Article

Dreaming Outside the Boxes that Hold Me In: Speculation and Design Thinking as Tools for Hope and Liberation against Oppression

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Abstract

This paper explores the use of speculation and design thinking as a tool for empowerment in three case studies. In the first study, children in Trinidad used speculation to develop solutions for problems that they had identified within their community. In the second study, responding to the destruction unleashed by Hurricane Maria in 2017, Puerto Rican students dreamed about Puerto Rico in 2054. In the third study, Black youth of Oakland dreamed about superpowers they would create with emerging technology to solve global problems. All three studies were grounded in principles of Critical Utopian Design Thinking, a method that combines critical pedagogy, design thinking, and Critical Utopian Action Research.

Introduction

According to the late Toni Morrison (Farnsworth, 1998), all utopias are described by the people who are not allowed in. This paper focuses on utopia, science fiction, and speculation with design by people who may be excluded from the mainstream. In this paper, I share three case studies in design education that focus on dreaming, speculation, and utopia. The classes were all created for black and brown youth who live in rural Trinidad, Puerto Rico and Oakland California. They are people who might typically be left out of mainstream design education due to their identities as economically disadvantaged people of color living outside of the centers of design in Europe and North America.

Speculative design and future-focused methods often do not present diverse futures, failing to depict the futures of underrepresent minorities such as people of color, women, queer people and people who are disabled. These three examples, however, use Critical Utopian Design Thinking, a culturally relevant form of design thinking that based on Critical Utopian Action Research (CUAR), an action-oriented future studies method infused with elements of Afro, Latinx, and Caribbean-futurisms. These examples demonstrate inclusive, emancipatory, and liberatory approaches to future methods and how these can be used in building an awareness of oppressive forces, a sense of agency, and conscientization. The approach described in this paper can be classified as a critical design method, building on concepts introduced by Dunne and Raby (2001, 2013), and Malpass (2017).

Positionality

Positionality refers to how our social identities impact the ways in which we interpret the world (Positionality and Intersectionality, n.d.). My own positionality influences the way I have designed the classes, created the studies, interacted with the participants, and how I tell the stories. I am a Black woman from Trinidad and Tobago in the Caribbean. I grew up in the 1970s and 1980s in a politically aware, Black middle-class family, with progressive

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parents who were conscious of providing examples of balanced gender roles for their three children.

I lived in Brazil for six years during my undergraduate studies in Industrial Design. This experience continued to fuel my interest in activism and social justice. I am the parent of a Black boy who was the same age as the children in the study in Trinidad. His interest in making, in superheroes, and my own fears for him as a Black boy pushed me to create a futures-focused, design-centric curriculum that fostered student agency and engagement.

Literature review

This paper's approach lies within the fields of critical and speculative design. Critical and speculative design have been around since the late 1990s. Critical design was first coined by Dunne and Raby in 1999 (Torkildsby, 2018), as an opposite to affirmative design, which describes the majority of design and confirms the status quo, upholding social, political, and economic norms (Dunne & Raby, 2001).

The role of critical design is to provide a critique of a current context and to promote reflection and debate through designs that present alternative values (Torkildsby, 2018). For Malpass (2017), critical design practice moves the focus away from the object to the process. Critical design seeks to explore rather than explain, and it exposes assumptions and provokes debate (Bardzell & Bardzell, 2013). It has been used to examine social, political, economic, and environmental issues in society (Torkildsby, 2018).

Speculative design also seeks to critique and provoke discussions but has an explicit focus on the future and what it could be. Disalvo and Lukens (2009) describe speculative design as a future-oriented approach that emphasizes exploration and experimentation over function. They posit that the absence of the grounding in technical production constraints or market requirements creates the conditions for greater exploration of alternative possibilities.

The publication of new texts on critical and speculative design by Dunne & Raby (2013) and Malpass (2017) has led to a re-emergence of critical and speculative design since the Italian Radical Design movement of the 1970s, or the earlier work of Dunne and Raby in the 1990s. In addition, the launch of the design programs with an explicit focus on reframing the present and future, such as the Transition Design program at Carnegie Mellon (Irwin, 2018), has also contributed to a renewed interest in speculative design. Finally, the technological environment of the last fifteen years, from the burst of the dot com bubble to the surge in new consumer technologies, has required deep conceptual and philosophical reflection on the potential impact of these technologies (Xiao, 2020).

