BACKCASTING: VISIONING OUR WAY TO A SUSTAINABLE FUTURE

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As countries are experiencing self-isolation due to the COVID-19 novel coronavirus, many people have been thinking about what our world will look like post-pandemic. It is a human characteristic to imagine a desirable future, and we can use those visions to plan, make decisions, and take action. (Wiek & Iwaniec, 2013). The systems we rely on – economic, health, food, and education, to name a few – are all being reevaluated for resilience and equity. Recently some colleagues and I played a game that took us to the future. In the game, all of the players were part of the same school. The game envisioned what our school could be like in 2040. It involved thinking about our ideal school, what goals we have for the school and how we reached the goals by 2040. In our case, our vision was to be a sustainable school. We started with our overall vision and worked our way back to the present, where we identified steps we can take now to reach the vision. This is called **backcasting**.

Backcasting is a way of reaching a desirable future in which stakeholders work backwards to identify pathways to that future. It has been used as a method of planning by cities to engage the community in developing policy decisions. By looking to our future vision first (in our case, the sustainable school of 2040), we can identify actions to be taken now that connect the present with that future. Backcasting is becoming more common as a participatory means of envisioning a sustainable future. (Robinson, et al., 2011) During this global pandemic with the swift spread of COVID-19, considering what a sustainable future entails is more important – and hopeful – than ever. Rethinking our relationship with nature and how that impacts not just the health of the planet but our own physical and mental health as a human species is part of sustainability.

Backcasting is a process. The visionary end goal is not the purpose; it is the participatory engagement of working together to develop the policies and programs necessary to reach the end goal that is most valuable. (Robinson, et al., 2011) Researchers facilitate the process so that the participants can better impart their own values, experience, and needs as they formulate their pathway to the future.

In our case, we played a game designed by Dr. Erin Redman and adapted by me for our exercise. In addition to using games as a method of backcasting, models based on scientific data and information provided by experts can be used to create scenarios and visions from which participants can react and develop plans and first steps. (Robinson et al., 2011) In this way, the data can be presented to participants who may not be scientists in relevant ways that they can use to design their visionary goals and pathways to reach them. Examples include 3D models, illustrations, and scenario tools.

In our game, five teachers (four from the United States and one from Ukraine; three were high school teachers and two were middle school teachers) developed pathways toward a sustainable school future in 2040 that included the goals of being a zero-waste school with biodiverse school grounds, and that was engaged in local

solutions while preparing students to have a global mindset. The pathways included Building (as in the school building and grounds), Eating, Working, Curriculum, and Communication. For each pathway, the teachers collaborated on action steps that could be taken now to start working toward the 2040 Sustainable School. Along the way, they discovered synergies that occurred between action steps. For example, action steps categorized as Communication were found to be necessary in every other pathway's action steps. (See Table 1 for a complete list of goals, pathways and action steps; note the overlaps [synergies] between action steps.)

Once the action steps were completed, a Challenge was introduced to the game. This is an important aspect of the game and reflects reality, as it is seldom that our plans move forward without some sort of challenge or setback. In our case, the challenge was "Uncertainty about the Future." In their discussions about how to address this challenge, the teachers recognized that the Communication pathway was once again prominent. By adjusting their action steps, they were able to overcome the challenge and keep the pathways intact and moving toward the 2040 Sustainable School vision. The sharing of ideas and perspectives and the building of relationships were paramount in the success of the process.

Table 1. Goals, Pathways, and Action Steps

VISION: SUSTAINABLE SCHOOL OF 2040

Goal 1: A Clean Community and a Rich Environment

You are a zero-waste school that not only reduces waste produced but also beautifies the community through reducing litter. Your school grounds provide a biodiverse habitat, where plants and animals native to the region thrive.

Goal 2: An Engaged Community with a Global Mindset

You are engaged in local solutions while also preparing a globally competent student who can investigate the world, weigh perspectives, communicate effectively with diverse audiences, and take action.

Pathways	Action Steps
Building: aspects of the physical building and school grounds	Rethinking existing infrastructure Receiving a grant award to install solar panels and a greenhouse run by students
Eating: aspects of life related to food consumption at the school	Reforming procurement Zero-waste kitchen and purchasing
Working: aspects of life related to working at the school	Implementing a strategic planning initiative Students help with all school activities Composting Place-based lessons
Curriculum: aspects of classroom practices, school projects, and lesson plan development	Instituting new curriculum standards Training in technical skills Experiential lessons with some online learning
Communication: aspects of the school related to how teachers, students, staff, and the community communicate	Creating a Professional Learning Community structure Incubating innovation Developing a school-community partnership

	Engaging stakeholders Leveraging existing communication channels Leveraging partnerships

This game is a competition, where several groups would have their own goals, pathways, action steps, and challenges, and points would be assigned at the end for each successful action step and synergy that were identified as the groups considered how to reach the 2040 Sustainable School vision. (In our case, we only had one group as we were playing online due to the COVID-19 stay-at-home orders.) As a competitive game, it is an effective way to involve students in thinking about important issues that have a global impact, such as climate change, and bring to this issue a local context as they work together to develop action steps they can implement now. It is important for youth to be involved and develop agency in thinking about their futures, even if they have a shorter timeframe to which they look ahead than adults.

As we consider the future after the COVID-19 pandemic is over, it is not hard to anticipate a great need for mental health services. (Peltier & Minder, 2020) Illness, death, stay-at-home orders, immense changes in work and school routines, and unemployment have caused trauma and uncertainty about what the future holds. Changes in policy, such as expanding mental health services; remedies, such as spending more time outdoors; and methods, such as telehealth, will likely be needed. Backcasting could be an effective way for health professionals, educators, and policy makers to collaboratively develop a vision for addressing these areas and others to provide the support needed for our communities.

References:

1. Peltier, E., & Minder, R. (2020, April 18). In Spain, a call to ‘free our children’ from coronavirus confinement. *The New York Times*. https://www.nytimes.com/2020/04/18/world/europe/spain-children-lockdown-coronavirus.html
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