

Learn math history to learn math theory

A Dutch scientist says she's discovered that knowing how a mathematical theory developed improves a pupil's understanding of the theory.

Researcher Iris van Gulik of the University of Groningen, developed a method in which a mathematical theory is taught based on the history of its development. For 13 to 15-year-old high school pupils, geometry was introduced by studying 17th-century Dutch surveying, while 16 to 18-year-old students learned about proofs in plane geometry by studying the history of non-Euclidean geometry.

Van Gulik found the history of non-Euclidean geometry was particularly successful. Those pupils acquired a deeper understanding and the teachers indicated they found the subject challenging and inspiring.

The study of 17th-century surveying did not directly lead to a deeper understanding among pupils, but the 14 to 15-year-olds responded more positively to the integration of history in mathematics lessons than 13 to 14-year-old pupils.

Van Gulik concludes the inclusion of historical sources in mathematics teaching material is effective, but the extent to which such materials need to be processed should be determined. A detailed teacher's handbook for the teaching methods is also vitally important, she said.

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