Speculation and futures are popular fields. Design and futurism have been combined often, with Stuart Candy remarking on the positive combination of the two, saying, "You bring the kind of top-down of futures together with the bottom-up of design and they meet in the middle in this glorious way. Each one contains something in its DNA that the other has historically lacked" (Solomon, 2019).

Critical Utopian Action Research (CUAR) is an action research method which intentionally creates space for critique of the society by participants based on their utopian ideals. The method has its origins in organizational development and has been applied in a wide range of fields including sustainable development, education, and labor (Tofteng & Bladt, 2020). Core to the CUAR method is the use of future workshops with stakeholders. In these workshops, stakeholders jointly critique a topic or issue of focus, then brainstorm on a utopian desired state, and finally develop proposals for change (Nutti, 2016). This method of co-creating or envisioning alternative futures is attributed to Robert Jungk (Dator, 1993).

Williams categorizes utopian fictions into four categories: (a) the paradise, a happy place that exists elsewhere; (b) a world that has been altered by external forces; (c) a world that has been transformed by human intervention; and (d) a world that has been changed by technological advancement (Williams, 1978). These four categories provide different lenses for framing utopia when using CUAR. In addition to being an action-oriented futures method, CUAR can also be an emancipatory research method when used with people experiencing oppression as it can facilitate a deeper understanding of the world leading to a change in current realities that are elemental to emancipatory knowledge (ten Dam & Volman, 1994).

Critical and speculative approaches to design have been criticized for focusing on White, male perspectives (Jakobsone, 2017). Portrayals of the future can often lack racial diversity and fail to present the futures of people of color. The genre generally focuses on male worlds, created by white, male authors (Salvaggio, 1984). Some science fiction actually replicates the oppression and discrimination of today (Lustila, 2011). According to author, illustrator and professor, John Jennings, the future of Black people in America is supposed to be tied to the slave ship, the

plantation, and the grave. Wakanda in the film, Black Panther, creates an alternative future of an uncolonized, unconquered African nation (Reese, 2018). New genres of science fiction, such as Afrofuturism (Dery, 1994; Womack, 2013,) Black speculative fiction (Burnett, 2015), radical science fiction (Imarisha & brown, 2015), and visionary fiction (Imarisha, 2016), among others, have emerged to challenge non-diverse futures in science fiction and to tackle social justice themes (such as racism, sexism, and other oppressions), and to offer collective visioning of new worlds and futures.

Afrofuturism is a way of looking at the future and alternate realities through a Black cultural lens (Womack, 2013). Womack views the genre as a method of self-liberation and an agential way of imagining oneself in the future from which one is generally excluded. It can be viewed as a tool for people who are wrestling with hopelessness or things that limit them, creating opportunities for them to use imagination to transform their circumstances (Jackson, 2014). On the combination of Afrofuturism and design, Winchester states that Afrofuturism could be used as a pathway to human-centered design and argues that it offers a framing that allows the human-centered designer to more fully explore both environment and context, thus imagining more empathic, inclusive, and impactful design solutions (Winchester III, 2018).

One of the aims of this work is to create an anti-oppression design pedagogy grounded in hope and building a critical awareness that can lead to liberation. It can be overwhelming to learn to see oppression, often leading to a state of paralysis (Kumashiro, 2000) or feelings of powerlessness (Akamatsu, 2000). Creating a space to dream about the future, helps individuals with historically oppressed identities to visualize and change their stories (Liu, 2017). In light of this, the concept of utopia and the introduction of elements of science fiction and futures strategies are meant to add hope to a process that would sustain the participants and help move them to action. Hope because:

> Hope sustains us when we encounter seemingly insurmountable problems or when the amount of time needed to work through a particularly challenging issue grows longer and longer. Hope provides us with a sense that all the time, effort, and work will benefit us in the long run, even if only in a small way. (Brookfield & Preskill, 2005 p.16)

The work of bell hooks and Paulo Freire is also grounded in hope. Citing Freire, hooks (2019) noted that a vision for tomorrow is not possible without hope and that these visions should be born out of the circumstances that people are seeking to change.

