Chapter 7: Summary and recommendations

> "*Defining and understanding the concepts of creativity has always posed a challenge. Its measurement has eluded our schooling and therefor neglected, as a most integral skill needed for our future survival. Creative assessment is not necessarily an attribute of individuals, but of social systems making judgement calls about trends, individuals and, as can be expected, the creative product itself. It is a combination of complex functions, capacities and tendencies of which the social world can extract and create value from these novel products."*
>
> Botha (1999)

7.1 Introduction

The above quote is a summarised explanation of the world of creativity. An emphasises is provided on the nature of creativity as "complex" and even more strongly a construct with an elusive quality within an educational context. This argument provides evidence to the strenuous attempt to explore, develop and test the effect of creativity in an education and training framework, as endeavoured in this study. An even more complex platform is added, namely entrepreneurship. Both these fields create unique challenges. The challenge of developing a training model that integrates creativity, innovation and opportunity finding within an entrepreneurial context, was achieved and tested.

A facilitator in the inception phase of study was the pioneering work of Carrier (1999) as mentioned in Chapter 3. The author's identification of

deficiencies in the field of entrepreneurship training, with a focus on creativity, innovation and opportunity finding, needs a definite repetition:

- Courses offered by training institutions focused on training the traditional manager and not the entrepreneur
- Lack of skills training for growth-oriented business (thus primarily opportunity driven)
- The lack of models addressing the creativity, innovation and opportunity finding issues directly, as part of entrepreneurship training
- Proper differentiation between a business idea and an opportunity, in a training context
- Less emphasis on the pre-entrepreneurial phase of actively seeking business opportunities, but rather an accentuation on feasibility and realistic market related opportunities
- Total lack of tools, textbooks and approaches to cultivate creativity, innovation and opportunity finding
- Creativity, innovation and opportunity finding stifling pedagogical paradigms in teaching business and entrepreneurship
- Lecturing as a teaching method, an approach that often reveals more about the teacher than about the subject taught

The development of the CIO training model was catalysed by the above, and the outcome, namely a novel product, formed the result thereof. An endeavour to address these issues directly served as the primary objective. An integrated procedural approach was structured and applied as follows:

a. Formulation and development of the CIO training model (a secondary research process with a fundamental focal point on the field of entrepreneurship and best practices)

b. Implementation of the model in an action learning context within a certain timeframe

c. Testing the likely commercial success of the novel outcomes or innovations by means of the *Innovator* ©

7.2 Summary and findings of theory

7.2.1 Chapter 2

The first chapter on theory sets the scene for entrepreneurship education within a South-African context. Relevant sources were employed to ascertain the different elements of entrepreneurship education. The construct entrepreneurship is defined and conceptualised with an emphasis on true entrepreneurship with creativity, innovation and opportunity finding as differentiating entrepreneurial skills. A brief historical background of entrepreneurship is likewise illustrated. An accepted definition for entrepreneurship is compiled based on the work of Cornwall & Perlman (1990:4), Van Praag (1996:3), Burch (1986:4), Mare (1996:3), Drucker (1985:25); Hisrich & Peters (1998:9) and Kuratko & Hodgets (1998:31), although still a challenge in certain schools of thought.

The chapter furthermore portrays a secondary aggregation of research within the field of entrepreneurship. The fragmented nature of research in this field is highlighted. Research in general is divided into three different categories: *firstly* the entrepreneur, his/her actions and qualities, *secondly,* the entrepreneurial process and, *thirdly* the factors involved in increasing the promotion of the development of entrepreneurs and entrepreneurial activity. This study forms part of the developmental category.

A fourth part of the chapter focused on the training of entrepreneurs. The trainability of entrepreneurs is accepted as a given in this study as supported by Gibb (1985:3), Hisrich & Peters (1998:19) Kuratko & Hodgetts (1998:10) Rosa & McAlpine (1992:64), Van Vuuren (1997:1) and Welsch (1993:14) as well as McClelland (1969:1) and Winter (1964:19). The dynamic multiplication training model: E/P = f [M(E/S x B/S)] is seen as the basis of curriculum development and explained in the context of the entrepreneurial process and this study. *Entrepreneurial performance* (E/P), performance motivation (M) entrepreneurial (E/S) and business skills (B/S) form the core constructs in the formula and received an elaborated effort of clarification. A subsection provides evidence on entrepreneurship as a subject and the development of entrepreneurship as a discipline is elucidated upon.

