back.

Axxxx and the rest in topic 11, before i start talking about peace let me go back in history at tell you this story :

Once upon a time in a land called Palestine (originally the land of Canaan), the Palestinian people (Christians, Muslims, and a few Jews) dwelled happily. One day, out of nowhere, outside intruders started to flock down claiming their right to the land. Soon, these ravenous intruders started appropriating the land by force, until the aboriginal people of Palestine found themselves denied the right to live on their own soil.

Israeli Child: Dear Ahxxx and Topic 11 group, Ahxxxx didn't tell the full story of history. but that argue with the palastiens is not new, and i'm not going to open it again because it will not end.

i will just say that that before all the jewes that come from all over the world to israel they suffered the holocaust. and the only right think to do is to build a jew country. the UN devided ISRAEL to two parts, ARAB part and JEW part, they was almost equil in their size, but the day of the declaration about the new jewish country all the arabs aroud attacked the jewes and left theme no chanse but to fight. in the fight the jews won after more the 2000 victoms and conquer the Land of Israel.

Ahxxxx, please don't react to wat i wrote, the argue will not end. so please from u, let's live it like that.

i disagree with your opinion, that ISRAEL will become Palastine, because that is unposibble and it will never be.

American Child: I'm probably butting in where I'm not wanted here, but I truly want the discussion between Axxx and Ahxxx to stop. Why? Because it's counterproductive and will lead us nowhere.

Yes, I will probably receive word that you guys are not fighting, but talking. Well, I say, B*ll Sh*t! You guys are definitely not talking, for you don't have an open mind. Answer me this, after all that "talking", has your point of view changed? Would you go around saying: "Yes, we should not have founded Israel, we were wrong." or "Israel is our friends, let us share." NO!

After all this bickering (because frankly that is what it is) you guys will only have even more resentment. You guys may argue all you want, but you won't change the other's point of view. The arguing must stop sooner or later. So, I ask: "Please do it NOW!" You guys want peace? Then set the example! Forget about this matter, don't talk about it ever again and let us talk about something that will help for peace.

Alternatives that I thought of: Start from the home and community. Start by talking to your friends and providing cool and simple facts that it no longer is the time to shove the blame but to put that all aside and look for solutions. Forget the grudges and to think of those in the future... the children that you will have... do you want them to live in the conditions that you do? In fear of war? To hate others?

New Zealand Child: Ahxxx, did you see the importance of preconception in your life? You have to take your bad experience and not to take a revange, but to take it to help other people. You have to fight because you don't want this to happen to other people. In summary, I want to say that you have to take it as an example to not do again. We don't wish your experience to anyone and this is why we have to work on peace. Bye,

Israeli Child: Dear Ahxxx, I guess we didn't understand each other. i want to you very much! Please understand it, i want us to build our future together. what i meant in the previus letters is that i won't answer letters about issues that belong to the past, that's it.

So please understand me and tell me what you think of my project, because it will work if you just understand that it's up to us, if we (the three of us) won't talk than how is the project will work? Please write soon.

Spanish Child: Hello! I felt a real emotion to see your effort to make peace. If this topic room ends with a friendship between its members everything will be worthy!

After the in-person summit, the adult moderators gradually reduced their own participation and left.

In general terms, the format of the online forum progressed from a structured exercise to total freedom. The 1000 participating children and teams spent their first week online in "homerooms" participating in a guided exercise of initiation to the technology and the principles of the Summit. After

that, the children themselves brainstormed 20 topics on which they wished to work, and they could suggest and implement new ways of forming groups. We designed the online forum interface so that it supported – encouraged even – these *spontaneous forms of community*. In order to respond to this demand, rather than maintaining the role as the “keepers of the forum” we implemented technology whereby the children themselves could build new spaces on the forum.

The children then divided into topic groups to work on developing the 20 proposals to an actionable stage. The children were responsible for working on the proposals, and for posting weekly

The online forum was a showcase for technologies that encourage and support a multilingual digital community. In particular, it allowed:

- Synchronous communication (real time chat)
- Asynchronous communication (such as e-mail, mailing lists, threaded chat)
- Different discussions for different topics
- Intelligent and child-friendly archiving
- Multi-lingual communication (through automatic and human translation)
- Children’s own website construction (for novice users)
- Sharing of photographs and other images
- Collaborative storytelling
- Voting (to allow children to elect the 100 delegates who came to Cambridge)
- A graphical timeline to illustrate what stage of the online forum is currently going on
- A map to show who was logged in from each country at any one time.

