The

Journal

of

Aesthetic

Education

JAE

Can We Teach Creativity? Extending Socrates's Criteria to Modern Education

NATASHA CHATZIDAKI AND
CHRISTOS-THOMAS KECHAGIAS

Introduction

Creativity is an imperative need of the twenty-first century, and it seems to be a skill that will monopolize interest for many years. It is, in substance, a newly established scientific field (only after 1950 did creativity gained scientific foundation) and despite attempts to encroach on the science of psychology (cognitive, evolutionary, developmental, and so forth), its origin and functions have not been probed yet. Still, it continues to be researched, with ever-increasing vigor, almost in every area of science and action, with the main scope of potential exploitation being education. The *philosophical foundation* of creativity has not reached the depths that one would expect, and most scientists-thinkers (and philosophical researchers) place its origins at well-known points/stations of philosophy. Despite many studies, questions arise:

- Are there any proposals for making meaningful use of creativity from society and schools?
- Must creativity be taught? And if so, *can it be*?
- If creativity is taught, how should it be employed in education? Should it, in the end, constitute a separate subject in the curriculum?
- What is the role of *heuristic philosophy*?

Natasha Chatzidaki holds a bachelor's degree in philology with a specialization in classical philology from the National and Kapodistrian University of Athens. She is currently a graduate student in a postgraduate program studying social neurosciences, social pedagogy, and education at the Department of Primary Education of the National and Kapodistrian University of Athens. She works as a teacher of secondary education in private schools.

Dr. Christos Kechagias works as a lecturer in the School of Education at the National and Kapodistrian University of Athens. He holds a PhD. in philosophy and social sciences and an MA in sociobiology, neuroscience and education and was post-doc in creative thinking. His publications consist of books and articles on philosophy, theory, and the epistemology of education.

The History and Value of Creativity

The level of creativity can be assessed in specific thematic areas[1] related to artistic activities, mathematics and natural sciences, arts, expression and speech manipulation, mixed activities, entrepreneurship, and innovation.[2] Although the relevant authors and researchers do not agree on a common definition of creativity,[3] they believe that today's increasingly accelerated technological development and rapid changes in the social structure impose flexibility in thinking and will ensure that more questions and needs will arise.[4]

Even though this field of study is a rather new scientific area, the term "creativity" did not appear in books and textbooks until the nineteenth century,[5] as many scholars have reported.[6]

In the Platonic dialogues *Ion* and *Phaedrus*, inspiration seems to have a divine origin (muse), a kind of *sacred fury*.[7] The same idea was established in the eighth century BCE in the Homeric epics (goddess):

> Sing, O goddess, the anger of Achilles son of Peleus, and Muse:
> Tell me, O muse, of that ingenious hero.[8]

In 500 BCE, Parmenides of Elea continued with this idea ("goddess" in the poem acts as the revelation of the one and only truth)[9]: "And the goddess received me kindly, and in her hand she took."[10] Before revealing to him that *einai* (to be) and *"mi eòn"* (not to be) are the only paths of research ("the only two ways of search that can be thought of"), the goddess speaks to him about the right and the fair (*dike* and *themis*[11]), giving him a unique (methodological) choice[12]:

> Nevertheless, you shall learn these also, how it was necessary that
> the things that are believed to be should have their being in general
> acceptance, ranging through all things from end to end.[13]

Essentially, this is the opening statement of creative expression-divine inspiration, which combines elements "of what it is and it is not [to be]" and inaugurates the correlation between what one feels is valid and what should be valid (the true).

The incorporation of truth, correctness, and law runs through the rationalist[14] approach of Aristotle,[15] attributing the creation of the poem (= *poesis*) to an intense action of the poet, who moves toward an "end," using various means and techniques. (Metaphysical inspiration has been replaced by Aristotle by *"hexis"*[16] (= *technê*, art as productive capacity involving true reasoning) thereby mobilizing his audience (and later his readers).[17] Aristotle demystifies and denigrates inspiration and the origin of the poetic creation, which takes place during his time: "Poets were drawn by their natural bent towards one or the other."[18]

Although the metaphysical approaches of the "God-given" origin of creativity run through the work of Longinus and reach even the Romantic

Notes

1. Compare UNESCO's reference to the four pillars/types of learning—learning to learn, learning to do, learning to live with others, learning to be exist (International UNESCO Committee on Education for the 21st Century (1996, in Greek 1998, UNESCO)—to reports related to lifelong learning.

