THE DISTINCTIVE CREATIVITY ENDEAVOUR MODEL FOR CREATIVE THINKING, AN EXPANSION OF THE OSBORN-PARNES CREATIVE PROBLEM SOLVING APPROACH

By

BAPTIST STEVEN

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Partial Requirements for the Degree of Doctor of Philosophy

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DEDICATION

To
Professor E.Paul Torrance, PhD
(October 8, 1915 – July 12, 2003)

The late Professor Torrance, the Father of Creativity was a sheer source of inspiration and encouragement in my pursuit of this study in the field of Creative Thinking. During my correspondence with him the past few years, he was always providing valuable support, encouragement and suggestions in making this study meaningful and become reality. His replies were always comforting and prompt right up to his last days. Professor Torrance's generosity in wanting this research to succeed, had forwarded many of his writings and publications, and guiding me in the right path in realising my dream of making a contribution to the field of creativity.

Sadly, I could not present him with my completed work as his passing on July 12, 2003 at the age of 82 was surely a great loss to the creative domain.I never had an opportunity to meet this great man in person but understand and believe that he is a truly wonderful teacher, a teacher of love and compassion, giving selflessly to others with the sole aim of assisting them realise their dreams.

No words can sum up my deepest gratitude and admiration to the man who had given his life to the betterment of others. May God Bless you always and may your legacy be cherished forever and ever.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the partial requirement for the degree of Doctor of Philosophy

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Chairman: Professor Aminah Ahmad, PhD

Faculty: Educational Studies

Creative Destruction a termed coined by Joseph Schumpeter in 1942 where new businesses, products and services are being created and in turn immediately self destruct to cater for newer models and like as consumers have become highly demanding and brand loyalty is almost impossible to attain. This phenomenon is taking the world by storm especially so in this new millennium of globalisation where businesses operate at such excruciating pace and stiff competition has become a norm. Demand for new inventions coupled with higher performance and speed have forced corporations to be able to keep pace with the rapid changes or be deemed obsolete and insignificant. Human resources that are highly creative yet critical and able to perform consistently under pressure are much sought after. However, the exact educational system that the human capital is subjected to in Malaysia has been consistently criticised to be overly rote in approach and exam-oriented which does not encompass the elements of creativity and exploration. How than are we to achieve fully developed nation status come year 2020 where a workforce that is dynamic, creative and able to face up to the challenges if the catalyst to progress is the very system that they are subjected to is non creative in nature?

The research was borne from the notion that for creativity to flourish within a work environment that is constantly faced with pressure to perform and meet the challenges of the highly competitive business environment, employees need to be equipped with the necessary knowledge and skills to solve problems effectively as well as creatively as opposed to freedom from pressure. The need for acquiring skills pertaining to one's pressure threshold level as well as being creatively inspired is necessary to access one's preconscious level where active creativity lies. Many of the creative problem solving models seems not to take these two highly crucial elements (pressure threshold realisation and creative destruction) into consideration and the Distinctive Creativity Endeavour (DCE) Model proposes an alternative. The DCE model is an enhancement of the much acclaimed Osborn-Parnes Creative Problem Solving (CPS) approach.

Various versions of the CPS and DCE programs were developed and subsequently tested via an experimental approach to determine the exact effect of incorporating those two new factors into a CPS framework. The use of a control group (PLA) was introduced where the program administered was a non-creative problem solving program done to determine the comparative effect of undergoing a creative problem solving program with a non-creative program. Testing was carried out at two intervals, mainly the pretest and posttest with the use of the Torrance Tests of Creative Thinking (TTCT) to determine creativity levels of participants undergoing the creativity programs. Two research hypotheses were used in the study, the first where there exists no significant differences between the various creativity programs and second there exists no significant difference between the various creativity programs on creativity measures of the TTCT.

The multivariate analysis of variance (MANOVA); F(16,320)=3.396, p=0.005, Pillal's Trace=0.581 that shows there is statistically significant difference between the posttest scores on the combined dependent variables. As such, there exists a significant difference between the programs that had incorporated either or both of the pressure threshold realisation and creative inspiration elements in a creative problem solving program as opposed to Osborn-Parnes CPS program void of the said elements or for the control group (PLA). The size effect, η^2=0.145 is very large and significant. The results shows that the variation in the creativity scores associated to the creativity programs are significant, which means that the pressure threshold realisation and creative inspiration factors does have a strong bearing on the difference in creativity scores rendering the DCE, CPSI and CPSP programs effective.