As we designed, we kept in mind that the forum was meant to support “deep chat” (sustained, contentful, discussion) and thinking before speaking rather than the shallow talk found in most chat groups.

Figure 2: Technologies of the Online Forum

updates to the public externally viewable Junior Summit website so that outsiders could view the progress of the forum. Next each topic group voted for 6 children to serve as delegates to the in-person Cambridge Summit. The organizers choose 5 out of those 6 children, based on an overall fair representation of region, age, gender, and language, and then made sure that all under-represented countries also sent representatives. During the Cambridge summit week, the delegates were responsible for keeping in touch with their constituencies at home. After the summit, the final phase consisted of the children reuniting

online to carry forward their projects with the support of the influential people they met at the summit, and taking advantage of the press that the summit garnered.

Two examples of topics that the children chose to work on included:

- The use of computers to link disabled children to their peers, and to educate children about the disabled. One 14-year-old girl in South Africa with cerebral palsy wrote, “the computer is in some ways my hands and feet and it even gives me wings to fly to other countries and far away places”.
- Bridging the double gap between speakers of different languages, and between the literate and illiterate in the world. One child from the United States wrote that the computer could provide a natural link between pictures and words and sounds that would allow children both to learn to read, and to learn other languages.

Role of adults

Most previous Internet communities for children were classroom-based: teachers initiated participation, and chose participants and involvement was organized through the schools. In the Junior Summit, children could apply individually or in teams or as school classes. But no adult participation was required or allowed. The decision to forbid adult participation (except for 20 moderators) was controversial. Our stance came from the belief that, in many cases, for those whose voices are not generally encouraged (such as children, especially from developing nations), having powerful adults present may prevent them from finding their own voice and speaking out (Cassell & Ryokai, 2001). In addition, research shows that children’s moral reasoning and linguistic skills demonstrate more complexity when they talk with peers than when they talk with adults (Kruger, 1988). And parents differ greatly in their ability to help children disclose, or use their voices (Fagot, Luks, & Poe, 1995). We decided that the children should have the chance to reason and to talk on their own, before presenting their thoughts to the adult world. With adults playing such a minimal role, we found that children became their own moderator, as in the following interaction between two children who had just arrived in their topic groups:

HELP ME!!!!

WHAT'S THIS TOPIC 11 EVERYONE IS REPLYING TO?! AM I ALSO SUPPOSED TO HAVE A TOPIC 11 TO REPLY TO????? WELL, I DON'T!!!!!!!!!! PLEASE CAN SOMEONE TELL ME WHAT'S GOING ON!
THANKS
M

Hi M, It's Mo here, don't panic, we're just talking about war, and the causes of it, and ideas for preventions and solutions, good to here from you, I hope to get some of your ideas!!!!!!!!!!

The online forum was not linked to the public Junior Summit website, so only children and moderators had access. However, children regularly posted updates about their work to the public Junior Summit site (<http://www.jrsummit.net>), where adults were welcome. Our decision to not allow teachers and parents to contribute to the forum was often challenged by those adults, but often supported by the children. One child, from the United Arab Emirates, wrote to complain about an overzealous moderator:

She almost replies to every single message. Don't you think she should leave the kids there to give their opinions freely without stressing every single word they say? She's a grown-up after all, and with someone studying their every move believe me, kids won't be at their ease. I'm not saying she should stop giving comments she's doing a great job, but I personally believe she should ease off a bit.

Of course, not allowing adults on the online forum did not prevent parents and teachers from becoming involved. Because of a number of e-mails that we received from parents, we ended up deciding that it was important to run a parallel but strictly separate in-person summit for those parents who accompanied their children to Cambridge (roughly 30 parents). This program was run across campus from the children's program, and lasted from 8am until 9pm, leaving no time for the parents to participate in the children's work.

Language

All of the previous programs Internet programs for children were either conducted in English or, when there were several languages, children could only participate with other children who spoke the same language. We implemented automatic translation of all messages between 5 languages (Chinese, English, French, Portuguese, Spanish) and, more importantly, we set up a system whereby the participants could send out a message requesting clean up of the admittedly poor automatic translation, and receive a

reply from a board of bilingual children in the forum who acted as translators for one another. We even built a multi-lingual simultaneous chat system (now being used by other online programs for children).

