CE> Vol.3 No.8B, December 2012

OPEN ACCESS

Cogniton-based Enlightenment of Creative Thinking: Examplars in Computer Science

PDF (Size:244KB) PP. 90-94 DOI: 10.4236/ce.2012.38B020

Author(s)

Zhi-Quan Cheng, Shiyao Jin

ABSTRACT

It is reputed that "Genius is 1% inspiration and 99% perspiration", but it can also be noted that "sometimes, 1% inspiration is more important than 99% perspiration." As this 1% is so important, can it be understood, and even learned? If so, how can cognition be used to enlighten a scientist's inspiration (creative thinking)? Both questions are considered on the basis of cognitive theory in the paper. We illustrate our ideas with examples from computer science.

KEYWORDS

Creative thinking; Enlightenment; Cognition; Computer graphics, Computer simulation

Cite this paper

Cheng, Z. & Jin, S. (2012). Cogniton-based Enlightenment of Creative Thinking: Examplars in Computer Science. *Creative Education, 3,* 90-94. doi: 10.4236/ce.2012.38B020.

References

[1] De Bono, E. (2008). How to have creative idea: 62 games to develop the mind. Publisher: Vermi-lion.

[2] Bernard, C. (1865). An introduction to the study of experimental medicine (English translation). Macmillan & co. New York, 1927.

[3] Guilford, J. P. (1950). Creativity. American Psychologist, 5(9), 444-454.

[4] Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. American Psychologist, 51(7), 677-688.

[5] Silvia, P. J. (2008). Creativity and in-telligence revisited: A reanalysis of Wallach and Ko-gan (1965). Creativity Research Journal, 20, 34-39.

[6] Gl?scher J., Rudrauf D., Colom R., Paul L. Tranel K., D., Damasio H., & Adolphs R. (2010). The distributed neural system for general intelligence revealed by lesion mapping. In Proceedings of the Na-tional Academy of Sciences.

[7] Witelson S. F., Ki-gar D. L., & Harvey T. (1999). The exceptional brain of Albert Einstein. Lancet, 353, 2149-2153.

[8] Broadbent, D. E. (1987). Perception and communication. Oxford: Oxford University Press.

[9] von Neumann, J. (1945). First Draft of a Report on the EDVAC.

[10] Mooney G. A., Fewtrell R. F., & Bligh J. G. (1999). Cognitive process modelling: computer tools for creative thinking and managing learning. Medical Teacher, 21(3), 277-280

[11] Wallas, G. (1926). Art of Thought.

[12] Perkins, DN (1981) The Mind's Best Work. Cambridge, MA: Harvard University Press.

[13] Ram A., Wills L., Domeshek E., Nersessian N., &Kolodner J.(1995). Understanding the Creative Mind. AI Journal, 79, 111-128.

• Open Special Issues
• Published Special Issues
• Special Issues Guideline

CE Subscription

Most popular papers in CE

About CE News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

[14] Sternberg, R.J. (2006). The Nature of Creativity. Creativity Research Journal, 18(1), 87-98.

[15] Gabora, L. (2002). Cognitive mechanisms underlying the creative process. Proceedings of the Fourth International Conference on Creativity and Cognition (pp. 126-133), UK.

[16] Mumford, M. D. (2003). Where have we been, where are we going? Taking stock in creativity research. Creativity Research Journal, 15, 107-120.

[17] Kozbelt, A., Beghetto, R. A. & Runco, M. A. (2010). Theories of Creativity. The Cambridge Handbook of Creativity. Cambridge University Press.

[18] Williams, H. L., Conway, M. A., & Cohen, G. (2008). Autobiographical memory. Memory in the Real World (3rd ed., pp. 21-90). Hove, UK: Psychol-ogy Press.

[19] Atkinson, R.C.; Shiffrin, R.M. (1968). Human memory: A proposed system and its control processes. In Proceedings of The psychology of learn-ing and motivation (2, pp. 89-195). New York: Aca-demic Press.

[20] Humphreys P. (2004). Extending Ourselves: Computational Science, Empiricism, and Scientific Method. Oxford: Oxford University Press.