7.2.2 Chapter 3

The nucleus of this study, creativity innovation and opportunity finding provided the content of Chapter 3. Creativity, innovation and opportunity finding, inclusive as differentiating entrepreneurial skills, are supported by the groundbreaking work of: Smoller & Sombart as quoted by Herbert & Link (1982), Weber (1930), Schumpeter (1939), Beaudeau (1767). Bentham (1838), Von Tunen (1850), Von Magoldt (1855), Cole (1946) as quoted and described by Van Daalen (1989). A special notion is made embracing the discrepancy between the “entrepreneur” and the “small business owner” whereas the former includes a vast amount of creativity, innovation and opportunity finding as facilitating skills.

An in depth secondary analysis is conducted regarding the background and nature of creativity. The creativity model of Couger (1995) is utilised to define creativity and consists of the following concepts: person,

process, press (environment) and product. This model served as the basis of the theoretical intervention with regards to the CIO training model. Innovation is the result of creative thinking and processes. The chapter furthermore studied the nature of innovation due to the importance thereof as the key outcome of the CIO training model. This subsection describes the origin and development of innovation and the qualities of an innovative individual, directly applicable to the entrepreneur.

The third subsection examined the definition and constitution of the construct - opportunity finding. A number of techniques in assessing opportunities are investigated in order to differentiate between ideas and feasible opportunities.

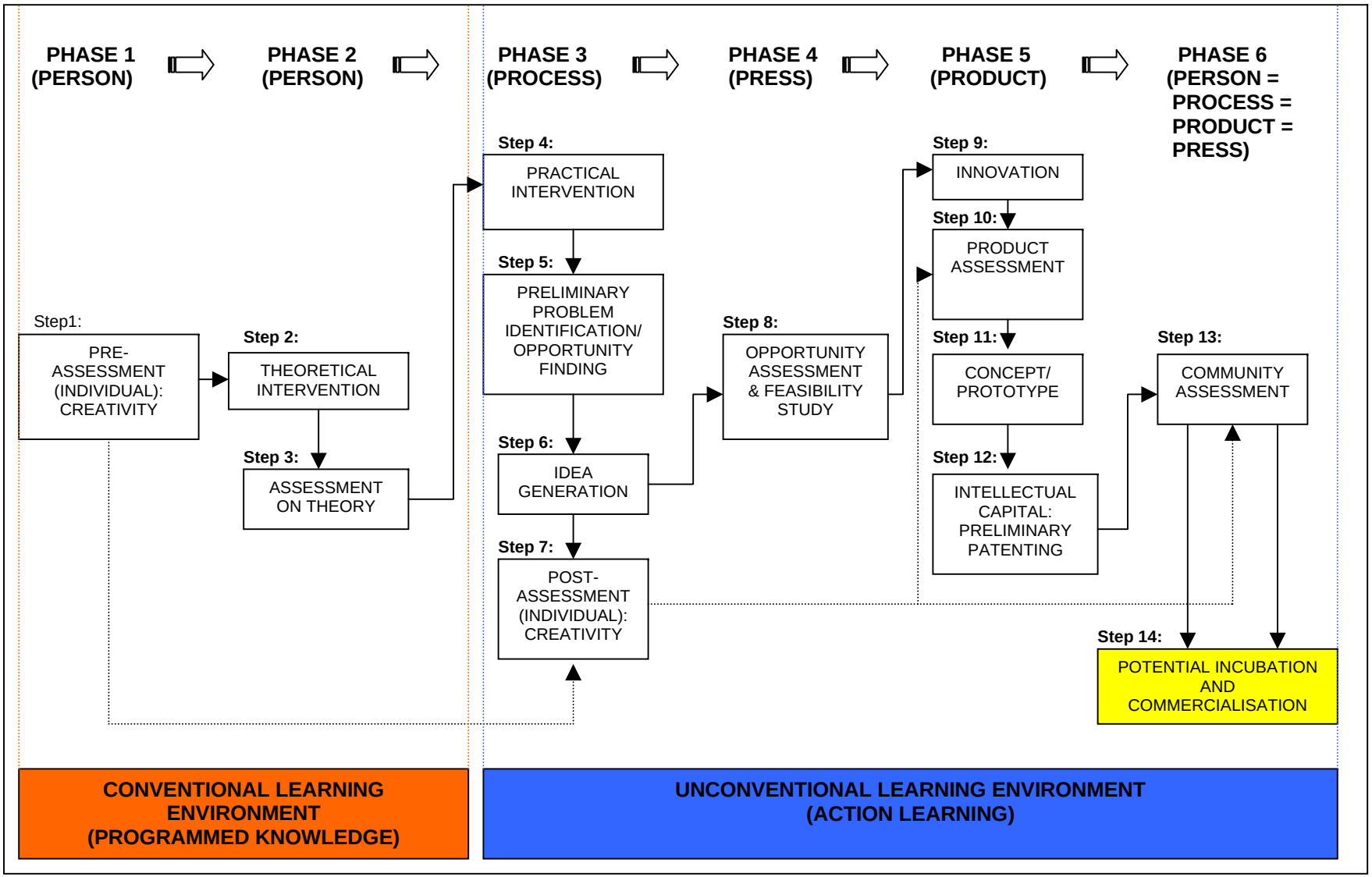
A final subsection integrates the training of creativity, innovation and opportunity finding in an entrepreneurial context. This section links the theoretical review with the primary focus of the study that precedes the formulation and explanation of the CIO – training model.