Liberation, according to Freire (1970), is a process of action and reflection on the world. While one does not achieve liberation alone, the awareness of both one's oppression and one's individual and collective agency in transforming the world negates the power of the oppressor. A critical approach to design thinking could provide space for both reflection on the world through critical questioning as the issues are discussed and framed, as well as action that could lead to liberation and transformation through design.

The combination of these theoretical concepts: design principles and pedagogy, critical pedagogy, Critical Utopian Action Research, critical and speculative design and Afrofuturism led to Critical Utopian Design Thinking, the approach used in the three studies and depicted in Figure 1 below.
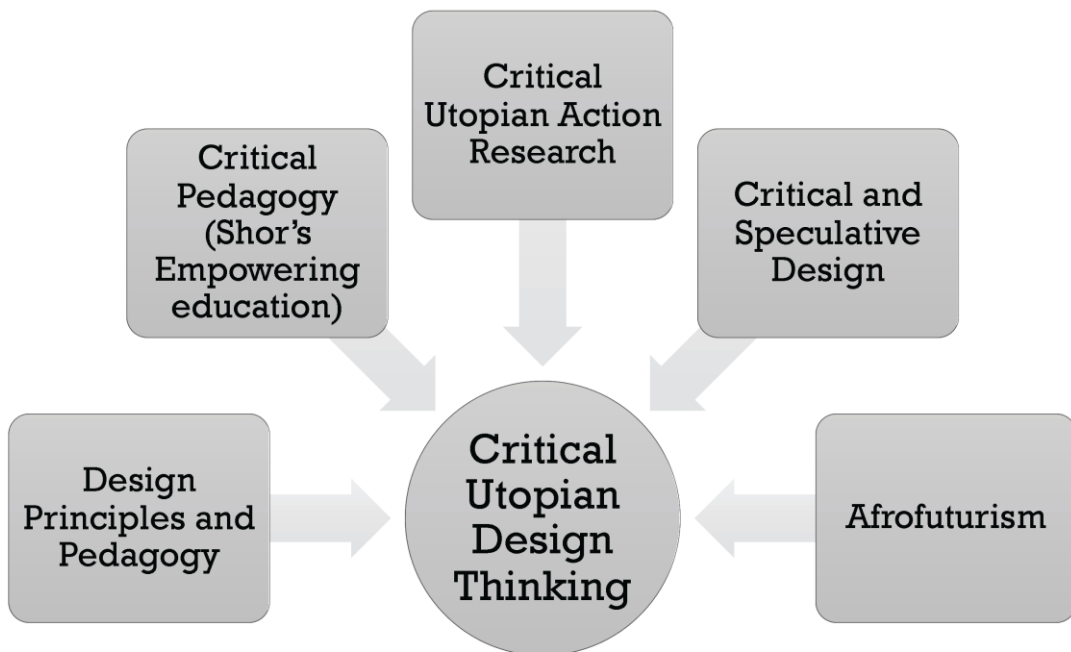
Fig. 1: A graphic organizer depicting the theoretical inputs for the approach, Critical Utopian Design Thinking, that was created for the studies.

Methodology

The three cases presented in this paper use Critical Utopian Design Thinking, an educational framework that combines design pedagogy, Critical Utopian Action research, and critical pedagogy philosophies grounded in Shor's principles of empowering education (which builds on the work of Paulo Freire). Ira Shor (1992) developed an agenda for empowering education that encouraged students to become thinking citizens, change agents, and social critics. In this framework, education was participatory, affective, problem-posing, situated, multi-cultural, dialogic, desocializing, democratic, researching, interdisciplinary, and activist (Shor, 1992). According to Shor, a passive curriculum, based on rote learning and memorization, not only bored students but made the school an undemocratic institution. Like Freire, Shor proposed student-centered empowering education, situated in the students' contexts and cultures.

