Effective means of communication for children and youth to have a voice in environmental decisions in their city

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Abstract

Article 12 of the United Nations Convention on the Rights of the Child gives children a right to express their views in all matters that affect them, and the U.N. Committee on the Rights of the Child has ruled that this includes a voice in decisions that impact their living environment. Many cities in Europe the United States have developed initiatives to honor this principle, but Boulder has a unique program – Growing Up Boulder – to integrate the perspectives of children and adolescents into urban planning and design. Established in 2009, it is a formal partnership between the University of Colorado Boulder's Environmental Design Program, Boulder Valley School District, and the City of Boulder. One current area of implementation is the redevelopment of Boulder's downtown Civic Area. This paper reflects on young people's use of creative media during this redevelopment process, with an emphasis on three methods which have worked fruitfully with different age groups and ethnicities. These methods include adaptations of photography, art, and model-making, with variations based on age and context. These methods incorporate dialogue and discussion into a creative process, and provide avenues for young people to feel comfortable and confident in expressing their views. This presentation also reflects on key lessons learned in working with city agencies. People who involve children in participatory planning and design not only have an obligation to give them a voice in ways they find meaningful and engaging, but also to ensure that their voices are heard and their ideas are taken seriously.

Key words: participatory planning and design, children and youth, Growing Up Boulder, dialogue, child-friendly cities

Introduction

For more than 100 years, social reformers, philanthropists, and intergovernmental organizations have considered and articulated the rights of children. Much early work on children's rights was for basic care and services, dignity, and access to activities that promote mental, physical, and social well-being of the child, as articulated in the United Nations Declaration of the Rights of the Child in 1959. It was not until the 1970s that urban planners began considering children's rights to participation in decision-making about their living environments. Kevin Lynch (1977) was a pioneer in establishing the Growing Up in Cities initiative in partnership with the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Lynch was curious about the question, "what interchange between people and the environment encourages them to grow into fully realized persons?" (as cited in Chawla, 2002: 22). In his pursuit of this question with children, he explored the dynamic relationship between children and their cities, and how each is shaped by the other. Lynch's definition of the environment included not only the biophysical, but also the social and cultural. His broad considerations for children in urban settings set a framework for understanding children's environments, by asking the children themselves.

Although Lynch did not use the language of children's rights, his approach was given legitimacy by the 1989 United Nations Convention on the Rights of the Child, which was the first policy to not only articulate children's rights to supportive services, but also to state that children themselves should have a say in decisions that affect them (United Nations, 2013). As a result, UNESCO's Growing Up in Cities initiative was revived in 1996 as a mechanism for creating opportunities for genuine participation of children in the planning and design of their cities and was implemented in eight additional countries on six continents (Chawla, 2002). A second UN program to address the rights of children is the United Nations Child-Friendly Cities Initiative, which provided guidelines for integration of this rights-based perspective into municipal processes and decision-making (UNICEF, 1997).

Among the contributions of the Growing Up in Cities initiative was the development of a series of methods and approaches to meaningful engagement with children and youth (Driskell, 2002). Much published work on effective participation suggests that methods need to actively involve children in creative processes consistent with the cultural frames of the children involved (Clark, 2005; Fals-Borda, 2001; Hart, 1997) by engaging in projects that fall within social, civic, cultural, and environmental domains (Bartlett, Hart, Satterthwaite, de la Barra, & Missair; Loukaitou-Sideris, 2003).

Since its initial framing, children's right to participation has grown in its applications, particularly in European cities. For example, Germany instituted the "Young Cities Now," project (BBSR, 2012) which engaged youth in a child-friendly cities initiative to set the direction for urban affairs and development. Similarly, a European Union project titled "Fantasy Design – Children in Community," engaged children in 18 projects in 4 countries to redesign public spaces including school grounds, parks, neighborhoods, or community centers. Fantasy Design provided children with opportunities to work with designers and share their ideas in an international exhibition (Kapanen & Svinhufvud, 2011). Other projects also engaged children in discussions to identify community needs (Million & Heinrich, 2014). In the United States, Y-Plan similarly provides a framework for participatory design with children in a number of cities (Y-Plan, 2015).