2. Dennis Hocevar, "The Development of the Creative Behavior Inventory," *Annual Conference of Rocky Mountain Psychological Association* 16–19, no. 4 (1979): 1–15; European Parliament, European Parliament Legislative Resolution of 23 September 2008 on the Proposal for a Decision of the European Parliament and of the Council concerning the European Year of Creativity and Innovation, https://publications.europa.eu/en/publication-detail/-/publication/681e932c-ec39-43ee-831a-f196fed3b4a1/language-en, accessed May 18, 2019.

3. Tomas Busse and Richard Mansfield, "Theories of the Creative Process: A Review and a Perspective," *The Journal of Creative Behavior* 14 (1980): 91–132; Robert Sternberg, "Applying Cognitive Theory to the Testing and Teaching of Intelligence," *Applied Cognitive Psychology* 2 (1988): 231–55; Philip Vernon, "The Nature–Nurture Problem in Creativity," in *Handbook of Creativity*, ed. John Glover, Royce Ronning, and Cecil Reynolds (New York: Plenum Publishing Corp., 1989), 93–110; Anna Craft, *An Analysis of Research and Literature on Creativity in Education*, report prepared for the Qualifications and Curriculum Authority, March 2001, https://pdfs.semanticscholar.org/b26f/f91d08b36522a301e 23c84130e8922284e26.pdf, accessed May 18, 2019; for an in-depth presentation, see Peter Meusburger, "Milieus of Creativity: The Role of Places, Environments and Spatial Contexts," in *Milieus of Creativity: An Interdisciplinary Approach to Spatiality of Creativity*, ed. Peter Meusburger, Joacim Funke, and Edgar Wunder, vol. 2 (Dordrecht: Springer, 2009).

4. Adzliana Mohd Daud, Jizah Omar, Punia Turiman, and Kamisah Osman, "Creativity in Science Education," *Procedia—Social and Behavioral Sciences* 59 (2012): 467–74.

5. Elliot Samuel Paul and Scott Barry Kaufman, eds. *The Philosophy of Creativity: New Essays* (Oxford: Oxford University Press, 2014).

6. Władysław Tatarkiewicz, *A History of Six Ideas: An Essay in Aesthetics* (The Hague: Martinus Nijhoff, 1980); for further discussion on the complexity and history of thinking about creativity, see Nahm Milton Charles, *Genius and Creativity: An Essay in the History of Ideas* (New York: Harper & Row, 1965); Darrin McMahon, *Divine Fury: A History of Genius* (York: Perseus Books Group, 2013); and Penelope Murray, ed., *Genius: The History of an Idea* (New York: Basil Blackwell, 1989).

7. John Cooper and Douglas Hutchinson, "Plato, *Ion* and *Phaedrus*," in *The Complete Works of Plato* (Indianapolis, IN: Hackett Publishing, 1997); Elizabeth Asmis, "Plato on Poetic Creativity," in *The Cambridge Companion to Plato*, ed. Richard Kraut (Cambridge: Cambridge University Press, 1992).

8. Homer, *Odyssey*, 1.1. For the divine dimension of the Homeric muse and goddess Athena and their inspiring role, see Christos-Thomas Kechagias and Alexander-Stamatios Antoniou, "Goddess Athena as Leader and Mentor in Homeric Epics," in *Women, Business and Leadership*, ed. A.-S. Antoniou, C. Cooper, and C. Gatrell (London: Edward Elgar Publishing, 2019), 106–21.

9. John Burnet, *Early Greek Philosophy* (London: Adam and Charles Black, 1975).

10. Parmenides, DK 28; John Palmer, *Parmenides and Presocratic Philosophy* (Oxford: Oxford University Press, 2009).

11. Parmenides, *Fragments*, A.34, A28, https://en.wikisource.org/wiki/Fragments_of_Parmenides, accessed May 18, 2019.

12. Christos Kechagias, On the Nature of Position in the Greek Conception of Cosmos (Athens: Herodotos, 2009).

13. Parmenides, DK 32–33; Allan Coxon, *The Fragments of Parmenides: A Critical Text with Introduction and Translation, the Ancient Testimonia and a Commentary* (Assen, NL: Van Gorcum, 2009).

14. Berys Gaut, "Creativity and Rationality," *The Journal of Aesthetics and Art Criticism* 70 (2012): 259–70.

15. Jonathan Barnes, ed., *The Complete Works of Aristotle: The Revised Oxford Translation*, vol. II (Princeton, NJ: Princeton University Press, 1984). See "Aristotle, Poetics."

16. Aristotle, *Nicomachean Ethics*, 1140a 9.

17. Aristotle, *Poetics*, trans. William Fyfe (Cambridge, MA: Harvard University Press, 1973), 1449a 6.

18. Aristotle, *Poetics*, 1449a 4.

19. Paul Crowther, *The Kantian Sublime: From Morality to Art* (Oxford: Clarendon Press, 1989).

20. Immanuel Kant, *Critique of the Power of Judgment*, ed. Eric Matthew and Paul Guyer (Cambridge: Cambridge University Press, 2001).