Our primary goal in implementing language policies was, as Bandura says in describing how to build community-wide efficacy for social change, to “never do anything for someone that they can do for themselves” (Bandura, 1997, p. 500). Thus, technical approaches were simply supports to the children’s own translation work. With respect to the goal of providing equal access to speakers of all languages, however, we were not entirely successful. The automatic translation setup was imperfect, even for *gisting* (giving the basic meaning of a text), and children were often too busy replying to messages to translate messages for other participants. The sad result was that English speakers were more likely to contribute than speakers of other languages, and that a Spanish-speaking group coalesced in a separate room. In the future, establishing a rotating *board of translators* might be a more successful approach.

Representation

Previous Internet programs for children were either Internet-only or, if they did bring the children together in the physical world, simply directed to adult organizers. In order to give the children an representation on the world stage for their ideas, and support for bringing the ideas to fruition, we decided that the online forum would culminate in a week-long in-person summit where representatives of each topic group in the forum could hone their ideas through intense interaction with each other and with experts in new technology, and could then present those ideas to the press and to governmental and industry officials. This goal lead us to structure the in-person Cambridge summit to comprise:

- One general session each morning, with a press briefing attended by child reporters from around the world
- Many group meetings so that the delegates could refine their proposals
- Meetings not just of the participants topic groups, but also of their super-topics, and their task forces (for example the task force on technological infrastructure)
- Immersion workshops, during which participants had the opportunity to design, explore and create with the new technologies for children that the Media Lab is famous for (music, filmmaking, storytelling, manipulatives, etc.)

In addition we planned that:

- On Friday the participants would deliver their final proposals to one another, and decide which proposals should be delivered to the general assembly on the last day. They would also held a videoconference with the UN general assembly in New York.
- On Saturday would be convened a half-day assembly at MIT where children presented their impassioned proposals to attendees that included press from around the world, ministers of technology, industry executives, digital notables.

The 900 online forum participants who did not come to Cambridge could participate in many events through online activities linking them to their representatives, and through special two-way pager systems at the conference that allowed the representatives to check in with their work groups at home.

These were *our* plans. The children themselves had other ideas. In fact, on the evening the children arrived, at their welcome reception, I showed up to find that the children had kicked out our staff members and were staffing the check-in desk themselves: handing out name badges, welcome packets. After dinner, I led a discussion about rules that we would adhere to – respect for one another, no wandering off to explore Boston, cooperation and not competition. I had hardly jotted down the first point on a huge whiteboard when a 14-year old Indian girl stood up to say, “We have these rules inside. We don’t need this written down.” The others clamored their agreement, and I sat down.

A little after the end of the activities on the evening of the first day of the summit, I received similar e-mails from two participants. One is included below:

I need to let you know about the task group I'm in - the "Kid's Bank" which went, to be honest, terribly today. I feel awful about it and I need to tell you before I can sleep. Basically what we did: Had lectures - a student/teacher relationship, everyone falling asleep, no interaction between us kids in the least. [. . .] There was some lady who had her laptop computer and was making "mission statements" and almost telling us how we should do our project. None of us kids were able to connect to each other or even discuss - everyone was half asleep and most were disinterested in the topic. The adults were taking complete control over it and didn't just leave it up to us to work on like it would have worked just fine as - if not much better. The list goes on... I feel like screaming. I think we have to change this whole organization.

As with the fight online, my first reaction was *panic*: our carefully crafted summit going down the tubes before the end of the first day. But I managed to remind myself once again that I had promised

these children that their voices would be heard – that included concerning issues of process as well as of content. We turned over the second day’s plenary meeting to the delegates and they began to change things around. In fact, after a half-day of meetings with one another and with us, the summit returned to the activities that we had planned. However, important changes were made: the quietest children and the children who spoke languages that only they and their interpreters understood, sat at the front of the room where they were more likely to make a contribution. The children began to design an overarching organization to coordinate all of their action plans, and met to work on that idea. And, as they requested, adults no longer stood at the front of the room, if they were in the room at all.

On the last day of the in-person summit, the children stood up in front of an audience of 2000 – ministers of technology, members of the press, CEOs of Fortune 500 companies, and gave presentations that blew the socks off the adults. Two presentations in particular left not a dry eye in the house: on child labor, and on disability. One of the children participating described the disability presentation as follows: “What we tried to do is to tell people stories and through these stories make them listen.”