In 2009, the City of Boulder developed its own Child Friendly Cities Initiative, named Growing Up Boulder (GUB). GUB is a formalized partnership between the City of Boulder, Boulder Valley School District, and the University of Colorado Boulder's Program in Environmental Design. Its mission is "to empower Boulder's young people with opportunities for inclusion, influence, and deliberation on local issues that affect their lives" (GUB, 2015). GUB accomplishes this primarily through participatory practices with children and youth in urban planning, urban design, and the design of city parks. GUB uses many of the participatory methods originally employed by Growing Up in Cities (Driskell, 2002), but has also adapted some of these and added others to draw from the best practices and lessons of effective participation (Derr, Chawla, Mintzer, Flanders-Cushing, & van Vliet, 2013). One current area of implementation is the redevelopment of Boulder's downtown Civic Area. This paper reflects on young people's use of creative media during this redevelopment and the integration of children's ideas into the planning process.

Engagement in Boulder's Civic Area

The City of Boulder began a visioning process for a major redevelopment of Boulder's Civic Area in 2012. This public space includes the public library, municipal buildings, and a central park and greenway along the Boulder Creek. In the 2012 process, Growing Up Boulder worked with approximately 125 young people, ages 4-15. Methods included drawings, photovoice and photogrids, field trips, City as Play, and presentations, persuasive letters, and dialogues with city staff and city council (Derr et al., 2013; Derr & Tarantini, forthcoming; GUB, 2015). In the fall of 2014, GUB facilitated more detailed work with approximately 100 students, ages 8-16, to consider the "park at the core." In addition to the original methods employed, GUB added visual preference

surveys, design scenario critiques, nicho boxes and model-making (Derr & Tarantini, forthcoming). This paper focuses on methods we have found to be particularly effective in facilitating dialogue and discussion, including photography-based methods, nicho boxes, and three dimensional models. Each of these methods is described briefly in this section, with a discussion of relevant literature. The outcomes and effectiveness of each method are then considered, with reflections of students, teachers, and facilitators.

Photographic Methods

In its broadest sense, photography is a tool for participation that allows young people to express themselves visually, but it also presents an entry point to conversations with other children or adults about the photographs (Clark, 2005; Clark & Moss, 2001; Dockett & Perry 2005; Einarsdottir, 2005). While visual arts often create a context for conversation, the photovoice method was developed specifically for the purpose of pairing photography and word to express ideas (Gant, Shimshock, Allen-Meares, Smith, Miller, Hollingsworth, & Shanks, 2009; Wang & Burris, 1994). The method converged from both the Growing Up in Cities work (Driskell, 2002) and community-based research in public health (Wang & Burris, 1994). Photovoice provides opportunities to assess strengths or concerns about one's community and to provide a mechanism to communicate these ideas both visually and verbally with policy makers, city leaders, or researchers (Catalani & Minkler, 2010; Dennis, 2006; Derr et al., 2013; Gant et al., 2009; Goodhart, Hsu, Baek, Coleman, Maresca, & Miller, 2006; Wang & Redwood-Jones, 2001). One of the important contributions of this method is that it provides a safe and comfortable entry point to dialogue and discussion about critical issues that may be challenging to discuss otherwise (Wang & Burris, 1994). This method has been particularly effective for youth, as it provides a mode of creative expression and helps facilitate dialogue (Derr et al., 2013). Photovoice can help expand the conversation from just youth to the entire community through exhibits that invite a larger community of participants (Driskell, 2002; Derr et al., 2013).

The photovoice method is typically employed in an open-ended context, in which individuals take pictures and then discuss them (Driskell, 2002; Wang & Burris, 1997). Growing Up in Cities and Growing Up Boulder have also applied this method in a slightly more structured way, with the use of coloured cardboard frames. Young people frame and photograph elements of their environment they like (in green) or do not like (in red) (Derr et al., 2013; Driskell, 2002). GUB applied this method to the Civic Area process in 2012 (Figures 1-2).

Figures 1 and 2. Photovoice method using frames to show what youth like (green frame, left, showing tubing and creek play) or have concerns for (red frame, right, showing large groups of homeless people).

One of GUB's partner organizations in the Civic Area evaluation was the Boulder Journey School, who adapted this method for preschool children (Shaffer, Bauer, & Hall, 2013) (Figure 3). In this adaptation, teachers and children took photographs of the site. These photographs were taken back to the classroom and printed with a lightened opacity. Students then drew over the top of the photographs, and teachers recorded their ideas. This allowed children to directly modify the Civic Area in the ways they desired (Figure 3).

