Review
Creativity: A handbook for Teachers

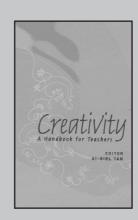|	
Title:	Creativity: A handbook for Teachers
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This handbook for teachers is made up of 28 separate chapters that have been divided into three different parts and seven sections. There are also two forwards, a preface, an introduction and an epilogue. It has been complied by Ai-Girl Tan from Nanyang Technology University in Singapore, for those who wish to explore what creativity is and how it can be enhanced. It is not a book to be read from cover to cover, it is a handbook to be dipped into by those who wish to read and understand contemporary views concerning a very wide range of important issues concerning creativity such as new concepts, theories, models, frameworks, research and teaching experiences.

The book does not set out to provide all the answers and in fact many chapters pose more questions than answers. My greatest concern about this book is that the title *'Creativity: A handbook for teachers'* plus the statement from Tan in the introduction that the book will provide teachers with *"…a platform for them to engage confidently in exploring creative ways to deliver knowledge and values to children and thus scaffold them in their journey of growing up to become excellent citizens, happy persons, and competent learners"* (p. xxxi) implies that the reader will be provided with practical applications of theories that they will be able to use in their classrooms. Whereas I believe that the strength of the book is in its extremely useful, very in-depth exploration of a wide range of theories concerning creativity. The writers of each chapter are mainly based in Universities situated in the USA (15), the Far East (15) and Europe (10). The writing tends to be very theoretical, is extremely well referenced and would, I suggest be more appropriate for those wishing to explore creativity theories in depth, possibly during post-graduate study, rather than to be of use to busy teachers looking for practical ways of being more creative teachers or developing more creative learners.

Part One concerns *'Exploring the Nature of Creativity'*, Section 1 targets *'Conceptions of Creativity'* with an excellent first chapter by Stenberg in which he discusses creativity being as much a habit and an attitude towards life rather than being a matter of ability. In Chapter 2 Hennessey provides a sound discussion of the place of motivation in the promotion of creativity. As part of her discussion she raises the issue of cultural differences in terms of the effect of environmental constraints on intrinsic motivation in Western classrooms and poses the question as to whether the same issues affect children in the more collectivist societies of Asia and the Middle East? Chapter 3 pursues the relationship between high ability and creativity. In this chapter Heller discusses various models of giftedness and in particular describes the Munich Model of Giftedness (MMG) in great detail. Chapter 4 by Shi, Qu & Liu provides an interesting discussion on creativity and its cultivation within a Chinese context.

Section 2 of Part One is concerned with *'Research in Creativity'*. In chapter 5 'The Biological Basis of Creativity' Reuter starts by explaining that investigations into creativity are widely neglected compared to research into intelligence and goes on to explain why this has been the case. He discusses in considerable depth the creativity tests that are based on the *product approach* and the *process* or *trait approach*. Concluding the chapter with an explanation concerning new developments and techniques in the neurosciences, which make it possible to investigate the biological underpinning of creativity. In chapter 6 'Creativity Research and the Classroom: From pitfalls to potential' Beghetto highlights common conceptual pitfalls regarding creativity and how to avoid them.

Section 3 of Part One concerns *'Identification and Assessment'*. Chapter 7 by Kim details the Torrance Tests of Creative Thinking and the Thinking Creatively in Action and Movement Test concluding that they are in widespread use

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because of their good reliability, proven validity, ease of use and neutrality across gender, race, community status, language and culture. In Chapter 8 Perleth & Wilde provide an overview of some of the methods used to identify gifted children. They conclude the chapter by stating that there is no perfect identification method and that depending upon the aim of the process, different diagnostic measures can be more appropriate than others. In Chapter 9 Urban describes the components of creativity in terms of a model with two main components, a cognitive and a personality component each of which has three sub-divisions. He then goes on to discusses nurturing creativity and sets out 25 recommendations for stimulating and cultivating creativity in educational settings, whilst the final section of his chapter is devoted to describing the Test for Creative Thinking – Drawing Production.

Part Two is devoted to *'Nurturing Creativity'* with Section 4 concerning *'Experiences with Children with Talents'*. In Chapter 10 Landau devotes her thoughts towards education through questions, proposing the use of a model of a spiral of creative questioning to preserve natural curiosity, stimulate imagination and a sense of adventure while ensuring an enjoyable learning process and the acquisition of better mental tools for dealing with the future. In chapter 11 Kuo discusses creativity in the context of special education using case studies and an enrichment programme developed by National Taiwan Normal University to illustrate his thinking. Copley & Cropley devote Chapter 12 to a discussion surrounding the use of assessment to foster creativity. They begin by discussing 'the creativity problem' following this with the apparent clash between creativity and achievement, ending the chapter with a section on indicators of creativity and assessing them. In Chapter 13 Craft explores extremely well the notion of possibility thinking with reference to early years and primary education drawing upon recent and current research. Chapter 14 by Kasper entitled 'Training Methods of Creative Learning and Practice' presents the journey he has undertaken to make learning more successful and teaching more creative. He begins by discussing nurturing 'learning teachers' and developing positive belief systems and presents suggestions for enriching traditional lessons, with the use of learning cycles, multidisciplinary projects, and active learning. In Chapter 15, the last chapter in Section 4, the use of word symbol puzzles to foster creativity is illustrated with examples and discussions by Subramaniam, Goh & Chia.

