Editorial from Małgorzata Marciniak, a Managing Editor,

In September 2017, I began my duties as a new Managing Editor of the Mathematics Teaching-Research Journal and I have to admit that that moment entirely changed my perspective on writing and reading. Since that time, the process of writing became a permanent companion of mine. Now, writing articles, reviews, and applying revisions carries the second momentum for writing another article, which becomes a cycle rather than a linear process that I was used to.

The journal changed me, and I hope that the journal is changing as well. As one can see, MTRJ now has the ISSN number, new guidelines for authors and new ethics statement. We began accepting manuscripts in LaTeX format and added page numbering to the journal content. Starting with Volume 9, N 3-4, we will have a new logo and new appearance of the articles. The new logo is inspired by the flow of arrows on the Mobius band, which appear to flow from one point to opposite directions, but they eventually converge. Just like teaching and research seem to part as different aspects of academic work but they eventually arrive to the same point of sharing research skills with our own students.

This volume contains four articles that analyze teaching tools and theories of learning.

“Pilot study of the effect of the use of cultural materials and women’s stories on the academic achievement of senior secondary students in geometry in Abuja, Nigeria” by Agwu Nkechi, *et al* contains a study of the influence of implementation of ethnical and female stories on the accomplishments of high school students. The study concluded that the use of cultural materials and women’s stories in teaching geometry improve the academic achievement of students in general, irrespective of their sex.

“The `act of creation’ of Koestler & theories of learning in math education research” by William Baker and Bronisław Czarnocha discusses Koestler’s bisociation as a type of reflective abstraction that provides a mechanism of concept development to transition the solver through the Piaget & Garcia Triad. The article contains an example from the classroom that visualizes the Koestler’s theory of creativity.

“Brief creative assignments in undergraduate mathematics courses: Calculus 3 and Linear Algebra” by Małgorzata Marciniak. This article is a note from classroom experiments with creative assignments. The theory behind it was inspired by Graham Wallace’s classic from 1926 that contains the description of stages of creative thoughts. Trying to align this concept in a math classroom one faces multiple challenges with the most difficult one: how to observe the stages of creative thought that students are going through.

“Least Squares Estimation" instructional design based upon APOS theory: Laying Mathematical Representation and Transformation Bridge” by Yangchun Xie describes the theory behind the introduction of the linear regression to high school students in China. She presents her experience with the four stages

of APOS (Action-Process-Object-Schema) and review literature related to the APOS theory. It is fascinating to observe the Chinese take upon that American contemporary theory of conceptual development in mathematics. In her unusual conceptual framework, she goes beyond APOS theory in seeing the process of understanding the Least Squares method as the process from the randomness of events to the certainty of the functional relationship expressed by the straight line obtained with the help of the Least Squares method.

Needless to say, I am thrilled to become a Managing Editor of the Mathematics Teaching-Research Journal. Now, when Volume 9, N 3-4, is ready for release, I can see the process of creation from another perspective.

Małgorzata Marciniak

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