



## Call for papers Learning and Instruction

### The emergence of creativity within and between individuals and its educational implications

This special issue aims to bring together the newest empirical studies on the (social) process of creativity to facilitate scholarly discussions across research communities.

Guest editors:

- Dr. Honghong Bai (*Radboud University, Nijmegen, the Netherlands*)
- Dr. Kim van Broekhoven (*Erasmus University, Rotterdam, the Netherlands*)
- Dr. Mare van Hooijdonk (*Radboud University, Nijmegen, the Netherlands*)
- Prof. dr. Maciej Karwowski (*Institute of Psychology, University of Wroclaw, Poland*)
- Prof. dr. Roni Reiter-Palmon (*Department of Psychology, University of Nebraska at Omaha*)
- Prof. dr. Evelyn (*Kroesbergen Radboud University Nijmegen, the Netherlands*)

Special issue information:

Learning and Instruction is soliciting submissions for a special issue entitled “The emergence of creativity within and between individuals and its educational implications”.

### Overview

Worldwide, policy makers have recognized that creativity should be cultivated in education to tackle increasingly complex problems such as climate change, the refugee crisis, and rising inequality. Consequently, there is a broad call to foster students’ creativity in all levels of education, ranging from kindergarten to higher education (Vincent-Lancrin et al., 2019). Responding to this call, a variety of educational innovations, often in the form of ‘packed’ intervention programs, were designed and implemented in the field, as an endeavor to include creativity in current educational programs (e.g., Bai et al., 2019; see for a recent review on creativity interventions Alves-Oliveira et al., 2022 ). While being effective at a group level, such structured programs cannot easily be adapted to individual student’s needs. In fact, to enable educators to support children’s creative development, which often takes place in a micro-scope of time and through social interactions, we should first equip teachers with knowledge about how creativity actually emerges in these contexts. Only then, teachers have a reference to render where their individual students are in that emerging process and upon which they can set goals for students and tailor their instructions, to best support students’



creative thinking. Thus, this special issue focuses on studies that investigate the process of creativity, particularly shedding light on the moment-to-moment (social) dynamics within or between individuals.

### Aims and contributions

In literature a theoretical shift has taken place in conceptualizing creativity, from understanding it predominantly as a stable psychological trait to considering it as a system that involves constant interactions between individual traits and the physical and social environment (Glăveanu, 2020; Kupers et al., 2019; van Dijk et al., 2019). Echoing this new emphasis, researchers have empirically explored the dynamics and the situatedness of creativity in various ways. An earlier line of studies addressed the process of creativity through investigating the serial order effect of divergent thinking—a phenomenon that people tend to first generate many mundane ideas quickly in a short time span and only gradually switch to generating truly novel ideas in a later phase and at a slower tempo (Bai, Leseman, et al., 2021; Bai, Mulder, et al., 2021; Beaty & Silvia, 2012; Gilhooly et al., 2007; Hass, 2017a, 2017b; Wang et al., 2017). There were also attempts that analyzed primary students' use of divergent and convergent thinking while performing mathematical problems (e.g., De Vink et al., 2022). These studies mostly focused on the general changing pattern of ideas or modes of thinking over time and thus, cannot reveal how adjacent processes and ideas influences each other at a moment-to-moment scale. In contrast, indeed some other studies have put their emphasis on capturing the moment-to-moment dynamics of creativity, but usually in team (or pair) settings instead of respecting individuals (Chiu, 2008; Edrejat et al., 2019; Kupers & van Dijk, 2020; Zhao et al., 2022).

How does creativity emerge? Answering this question requires still much empirical work as well as much scholarly discussion and collaboration for connecting and reconciling the study findings. Thus, the primary goal of this special issue is to bring the newest empirical studies on the (social) process of creativity together. This would ensure equal visibility of different studies to researchers in this field and thus, set a solid ground for a broad and in-depth discussion across different communities. In addition, we aim to also invite contributions in the form of commentary articles for facilitating the discussion. Next, we also kindly urge all empirical submissions to explicitly and critically reflect on the educational implications of their research, in order to connect first-hand evidence to the educational practices.

This special issue is unique in its focus on the process of creativity especially the moment-to-moment (social) dynamics, a field with a surge of research interests and attempts which are yet to be synthesized. We welcome diverse contributions, whether a study focuses on



individual students or on different scales of teams, which can range from the smallest team set-up of dyads to larger team set-ups of a whole classrooms.