The CUAR framework connects critiques with utopian ideas and actions. Local stakeholders, including students, focused on critical questions, such as (i) *What's wrong?*, and (ii) questions that lead to utopian actions, such as *Where would we like to go?* and (iii) *How can our dreams become a reality?* (Husted & Tofteng, 2015; Nutti, 2016). This approach guided the discussions for the young people in the three cases described below. The young people then identified issues they were interested in addressing and proposed ways in which these could be addressed through design. This methodology was selected *because* it creates an opportunity for the critique of life circumstances, for dreaming of a utopian solution, and finally action through design. Design thinking techniques were used in all three studies. The approach, called Critical Utopian Design Thinking, combines design, futures, and empowerment to support students' capacity to envision alternative futures for themselves and their worlds.

The cases draw on the world-building capabilities of science fiction to help support participants envision futures as alternatives to presents in which they are excluded and to encourage participants to be bold in their demands for change.

Case One: "Do You Want to Make These Children Angry?" in Moruga, Trinidad

The first study was a three-week design class in the deep south of Trinidad, in a remote village called Moruga, about three hours away from the capital, Port of Spain.

The principal at the school, an artist, was open to implementing a design-based curriculum in a summer camp-type experience. The curriculum was about design, understanding the world around them, critiquing the world around them, and finally proposing something new as designers.

Though the principal had embraced the idea of the camp, the school board had to grant permission to conduct the study. After listening to the description of the course, the school board representative seemed very skeptical about a curriculum where children would critique their school and village before making designs around their utopian ideals. The board member asked, *Do you want to make these children angry?* The board member was not wrong. I did, in fact, want the children to ask questions about what was and what wasn't good enough for them, and this could be interpreted as wanting to make them dissatisfied or angry. I wanted them to see that even though they were children from a rural school and were expected to just take what they could get, they could have more.

Participants

Eighteen children took part in a three-week design thinking camp during the 2017 summer vacation in Moruga. The group was composed of eight girls and ten boys. The children were primarily recruited from students of the incoming fourth-grade class at a public primary school. All but two of the participating children were fourth-grade students at the school. The two other students joined the group due to familial relations with the principal or with a teacher. The anticipated age of most participants was 9–10 years old. This age group was selected for the study since most upper elementary children master the language and are proficient communicators, which would facilitate the feedback process (Finnan, 2009). The actual age range of the children was wider than anticipated, ranging from 8–13.

Curriculum

The children were given a different design problem activity for each of the three weeks of the program. The level of complexity of the problems was compatible with the age of the children. The scope of the problem grew each week.

The arc of the program was based on the CUAR method. First, students asked what was wrong. Then, they embarked on utopian dreaming about where they wanted to go. Finally, they created a design to help them get where they wanted to go. The classes followed a similar cycle each week. Students:

1. had a critical discussion about the problem space;
2. agreed on the design process they were going to use;
3. identified the design challenge and framed the problem;
4. developed a persona for whom they would develop the design
5. brainstormed about possible design solutions
6. selected one of their design solutions for prototyping (first week only) or for adding details to the selected idea.
7. prepared for a presentation, presented their work, and got feedback from colleagues.
8. reflected on the activities of each day in their journals.

Week 1

In the first week, the design activity centered around a discussion about their rights as guaranteed by the UN Declaration of Human Rights. They then reflected on the rights they were most interested in securing and then designed a toy to help them have more access to that right. The first week many of them designed dolls and robots to help them have greater access to their rights as children.

Week 2

In the second week, the students had the freedom to critique their school, identifying problems that needed to be addressed. They then dreamed about their utopian ideal to respond to these problems. Finally, they created design responses to respond to their utopian ideas for improving the school.

In the critique of the school, the mango trees kept coming up in the discussion. The schoolyard was full of mango trees, but the children could not pick them because it was against the rules to climb trees and the mango trees were too high. In the children's utopian ideal school, the mangoes would be more accessible. Several of the children designed mango pickers as a response to the problem that they had identified.