In contrast to the fairly unstructured photovoice method, the photogrid method is used to systematically analyse a site (Driskell, 2002). In this method, students complete a visual survey, starting with a base map or aerial photograph of the site, create a grid, and take photographs at grid intersections. The children add perspective to this process by choosing particular views or features they want to highlight in the process. Photographs are then marked and annotated so that they connect to the original grid (Driskell, 2002). Growing Up Boulder has adapted this method, adding more elements of photovoice to the process. For example, for a park planning project, youth worked in teams to select photos that represented something positive or negative

Figure 3. Drawing overlays on photographs used by preschool children. In this picture, Lily added "beautiful colours and decorations" to the "andshell and seats to make them more appealing.

about the site, and then wrote on the back of photographs (Rigolon, Derr, & Chawla., in press). Rather than affixing photographs directly to the grid, the base map was placed on foam and then photographs were attached with toothpicks. This allowed two dimensions of information to be displayed: both the photograph itself and the word descriptions about the place (Figure 4). In the Civic Area process, GUB used this method as a tool for students to understand the spatial scale of the site and to document features that they would keep, change, or add (Figure 5).

Figure 4. Two dimensional display of information on a photogrid, with photographs on one side and student comments on the other.
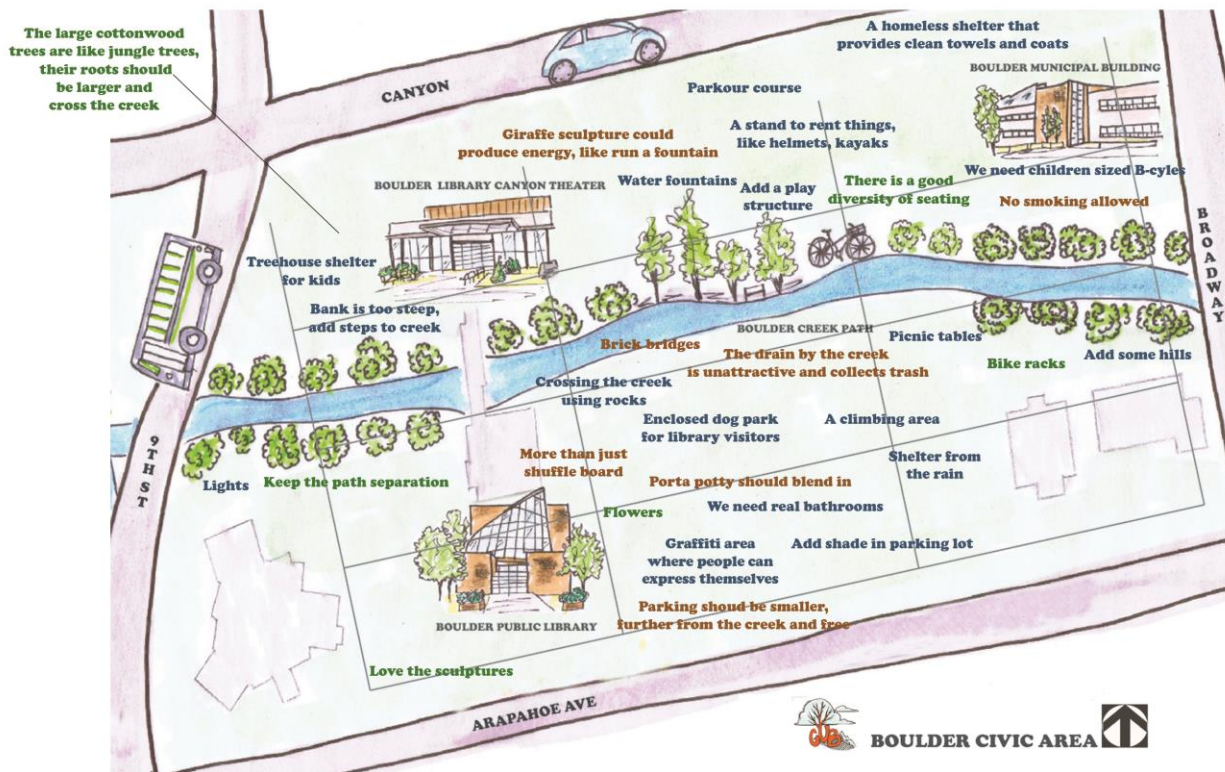
Figure 5. Casey Middle School photogrid, with digital annotations.