Action

In previous fora, for the most part discussions among children, no matter how exciting, remained at the level of “just talk.” The Junior Summit intended to bring children together and give them the means to come up with – and to bring to fruition – radical ideas to change the world for children. Already during the online forum, we had examples of children bringing ideas home and implementing them. One child in India began a “fistful of grain” program where she collected “only a single fistful of grain” from each of the families in her neighborhood and then, with the help of the other children in her school, set up a storehouse in a local vacant building so that poor families could come get grains for food. Another team of two children in Malta sent the following message to their topic group:

For those of you who have seen our reply to Kxx's message, we said that we have already contacted and interviewed personally the President of Malta, Madame Speaker and the former Minister of Education. Now, we are awaiting an appointment from the present Minister of Education, since last month we had the elections and the party was changed.

Today, we have another POSITIVE result. We came across the lyrics of a Maltese song, which was placed second for the concert known as the 'Maltese Song for Europe'. The text is really excellent for our topic. It is called 'Listen to our Voices', so... we called the singer to ask

for her permission to publish the words. She was so glad to hear of our effort, that she also offered to support us. In fact, she has invited us on a T.V. show that she herself presents which is open for all citizens to see our point of view. Isn't that great??!

Also, we have contacted a radio station that holds a programme called 'DOT.NET', which is all about modern technology. After telling him how we're participating by means of the Internet, he was also interested and invited us to go 'on-air', live-in-show.

Wow!! Our voices are beginning to be heard locally. Why don't you guys out there try it too?! See what's the response?

During the week in Cambridge, a number of additional projects got off the ground. For example, the child laborers were very concerned about getting their stories out, and publishing photo-essays to illustrate their lives. From this idea was born the "Junior Journal," an online newspaper written edited by Junior Summit participants. The first issue was published during the week of the online summit; a visiting Reuters news crew wasn't allowed to take pictures or interview the children until they agreed to donate an unlimited Reuters news feed. At the end of the week, software was put in place to allow the children to continue from home: to submit, revise and edit without any of authors being in the same room. They also requested a mechanism to allow a rotating edition editorship, so that participants got the chance to be journalist and editor. Remarkably, the Junior Journal continues today. Currently in its 30th edition (an edition which sports 50 stories and photos from 32 different countries), the journal recently won the prestigious international Global Junior Challenge award in Rome.

Nation1 was also born during the in-person summit, as a way of realizing the wish for an overarching organization to allow participants to pursue their different action projects. On the fifth day of the in-person summit, the children passed out a press release, entitled "A Nation1 Declaration":

Young people of the world, entering the age of communication without barriers, you are already part of an emerging nation, Nation1. Join us there.

Nation1 is a global nation made of young minds. It is created, governed, and sustained by the young. It is a place where adults may not enter unless invited, and may not stay if asked to leave.

We believe that Nation1 has always existed. There has always been a universal culture of young humanity, but only now are the means arising for us to make common cause, using technology to bring all of us closer. Together we can harness the natural virtues of youth: tolerance, energy, playfulness, hope, and a willingness to share.

Kids from all over the world have much in common, despite cultural and national differences. Nation1 is a place to combine the strength of our similarities with the genius of our differences and

create a strong bond between people physically separated by distance and national borders. Through integration, we can gain knowledge, support, and friends, and authority in the “real” world.

Because of press coverage of the last day of the summit, the children who were spearheading the Nation1 effort received more than 500 requests for information in the week after the in-person summit had ended. Nation1 has continued to grow since the summit by opening its website to non-Junior Summit children.

At the time of writing, two Junior Summit participants are employed full-time in a Nation1 office in New York. They have set up a foundation, been successful at raising funds, and are forming alliances with other non-profit organizations for children, in the hope that together they can maintain an umbrella organization to support children in doing more for the world than they are expected to be capable of.

Despite these quite extraordinary accomplishments, the children have, since the summit, reported feeling frustrated by how little action has been accomplished. It is possible that without the support of, and interchanges, among a vast and varied collective, some other kind of outcome is required to maintain collective efficacy. That is, during the online forum, the children were receiving constant feedback from others, allowing them to know that their voices counted. Without that demonstration of *voice*, more action is required. As one of the children wrote, six months after the in-person summit ended,

“When you're one person working on a dream, you can get hung up, wondering if there are people who care if you succeed, if you will ever make it happen, and sometimes you lose motivation along the way. Besides that, one person has a difficult time making a huge impact on their own. Through Junior Summit, we were 3000 children working together. Even when we split off into our separate interests there could be 20 of us working together, and we knew that in the long run all of us, despite our different focuses, were working on the same project - making the world a better place.”