When the programs with the pressure and/or creative inspirational elements were analysed together (CDP program) compared to the standard CPS and PLA programs, there was significant differences; F(8,160)=4.18, p=0.005, Pillal'S Trace=0.35, with a very large effect size of η^2=0.173. This proves that the incorporation of pressure threshold realisation and creative inspiration have a significant effect on participants creative ability compared to the CPS and PLA program. The Scheffe post-hoc multiple comparison indicate significant differences between the CDP-PLA program (p=0.001) and CDP-CPS (p=0.002) for the Creativity Index (CI) scores as well as the Average Standard Score (ASS).

The Creativity Index (CI) scores shows that the DCE program was most effective in bringing about overall creativity with an approximate of 48% increase from pretest to posttest. When the two elements of pressure threshold realisation and creative

inspiration were introduced separately via the CPSP and CPSI programs respectively, the percentage increase was approximately 15% each. However, hypothetically if the independent results of the two programs were combined it sums up to only 30% which is lower compared to having both factors combined together as in the DCE program. Thus, we conclude that there could be a cumulative effect when both those elements are presented together in a creative problem solving program as it enhances one's creative ability.

For the Norms Referenced measures of the TTCT, the standard fluency, originality and elaboration dimensions showed a marked increase from pretest to posttest for the DCE program as opposed to the other programs. All three measures show that having the pressure threshold realisation and creative inspiration elements together in a creative problem solving gives an enhanced effect on creative ability as compared to having them individually incorporated into a CPS program as in the case of the CPSI and CPSP program.

There is reason to believe that performing at one's pressure threshold level while being in a creatively inspired state does have a positive relationship with creative endeavour provided one is able to access the preconscious state. Creativity does not take place by mere compliance to some simple and common techniques but has more to do with the preconscious where inspiration and insight emerges and learning to access and tap that rich source of creative energy is proposed via the DCE Model.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi sebahagian keperluan untuk ijazah Doktor Falsafah

MODEL SIFAT DAYA CIPTA TERSENDIRI UNTUK PEMIKIRAN SECARA KREATIF, PENGEMBANGAN MODEL PENYELESAIAN MASALAH SECARA KREATIF OLEH OSBORN-PARNES

Oleh

BAPTIST STEVEN

April 2006

Pengerusi : Profesor Aminah Ahmad, PhD

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Pemusnahan secara kreatif adalah suatu istilah yang dikemukakan oleh Joseph Shumpeter pada tahun 1942, dimana sejurus selepas kemunculan perniagaan, produk atau servis yang terkini ia akan pupus secara tersendiri. Ini desebabkan pelanggan masa kini sentiasa menuntut yang terbaru dan ketaatan kepada sesuatu jenama susah dikekalkan. Fenomena ini makin menjadi terutama sekali dalam era globalisasi yang berlaku zaman ini dimana tahap perniagaan dan persaingan sukar dibendung. Permintaan untuk barangan yang canggih dan terbaru dengan tahap prestasi tinggi tidak dapat dielakkan dan syarikat tempatan maupun antarabangsa terpaksa turut bersaing atau tidak akan mengalami kepupusan. Tenaga pekerja kreatif dan dapat bekerja dalam situasi penuh tekanan makin dituntut. Walau demikian, sistem pembelajaran di Malaysia dianggap terlalu bergantung pada peperiksaan dan penghafalan dan ini akan secara tidak langsung mengkongkong kebolehan berfikir secara kreatif. Jika langkah-langkah drastik tidak diambil demi merobah system pengajaran maupun pembelajaran, aspirasi mencapai status negara membangun akan

terguggat kerana tenaga kerja yang dinamik dan kreatif adalah mangkin kearah pencapaian Wawasan 2020.

Tenaga pekerja perlu memiliki kebolehan untuk menyelesaikan masalah kerja secara kreatif sambil dapat bekerja dalam keadaan tertekan jikalau masyarakat ingin mampu bersaing dilapangan antarabangsa. penyelidikan yang kami jalankan adalah berdasarkan kepercayaan bahawa manusia perlu berhadapan dengan tekanan yang optimum untuk seseorang berada dalam keadaan paling fokus sambil dilamuni perasaan inspirasi untuk mereka secara kreatif. kebanyakan model pemikiran secara kreatif tidak mengambil kedua-dua aspek in dalam model mereka. oleh hal demikian, kami mencadangkan suatu model yang mengambil kira kedua-dua faktor tersebut iaitu faktor merelasasikan tahap tekanan kerja yang boleh dikawal bersama dengan situasi-situasi yang menjadi ilham dan inspirasi kepada seseorang dimana pemikiran mereka bagaikan bebas untuk berfikir secara kreatif. Model Sifat Daya Cipta Tersendiri (DCE) untuk pemikiran secara kreatif adalah berdasarkan model penyelesaian masalah secara kreatif (CPS) oleh Osborn-Parnes.

