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Interweaving mathematics with reality and beauty: the valuable legacy of Emma Castelnuovo.

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Summary: The great lesson about education that Emma Castelnuovo left us lies in imagining a living mathematics in which youngsters can recognise themselves, because it is tied to reality and beauty. The interweaving of mathematics and art, between mathematics, architecture and life, together with a constant reference to history, makes it possible for students to think of mathematics as a body of knowledge that is dynamic and open to the future. Emma Castelnuovo was a master at using educational materials to facilitate the approach to complex mathematical and geometrical concepts, manipulating figures in transformation and creating active, effective relationships between hands, eyes and brain. To do this it is necessary to dedicate a great amount of time to talk with and listen to the students' hypotheses, allowing them 'time to lose time'. Finally, offering important topics, such as the infinite and infinitesimal, allows youngsters to engage in a healthy head-to-head struggle for knowledge.

Classification: A30

Keywords: Emma Castelnuovo; mathematics teaching; mathematics learning; educational materials; history of mathematics

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