Problem Solving for the Future: Teaching Using Scenarios and Backcasting

Depictions of the future in popular media tend to focus on humanoid robots, space travel, and other new technologies, but "the future" encompasses much more than these developments. Thinking about the future includes all manner of time frames, from planning one's daily schedule to considering what could happen to our world tens of thousands of years from now.

All academic disciplines have a stake in the future, but college courses don't always incorporate an explicit focus on developing students' long- and short-term goals. When students don't properly develop these skills, it can be easy for them to fall into a "scarcity mindset" that's marked by fearful thinking about the future and the assumption that things will either stay the same or go downhill. It is important for students to have the opportunity to develop an "abundance mindset," which is a goal-based attitude focused on actively exploring strategies to achieve improvements to the status quo, rather than passively believing the future is out of our control. When instructors provide structured opportunities for students to reflect on their goals, students develop constructive hope for the future and better understand how course content is relevant to real life.

What Are Scenarios and Backcasting?

A scenario is a rich description of a potential future outcome. Because there are many possibilities for what our future could look like, an important step whenever we consider an issue or problem is to identify one or more outcomes that are preferred. For example, in my introductory sociology course, students read an article about the mechanization of work and write narrative descriptions set at the midpoint of the century in which they describe positive social and technological change. This enables students to move from knee-jerk, scarcity-based fears ("Is technology taking our jobs?") to discuss how institutions can respond positively to new technologies through educational opportunities in emerging fields, shorter average work weeks, social programs that provide greater access to resources like healthcare, and open-source technologies.

Scenarios can feed into a tool called backcasting to construct a more detailed plan and integrate course content into students' projects. Backcasting refers to defining a specific and measurable goal that originates from the scenario, then elaborating on the stakeholders (i.e., people, groups, and members of organizations) who have a role in achieving the goal, as well as the behaviors, policies, and decisions these stakeholders can engage in to bring about this goal. I share with students the following step-by-step template to guide them through this process in manageable chunks:

1. Determine a positive goal for the future and state the target date for completion.

2. List several stakeholders (i.e., people, groups, or members of organizations) who influence this issue.

3. Pick the one or two stakeholders from step two who you think are most relevant to this issue and work backward to determine what they need to do (or not do) or how they would need to change (or not change) in order for the occurrence you indicated in step one to happen.

4. Now think of the other stakeholders. How are they relevant to this issue? Work backward to determine what actions they should take to encourage the goal in step one.

5. Suggest actions stakeholders can take in the near future to achieve the goal in step one.

Sociologists tend to think about the big picture, but instructors in other disciplines can adapt this template to fit projects in their own fields. For example, instructors teaching automotive technologies might break down the last three steps into hourly, daily, or weekly tasks that contribute to completing a repair, and instructors in business fields might add specific quantitative metrics to the template to specify particular monthly sales goals. Instructors can require students to use and cite readings or lectures from the course to provide support for their goals and strategies.

How Do These Tools Help Students in School and in Life?

Approaching a big project can be overwhelming. These techniques provide a structure that students can use to get started on assignments logically, with a specific goal in mind.

These techniques also provide a great deal of room for creativity. In one course, a group of students drew a picture instead of doing a written assignment for their scenario of a future city, showing in their picture a healthy community, providing a glimpse into day-to-day life in workplaces, medical centers, and houses of worship. I have also had student groups write and perform mock news reports. In one instance, a group of students acted out the roles of people 100 years in the future struggling to deal with climate change. In this scenario, the "news anchors" interviewed members of the public complaining about storms, drought, and crop failure, as well as government officials discussing the policies and technologies that would have made a difference for their society if implemented in the present. This scenario helped students suggest and critique strategies to achieve goals, as well as provide an opportunity for students to practice communication skills and build self-confidence.

Students have indicated that considering the future in the context of a college course helped them develop the ability to consider their own futures. Some students have used these techniques to visualize what they want out of their schooling and careers within the next few years and to develop plans to take advantage of resources such as study groups, internships, and their relationships with professors to help them finish college successfully. Some students have also taken the opportunity to reflect on their whole lifespan. As one student in my Age and Society course wrote:

"This class is extremely important in and out of the university setting. It helps people our age realize that there still can be a happy, successful life waiting for them when they are over 65. Looking to the future in a more positive, less stereotyped way makes it more exciting."

Planning for the future is important for all students, in and out of class. Using structured tools for future-oriented thinking in college courses can help students develop their ability to take on this challenge.

Skylar Davidson, Assistant Professor, Sociology

For more information, contact the author at Chattanooga State Community College, skylar.davidson@chattanoogastate.edu.