Pengubahsuian dibuat kepada program CPS Osborn-Parnes dimana dua faktor baru iaitu tekanan and inspirasi dimasukkan kedalam program tersebut. Segala variasi terhadap program CPS dikaji dengan melakukan eksperimen terhadap sampel yang dipilih dari pelbagai syarikat antarabangsa di Malaysia. Pengukuran dijalakan sebelum permulaan program dan sejurus selepas sesuatu program tamat demi memastikan perbezaan yang wujud adalah ketara atau tidak dan tahap keberkesanan dua faktor terbaru itu terhadap kebolehan berfikir secara kreatif.

Analisis melalui MANOVA; F(16,320)=3.396, p=0.005, Pillal's Trace=0.581 menunjukkan bahawa wujudnya perbedaan yang ketara antara ukuran sebelum menjalani program tersebut dengan selepas antara semua program penyelesaian masalah secara kreatif. Kesan saiz pada η^2=0.145 adalah sangat besar dan ketara. Kesimpulan yang boleh dibuat adalah perbezaan dalam ukuran kreativiti pada skala TTCT adalah ketara dan boleh dirumuskan kepada faktor tekanan dan inspirasi yang dimasukkan kedalam program DCE, CPSI dan CPSP yang menyebabkan program-program tersebut lebih berkesan.

Bila program-program yang mempunyai salah satu atau kedua-dua faktor tekanan dan inspirasi kreatif dianalisiskan secara satu gabungan berbanding dengan program CPS dan PLA, didapati perbezaan dalam kreativiti amat ketara: F(8,160)=4.18, p=0.005, Pillal'S Trace=0.35, dengan kesan saiz yang sangat besar (η^2=0.173). Ini menunjukkan bahawa kesan yang dibawa oleh kedua-dua faktor tekanan dan inspirasi adalah amat ketara sekali bagi program penyelesaian masalah secara kreatif. Ukuran perbandingan Scheffe menunjukkan perbezaan yang signifikan antara program CDP-PLA (p=0.001) dan CDP-CPS (p=0.002) pada keputasan Index Kreativiti (CI) dan keputusan Ukuran Purata (ASS).

Dari keputusan kajian, didapati bahawa program DCE adalah paling efektif dalam meningkatkan tahap kreativiti seseorang dengan peningkatan sebanyak 48%. Didapati juga, jika kedua-dua faktor tekanan dan inspirasi dimasukkan kedalam program penyelesaian masalah secara kreatif secara berasingan seperti dengan CPSI dan CPSP, peningkatan tahap kreativiti adalah hanya 15% untuk setiap program. Jika keputusan untuk program CPSI dan CPSP ditambahkan ia hanya berjumlah 30%, iaitu kurang berbanding dengan program DCE yang mempunyai kedua-dua faktor tersebut didalam

satu program. Ini menunjukkan bahawa wujudnya kesan yang amat ketara sekali jika kedua-dua faktor tekanan dan inspirasi digabungkan sekali dalam sebuah program penyelesaian masalah secara kreatif.

Ukuran pada skala TTCT mendapati dimensi kelancaran, keunikan dan penghuraian menunjukkan peningkatan yang amat ketara untuk program DCE berbanding program–program yang lain. Kesemua tiga ukuran dimensi TTCT menunjukkan bahawa gabungan faktor tekanan dan inspirasi mempunyai kesan sampingan yang amat ketara jika dibandingkan dengan program-program lain yang hanya mempunyai salah satu dari faktor tersebut atau tanpa faktor dan tekanan seperti program CPS dan PLA.

Kesimpulan dari kajian yang dijalankan adalah bekerja pada tahap tekanan yang optimum sambil berada dalam keadaan berinspirasi secara kreatif, iaitu penuh dengan tenaga untuk mereka membolehkan seseorang melangkah kealam kesedaran spara mental yang mendalam. Kreativiti jarang muncul dengan hanya mematuhi beberapa prinsip dalam sesuatu program kreativiti tetapi lebih kepada kebolehan untuk mereda jauh kedalam alam kesedaran spara yang penuh dengan tenaga kreatif.

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I certify that an Examination Committee has met on 4th April 2006 to conduct the final examination of Baptist Steven on his Doctor of Philosophy thesis entitled "The Distinctive Creativity Endeavour Model For Creative Thinking, an Expansion of the Osborn-Parnes Creative Problem Solving Approach" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the partial requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

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BAPTIST STEVEN

Date: 18th June 2006

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