

Launching the Satellites Within:

A Paper on How Design Thinking can Empower the Youth to Accelerate Space and Peace

Affairs in Vulnerable Communities

Written by:

Arthur Nielsen C. Demain

Peacebuilder and Educator

Madaris Volunteer Program

The Philippines

ABSTRACT

This paper examines the role of the design thinking approach in promoting long-term peace through space and peace affairs education among the youth in Datu Piang, Maguindanao and in other vulnerable communities in the Philippines. In an attempt to strengthen the promotion of peacebuilding through education in Datu Piang, I piloted the design thinking methodology in my host school's Science classes last March 2019 to engage the students in designing peacebuilding initiatives that were both human-centered and sustainable.

One such initiative was the collective participation of the students to propose design developments to Diwata-1, the Philippines' first microsatellite, so that it could be used to track armed rebels and prevent instances of human trafficking for exploitative labor, two issues that persist to threaten our country's quest for long-term peace. Given the level of interest and engagement that this activity generated among the students, this paper explores two scalable strategies on how to incorporate design thinking in the school's peacebuilding curriculum so that more space and peace youth ambassadors from the community will be engaged in our country's efforts to achieve Sustainable Development Goal 16: Peace, Justice, and Strong Institutions

I. BACKGROUND

Datu Piang is a remote community in Maguindanao, a province within the Bangsamoro region of the Philippines that has endured over four decades of armed violence (Sarmiento 2019). Official data of the Department of Social Welfare and Development show that more than 45,000 individuals have been displaced due to conflicts across the Bangsamoro autonomous region (Philippine Information Agency 2019) as the Philippine government continues its fight against locally recruited members of ISIS and other armed rebels. Among the displaced are young students who are living in tent communities, most of which have spent their formative years in an unstable environment that is rife with poverty, chaos, and threats of religious fundamentalist recruitment and extremism.

In response to the growing need of peacebuilders and educators in this region, I was deployed to Datu Piang to work as a teacher to Grades 7-9 students at a small Islamic school. My main responsibility was to promote peacebuilding through education by assisting in the elevation of literacy outcomes and in the introduction of collaborative initiatives inside and outside of the classroom. My year-long immersion in the community showed me that in addition to the school's lack of access to quality educational materials and well-trained teachers, the youth of Datu Piang were disengaged from community building and had almost little to no interest in Science.

These challenges allowed me to introduce collaborative and creative thinking techniques to my students with the intention of linking their newly acquired knowledge to addressing real-world problems. One topic that captured their attention was the launching of Diwata-1, the country's first microsatellite, to outer space three years ago. Given that Diwata-1 was built for scientific earth observation missions (de Jesus 2017), I challenged my students

to identify the main roadblocks in their community that persist to destabilize the peace process and to use their imagination to develop the features of Diwata-1 so that it could address those issues. Two problems that stood out during their research were the continued presence of armed rebels in the mountainous areas and the alarming incidence of human trafficking (U.S. Department of State 2018). Key findings that came out of these design thinking workshops revealed a heightened sense of awareness among my students on their capacity to make an impact on the peace process using science and technology, the human-centered quality of proposed Diwata-1 design adjustments that came out of their unlocked creativity, and their realization of the beauty of working on each other's proposed scientific designs. These findings underscore the power of design thinking in empowering the youth, particularly those who are living in vulnerable communities, to transform their role from armed conflict survivors to leaders as they initiate and implement peacebuilding initiatives.

II. DESIGN THINKING

Design thinking is a methodology for creative problem solving that can be taught to both students and educators as a framework for real-world projects (DSchool Stanford 2019). One key difference of design thinking from other problem-solving approaches is its primary focus on the process and not on the solution. Design thinking also advocates that all of us are designers, and that we are all capable of coming up with sustainable processes where human beings are at the center of our designing.

Here are two ideas on how design thinking can be best incorporated in the school activities of students who live in vulnerable communities to bridge space affairs and peacebuilding:

1. *Creation of ideation and prototyping hubs*

A key aspect of design thinking is the ideation process and the creation of prototypes of proposed designs. The good thing about prototyping is that it can be done even in the absence of technology, which is almost always the case in under-resourced communities that experienced armed conflict. Ordinary papers and other recyclable items found in our natural surroundings can be used in prototyping robot and satellite designs for example. Given that Diwata-1 is still on the verge of further development and that its monitoring features can possibly be tapped to assist in peacebuilding solutions, the students who experienced armed conflict themselves can be involved in the participatory process of microsatellite design by way of quarterly project-based learning through design thinking. These ideation and prototyping hubs can be established in each *madrasah* or Arabic school to provide a conducive space for students to create and test out their design prototypes using low-cost materials and facilitate feedback exchange and interfaith dialogue. These hubs will be facilitated by the school administrators and the regional representatives of the Department of Science and Technology.

2. *Provision of Space for Peace (SFP) activity kits*

The SFP activity kits will contain a tiered lesson-to-community project plan for students that will jumpstart their science-based space learning from the first quarter of their studies up until the actual demonstration or implementation of a community project using a designed space technology or STEM-powered design on the fourth and final quarter of the school year. These kits will showcase information about

space affairs, the developments of Philippine space initiatives, the processes of design thinking that must be accomplished per quarter, and the list of possible peacebuilding activities that can be implemented, such as *intermadrasah* competitions and anti-human trafficking drives, among others, during the culmination event. Most importantly, the educators and students who will possess these activity kits will be able to foster 21st century skills such as critical thinking and collaboration in applying their peacebuilding and space knowledge on addressing social injustices.

III. CONCLUSION

Design thinking is a non-intimidating approach to bring forth space affairs to the consciousness of the masses. It also plays a significant role in honing the critical thinking, creativity, and leadership of the youth, particularly those who are living in armed conflict environments, for they can be best mobilized to contribute to the long-term peace process. The goal of the abovementioned ideas is to not revolutionize the space technology sphere in the Philippines *per se*, but to mainly spark and launch every person's internal "satellite" towards the collective achievement of peace on the ground.

IV. BIBLIOGRAPHY

1. Bong S. Sarmiento 2019, MindaNews, accessed 5 May 2019,
<<https://www.mindanews.com/peace-process/2019/01/galvez-ratify-bangsamoro-law-for-a-brighter-mindanao/>>
2. Philippine Information Agency 2019, accessed 5 May 2019, < <https://pia.gov.ph/press-releases/releases/1020962>>
3. Faye de Jesus 2017, Flip Science, accessed 5 May 2019,
<<https://www.flipscience.ph/space/10-things-need-know-diwata-1-project/>>
4. U.S. Department of State 2018, accessed 5 May 2019,
< <https://www.state.gov/j/tip/rls/tiprpt/countries/2018/282731.htm>>
5. DSchool Stanford 2019, accessed 5 May 2019,
<<https://dschool.stanford.edu/resources/getting-started-with-design-thinking>>