Art as a Method of Engagement

Many researchers have utilized art in community-based design. In addition to photography discussed above, this has included drawing, murals, mosaics, puppetry and street animation or theatre (Derr et al., 2013; Elizabeth & Young, 2006; Hart, 1997; Keeler, 2008; Yeh, 2011). Like photography, other art forms also provide opportunities for personal expression and innovation (Lynne & Young, 2006; Yeh, 2011). Less has been written about art as a participation method, although it has been successfully applied in a variety of contexts, including school transformations (Yeh, 2011) and natural playscapes (Keeler, 2008). Barone and Eisner (2012) suggest that art is effective as a research tool because it provides people with opportunities to represent their ideas in a variety of ways, rather than words alone. Barndt (2007) also suggests that because art provides more means of engagement, people express more ownership of the ideas they generate through artistic processes. Chin and colleagues (2014) also suggest that art-based methods position

participants as experts about their own lived experiences. These benefits are significant in creating an equitable framework in which young people feel comfortable expressing their ideas.

Growing Up Boulder applied art as a method of engagement for the Civic Area through its adaptation of *nicho* boxes with elementary school students. For this method, students described what is important to them by creating multi-media boxes with pictures, figurines, and words. GUB provided some materials, and some children also brought materials from home. The children designed their individual nicho boxes as a way to express what was important to them and what they liked within the city (Figures 6-7).

Figures 6-7. Nicho boxes. Left: "I am a 'red lion' because of my red hair. My favourite places to spend time are Valmont Bike Park and the skatepark." Right: "Me and Nature:" the mirror represents the child amidst the natural world.

Three Dimensional Models

Bannon and Ehn (2013) attribute the roots of participatory design to the Bauhaus, a school of art that engaged students in design for social change beginning in 1919. The Bauhaus combined art, architecture, and craftsmanship in a collaborative design process for everyday objects. Bannon and Ehn (2013) suggest that Bauhaus workshops were early forms of participatory design in that they engaged ultimate users of objects in the design process. Participatory design evolved from Bauhaus style workshops to include "design-by-doing" and "design-by-playing" through the

development of interactive games and prototypes. Within this context, many participatory design processes engage children in the construction of three-dimensional models (e.g., Catalytic Communities, 2015; Hart, 1997; Iltus & Hart, 1995; Ito et al., 2010; Lozanovska & Xu, 2013; Nelson, 1984; Rigolon et al., in press; Y-Plan, 2015). This is a common approach to design but is often applied differently in its application with children. In design education, study models are used to develop design concepts, such as form, circulation patterns, proportion and scale (Ching, 2015). Three-dimensional models are used to represent the physical form of a proposed design. However, in participatory design with children, the process of building a model serves as a hybrid of these two purposes, with children exploring ideas through discussion and deliberation with each other, and representing the physical design of space at the same time. Participatory model making often uses low-cost, easily accessible materials, such as recycled cardboard or found objects (e.g., Catalytic Communities, 2015).

Growing Up Boulder engaged young people in model-making in two different ways during its detailed design process in 2014. In the first, all student groups participated in "City as Play" workshops with urban planner James Rojas. "City as Play" asks participants to answer an inspirational question, such as "if you could redesign this park, what would it look like?" and then provides found objects, mostly collected from thrift stores and recycled materials, for short building sessions (Catalytic Communities, 2015). GUB engaged young people with this model to initially think about the park and its potential (Figures 8-9).

The second model-making activity came at the end of the engagement process. As a preliminary step to these models, middle school students also used the picto-play method, which provides icons of various park elements with dots that indicate cost (Dekeyser, 2014). Students were given a budget of 20 dots to work with and had to negotiate their priorities to stay within budget. Students used a variety of craft materials to design large scale models that represented their recommendations for the site.

Figures 8-9. City as Play was used as an initial tool to envision possibilities for the Civic Area. Students built models in their classrooms (left) or on site (right).