At present, we already have 8 contributions. We are seeking further contributions to supplement the special issue from three aspects:

1. Variety regarding the objects of study: age of participants, educational levels and environment, contexts of practice, cultural environments, fields of knowledge and experience, social and cultural mediations.
2. Variety regarding the methods deployed for data collection and data analysis.
3. Variety in the countries of the institutional affiliations of authors.

#### Manuscript submission information:

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. This Open Call for a Special Issue solicits high-quality proposals that will be evaluated in a highly competitive procedure.

We invite colleagues, especially from under-represented groups, to submit their manuscripts any time before the deadline. For any inquiries about the appropriateness of contribution topics, please contact dr. Honghong Bai ([honghong.bai@ru.nl](mailto:honghong.bai@ru.nl)), dr. Kim van Broekhoven ([vanbroekhoven@essb.eur.nl](mailto:vanbroekhoven@essb.eur.nl)), or dr. Mare van Hooijdonk ([mare.vanhooijdonk@ru.nl](mailto:mare.vanhooijdonk@ru.nl)).

The journal's submission platform ([Editorial Manager®](#)) is now available for receiving submissions to this Special Issue. Please refer to the Guide for Authors to prepare the manuscript and select the article type 'The emergence of creativity' (To be finalized later) when submitting your manuscript online. Both the Guide for Authors and the submission portal can be found on the journal Homepage here: <https://www.elsevier.com/journals/learning-and-instruction/0959-4752/guide-for-authors>.

Interested authors are asked to submit:

1. the title of the submission,
2. a 100 - 250-word abstract for each submission, and
3. an extended summary of 600-1000 words, detailing the aims, methodology, findings, and theoretical and educational significance of the research.



4. (optional) we encourage each submission suggest a minimum of 3 reviewers for their paper.

Abstracts will be reviewed, and selected authors will be invited to submit a full manuscript for consideration for inclusion in the special issue.

**Deadline for proposal submission (i.e., the extended summary): February 29, 2024**

All submissions deemed suitable to be sent for peer review will be reviewed by at least two independent reviewers. Once your manuscript is accepted, it will go into production, and will be simultaneously published in the current regular issue and pulled into the online Special Issue. Articles from this Special Issue will appear in different regular issues of the journal, though they will be clearly marked and branded as Special Issue articles.

Here is an example: <https://www.sciencedirect.com/journal/science-of-the-total-environment/special-issue/10SWS2W7VVV>

What is a VSI (Virtual Special Issue):

Upon its editorial acceptance, articles submitted to a VSI will go into production immediately. It will be published in the latest regular issue while simultaneously being presented on the Special Issue webpage. The regular issues will mark and brand the Special Issue articles.

**Keywords:** creativity, emergence, process, (social) dynamics, situated, moment-to-moment

### References:

Alves-Oliveira, P., Arriaga, P., Xavier, C., Hoffman, G., & Paiva, A. (2022). Creativity landscapes: Systematic review spanning 70 years of creativity interventions for children. *Journal of Creative Behavior*, 56(1), 16-40.

Bai, H., Duan, H., Kroesbergen, E. H., Leseman, P. P. M., & Hu, W. (2019). The benefits of the Learn to Think program for preschoolers' creativity: An explorative study. *Journal of Creative Behavior*, 54(3), 699–711. <https://doi.org/10.1002/jocb.404>

Bai, H., Leseman, P. P. M., Moerbeek, M., Kroesbergen, E. H., & Mulder, H. (2021). Serial order effect in divergent thinking in five- to six-year-olds: Individual differences as related to executive functions. *Journal of Intelligence*, 9(2), 20. <https://doi.org/10.3390/jintelligence9020020>



Bai, H., Mulder, H., Moerbeek, M., Kroesbergen, E. H., & Leseman, P. P. M. (2021). Divergent thinking in four-year-old children: An analysis of thinking processes in performing the Alternative Uses Task. *Thinking Skills and Creativity*, 40, 100814. <https://doi.org/10.1016/j.tsc.2021.100814>

Bai, H., Oudgenoeg-Paz, O., Francot, R.,..., & Christie, S. (in preparation). Creativity as embedded in object exploration: The differences between Chinese and Dutch 2- to 4-year-olds and the role of self-regulation.

