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DESCRIPTION

As an international, multi-disciplinary, peer-refereed journal, Learning and Instruction provides a platform for the publication of the most advanced scientific research in the areas of learning, development, instruction and teaching. The journal welcomes original empirical investigations. The papers may represent a variety of theoretical perspectives and different methodological approaches. They may refer to any age level, from infants to adults and to a diversity of learning and instructional settings, from laboratory experiments to field studies. The major criteria in the review and the selection process concern the significance of the contribution to the area of learning and instruction, and the rigor of the study.

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INTRODUCTION
As an international, multi-disciplinary, peer-refereed journal, Learning and Instruction provides a platform for the publication of the most advanced scientific research in the areas of learning, development, instruction and teaching. The journal welcomes original empirical investigations. For manuscripts with an innovative or weighty methodology section, supplementary on-line material outlining the methodology is welcome (e.g., equations, data-treatment, syntax code, example data). The papers may represent a variety of theoretical perspectives and different methodological approaches. They may refer to any age level, from infants to adults and to a diversity of learning and instructional settings, from classroom to informal learning. They may rest on the full spectrum of established methodologies, from laboratory experiments to field observations. The major criteria in the review and the selection process concern the significance of the contribution to the area of learning and instruction. Pure method studies (e.g., instrument validation) and meta-analyses (i.e., studies of published studies), are more suitable for other specialized journals. Descriptions of learning environments (e.g., curriculum plans) are more suitable for practitioner journals. Studies which rely overly on self-report measures are typically not accepted.

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**Learning and Instruction, volume 22, issue 1, 47-61**

• Students' misconceptions exist at different levels of representational complexity.

• They could be at the level of false beliefs, mental models, or ontological categories.

• To achieve conceptual change at mental model level, instruction should be at a holistic level.

• One way to do this is through analogical comparison of flawed self model and correct expert model.

• This leads to more robust conceptual change than instruction directed at false beliefs.

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