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Discussion Article: Disciplinary Boundaries for Creativity

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ABSTRACT

Creativity is a very topical issue and indeed a political one. For example, the very notion of ' little c creativity' seems to be a reflection of the requirements of what could be described as a ' Post-Fordist' economy. However, the call to develop creativity in education is largely based on the idea of creativity as the production of novel ideas. The central argument of this article is that creativity cannot be seen purely in terms of novel ideas but that it is intrinsically bound with the teaching of the academic disciplines. It is within the context of creativity in the sense of transforming the disciplines that two paradoxes are discussed. The first paradox is that the truly creative act is not the preserve of the genius but the potential for the whole of humanity. Secondly, creativity involves both thinking within the constraints of the discipline and challenging those constraints. This implies the need for students to engage in meta-discourse, involving the nature and history of the subject-matter taught.

KEYWORDS

Art, Mathematics, Science, Novel Ideas, Transforming The Disciplines

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References

- [1] [1] Amabile, T. M. (1983). The social psychology of creativity. New York, NY: Springer-Verlag.
- [2] Adams, L. J. (1988). The care and feeding of ideas. London: Penguin.
- [3] Adey, P., & Shayer, P. (1994). Really raising standards: Cognitive intervention and academic achievement. London: Routledge.
- [4] Barker, S. F. (1964). The philosophy of mathematics. New Jersey: Prentice-Hall.
- [5] Bohm, D. (1998). On creativity. London: Routledge.
- [6] Bohm, D. and Peat, F. D. (2000). Science, order, and creativity (Second ed.) (first published in 1987). London: Routledge.
- [7] Bruner, J. (1974). Beyond the information given. London: Allen and Unwin.
- [8] Boden, M. A. (1994a). Introduction to dimensions of creativity (M. A. Boden, Ed.). London: MIT.
- [9] Boden, M. A. (1994b). What is creativity. In M. A. Boden (Ed.), Dimensions of creativity. London: MIT.
- [10] Boden, M. A. (2001). Creativity and knowledge. In A. Craft, B. Jeffrey and M. Leibling (Eds.), Creativity in education. London: Continuum.
- [11] Brinkmann, A., & Sriraman, B. (2009). Aesthetics and creativity: an exploration of the relationships. In B. Sriraman and S. Goodchild (Eds.), Relatively and philosophically earnest: festschrift in honor of paul ernest' s 65th birthday. Charlotte, NC: Information Age Publishing.
- [12] Carson, R., & Rowlands, S. (2005). Mechanics as the logical point of entry for the enculturation into

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- [13] Cassirer, E. (1962). *An essay on man: An introduction to a philosophy of human culture* (first published in 1944). New Haven: Yale University Press.
- [14] Chalmers, A. (1982). *What is this thing called science?* (2nd ed.). Milton Keynes: The Open University Press.
- [15] Craft, A. (2001a). Little c creativity. In A. Craft, B. Jeffrey and M. Leibling (Eds.), *Creativity in education*. London: Continuum.
- [16] Craft, A. (2001b). *An analysis of research and literature on creativity in education*. Report Prepared for the Qualifications and Curriculum Authority. http://www.ncaction.org.uk/creativity/creativity_report.pdf
- [17] Craft, A. (2003). The limits to creativity in education: Dilemmas for the educator. *British Journal of Educational Studies*, 51, 113-127. doi:10.1111/1467-8527.t01-1-00229
- [18] Cropley, A. J. (1971). *Creativity*. London: Longman Education Today Series.
- [19] Diakidoy, I. N., & Kanari, E. (1999). Student teachers beliefs about creativity. *British Educational Research Journal*, 25, 225-243. doi:10.1080/0141192990250206
- [20] Dunbar, K. (1997). How scientists think: on-line creativity and conceptual change in science. In T. B. Ward, S. M. Smith and J. Vaid (Eds.), *Creative thought: An investigation of conceptual structures and processes*. Washington DC: American Psychological Association. doi:10.1037/10227-017
- [21] Gardner, H. (1994). The creators patterns. In M. A. Boden (Eds.), *Dimensions of creativity*. London: MIT.
- [22] Gibson, H. (2005). What creativity isn't: the presumptions of instrumental and individual justifications for creativity in education. *British Journal of Educational Studies*, 53, 148-167. doi:10.1111/j.1467-8527.2005.00288.x
- [23] Gombrich, E. H. (1960). *Art and illusion*. London: Phaidon.
- [24] Haigh, M. (2003). *Fostering creativity through science education: A case for investigative practical work*. Paper presented at the British Educational Research Association 2003 conference. Edinburgh: Heriot-Watt University, 11-13 September 2003.
- [25] Hennessey, B. A., & Amabile, T. M. (1988). The conditions of creativity, In R. J. Sternberg (Eds.), *The nature of creativity: contemporary psychological perspectives*. Cambridge: Cambridge University Press.
- [26] Hestenes, D. (1992). Modeling games in the newtonian world. *American Journal of Physics*, 60, 732-748. doi:10.1119/1.17080
- [27] Hodgson, P. (1980). Getting meaning from experience: The child and science. In M. Poole (Ed.), *Creativity across the curriculum*. London: George Allen and Unwin.
- [28] Jaworski, B. (1994). *Investigating mathematics teaching: a constructivist enquiry*. London: Falmer.
- [29] Jeffrey, B., & Woods, P. (2003). *The creative school: A framework for success, quality and effectiveness*. London: RoutledgeFalmer. doi:10.4324/9780203437223
- [30] Kneller, G. F. (1965). *The art and science of creativity*. London: Holt, Rinehart and Winston, Inc.
- [31] Johnson-Laird, P. N. (1988). Freedom and constraint in creativity. In R. J. Sternberg (Eds.), *The nature of creativity: contemporary psychological perspectives*. Cambridge: Cambridge University Press.
- [32] Langer, S. K. (1957). *Philosophy in a new key: a study in the symbolism of reason, rite, and art* (first published in 1942). Mass: Harvard University Press.
- [33] Leach, J. (2001). A hundred possibilities: creativity, community and ICT. In A. Craft, B. Jeffrey and M. Leibling (Eds.), *Creativity in education*. London: Continuum.
- [34] Lombardi, O. (1999). Aristotelian physics in the context of teaching science: A historical-philosophical approach. *Science & Education*, 8, 217-239. doi:10.1023/A:1008641526822

