11th International Conference on Conceptual Change
„Epistemic Cognition and Conceptual Change"

Programme and Book of Abstracts

29th August – 1st September 2018
Alpen-Adria-Universität Klagenfurt/Austria

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Institut für Unterrichts- und Schulentwicklung (IUS), Alpen-Adria-Universität Klagenfurt, Sterneckstraße 15, 9020 Klagenfurt, Austria

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Conference chairs:
Konstantinos P. Christou, University of Western Macedonia, Greece

Gertraud Benke, Alpen-Adria Universität Klagenfurt, Austria

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Thomas Hainscho

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Tamer Amin, Romain Boissonade, Clark Chinn, Barbara Hanfstingl, Shulamit Kapon, Hamad Karous, Konrad Krainer, Ida Kukliansky, Natassa Kyriakopoulou, Olivia Levrini, Erik Meij, Andreas Obersteiner, Patrice Potvin, Michael Schneider, Yaron Schur, Martin Schwichow, Gale Sinatra, Esther Ziegler.

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Thursday, 30th August 2018 (morning session)

	Paper Session 2.1: Social and environmental studies (09:00-11:00, I.1.43)			
Chair	Romain Boissonnade (University of Neuchâtel & University of Teacher Education BEJUNE)			
Paper	Paper 1 Student´s conceptions of causes and processes forming eskers and erratics. Presenter: Mattias Arrhenius *(Department of Humanities and Social Science Education, Stockholm University)*	Paper 2 Understanding students' explanations of geoscience phenomena Presenter: Sibylle Reinfried *(University of Teacher Education Lucerne)*	Paper 3 Teaching for understanding social-ecological systems using Dynamic Learning and Thinking Journey Presenter: Yaron Schur *(The David Yellin Academic College of Education)*	Paper 4 Making possible by making visible - Investigating learning opportunities when using different visual representations of price Presenter: Ann-Sofie Jägerskog *(Stockholm University)*

	Paper Session 2.2: Instructional strategies (09:30-11:00, I.1.44)			
Chair	Martin Schwichow (PH Freiburg)			
Paper		Paper 1 Modelling as a support for conceptual change in chemistry Presenter: Hamad Karous *(University of Liège)*	Paper 2 Being proven wrong only elicits learning among children with higher executive function skills Presenter: Garvin Brod *(German Institute for International Educational Research (DIPF))*	Paper 3 The role of instructional analogies on understanding and persuading on the validity of counter-intuitive information Presenter: Irini Skopeliti *(University of Patras)*

	Book presentation (09:00-11:00, I.2.35): Converging Perspectives on Conceptual Change
	Tamer Amin (American University of Beirut), Olivia Levrini (University of Bologna), Clark Chinn (Rutgers University) & Mariana Levin (Western Michigan University)

The role of instructional analogies on understanding and persuading on the validity of counter-intuitive information

Thursday 30 Aug 2018 at 10:30, I.1.44
Authors: Irini Skopeliti *(University of Patras)* & Stella Vosniadou *(University of Athens, Flinders University)*
Presenter: Irini Skopeliti *(University of Patras)*

The current research investigated the influence of instructional analogies on students' understanding of the scientific explanation of the day/night cycle. In two experiments (group-testing and interview-study) we examined children's recalls, inferential errors and posttest changes in their explanations after reading a science text with or without an instructional analogy. Totally, 168 children, 3rd graders and 5th graders, participated in our experiments. Children were randomly assigned in two experimental groups and read and recalled either a text giving the scientific explanation of the day/night cycle or a text which gave the same explanation and also used an analogy from a high familiar domain. We expected that the use of analogy would be more effective in understanding and recalling the scientific information, because it would present the unfamiliar mechanism through a familiar domain. Compared to the participants in the no-analogy conditions, the participants in the analogy conditions produced better recall of the texts, created fewer invalid inferences, and were more likely to adopt the scientific explanation or an explanation close to the scientific one at posttest. In the interview study, we also evaluated children's awareness of the differences between their own explanations and the one presented in the text and if they were persuaded on its validity. An interesting finding was that prior knowledge can pose strong constraints on understanding, and the mere presence of an analogy might not be persuasive enough to produce conceptual change learning even when the reader understands the analogy.

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We thank for the support:

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