Students worked in large groups of 5-20 students to construct the models on a printed basemap. Most groups chose a small section of the entire park that they wanted to design (Figure 10). When sections were compiled into a single model, students had to discuss how to integrate different concepts into a single form (Figure 11). Creation of the three-dimensional models required dialogue and collaborative decision-making to agree upon the types of objects, budget priorities, and placement of designs within the model. Students shared these final models with city staff and leaders, along with a collection of previous work, to communicate their design ideas.

Figures 10-11. An example of a small group for the Civic Area (left) and a combined model (right).

Reflections on the Process

After the 2014 engagement process, we asked teachers (2 elementary, 1 middle and 1 high school) to reflect on the design process with their students by asking them four questions:

   i.   What activity were students most engaged and interested in?
   ii.   What activity was most effective in facilitating dialogue and discussion?
   iii. What did students gain the most during participation in the Civic Area?
   iv.   What did you learn or appreciate most from the project?

All teachers said they felt their students were most engaged in the model making process. The teachers emphasized that creating the models was both hands-on and experiential and that children enjoyed explaining their models to others, whether to their peers or city officials. The middle school teacher said she thought the entire sequence, with the model as a culminating activity was important:

> The students' experience would not have been so good if they hadn't built models at the site (a sensory experience) and then photographed the existing area, looked at others' ideas and then honed in on what was important to them [by] building their own models and then presenting them to [city] officials.

One of the elementary school teachers also said the nicho boxes were engaging: "Every student was really eager to collect items that reflected their culture . . . They enjoyed sharing their boxes with others and displaying them at Heritage Night (a school wide event)."

Teachers gave a variety of answers when reflecting on the activity that best facilitated dialogue and discussion. One elementary school teacher felt that the initial visioning activity was most effective. This method involved asking students what they thought they would like to see in the area, then showing some slides of exemplary public spaces, and then asking students if they wanted to elaborate their ideas further. "Kids re-evaluated their ideas, often expanding on them, based on the slides." Another elementary school teacher thought that the most effective discussions occurred when students were explaining the placement of their design sections. For this activity, each student had to make notes and explain to another student why they wanted to place their design in a particular place on the map. Then, the other student gave feedback about that placement. "This was a great opportunity for students to practice active listening." The middle

school teacher thought that students were most engaged when GUB presented initial design concepts from the design firm to the class. "When they saw the designers' visions, the students saw what was being considered and how it lacked 'kid space' and 'interactive spaces.'" This spurred active dialogue and discussion and prompted some to better elaborate their own designs in order to make the space better "for all people." The high school teacher reflected that students felt very at ease in this process: "Some students who are normally shy or uncertain about answering were very vocal and engaged during this project." The City as Play and model-making activities seemed to facilitate dialogue most among this age group.

Responses to questions iii and iv, about what students gained and what teachers learned, were similar in that both students and teachers appreciated being a part of a community design process, "as citizens whose opinions, input and ideas were valued. [They received] intrinsic reward for being creative and bold." Many students reflected the importance of developing student voice: "Students learned that their voices matter. They learned that they can influence the local community. They loved sharing out to an authentic audience when different members of the community came for the culmination of the project. They were also very proud of their letters to City Council." All teachers thought their students felt heard and that their voices mattered. Two teachers mentioned the importance of the authenticity of experience and relevance to their curricular goals: "It was relevant and meaningful to the time spent on task and working and learning together. There was a true sense of the community being connected to the learning and this authenticity was awesome."

We similarly asked children to reflect on the process. Students appreciated opportunities for self-expression: one eight-year old said his favorite activity was the nicho boxes "because I got to express myself." Students of all ages said they enjoyed the more interactive methods, such as model-making, nicho boxes, field trips and making their presentation boards because they are engaging and creative. Additionally, both middle and high school students reflected that they appreciated having opportunities to exchange their ideas with the broader community. One middle school student expressed this sentiment this way: "I like that we are able to share our ideas with the city to make the Civic Area a better place for people." High school students said the project made them more aware that they could make a difference in their community. The high school teacher shared her conversation with students about this:

> The great news here is that students said that they felt heard and as if their voice mattered! Others said that they need to care more and participate more in their community, and

others liked that they could collaborate with their classmates and present their ideas in front of adults from City Council.