Evaluation

The evaluation of a program with such large scope represents a formidable challenge. My own interests concerned the evaluation of the technology and interface design principles, and the evaluation of the effects of the Junior Summit on children’s lives. Some of the effects of the Junior Summit interface and format decisions have been documented above. For example, the positive effect of allowing the

children to solve their own battles, and come up with their own solutions, and the not completely successful attempt to deal with a multiplicity of languages. Like speakers of languages other than English, those children who had no prior experience whatsoever with computers and the Internet found themselves handicapped, and were less likely to continue on the online forum, and less likely to be chosen as delegates (roughly 30% of delegates had no prior computer or Internet experience). Children who were not computer literate beforehand were more likely to persevere if they were members of a team, and not solo participants. Thus, for example, a small school in rural India had 3 teams accepted to the Junior Summit, and two children from the school were actually elected delegates of two separate topic groups. These children, both the delegates and the others, despite their lack of computer literacy, did stick with the forum, and in fact a number of them are still active today, three years later.

The notion of underdetermined design appears to have been very successful in this diverse context. At first children wanted to create hundreds of rooms for special interest groups, but after they had created rooms and found that nobody congregated in them, this desire quickly subsided, and gave way to some powerful cross-cutting organizing principles. As described above, participants organized themselves into topics (20 groups discussing different ways for children to use technology to make the world better for children), supra-topics, task forces, and electives.

Roughly 140 children from 32 countries filled out a pre-summit questionnaire. An additional 25 children filled out the questionnaire one month after the forum had begun. For the following countries (in order of largest number of questionnaire takers), more than 5 children filled out the questionnaire: India, Finland, Senegal, Sweden, Uruguay, Bangladesh, Japan, Jamaica, and Estonia. This noisy data set is still being analyzed, but some quantitative results are interesting and worth reporting in this overview chapter. Correlations revealed a significant trend in the data where better global self-worth, meaning an overall sense of satisfaction and regard for oneself (Harter, 1987) corresponded to more computer experience, and more belief in the educational value of computers. As found by others (Oettingen, 1995), we found no differences in global self worth or in self-efficacy due to country of origin.

A t-test for independent samples revealed that ($t = -7.43, p < .000$) the children who filled out the questionnaire after one month online demonstrated more global self-worth ($M = 3.24, S.D. = .41$) than those children who filled out the questionnaire before the forum started ($M = 2.54, S.D. = .55$). Global self-worth was assessed by asking the children which description fit them better, and how well it fit them, in pairs such as the following: “some kids don’t like the way they are leading their lives BUT other kids do like the way they are leading their lives.” Likewise, an effect was found for more “meaningful instrumental activity” (Maton, 1990), that is, those activities that require children to use their skills, and lead them to desired ends ($t = -2.81, p < .005$) whereby children tested after the beginning of the forum reported engaging in more MIA ($M = 3.62, S.D. = .792$) than those tested before the summit ($M = 3.14, S.D. = .903$). MIA is measured through questions such as “how often during the last week did you perform a challenging or difficult task well.” Scores on this instrument are important since Maton's research with at-risk urban teenagers found that engagement in "meaningful instrumental activity" was significantly related to their life satisfaction, well-being, and overall self-esteem--and was as powerful a factor as that of social support (Maton, 1990). Of course these results must be interpreted with caution, since the sample size is small and since most of the participants were downright exuberant after one month online, and these effects might well have diminished over the course of the online forum. However, further analysis of these data, and of continuing follow-up data may allow us to look at some of the effects of the Junior Summit on self-worth, self-esteem, and self-efficacy.

Although preliminary studies by Kraut et al. (Kraut et al., 1998) found that the Internet was associated with increased loneliness and depression, reports from Junior Summit children, three years after the summit ended, are anything but depressed. A teacher from Spain wrote several months after the in-person summit that the way that the summit was conducted led her students to “feel empowered to act as leaders, as world wide ambassadors of digital culture. They regard school with new eyes, as a GLOBAL place where people may meet people easily, where they can learn and voice their opinions about the world that surrounds them. A place where they may feel loved, heard, taken into consideration, where technology is (for the first time in history) a powerful tool that they employ better than adults.”

