

ANALYTIC SUMMARY

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Mind, brain and education

ABSTRACT: A revision is made on the current of neuroscience contributions to cognition and education inquiry. After analyzing six lines of research —comparing data from behavioural and neuroimage measures— on (a) cognitive processes involved in learning, (b) the interaction between instructional support and learning processes, and (c) the learning outcomes (skills and capabilities) resulting from this complex interaction, two kind of conclusions are drawn about the notions of mind, brain and education research. Several implications for instructional practice are discussed.

KEY WORDS: learning processes, cognitive sciences, neurosciences, instructional aids.

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Glimpses of neuroscience into learning and educational remediations in reading difficulties

ABSTRACT: What happens in the brain during reading, and how can our understanding of the brain inform how we teach children to read, and help children who are struggling to learn to read, are the main questions of this paper. New directions in reading assessment and instruction are supported by recent advances in the neurosciences. Among these are early identification of potential reading problems through brief, efficient assessment of specific reading skills that predict later reading outcomes; early intervention that systematically targets critical reading processing skills; and the necessity of stimulating all functions of reading. Besides, different studies have examined whether educational remediation ameliorates

dysfunctional neural mechanisms in children with reading difficulties, the results suggest that specific educational interventions normalizes disrupted function in brain regions associated with phonological processing. Neuroscience has provided fascinating glimpses into the brain's development and function. Despite remarkable progress, brain research has not yet been successfully brought to bear in many fields of education. Combining neuroscience and education represents a new frontier in science; as such it will take time and diligence to develop our foundational knowledge in this new field of mind, brain, and education studies.

KEY WORDS: neuroscience, reading, reading disabilities, brain and education.

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Brain, numbers and education

ABSTRACT: In this paper we address the valuable contribution from Cognitive Neuroscience toward Mathematics Education. Particularly, we analyze first here the neural basis underlying number sense, and second, the difference between rote arithmetic and the calculus requiring understanding numbers as quantities. The study of the brain contributes to understanding some mathematic learning deficits emerging in our classrooms. We propose here a potential link between some impulsive answers and a developmental frontal lobe immaturity. Even though some hypothesis are very speculative, we refer here to the potential relationship between talent for mathematics and some specific physiological characteristics. Finally we mention some experimental results in Cognitive Psychology showing the interest of specific mathematical intuition training in Elementary and Secondary School.

KEY WORDS: developmental dyscalculia, numerical cognition, mathematical thinking, mathematical intuition.

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Education, brain and emotion

ABSTRACT: The article highlights the importance of the approximation to the neurology to complete the frame from which to construct a theory of the education. The exposition approach is important if it thinks that the theory must be inclusive with regard to the difference forms, with regard to all the educational actions shares that take the body as a frame and with regard to the importance of fundamentally an environmental education. Opposite to a perspective strongly «cognitivist» of the formative processes, it shows the paper role of the emotional system in the global structure of the mind, and the role of the emotion in the processes of the mental top operations. The study proposes from a systemic perspective, with different levels of organization and how inside all these levels they play an important paper role the emotions. It is clarifying the measure in which three concepts of education, brain and emotion are mutually imbricated concepts, none can be ignored if there is looked the full comprehension of the educational processes.

KEY WORDS: brain, systemic perspective, mind, emotion, education.

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Creativity and brain: neurological bases of creativity

ABSTRACT: This paper presents some theoretical considerations on creativity, and a definition from which the author points out the need to go the biological substrate of creativity. In this regard will be taken up some theories and explanations that allow to understand the relationship of creativity with the brain structure, among them are: the hemispheric lateralization, the theory of the brain triuno, the theory of the brain and the total phylogenetic evolution of the brain creator.

KEY WORDS: creativity, brain, neocortex, cerebral hemispheres, evolution, limbic system.

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Phonology without auditory information

ABSTRACT: Reading is based in phonology. Letters represent phonemes with greater or less fidelity and this fact is fundamental for learning to read, as current reading models show. In the case of deaf persons, the access to phonology may be made difficult by the hearing loss and therefore cause problems in reading. So it would be important to conceive a phonology that develops without auditory information and that might come in useful for reading, in other words, to consider the existence of an audio-visual phonology. This is the aim of this paper. To achieve this, some research would be analyzed to show that auditory information is not the only source of phonology, but that it could be regarded as a linguistic system of contrasts that governs how abstract speech units may be combined to convey meaning.

KEY WORDS: phonology, deafness, reading, cued-speech.

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The process of construction of the teacher's professional and pedagogical needs. An exploratory study

ABSTRACT: In this paper we discuss the results of a research which objectives are related with the process of construction of pedagogical and professional needs of three teachers of the elemental school in Portugal. Their pedagogical practices are framed by the model of teaching called Modern School, with long tradition in Portugal. The results show that these teachers develop their practices with references to the structure of that pedagogical model. These professionals construct their pedagogical and professional needs in the reflexive context of the pedagogical model of Modern School. This environment enriches the process of definition of needs giving references of a structure and coherence. These teachers take active part in the construction and reconstruction of strategies and concepts that underlie their practices. They have conscience of their participation in that construction and reconstruction through the critical analyse on their practice which strengthen their professional development.

KEY WORDS: professional needs, pedagogical needs, pedagogical model, professional development.

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Again with *Education for citizenship*. Policy and pedagogy

ABSTRACT: The Organic Law of Education was passed in may 2006. From then to now, the subject called *Education for citizenship* has been one of the on-going debate not only in education field but also in policy. As a result of its development, there has been an interesting discussion between people who are against and, on the other hand, people who are for. In this paper we try to show that education for citizenship is taught in most of European countries.

KEY WORDS: education, citizenship, education policy.

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Franquism repression to freinetist teachers

ABSTRACT: During and after the Spanish Civil War, primary school teachers were put under purge, looking for eradicating opposite ideas and customs within the Franco regime out. Spanish Freinet Movement, the most significant group of school renovation on the 1930 years also has been purged. This paper is about that specific process.

KEY WORDS: Freinet, Spain, Civil War, purge.

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Pedagogical thinking and scholar arithmetic for elementary course in Brazil and Spain. Times for intuitive training

ABSTRACT: This text analyses the raising of pedagogical thinking on the intuitive teaching of Arithmetic in primary school in Brazil and Spain. In order to do so, the appropriation of Pestalozzi's ideas is discussed, from the new historiography tendency of trying to resume a global history by comparative studies. In this way, the aim of this study is to answer the question: How had the ideas of teaching arithmetic being altered in these two countries in the early grades from the intuitive perspective?

KEY WORDS: history of mathematics education, arithmetic, comparative.

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Logic of knowledge harmonization, axis of curricular construction achieved thru communities of hermeneutic enlightenment

ABSTRACT: The present work investigates by the diverse logics of organization of the knowledge like axes of the curricular construction; for it, they develop two premises. First one approaches social the educative phenomenon like praxis in which it is possible to recognize diverse logics and histories of organization of the knowledge. Second it works around the image of the subjects like culture generators that make possible the flow of knowledge. In the closing it is indicated that curricula takes place and just moves in the emergent interstices of the relation and interaction between subjects. In such sense, the center of curricular attention moves of the architecture and the design towards the subjects that make them.

KEY WORDS: logic, organization, sense, curricula, community, design, encyclopedia, flow.

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