

**ZMATH 2015f.00203**

**O'Halloran, Kay L.**

**The language of learning mathematics: a multimodal perspective.**

J. Math. Behav. 40, Part A, 63-74 (2015).

Summary: The aim is to develop a multimodal (i.e. multisemiotic) approach to the mathematics register, where language is considered as one resource, often a secondary one, which operates in conjunction with mathematical symbolism and images to create meaning in mathematics. For this purpose, the linguistic features and grammatical difficulties of scientific English are reviewed and compared to the grammatical features of mathematical symbolic notation and mathematical images. From here, the integration of language, mathematics symbolism and images in mathematics texts and the nature of spoken language in mathematics classrooms and associated difficulties are explored. The approach leads to the notion of a 'multimodal register' for mathematics to complement the existing language-based conceptualization of register. The multimodal approach has significant implications for teaching and learning mathematics and the development of strategies for mastering the mathematics register for the effective communication of mathematical knowledge.

*Classification:* C50 E40 C30

*Keywords:* mathematics register; scientific English; mathematical symbolism; mathematical images; intersemiosis; multimodal literacy

doi:10.1016/j.jmathb.2014.09.002