21. Immanuel Kant, *The Critique of Judgment*, trans. Werner S. Pluhar (Indianapolis, IN: Hackett Pub. Co, 1987).

22. Arthur Schopenhauer, "Will" and "Performance," in *The World as Will and Representation* (1819–1844–1859), vol. 1, trans. E. F. J. Payne (New York: Dover, 1969).

23. Friedrich Nietzsche, *The Birth of Tragedy and Other Writings*, ed. Raymond Geuss and Ronald Speirs (Cambridge: Cambridge University Press, 1999).

24. Stefan Zwieg, "To Mystirio tes Kallitexnikes Demiourgias" [The Mystery of Artistic Creation], in *Empnefsi ke Demiourgia*, ed. Angeliki Stathopoulou (Athens: Printa, 2004).

25. Andrew Bennett, *The Author* (Oxford: Routledge, 2005), 60; Andreas Antoniou, "To alma pistes kai e ypervasi sten Texne [Leap of Faith and the Transcendence in the Arts]: Kierkegaard and Nietzsche" (PhD. diss., Aristotele University of Thessaloniki, 2013).

26. Christos Kechagias, *Operational Principles and Social Structure of the Greek Culture* (Athens: Atrapos, 2006).

27. Iro Mylonakou-Keke, *Social Pedagogy: Theoretical, Epistemological and Methodological Dimensions* (Athens: Atrapos, 2013).

28. Mark Runco, "Education for Creative Potential," *Scandinavian Journal of Educational Research* 47 (2003): 317–24; extensive discussion at Thomas Ward, Steven Smith, and Ronald Finke, "Creative Cognition" in *Handbook of Creativity*, ed. Robert J. Sternberg (Cambridge: Cambridge University Press, 1999), 189–213.

29. Anna Craft, "The Limits to Creativity in Education: Dilemmas for the Educator," *British Journal of Educational Studies* 51, no. 2 (2003): 113–27.

30. John White, "Creativity and Education: A Philosophical Analysis," *British Journal of Educational Studies* 16 (1968):123–37.
31. Fotis Kousoulas, "The Interplay of Creative Behavior, Divergent Thinking, and Knowledge Base in Students' Creative Expression during Learning Activity," *Creativity Research Journal* 22, no. 4 (2010): 387–96.
32. Kousoulas, "The Interplay of Creative Behavior."
33. Craft, *An Analysis of Research and Literature on Creativity in Education*.
34. Mark Runco, "Creativity," *Annual Review of Psychology* 55 (2004): 657–87.
35. Osman Titrek, Demet Zafer-Güneş and Gözde Sezen-Gültekin, "Creativity and Education," in *Entrepreneurship via Creativity for European Citizenship in Education*, ed. Osman Titrek (Saarbrücken, DE: LAP-Lambert Academic Publishing, 2015), 6–17.
36. Runco, "Education for Creative Potential."
37. "Thought: Centralized, Proportional, Correlative-Cognitive Meta-Cognition," at Runco, "Education for Creative Potential"; extensive discussion at Margaret Boden, *The Creative Mind: Myths and Mechanisms* (New York: Routledge, 2004), 1–53.
38. Frank Barron and David M. Harrington, "Creativity, Intelligence and Personality," *Annual Review of Psychology* 32 (1981): 439–76.
39. Panagiota Vathi, *Axiologissi tes demioyrgikotetas sten Anotate Ekpedefsi: Mia archikipilotiki erevna* [The Evaluation of Creativity in Higher Education Institutes: A Pilot Survey], http://nemertes.lis.upatras.gr/jspui/bitstream/10889/4544/1/Nimertis_Vathi%28ptde%29.pdf, accessed May 18, 2019.
40. Ronald Finkie, Thomas Wand, and Steven Smith, *Creative Cognition: Theory, Research and Applications* (Cambridge, MA: MIT Press, 1992); Anna Craft, "Identity and Creativity: Education for Post-Modernism? Teacher Development," *An International Journal of Teachers' Professional Development* 1 (1997): 83–96; Anna Craft, Bob Jeffrey, and Mike Leibling, *Creativity in Education* (London: Bloomsbury Publishing PLC, 2001).
41. Harbert Walberg, "Creativity and Talent as Learning," in *The Nature of Creativity: Contemporary Psychological Perspectives*, ed. Robert J. Sternberg (Cambridge: Cambridge University Press, 1988), 340–61.
42. Michael H. Hanson, *Worldmaking: Psychology and the Ideology of Creativity* (New York: Springer, 2015).
43. Compare Gardner's approach on multiple intelligence: Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences* (New York: Basic Books, 1983). Gardner introduced the multiple-intelligence theory with the characteristic seven kinds of intelligence: 1) visual-spatial, 2) bodily-kinesthetic, 3) musical [when engaging in art], 4) interpersonal [personal forms of intelligence], 5) intrapersonal, 6) linguistic, 7) logical-mathematical, and 8) naturalistic. His theory sparked various debates about "multiple creativity" or "creativity systems."
44. Gray A. Davis, *Creativity Is Forever*, 5th ed. (Dubuque, IO: Kendall-Hunt Publications, 2004).
45. Runco, "Education for Creative Potential."
46. Gardner, *Frames of Mind*.
47. Richard Bluck, "Plato's *Meno*," *Phronesis* 6, no. 1 (1961): 94–101.
48. Plato, *Meno*, 165A; Gregory Vlastos, *Studies in Greek Philosophy: Socrates, Plato, and Their Tradition*, vol. 2 (Princeton, NJ: Princeton University Press, 1996); Kaktou Filologiki Omada, *Menon*, in *Platon, Menon, Kleitofon, Minos* (Athens: Kaktos, 1993), 45–59.
49. Plato, *Meno*, 88 e; Daud et al., "Creativity in Science Education."
50. Plato, *Protagoras*, 327e–328d.
51. James Macdonald, "Socratic Method and the Teaching of Law and Virtue," *Journal of Legal Studies Education* 7, no. 1–2 (1989): 19–34. Furthermore, for the educational methods and techniques that Socrates applies to his student Strepsiades