From previous projects, GUB staff knows the importance of connecting students directly with city staff and community leaders. GUB uses a Child-Friendly Assessment Tool (IRC/CERG, 2011) for pre- and post-project assessments. One consistent question asks students the extent that they feel "The government asks my opinions about my life or my community." In 2012, two schools were engaged in very similar processes for the Civic Area visioning. Due to an illness, city staff were unable to visit one group of students' final presentations. Students who had a city staff person attend their final presentations, showed a 300% increase in "sometimes true" or "mostly true" responses to feeling the government asks their opinions. For the students who did not have such attendance, there was no change in the "never true" or "sometimes true" responses. For this group, no students said that this was "mostly true." From this experience, GUB learned how critical this component of the process is for helping students to feel empowered and heard. In 2014, all students had a diverse array of city staff and community members attend their presentations. In 2014, students showed a 375% to 700% increase in their "sometimes true" and "mostly true" responses to the question of feeling heard by government. These results suggest the influence even one meaningful exchange can have on youth's perceptions of feeling heard. Yet these results also must be read with caution. In the comments section, one student wrote, "Well they just did [listen], but I don't know if I will ever have that opportunity again." This emphasizes the importance of more diverse ways to integrate children into planning and decision making about their lived environments so they can have a sequence of experiences of civic engagement.

Discussion

These results show that creative, engaging methods provide important opportunities for self-expression, dialogue with each other and with the broader community, and for feeling heard and empowered to make change in the community. The sequence of events and time it takes to develop ideas are an important part of the process. While the specific methods within the process vary across projects, GUB does follow a basic process for engagement (Figure 12). The first step in this process has two goals: that of allowing for creative self-expression, and that of positioning students as experts about their lives. All students have the knowledge and ability to answer questions such as "what is important to you?" or "what do you like about your neighborhood?" The answers to these questions provide important information as a starting point for understanding

children's experiences of and values for places, and they also help to build confidence in the children for participation (Chawla & Heft, 2002).
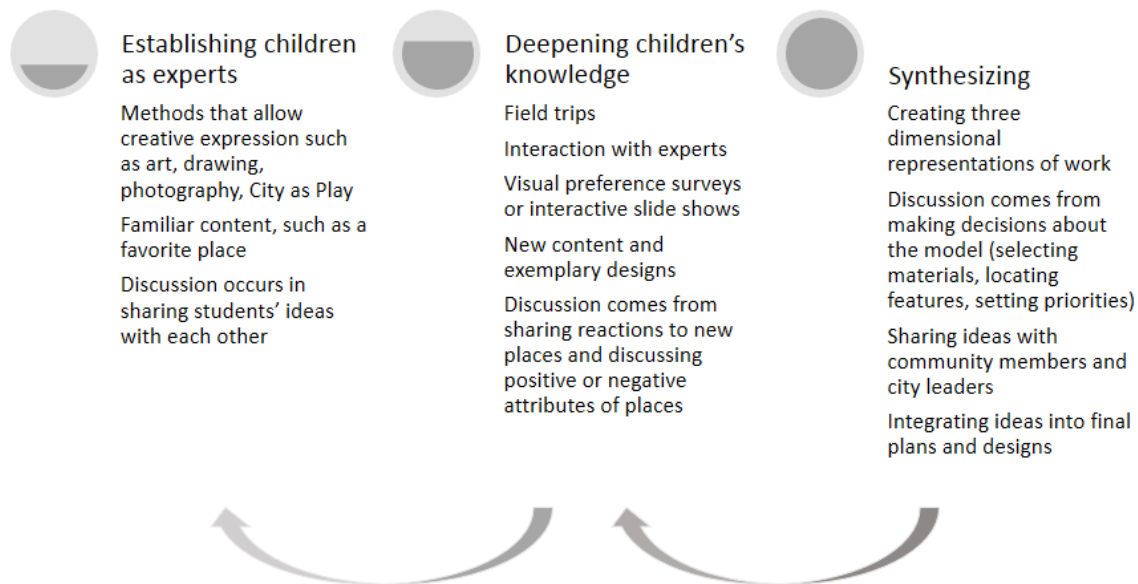

Establishing children as experts

Methods that allow creative expression such as art, drawing, photography, City as Play