Week 3

In the third week, in small groups, they interviewed adults in their community to understand their concerns and dreams for the village. They then designed an object in response to the concerns that they had heard.

They imagined future objects to make life better for people in their village. Their design solutions included party buses to bring more people to their village; robots to help mothers in the kitchen; remote controlled swings for parents and children to spend time together at the park; and apps to bring people together around church or food.

Participant reflections

At the end of the third week, one of the older children, who said the week before that adults hadn't listened to him since he was a child, talked about how the third project made him feel powerful when they interviewed adults to understand issues in the community.

The children also noted that in "regular school" they were not given options or choices; however, using this design-based approach that centered their experiences, they had more control of their learning. One child found it was harder to think of design ideas saying, "in school, they just give you ideas and then that just makes everything easier." Finally, another child noted that through the continuous discussion and feedback with his colleagues, he felt that individuals lost "ownership" of design, but that he saw this as positive result, noting that in regular school, others can laugh when you present your work, but in the more collaborative setting of the design studio, others cannot laugh, since they were all part of the process.

Case Two: Solar Smartphones and Medical Cyborgs in Puerto Rico

In the aftermath of Hurricane Maria in 2017, students and their professor, my close friend, Dr. Maria de Mater O'Neill, were expected to return to class at a university in Puerto Rico about two weeks after the catastrophic event. The rationale for returning to school after the crisis was clear; it would help students re-establish normal routines after the disaster. The return to classes after the hurricane meant that both the programs and the content had to be restructured. Student attrition was one consequence of the disaster. Due to this attrition three design courses, Ethics, Law and Design, and Management and Design, were merged after the hurricane to continue the remaining eight weeks of the semester. The return to school also required a different type of curriculum content where students could grieve and create new dreams for the future. The new curriculum was adapted from the previous example of a design curriculum for children in Trinidad and Tobago and was again based on Critical Utopian Design Thinking. The revised curriculum aimed to create a space for reflection and grief for the loss created by Hurricane Maria, and to create space for dreaming about a new future. The revised curriculum was implemented over the remaining eight weeks of the semester, and the students met with their professor, Dr. O'Neill, once a week for three hours.

Participants

The eleven students in the class were intelligent, eager, and curious about the world. They were all in their early twenties. Some, like Ana, had only just visited the capital San Juan for the first time. All but one was from rural Eastern Puerto Rico. Most, like Tonio, were dark-skinned and lower middle class. Some of them had low-paying jobs. Education was their only chance to get ahead. They knew they needed access to better opportunities. They knew they lived in isolated communities and felt even more isolated with the lack of internet access after the hurricane. Some students had lost their laptops, while one, Luis, had lost his house. Many students and their parents

had lost their jobs. One student, Sami, started the course but went to the mainland during the semester and could not return to Puerto Rico due to flight restrictions.

Curriculum

The aim of the revised "Post-María" curriculum was to provide a platform for students to share and build on the experience of the crises of Hurricane María, to grieve the loss of their homes and the displacement of so many people and loved ones, and to create a forum for hope and action in the design studio. The desired outcomes for this course were: a) cathartic discussions and reflections by students, and b) a design activity where students developed and proposed solutions to some of the challenges that they had identified, using design theory and theoretical concepts such as critical utopian action research and design fiction.

The project was called "PR 2054." This was a reference to *Minority Report*, a 2002 film by Stephen Spielberg that starred Tom Cruise and was set in 2054. Bleecker (2009) referred to this film as an example of design fiction and how people could use stories to develop design ideas for the future. In this project, the instructor gave the students the challenge of developing future utopian or dystopian scenarios of Puerto Rico in 2054 and to develop solutions for problems they identified through critical discussions and reflections.

The course outline was divided into four parts as follows:

- Understanding what happened
- Thinking about utopia
- Making in times of catharsis
- Reflection and critique

Understanding what happened

In this section of the curriculum, students reflected critically on the crisis they experienced because of Hurricane Maria. They shared their experiences through storytelling, journal reflections, and both group and individual analysis of the past, present, and future of Puerto Rico.

