

ZMATH 2008a.00396

Falcade, Rossana; Laborde, Colette; Mariotti, Maria Alessandra

Approaching functions: Cabri tools as instruments of semiotic mediation.

Educ. Stud. Math. 66, No. 3, 317-333 (2007).

Summary: Assuming that dynamic features of Dynamic Geometry Software may provide a basic representation of both variation and functional dependency, and taking the Vygotskian perspective of semiotic mediation, a teaching experiment was designed with the aim of introducing students to the idea of function. This paper focuses on the use of the Trace tool and its potentialities for constructing the meaning of function. In particular, starting from a dynamic approach aimed at grounding the meaning of function in the experience of covariation, the Trace tool can be used to introduce the twofold meaning of trajectory, at the same time global and pointwise, and leads students to grasp the notion of function.

Classification: I23 D43 C33 U73 R23

Keywords: semiotic mediation; dynamic geometry environment; cabri-géomètre; trace tool; dragging tool; covariation; trajectory; variable; function; grade 10; secondary schools
doi:10.1007/s10649-006-9072-y