Familiar content, such as a favorite place

Discussion occurs in sharing students' ideas with each other

Deepening children's knowledge

Field trips

Interaction with experts

Visual preference surveys or interactive slide shows

New content and exemplary designs

Discussion comes from sharing reactions to new places and discussing positive or negative attributes of places

Synthesizing

Creating three dimensional representations of work

Discussion comes from making decisions about the model (selecting materials, locating features, setting priorities)

Sharing ideas with community members and city leaders

Integrating ideas into final plans and designs

Figure 12. A general framework for meaningful engagement. In the Synthesis phase, dialogue and incorporation of children's ideas into the planning process deepens children's knowledge and further establishes them as experts.

The second stage involves a deepening of children's knowledge about the topic being planned. This can be accomplished through field trips to a site, interaction with local experts on a subject, and interactive presentations or visual preference surveys that provide relevant examples. In the case of the Civic Area, these were examples of great public spaces and parks that flood. This stage allows students to deepen their understandings, to visualize design concepts, and to identify ideas that mirror their own thinking or values.

Finally, students integrate their own values and knowledge into their models and design recommendations. In this final stage, students learn to negotiate priorities, discuss ways to make different ideas more cohesive, and share their ideas with others. Sharing is an important form of validation and learning, particularly with people who have decision-making authority. Brandt et al. (2013: 148) suggest that it is through this process of working together and sharing ideas that "something new is formed, drawing from but distinctively different from the everyday practices the participants come from."

Frameworks such as that in Figure 12 should be read not as a proscriptive process but a guide for thinking about goals for engagement. The length of time spent in any one stage might vary by project, or students might cycle through phases more than once. Brandt et al. (2013: 147) suggest that the exact application of tools and techniques is less important than a "sensitivity to the coherence of making, telling and enacting in design participation. [Attention to these actions] provides sufficient grounding for designers (and non-designers) to make the tools and techniques relevant for whatever participatory action they are involved in."

The effectiveness of participatory planning is often evaluated based on physical outcomes, and these outcomes are an important part of the process. Yet the reality of many planning projects is that the timing of implementation often far exceeds children's participation. This makes dialogue with city leaders and staff even more important. When adults in decision-making capacities take young people's ideas seriously, explain how the process and timing works, and what they heard youth say, this helps children understand civic processes. When possible, GUB does go back to each group, sometimes months later, to say, "here is the plan, did we get your ideas right?" In the case of the Civic Area, these events unfolded just before the end of the same academic year in which outreach began. A senior parks planner visited the schools and shared plans and designs. He began with "this is what we heard you say," and then as he presented design images, he explained how they had integrated specific design ideas from the children. In this closer-to-final stage of the planning process, students also had one more opportunity to provide feedback and vote on preferences about specific elements, such as bridge designs, and to ask questions or express concerns about design details. The teachers and students were excited about this process: "The kids loved seeing their ideas and getting a chance to vote to see how they might impact decisions for the Civic Area design!" Children were particularly excited that construction would start within the year following their participation.

Not all planning projects produce tangible or short-term outcomes. Fortunately, these tangible outcomes are not all that matter to young people. They also value and benefit from many less tangible outcomes, particularly the opportunity to discuss ideas with peers and to be heard or to consider new life pathways (Chawla, 2009; Nicotera, 2014). This dialogue is important not only with adult decision-makers, but also with each other (Hart, 2014; Derr & Kovács, forthcoming).

The Civic Area Redesign process demonstrates the importance of a thoughtful process and creative methods to facilitate effective communication and meaningful participation. Methods such as

photography, art, and model-making facilitate children's creative expression of their ideas and values. A process that establishes young people as experts, deepens their knowledge, and provides opportunities to share ideas with adults provides a meaningful context for participation. The methods employed in the Civic Area process provided opportunities both for peer-to-peer and adult-to-child dialogue. Meaningful participation includes discussing why certain ideas might work, or discussing reasons why other options might also be preferred or selected. When planners and decision-makers hear children's views, ask clarifying questions, and respond in a respectful manner, children develop their capacity to engage in citizenship. Young citizens enjoy the process for its tangible outcomes, such as shaping a great public space, but also for being heard and valued. In this way, children's rights to participation are enacted, through creative methods and the authentic communication they facilitate.

Acknowledgements

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