The activities in this part of the course included discussions, reflections, journaling, drawings, mental models, prototyping, and interviews. Discussing the "catastrophic event" would help students "cope" through an emotional experience and process their individual and collective grief. They would also have the opportunity to discuss positive outcomes, humorous anecdotes, and stories of resilience.

The questions that guided this activity were:

- What has changed?
- Where are the struggles or challenges people face now, after the event?

At the end of this one-week phase on understanding what had happened, students would focus on one problem they would work on for the rest of the study.

Thinking about utopia

The second phase of the project entailed imagining a new future for Puerto Rico in 2054. Students could use themes such as humor, optimism, utopia, pessimism, and dystopia to guide their discussions. The activities in this phase included brainstorming and developing design proposals and rapid prototypes as a response to their discussions and reflections on present-day problems. The proposals could have been fantastical and did not have to be grounded in reality or the present possibilities of technology and existing resources. The activity of proposing solutions put students "in control" of the situation and positioned them in an active role that could lead to change. Students also documented their feelings about proposing solutions that lead to action and change.

The guiding scenario for this phase was: *We can change everything after this disaster. What new solutions can we propose? What would the solution to the problem look like in Puerto Rico 2054?*

The desired outcomes of this phase were the design proposals of the students.

Making in times of catharsis

In this third phase of the course, the students made functional prototypes both individually and collaboratively. Students completed the final mock-ups of their solution using found objects. Students got feedback from their peers on the solutions. Students were required to be reflexive throughout the design process. They used journals to document their thoughts. They also participated in group discussions and conducted small user tests with their usable prototypes with individuals of their chosen community.

Student solutions

Students created future-focused concepts to start the brainstorming process. They chose utopian or dystopian futures. All but one future scenario described a Puerto Rico with a better future and prepared for natural disasters. Students had only three hours to build prototypes with found materials. The focus on the future created a light and engaging environment for brainstorming. Figure 2, below, presents three students' conceptual proposals.
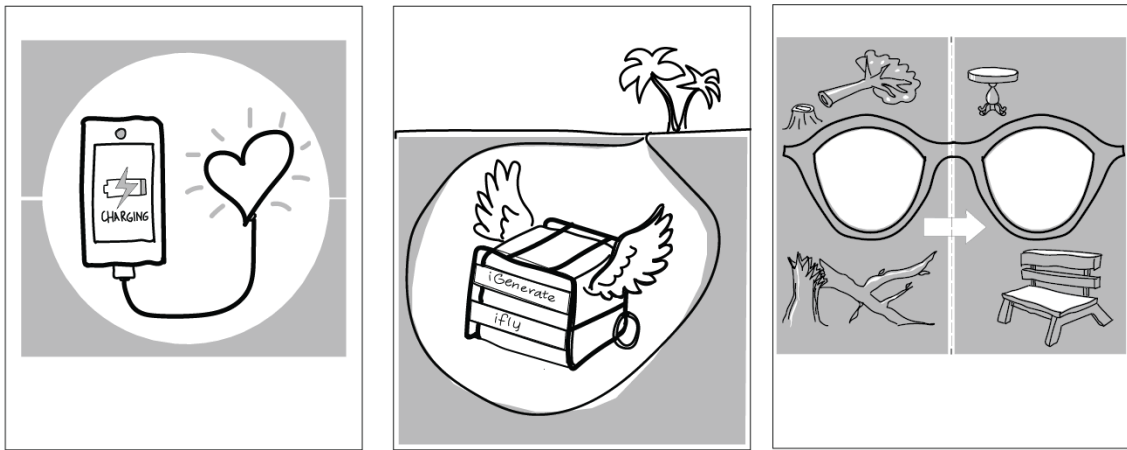
Fig. 2: Illustrations of three of the students' 2054 conceptual proposals. From left to right: a smartphone charged by human connection; a flying power generator; and glasses that change perspective and encourage people to see what can be done with debris.

