

One World: Refugee Youths' Rightful Presence in STEM

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OVERVIEW: This study investigates how recently resettled refugee youth took up STEM-rich making experiences at an after-school community club in relation to negotiating their resettlement process and perturbing unjust power dynamics towards rightful presence.

AUDIENCE: Administrators (K-12); Informal educators; K-12 science teachers; Policymakers; Science education leaders; Teacher educators; STEM educators; Engineering educators

KEY POINTS

- Refugee youth are simultaneously negotiating learning (including STEM) and their resettlement process in their host nation, often in residential communities that are hyper-diverse.
- Refugee youth used STEM-rich making opportunities to create desired items that centered their community and their desires to be rightfully present.
- Through their STEM-rich making, refugee youth identified and began to address unjust power dynamics at work in their communities that were maintained through the presence and absence of particular objects/materials.
- Time was necessary in the STEM-rich making program in supporting refugee youth to define and configure community knowledge important to them which they then brought to bear on their making process.

INTRODUCTION Refugee youth suffer sustained disruption of formal schooling at various points during their flight from persecution to asylum-granting host countries. While schools are supposed to provide security and aid refugee youths' return to a sense of normalcy, they are rarely prepared to meet the particular needs of their refugee students. There is a lack of understanding about the processes of resettlement that might support or oppress refugees. How might STEM-rich making programs centered around community-driven science, support refugee youths' resettlement process? We seek to understand how recently resettled teenage refugee girls leveraged their participation in a weekly, STEM-rich, informal making program as integral to how they are negotiating their resettlement process in a hyper-diverse community where they live. We seek to understand how refugee youth make sense of the concept of "community" in such a setting, and how refugee youths' enactments of community driven STEM-rich making at, with and in this community.

FINDINGS In the process of exploring engaging in community-based STEM-rich making at their residential community center that serves recently-resettled refugee families (Willow Community), youth collectively identified oppressive practices and atmospheric walls that negatively impacted them as a condition for deciding what it is they wanted to make, and why. In other words, identifying their needs at Willow community gave direction to their STEM-rich making projects, including what they wanted to make, why, and for whom in the community. The youth engaged in counter-shaping the characteristics of the Willow community at the center though creating artifacts that they deemed beautiful, peaceful and youthful, that were missing at Willow. By using the

human and material resources of the STEM-rich making club to literally create these missing items to meet their neglected childhood and youth needs, the youth engaged in the process of "reterritorialization," the way in which displaced people and local people establish new or rather expand networks and cultural practices that define new spaces for daily life. Youth created youthful weekend purses, light-up soft toys and a big piece of electric art for the main room at Willow Center. Their reterritorialization toward rightful presence revealed the complex relationships between the physicality and sociality of their resettlement space. In the making of STEM-rich artifacts, the youth collectively disrupted refugee/host relationalities by materially claiming space for their presence as youth who deserve a full childhood, inclusive of play (light up soft toys) and recreation (weekend purses, electric art), in addition to learning and becoming naturalized citizens of the host country.

TAKEAWAYS Refugee youth, with the support of more powerful allies, engaged in sociopolitical struggles to reauthor their rights as participants in a STEM-rich making program and as youth who rely on the community center. Incubating epistemologies – that is, taking time to figure out what constitutes valid community knowledge and how they know it --is a making present practice specific to figuring out and forming "community" in a hyper-diverse context without shared historicity. This study suggests that understanding how refugee youth negotiate hidden oppressive forces inherent in their resettlement process in hyper-diverse communities, even in spaces of support such as community centers dedicated to refugee welfare, is timely and necessary.