



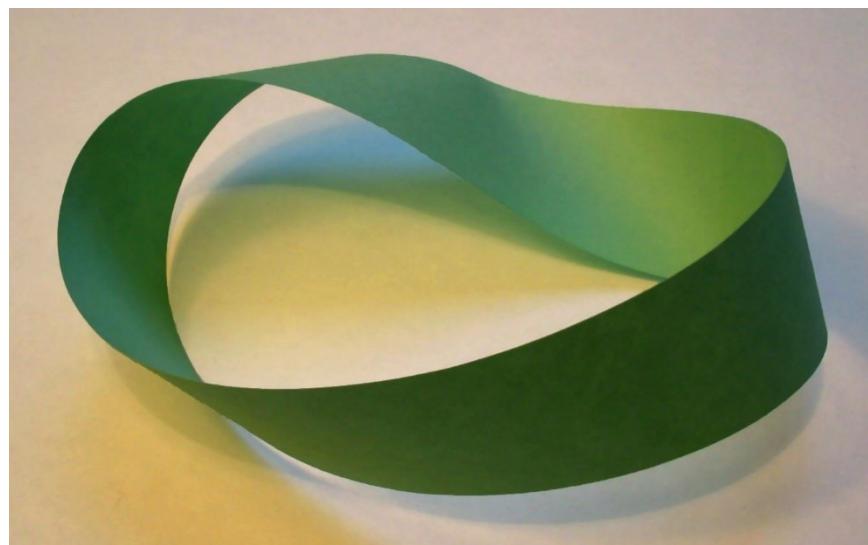
## KAI Theory as a Möbius Strip: A Twist in Thinking about Problem Solving

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### Introduction

Discovered in 1858, the Möbius strip is one of the most curious shapes in mathematics; it is unorientable (Buckley, 2007). As can be seen in Figure 1, “Möbius strips are unique because of their one sidedness. Rather than having two sides and two edges, with a simple twist, a piece of paper has one side and one edge. Inner and outer become one” (Byrnes, 2012, p. 23).

**Figure 1**  
A Möbius strip



*Note.* Photo by David Benbennick. Reprinted from Wikimedia Commons ([https://commons.wikimedia.org/wiki/File:M%C3%B6bius\\_strip.jpg](https://commons.wikimedia.org/wiki/File:M%C3%B6bius_strip.jpg)). CC BY-SA 3.0.

Somewhat recently, those outside mathematics have found value in the Möbius strip as a metaphor for relationships that flow into one another. Reflecting upon the curious shape, Parker Palmer (2004) mused:

I have to keep repeating, “what seems to be” because there is no “inside” or “outside” on the Möbius strip—the two apparent sides keep co-creating each other. The mechanics of the Möbius strip are mysterious, but its message is clear; whatever is inside us continually flows outward to help form, or deform, the world—and whatever is outside us continually flows inward to help form, or deform, our lives. (p. 47)

### How it works

Considering Kirton’s Adaption-Innovation (KAI) Theory, can we embrace an unorientable relationship between adaption and innovation? In 1976, Kirton purported “that everyone can be located on a continuum ranging from an ability to ‘do things better’ to an ability to ‘do things differently,’ and the ends of this continuum are labeled adaptive and innovative, respectively” (p. 622). However, what insights might we gain from thinking of the KAI continuum more like a

Möbius strip? In what ways do adaption and innovation flow into and co-create one another throughout the problem-solving process? When an individual takes adaption to the extreme, might they have more in common with the innovative end of the scale than we tend to assume or expect? We already know that one's degree of adaption or innovation is relative to others, yet our understanding of the relationship may be too simplistic. The Möbius strip holds the potential to facilitate sensemaking when exploring the complex relationship between adaption and innovation.

As noted by Lamb (2016), “You can make a Möbius band in the comfort of your own home by taking a strip of paper or pasta dough, putting a half twist in it, and taping (paper) or squishing (pasta) the ends together.” Accordingly, the Möbius strip makes for an inexpensive visual aid that can be incorporated into workshops or presentations.

### Results/Implications to Date

Although the Möbius strip has not previously been applied to KAI theory, it has been used for other applications that may be useful to consider:

- Development of a new mathematical field known as topology (Gunderman & Gunderman, 2018).
- Representations of recycling (Jones & Powell, 1999).
- Improved durability with conveyor belts (Doménech, 2018).
- “The blended coaching dance” between instructional and facilitative coaching (Bloom et al., 2005).
- Understanding notions of integrity and wholeness in spiritual life (Dana & Jaeger, 2010).
- How values and beliefs influence objectives and behaviors (Chabon, 2016).
- The complementary relationship between leadership and followership (Hurwitz & Hurwitz, 2015).

### Future Plans/Advice to Others

For practitioners, the session will explore options for illustrating the nuanced relationship between “being” and “doing” that we must navigate in the coaching process (see Bloom et al., 2005). For researchers, the session will surface ideas for mixed methods studies that might enhance our understanding of the nuanced relationship between adaption and innovation in problem solving. As Sinclair and Maimone (2020) noted in the *Handbook of Research Methods on Creativity*, it is an “open agenda.”

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