Here is a complete list of the 2054 proposals:

- Flying Power Generator. This generator would be located underground. In a time of disaster, it would fly out wherever it is needed.
- Change of Perspectives Glasses. With these glasses, the user would look at fallen trees and debris and get a different perspective so they can see other possibilities for use.
- Solar Smartphone. This phone would be energized by human connection and emotions. Communication is important in order to be emotionally energized.
- Medical Cyborg. This would provide satellite-based medical monitoring for patients who were trapped in their communities. Patients would have nanotechnology chips inserted before the disasters.
- Smart Bridges. These bridges, made of recycled materials, would sense water rising and would lift above the water, notifying the community of the imminent flooding.
- Solar Refrigerators. The fridges would come with comfort food and work on solar-powered batteries.
- Portable Laser Cutter. A solar power tool to cut trees and other materials. This tool would be available for people to do odd jobs in the community.
- T2TP (Plastic Trump Transporter). This time-traveling machine can scan plastic and artificial items. It would locate President Trump in 2017 and transport him and plastic waste to the future as ethanol where this power could be used in future disasters.

After developing the future-focused concepts, the students focused on developing usable prototypes. These prototypes could differ from the conceptual ideas which they presented in the third phase. Of eleven students, seven

were able to finish their prototypes, do the user test, and present the results to a guest reviewer, a member of the Puerto Rican professional design community who provided feedback on their projects.

Here are some of the final student solutions:

- A hanging sign that users can place on their front door would let other community members know what they needed after a disaster, such as medicines, gasoline, diesel or batteries, and water.
- A set of card games to strengthen social relationships, logistics skills, and self-reflection.
- A folding poster for families with a list of hurricane preparedness tasks.
- A toolkit with a puzzle and simple daily tasks for self-motivation after a catastrophic event.
- A model-making toolkit to help users imagine new possibilities for fallen trees, since there was much debris generated after the hurricane.

Case Three: Not Solutions, But Problem Statements in Oakland, California

The third study took place in Oakland, California. The challenge was to introduce Black youth in Oakland to design thinking and technology in a 15–30 minutes workshop, at a large event that was hosted by the Hidden Genius Project, an organization that trains and mentors Black male youth in technology creation, entrepreneurship, and leadership skills to transform their lives and communities. The session was also underpinned by Critical Utopian Design Thinking, and would be one event in a full day of activity that the youth would participate in. This example demonstrates how superhero imagery can be added to the CUDT process. Three groups of about 15 boys each were asked to imagine how they could use emerging technology and superhero powers to solve problems that affected them. They brainstormed together and had to share their responses by the end of the thirty-minute workshop.

Participants
Approximately 45 teenaged boys took place in this interactive session. The workshop was part of a larger event that aimed to expose youth to many different careers and ways of thinking. Design thinking was one of the experiences.

Curriculum
As the youth arrived at the station, they were welcomed with music that had been suggested by an older teen, who played the role of co-facilitator throughout the day. There was a brief discussion about emerging technology at the start. A conversation about the *Black Panther* movie was used as an ice breaker to get the boys thinking about superpowers. Music and dance were used throughout the session, where everyone break-danced and vogued to the *Jeopardy* theme song while they brainstormed. The participants laughed throughout, and the humorous mood made it a relaxed atmosphere for discussing complex social problems and thinking about solving them in just thirty minutes.

The super-short session did not end with the development of solutions. The open-ended nature of the activities allowed the boys to bring their expertise and propose generative topics to the session. They did not have to wait for anyone to "deposit" knowledge into their heads.

Activity 1
In the first timed 5-minute segment, the youth had to brainstorm about problems they dreamed of solving.

Activity 2
In the second timed activity, they brainstormed about superpowers they wished they had. Some of the youth were able to connect the superpowers with the problems that they were interested in solving, but most did not and were just excited that they had space to talk about their love of superheroes and comics legitimately.

Activity 3
In the third 5-minute activity, they brainstormed about new technology. This segment was guided by some older

teens who had been introduced to new technologies before the session. The older teens helped "unstick" the discussion if nobody could think of new technology. There were also posters with the technology trends of 2018 in the space, and another group of children was learning to use VR next to us.

