

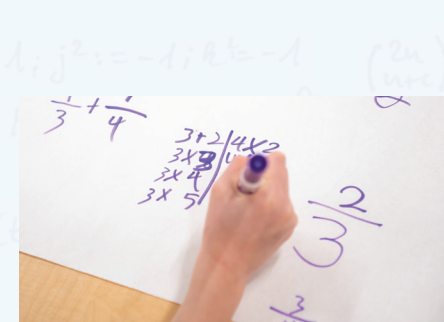
## A winning equation

*Strategy instruction helps students learn math in a fraction of the time*

By Patrice Scott



Mickey Losinski



It works.

That was the conclusion Mickey Losinski, professor of special education, counseling and student affairs in the Kansas State University College of Education, reached after studying if self-regulated strategy development, or SRSD, could be a beneficial framework for teaching math to students with disabilities.

Losinski and Robin P. Ennis, associate professor at the University of Alabama at Birmingham, used the SRSD framework to help students with learning, emotional or behavioral disabilities master fractions. SRSD is an evidence-based practice in the area of writing and has been heavily researched in the area of reading, but until this point, had not been used to help struggling students learn math.

Losinski and Ennis wanted to know if carefully crafted lessons with explicit instruction and self-regulation could help students learn fractions. The researchers focused on how to add and subtract fractions with unlike denominators, how to simplify fractions and how to convert fractions to mixed numbers. Ultimately, the researchers created fraction mnemonic devices: FILMS, CUT and EDIT to help students remember the steps to the problems. They also created lesson plans and a theme-based cue card and checklist.

Losinski and Ennis studied the FILMS, CUT and EDIT strategies at two rural elementary schools in Kansas and at one urban elementary school in Alabama.

“By the third day, they knew the process by heart,” Losinski said. “The kids asked why they weren’t taught it this way from the beginning. They loved it.”

The mnemonic devices are only a part of this winning equation; the foundation includes explicit instruction, self-regulation strategies and teaching to fluency.

“During guided and independent practice, we tried very hard to ensure that students did not miss a step or make a mistake as they were working out these problems,” Losinski said. “They were constantly working on the math, then going to the sheet and checking a task off until they became fluent. That’s the key to all of this.”

## Letter by letter

Researchers created the FILMS, CUT and EDIT strategies to help students learn fractions.

### FILMS stands for:

- F** Find the denominator.
- I** Identify the multiples.
- L** Locate the least common multiple.
- M** Multiply to make new fractions.
- S** Solve the problem.

### CUT stands for:

- C** Calculate the factors.
- U** Underline the greatest common factor.
- T** Time to divide the numerator and denominator.

### EDIT stands for:

- E** Examine whether the numerator is greater than the denominator.
- D** Divide the numerator by the denominator.
- I** Insert the quotient as a whole number.
- T** Turn the remainder into your new numerator.

In 2019, Losinski was awarded the Council of Children with Behavioral Disorders’ Interventionist Award. Losinski joined K-State faculty in 2013 and published more than 50 articles in peer-reviewed journals, co-authored four book chapters and presented at national conferences. He served on the editorial boards of the journals *Exceptional Children*, *Behavioral Disorders*, *Beyond Behavior*, *Intervention in School and Clinic*, and the *Journal of Disability Policy Studies*. [k](#)

### ➤ Seek more

View the lessons on fractions and watch a video on the math research project.

[k-state.edu/seek](http://k-state.edu/seek)

## In memoriam

Mickey Losinski was a committed educator, a loving husband and father of five. He passed away while this article was in production. He took precious time to share his research because he was proud of the ways that it helped students with special needs. We send our deepest sympathies to his family and are forever grateful for his contributions to his students, his colleagues and his profession.