- [36] Lucas, B. (2001). Creative teaching, teaching creativity and creative learning. In A. Craft, B Jeffrey and M. Leibling (Eds.), *Creativity in education*. London: Continuum.
- [37] Lytton, H. (1971). *Creativity and education*. London: Routledge and Kegan Paul.
- [38] Matthews, M. (1980). *The marxist theory of schooling: a study of epistemology and education*. Sussex: Harvester Press.
- [39] Matthews, M. (1994). *Science teaching: the role of history and philosophy of science*. New York: Routledge.
- [40] Matthews, M. (1995). *Challenging nz science education*. New Zealand: The Dunmore Press.
- [41] Morris, E. (2002). *Creativity in education*. Speech presented at the national campaign for the arts/ national union of teachers creativity in education conference, 3 July 2002. <http://www.artscampaign.org.uk/campaigns/education/EMorris.html>
- [42] NACCCE (1999). *All our futures: creativity, culture and education*, national advisory committee on creative and cultural education. London: DFEE.
- [43] Parnes, S. J. (1970). *Education and creativity*. In P. E. Vernon (Ed.), *Creativity*. Harmondsworth: Penguin.
- [44] Phillips, D. C. (1998). Coming to terms with radical social constructivisms. In M. R. Matthews (Ed.), *Constructivism in science education: a philosophical examination*. Dordrecht: Kluwer Academic Publishers.
- [45] Rowland, T. (2009). *Geometry: tales of elegance and love*. In B. Sriraman and S. Goodchild (Eds.), *Relatively and philosophically earnest: festschrift in honor of paul ernests 65th birthday*. Charlotte, NC: Information Age Publishing.
- [46] Rowlands, S. (2009). The importance of cultivating a meta-discourse in deliberate support of metacognition, in C. B. Larson (Ed.), *Metacognition: new research developments*. New York: Nova.
- [47] Rowlands, S., & Carson, R. (2001). The contradictions in the constructivist discourse. *Philosophy of Mathematics Education Newsletter*, 14. <http://www.ex.ac.uk/~PERnest/pome14/rowlands.htm>
- [48] Rowlands, S. Graham, E., & Berry, J. (2010). Problems with fallibilism as a philosophy of mathematics education. *Science & Education*, online (and in print).
- [49] Skemp, R. R. (1976). Relational understanding and instrumental understanding. *Mathematics Teaching*, 77, 20-26.
- [50] Toulmin, S. (1967), *The Philosophy of Science*. First published in 1953. London; Hutchinson University Library.
- [51] Von Glasersfeld, E. (1995). *Radical constructivism: a way of knowing and understanding*. London: Falmer. doi:10.4324/9780203454220
- [52] Vygotsky, L. (1978). *Mind in society*. Mass: Harvard University Press.
- [53] Ward, T. B., Smith, S. M. and Vaid, J. (1997). Conceptual structures and processes in creative thought. In T. B. Ward, S. M. Smith and J. Vaid (Eds.), *Creative thought: an investigation of conceptual structures and processes*. Washington DC: American Psychological Association.
- [54] Wittgenstein, L. (1974). *Tractatus logico-philosophicus*, (first published, 1922). London: Routledge and Kegan. Paul.
- [55] Wragg, E. C. (1999). *An introduction to classroom observation*, London: Routledge and Falmer.