Activity 4
In the last activity, they created a fun Madlib, or fill-in-the-blanks, from the words they had collected as a group at each of the earlier phases. The aim here was to de-mystify making technology and to make it part of their ordinary lives, helping them see how technology could be adapted (by them) to focus on the problems that they were interested in solving. They could choose the problem and how to work on the solution. They became creators of conceptual technology. They were problem-solvers, and could take on big challenges, despite whatever messages about their own brilliance and capabilities they might have received elsewhere.

Participants' interest
This workshop was about sparking an interest in design, science, and technology. In the short time, participants did not create solutions; they created problem statements that expressed what they would like to explore and what technology they would use to help create a superpower to tackle the problem.

Problems that affected the community were apparent in the areas of concern for the boys. Several of them identified issues like violence, poverty, homelessness, systemic oppression, war, racism, healthcare. Some got more specific about their community, Oakland, and identified problems like generating more customers for small businesses and reducing gang activity in the community. Some of the issues they wanted to solve were funny. One boy wrote "tomatoes!" as his big problem. When asked why with tomatoes, he said "Well, they are icky!" These humorous moments helped lighten the tone and helped the instructors to get an insight into what was important to the boys.

Some other areas of interest included toxic farts, matter manipulation, wormhole exploiting, walking through people, and Blue Lantern's power of hope. The boys thought that teleportation was cool. They liked the idea of slowing down time and shooting money out of their hands and feet. They co-created a long list of superpowers that they would like to explore and wanted to see what science existed to help them achieve these superpowers.

Discussion and Conclusion

In some educational situations and in the teacher-centered classroom, middle-class students with greater and wider levels of exposure are more likely to contribute to discussion than students with less exposure and access to learning resources. Students from oppressed communities can often feel intimidated to participate in school by curricula in which they do not see themselves reflected. A composition topic, such as "A Day at the Seaside," is a typical example of an examination question with a social bias (Chapman & Snyder, 2000).

However, the three examples illustrated above demonstrate how Critical Utopian Design Thinking, an approach that combines Critical Utopian Action Research with design pedagogy can be used to address local problems. The emancipatory nature of the class meant that the power did not only lie with the facilitator or instructor, since participants drove the content by declaring their interests and concerns. The activities in the examples were situated in contexts that all participants knew: such as themselves, their school, and their community in the example from Trinidad; the destruction and aftermath of a hurricane in the example in Puerto Rico; and, finally, in using science to create superpowers to solve oppression and other major issues, as in Oakland. These approaches allowed the participants to bring their own expertise and lived experience to the discussions, and to situate the design activities within their cultural experiences.

These approaches could also lead to greater civic engagement later. Arnstein (1969) stated that alternative techniques are needed to increase citizen participation and move citizens further up the ladder of citizen participation. These examples demonstrate how creating engaging activities where people can dream about utopian futures and then propose solutions through design could be a strategy for increasing citizen participation later in life. While utopian thinking sometimes has a negative connotation as escapist and unrealistic, excessive realism can also be unimaginative and limiting (Booth, 1991). A focus on utopia opens up the frame for people to dream and

imagine without the constraints of the current times, which happened as the students in Puerto Rico dreamed about their country in 2054. People from underrepresented minorities and oppressed groups, such as Black and Indigenous people, women, and LGBTQ+ communities need imaginative frames from which to imagine futures where they are not oppressed and constrained in the ways they are in the present. Part of the act of liberation is in fact recognizing that one's oppression is not a perpetual state and transformation is possible.

Centering these design projects on the lived experiences and expertise of the participants allows the students to demonstrate in observable terms what they know and to actively develop proposals and solutions to problems of significant interest to them. This creates a more meaningful and empowering educational experience that could lead to greater interest in change, transformation and civic participation in the future. This methodology is useful because it gives oppressed people space to dream where they might otherwise not have been able to, e.g. because they were focused on the day, because they have to hustle, or because they have to battle with other people's impression of them. In this methodology, they have space to be critical of their circumstances. However, the methodology does not stop there. In Critical Utopian Action Research, participants have the opportunity to dream of the desired state and to create action to get there.

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