

CREATIVITY, AHA!MOMENTS AND TEACHING-RESEARCH

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The Discussion Group is proposed to investigate the nature of creativity of Aha!Moments in mathematics through the coordination between the bisociation theory proposed by Koestler (1964) in his Act of Creation and recently published accounts of Aha!Moments in literature of mathematics education.

Koestler definition of creativity uncovers creativity's cognitive aspect in the creation of new schema of thinking by connecting previously unconnected frames of reference; his realization connects the cognitive and affective aspects through the principle of cognitive/affective duality of the Aha!Moment (Czarnocha, 2014). That act of liberation has the power to significantly increase motivation of students, and consequently, their levels of achievement. Presence of an affective dimension of the Aha!Moment has been empirically observed and discussed by Liljedahl (2013). (Palatnik, & Koichu, 2015) realize that the aha-experience might be found over a consideration of what might students attend to, and how, and why.

The work of the Discussion Group will provide an example of the process of coordinating teaching practice and a theory, here the Koestler theory of the act of creation. Results of the Discussion Group will be presented by poster on PME 40 in Szeged.

Tuesday, 16.30-18.00: Planned timeline	Topic	Material / Working format / presenter
16:30-16:35	Welcome and introduction	Presentation / Hannes Stoppel
16:35-17:00	Koestler theory, advantages and deficiencies	Presentation & Discussion / Bronislaw Czarnocha
17:00-17:15	Bisociation in association with Creativity and Aha!Moments	Presentation & Discussion / Hannes Stoppel
17:15-17:45	Illumination	Presentation & Discussion / Peter Liljedahl
17:45-18:00	Compilation and discussion of results and open questions	Memos created in Groups / Presentation of results, Assembly of result via poster

Last names of the organisers

Friday, 16.30-18.00: Planned timeline	Topic	Material / Working format / presenter
16:30-16:35	Representation of results of Tuesday	Presentation / Bronislaw Czarnocha & Hannes Stoppel
16:35-17:00	Group Reflection	Collection of Articles / Working groups & presentation of results / Bronislaw Czarnocha & Hannes Stoppel
17:00-17:30	Aha!moments, creative thinking and Bisociation	Presentation & Discussion / Alik Palatnik
17:30-18:00	Compilation & discussion of results of the DG	Previous results / Groups & plenary

References

- Czarnocha, B. (2014) On the Culture of Creativity in Mathematics Education, in *Special Issue Journal of Teaching Innovations*, vol.27, N 3.University of Belgrade, Serbia.
- Czarnocha, B., & Baker, W. (2015). Creativity and Bisociation. *Mathematics Teaching-Research Journal Online*, 7(3). Retrieved from <http://www.hostos.cuny.edu/MTRJ/archives/volume7/issue3/Creativity%20and%20Bisociation.pdf>
- Koestler, A. (1989). *The act of creation*. London: Arkana Penguin Books.
- Palatnik, A., & Koichu, B. (2015). Exploring insights: Focus on shifts of attention. *For the Learning of Mathematics*, 35(2), 9–14.