Beaty, R. E., & Silvia, P. J. (2012). Why do ideas get more creative across time? An executive interpretation of the serial order effect in divergent thinking tasks. *Psychology of Aesthetics, Creativity, and the Arts*, 6(4), 309–319. <https://doi.org/10.1037/a0029171>

Corazza, G. E., & Glăveanu, V. P. (2020). Potential in creativity: Individual, social, material perspectives, and a dynamic integrative framework. *Creativity Research Journal*, 32(1), 81–91. <https://doi.org/10.1080/10400419.2020.1712161>

Chiu, M. M. (2008). Effects of argumentation on group micro-creativity: Statistical discourse analyses of algebra students' collaborative problem solving. *Contemporary Educational Psychology*, 33(3), 382–402.

Craft, A. (2001). Little c creativity. In A. Craft, R. Jeffrey, & M. Leibling (Eds.), *Creativity In Education* (pp. 45–61). London, England: Continuum.

Davies, D., Jindal-Snape, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). Creative learning environments in education—A systematic literature review. *Thinking skills and creativity*, 8, 80–91.

De Vink, I. C., Lazonder, A. W., Willemsen, R. H., Schoevers, E. M., & Kroesbergen, E.H. (2022). The creative mathematical thinking process. In M. Savic, S. Chamberlin & P. Liljedahl (Eds.), *Mathematical Creativity: A Developmental Perspective*. (pp. 147–172). Springer. [https://doi.org/10.1007/978-3-031-14474-5\\_11](https://doi.org/10.1007/978-3-031-14474-5_11)

Endrejat, P., Meinecke, A., & Kauffeld, S. (2019). It all starts with a good idea: A new coding system for analyzing idea finding interactions (AIFI). Retrieved from <https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/f84e91e9-a0c0-4d6a-941f-3bbf2e677ebe/content>

Fischer, C., Malycha, C. P., & Schafmann, E. (2019). The influence of intrinsic motivation and synergistic extrinsic motivators on creativity and innovation. *Frontiers in psychology*, 10, 137.

Gajda, A., Karwowski, M., & Beghetto, R. A. (2017). Creativity and academic achievement: A meta-analysis. *Journal of Educational Psychology*, 109(2), 269–299. <https://doi.org/10.1037/edu000133>





Gilhooly, K. J., Fioratou, E., Anthony, S. H., & Wynn, V. (2007). Divergent thinking: Strategies and executive involvement in generating novel uses for familiar objects. *British Journal of Psychology*, 98, 611–625. <https://doi.org/10.1348/096317907X173421>

Glăveanu, V. P. (2013). Rewriting the language of creativity: The five A's framework. *Review of General Psychology*, 17(1), 69–81. <https://doi.org/10.1037/a0029528>

Glăveanu, V. P. (2020). A sociocultural theory of creativity: Bridging the social, the material, and the psychological. *Review of General psychology*, 24(4), 335-354.

Groenendijk, T., Janssen, T., Rijlaarsdam, G., & van den Bergh, H. (2013). Learning to be creative. The effects of observational learning on students' design products and processes. *Learning and instruction*, 28, 35-47.

Gruszka, A., & Tang, M. (2017). The 4P's creativity model and its application in different fields. In *Handbook of the Management of Creativity and Innovation: Theory and Practice* (pp. 51-71).

Guilford, J. P. (1956). The structure of intellect. *Psychological Bulletin*, 53(4), 267–293. <https://doi.org/10.1037/h0040755>

Hass, R. W. (2017a). Semantic search during divergent thinking. *Cognition*, 166, 344–357. <https://doi.org/10.1016/j.cognition.2017.05.039>

Hass, R. W. (2017b). Tracking the dynamics of divergent thinking via semantic distance: Analytic methods and theoretical implications. *Memory and Cognition*, 45(2), 233–244. <https://doi.org/10.3758/s13421-016-0659-y>

Kapa, E. (2007). Transfer from structured to open-ended problem solving in a computerized metacognitive environment. *Learning and Instruction*, 17(6), 688-707.

Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The four C model of creativity. *Review of General Psychology*, 13(1), 1–12. <https://doi.org/10.1037/a0013688>

Kupers, E., Lehmann-Wermser, A., McPherson, G., & Van Geert, P. (2019). Children's creativity: A theoretical framework and systematic review. *Review of Educational Research*, 89(1), 93-124.

Kupers, E., & van Dijk, M. (2020). Creativity in interaction: the dynamics of teacher-student interactions during a musical composition task. *Thinking Skills and Creativity*, 36, 100648.

McMullen, J., Hannula-Sormunen, M. M., Lehtinen, E., & Siegler, R. S. (2020). Distinguishing adaptive from routine expertise with rational number arithmetic. *Learning and Instruction*, 68, 101347.



Mevarech, Z. R., & Kramarski, B. (1992). How and how much can cooperative logo environments enhance creativity and social relationships?. *Learning and Instruction*, 2(3), 259-274.

Munoz-Rubke, F., Will, R., Hawes, Z., & James, K. H. (2021). Enhancing spatial skills through mechanical problem solving. *Learning and Instruction*, 75, 101496.

Nastasi, B. K., & Clements, D. H. (1992). Social-cognitive behaviors and higher-order thinking in educational computer environments. *Learning and Instruction*, 2(3), 215-238.

Puryear, J. S., Kettler, T., & Rinn, A. N. (2017). Relationships of personality to differential conceptions of creativity: A systematic review. *Psychology of Aesthetics, Creativity, and the Arts*, 11(1), 59–68. <https://doi.org/10.1037/aca0000079>

Redifer, J. L., Bae, C. L., & Zhao, Q. (2021). Self-efficacy and performance feedback: Impacts on cognitive load during creative thinking. *Learning and Instruction*, 71, 101395.

Reiter-Palmon, R., Forthmann, B., & Barbot, B. (2019). Scoring divergent thinking tests: A review and systematic framework. *Psychology of Aesthetics, Creativity, and the Arts*, 13(2), 144–152. <https://doi.org/10.1037/aca0000227>

Ritchie, S. M., & Edwards, J. (1996). Creative thinking instruction for aboriginal children. *Learning and Instruction*, 6(1), 59-75.

Rhodes M (1961) An analysis of creativity. *The Phi Delta Kappan*, 42, 305-310.

Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal*, 24(1), 92–96. <https://doi.org/10.1080/10400419.2012.650092>

Sawyer, R. K. (2021). The iterative and improvisational nature of the creative process. *Journal of Creativity*, 31, 100002.

Silvia, P. J., & Beaty, R. E. (2012). Making creative metaphors: The importance of fluid intelligence for creative thought. *Intelligence*, 40(4), 343–351. <https://doi.org/10.1016/j.intell.2012.02.005>

Tang, X., Renninger, K. A., Hidi, S. E., Murayama, K., Lavonen, J., & Salmela-Aro, K. (2022). The differences and similarities between curiosity and interest: Meta-analysis and network analyses. *Learning and Instruction*, 80, 101628.

Van Dijk, M., Kroesbergen, E. H., Blom, E., & Leseman, P. P. (2019). Bilingualism and creativity: Towards a situated cognition approach. *Journal of Creative Behavior*, 53(2), 178-188.



Van Hooijdonk, M., Mainhard, T., Kroesbergen, E. H., & Van Tartwijk, J. (2023). Creative problem solving in primary school students. *Learning and Instruction*, 88, 101823.

Vincent-Lancrin, S., González-Sancho, C., Bouckaert, M., de Luca, F., Fernández-Barrerra, M., Jacotin, G., ... & Vidal, Q. (2019). *Fostering Students' Creativity and Critical Thinking: What It Means in School*. Educational Research and Innovation. OECD Publishing. 2, rue Andre Pascal, F-75775 Paris Cedex 16, France.

Wang, M., Hao, N., Ku, Y., Grabner, R. H., & Fink, A. (2017). Neural correlates of serial order effect in verbal divergent thinking. *Neuropsychologia*, 99, 92–100.  
<https://doi.org/10.1016/j.neuropsychologia.2017.03.001>

Zhao, Y., Gui, H., Hu, T., & Xu, K. (2022). Cognitive differences and the coding analysis of the interaction behavior patterns in the innovation team. *Frontiers in Psychology*, 13, 918238.



**ELSEVIER**