Outcomes and Lasting Contribution of the Junior Summit

Three years after the summit's supposed conclusion, the children have refused to consider the project over. They continue to use the online forum, continue their communication with one another, and their Junior Summit work. One Junior Summit participant gave a speech at the White House on New Year's Eve 2000 as a part of a roundtable about voices of the new millennium. Several others traveled to the Hague Appeal for Peace (from their respective countries of India, Jamaica, Australia, France, US) to meet with Kofi Annan. Still others gave workshops about the Junior Summit to the non-governmental organization I*EARN's conference in Beijing, China. In October 2000 one of the summit participants won the \$5000 Global Youth Peace & Tolerance Award, presented at the UN. Another child won the ACS International Peace Prize. In January 2001, the children obtained grant money to continue their work on the *Nation1* online country for kids.

Conclusion

The scope of the Junior Summit program meant that my role came to include everything from coming up with the initial design, the philosophy, the developmental underpinnings, and the technical specifications of the entire program, making relationships with non-governmental organizations around the world to ensure that the application form was actually distributed to **all** children in a given country, assembling an international group of professors and graduate students from around MIT and the Boston area to wade through 5000 applications from kids from 139 countries . . . all the way to traveling around the world with computers hidden from customs in big suitcases to deliver and install computers and Internet connections, and sleeping in my office for several nights at a stretch in order to be able to send and receive faxes and phone calls with rather uncooperative American Embassies in Eastern Europe and Africa in order to allow children to get the visas to permit them to attend the Cambridge summit.

Organizing such a global community for children, therefore, encompasses not only educationally relevant and empowering technical and design work, but also *fundraising* for computers, Internet connections, and in some cases electricity and phone lines, so that children in all parts of the world could

have access to the forum, *footwork* to deliver the computers, *policy* and political work to deal with the intricacies of relationships within and among nations, *education* to help the adults in the program do their best . . . and the occasional late-night *pizza* run when the participants of one's Summit don't like the food planned for them. In my case, I have continued as advisor, cheerleader (I never suspected that one outcome of the summit would be that I would find myself writing 3062 letters of recommendation for colleges, summer programs, etc!), agent, fundraiser, and technical staff. Most importantly, I continue to try to ensure that the children's voices are heard and that in using their voices they can develop the belief that they can control the world around them and their own destinies. We know that those reporting low levels of *voice* in a given context also report low self-esteem (Harter, 1997). The question is whether high levels of voice in a given context can have transfer effects to other contexts. One child from Brazil wrote, "We think we have matured in this project, it has made us feel more secure about ourselves. It hasn't changed us!!!"

Although the Junior Summit officially ended in 1998, its purview is spreading today – the ideas that the children came up with are coming to be more widely known: the Junior Journal online newspaper, the *Nation1* online country, delegations to the Hague Peace Appeal, to the Olympics – Houghton Mifflin will even be running some images of the Junior Summit in a forthcoming new edition of a high school history textbook, to illustrate "the large scale meeting of young minds, and the global dimension of technological developments"! Finally, an understanding of the harm wrought by a thoughtless digital divide is better understood today than it was when plans for the Junior Summit began in 1997-1998.

Recently Amy Aidman, researcher at the Washington-based Center for Media Education, gave a public testimony the Democracy Online National Task Force that included reference to the Junior Summit's democratic basis. She wrote to me:

I was looking for sites that are emblematic of involving young people in the public sphere and in social change as part of CME's public testimony for the Democracy Online National Task Force: In Search of Democracy's Domain in a Dot-Com World. Part of what impressed me was the level of discourse that is going on through the site and the kinds of issues that are being addressed, also the fact that kids can participate in 5 languages. I found an exchange between a 14-year old boy from Greece and Noam Chomsky about the future of the Internet that I ended up quoting in my testimony. It

showed the potential of the Internet for the future of democracy in the finest light--crossing cultural, geographical, generational, and status boundaries. When a teen from Greece can get a response to a question from one of the great thinkers of the world--and the great thinkers can have access to the questions of promising young people in other parts of the world, I think we are seeing the Internet's potential as a tool for the future of democracy expanded in the best sense.

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ⁱ Technologically, and ethically, the challenges of underdetermined design were immense: We implemented a way to relay all messages typed into real-time online chat automatically to e-mail for those children without web access. And, we turned down a big donation from a major software company, when the “gift” was accompanied by a request to have Junior Summit kids test-drive a computation-heavy 3D graphical online world that would only work on Pentium 4 machines.