on virtue in Aristophanes' *The Clouds* (*Nubes*) of, Socrates appears as a sophist school owner, the Phrontisterion ("Thinkery"), in which he hosts students of all ages, in order to teach them not only philosophy, literature, and physics but also effective sophistic techniques. See Christos-Thomas Kechagias, Georgia Papaioannou, and Alexandros-Stamatios Antoniou, "Burning Socrates' School Down with Aristophanes: Learning and Teaching under Clouds," *Dramaturgias* 7 (2018): 512–27.

52.   Berys Gaut, "Educating for Creativity," in *The Philosophy of Creativity: New Essays*, ed. Elliot Samuel Paul and Scott Barry Kaufman (Oxford: Oxford University Press, 2014), 265–87.

53.   Karen Meador, "Thinking Creatively about Science," *Journal for the Education of the Gifted* 26 (2003): 25–29.

54.   Hajek explained in Dean Keith Simonton, *Creativity in Science: Chance, Logic, Genius, and Zeitgeist* (Cambridge: Cambridge University Press, 2004).

55.   Paul and Kaufman, *The Philosophy of Creativity*.

56.   Amos Tversky and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," *Science* 185 (1974): 1124–31; Amos Tversky and Daniel Kahneman, "Subjective Probability: A Judgment of Representativeness," *Cognitive Psychology* 3 (1972): 430–54.

57.   Judea Pearl, *Heuristics: Intelligent Search Strategies for Computer Problem Solving*, (Reading, MA: Addison-Wesley Publishing, 1984).

58.   Rudolf Groner, Marina Groner, and Walter F. Bischof, *Methods of Heuristics* (Hillsdale, NJ: Lawrence Erlbaum, 1983); Robert Sternberg and Karin Sternberg, *Cognitive Psychology*, 6th ed. (Belmont, CA: Wadsworth, Cengage Learning, 2012); Gerd Gigerenzer and Christoph Engel, eds., *Heuristics and the Law* (Cambridge, MA: The MIT Press, 2007).

59.   Gigerenzer Gerd, Peter Todd, and the ABC Research Group, *Simple Heuristics That Make Us Smart* (Oxford: Oxford University Press, 1999).

60.   George Pólya, *How to Solve It* (Garden City, NY: Doubleday, 1945); George Polya, *Mathematical Discovery: On Understanding, Learning, and Teaching Problem Solving* (New York: John Wiley, 1962).

61.   See, in particular, Karl Popper, *The Logic of Scientific Discovery* (London: Routledge, 2002).

62.   See Emiliano Ippoliti, *Heuristic Reasoning: Studies in Applied Philosophy, Epistemology and Rational Ethics* (Cham, CH: Springer International Publishing, 2015).

63.   Jean Piaget, *To Understand Is to Invent* (New York: Penguin, 1976); Jean Piaget and Bärbel Inhelder, *La psychologie de l' enfant* (Paris: Presses Universitaires de France, 1966).