Part Two Section 5 is entitled *'Experience with Adults in Enhancing Thinking Skills for Creative Problem Solving'*. The first chapter in this section, Chapter 16 by Puccio & Kellar-Mathers, deals with enhancing thinking and leadership skills through creative problem solving. The need for creative thinking, the implications of the Creative Problem Solving (CPS) model, how to develop creative thinking in schools and the need for creative leaders are all described and discussed. In Chapter 17 Kong refers in depth to cultivating critical and creative thinking skills. A model for thinking skills and processes is provided and the complexities of measuring creativity are explained. In Chapter 18 Takahashi provides two foci, firstly he reports on Japanese creativity and its historical development and then he describes the specifics of various techniques used to develop creativity in Japanese organisations.

Part Three *'Creativity in Contexts'* begins with Section 6 *'Disciplinary Perspectives'*. Chapter 19 by Ambrose discusses 'Academic & Global Contexts for Creativity' by surveying several broad aspects of contextual influences on creativity. He concludes with a section on the interdisciplinary and ideological contexts for creativity, which he suggests we must not ignore otherwise we will be condemned to reactionary mindsets, adjusting too little, too late, or inappropriately to influences seemingly beyond our control. In Chapter 20 Law explains the relationship between ICT and creativity, how creative thinking can be promoted by the use of ICT and how ICT can be creatively used, concluding with implications for the future development of such relationships. In Chapter 21 Greenfield continues the theme of ICT and creativity by clarifying the boundary between artificial and programmer creativity. Chapter 22 concerns 'Automated Assessment of Creative solutions in Mathematics through Comparative Parsing'. An innovative online interactive resource RUReady designed to assist pre-college students to improve their readiness to transform their thinking from lower-level thinking based on linear relationships and memorisation to higher-level thinking based on creativity and discovery is described in detail by the authors Livne, Livne & Wight.

'Self and Other Perspectives' is the title given to Section 7. In Chapter 23 Chong begins with a discussion concerning the cultivation of creative behaviours in Asian Classrooms. In particular the thrust of the chapter concerns the development of self-regulatory processes that will support individuals to make their goals personally relevant. In Chapter 24 Lia attempts to conceptualise how positive psychology can benefit children's learning. The role of creativity as a personal strength is then discussed in some detail alongside strategies for its promotion, whilst in Chapter 25 'Creativity in Rehabilitation Psychology' Chou, Chronistor & Chan describe the role of creativity in promoting the development of novel, cross-disciplinary intervention approaches for the rehabilitation and treatment of people with Chronic Illnesses and Disabilities (CID). In

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Chapter 26 'Constructive Creativity in Education' a framework of creativity in teacher education is proposed by Tan & Wong. Six strategies for creativity in context and a creativity problem solving cycle (CPS) are proposed. In Chapter 27 'Creativity and the Brain' Duch discusses a neurocognitive model of brain processes that could bridge the gap between psychological and neural models. He goes on to describe working memory, the representation of symbols in the brain, problem solving, skill learning, and automatisation. He concludes his chapter with the belief that creative processes are based on ordinary cognitive processes and that understanding creativity and developing computational models of creativity may actually be easier to achieve than previously thought. In the final chapter, Chapter 28, James & Eisenberg discuss how Culture and Creativity relate to each other within organisations. 'Individualism' versus 'collectivism' and the promotion of creativity are considered. The chapter then focuses on some cultural constructs and individual and social processes that serve to tie culture to creativity. The authors conclude with their belief that a major difficulty to researching the topic is the complexity inherent in assessing, analysing and interpreting multiple elements of culture and multiple elements of creativity across multiple social levels.

The final thoughts in the book appear in the Epilogue written by Tan, Law & Wong in which they discuss Creativity, Research, Ethics and Health. They suggest that generically best classroom practice can only develop from an understanding of the best research evidence available at the time and that this applies within the area of creativity just as much as in any other area. The chapter then turns to the consideration of ethics explaining that ethics cannot be removed from the equation of creativity, not only ethics pertaining to creativity related activities, but more importantly to the applications of creativity, with the creative products themselves and also the process leading to such products. In other words all educators and researchers must reflect on what is ethically permissible, ethically impermissible and ethically obligatory. This leads into the final section of the epilogue concerning cultivating creativity that must include maintaining health or wellbeing and attaining constructive behaviour of the individual both in terms of agency (e.g. self-care) and communion (e.g. care for others).