7.2.3 Chapter 4

The need to develop an entrepreneurial orientated training approach opposed to the normal didactic methodology served as the basis of this chapter. It starts with the context or educational framework, which is based on a combination of the principles of action learning within an experiential learning framework. An exploration on the definition, variables, behavioural impediments, advantages and the effectiveness of action learning in an entrepreneurial context, provides subsistence as background to the development of the CIO training model. The following schematic illustration shows the make-up of the training model. A

comprehensive discussion on the different phases of the process supports the illustration in Chapter 4.

Schematic illustration X: The Creativity, Innovation and Opportunity finding training model



7.3 Summary and findings of empirical investigation

7.3.1 Chapter 5

Chapter 5 provides information on the research procedures followed in conducting the empirical section of the study. The sample decision, sizes, questionnaire and method within the context of an experiential research design is described. The second section of the chapter offers a brief theoretical exploration on the methodology applied in the empirical conduct.

7.3.2 Chapter 6

The data analysis of the empirical study is described in detail in Chapter 6. The first step in the process exposed each suggested factor to an item analysis as part of establishing the internal reliability of the *Innovator* ©. *Secondly* a summary of demographic significance explains the basic differences among the three groups as well as the influence of the demographics on the results of each factor of the *Innovator* ©. In the *third* part the differences among the experimental and control groups are provided.

i. Factor creation and reliability of the *Innovator* © questionnaire

The following factors were analysed by means of individual items in order to establish reliability. Further analysis was conducted to exclude the possibility of one item contributing excessively to a factor. The following factors were analysed:

- Effect on society

- Business risk
- Analysis of demand
- Market acceptance
- Competitive advantage

All the factors created show high internal reliability, consistency and all items contribute fairly well to each factor.

ii. Demographic analysis

Gender

No significant differences exist among the groups with regards to gender (Chi-square = 2.106; p = 0.349). The gender composition of the total sample equals to 40% female and 60% male.

Age

Age is not considered a contributing variable in this study. The post hoc Bonferoni although showed a significantly older age distribution in the Control group compared to the Experimental group 1. Age does not correlate significantly with the scores on the factors of the *Innovator* ©.

Home language

The language groups were combined into four groups: Afrikaans, English, African and Foreign (German, Chinese and French). The latter was excluded from the analysis due to the insignificant number of respondents in these groups. The experimental groups showed matching language profiles and differs significantly from the control

group. The control group has a high number of African languages (significance: Chi square = 39.92; p = 0.000). The factors: Effect on society, Analysis of demand and Market acceptance, showed significant differences among the three language groups in terms of their scores on the *Innovator* ©. The Afrikaans and English speakers exhibit higher scores on these factors than the African speakers. Language is considered a nuisance variable when comparing the results of the experimental groups with the control group due to the high percentage of African speaking respondents evident in the control group.

Race composition

Significant differences exist in the race composition of the respondents. Experimental group 1 has an 86.4% Caucasian composition, Experiment group 2 a 76.8% Caucasian and the Control group a 54.2% Black composition. The significance is stated by a Chi-square of 28.42 and p = 0.000. When comparing the prominent race groups namely Caucasian and African and their responses to all the *Innovator* © factors, the Caucasian group consistently obtained higher scores on all factors. Race is also considered a nuisance variable.

Degree enrolled for

The degrees enrolled for differ significantly from each other and support the logic of the choice of sample, as discussed in Chapter 5. Experimental group 1 consists of respondents studying Entrepreneurship as a degree of specialisation. Experiment group 2 with a sundry of commercial degrees of specialisation, and entrepreneurship as an elective module. The Control group consists

of a diverse number of degrees of specialisation, predominantly in the commercial field.

Year of study

Experimental group 1 involved second year students only, due to the fact that this group was the first entrepreneurship students enrolled for the course. The size and year of study are therefore a fixed condition. 85% of Experiment group 2 and 76% of the Control group are enrolled on the third year. A fixed condition is also created due to the fact that the CIO module is only presented on the third year as an elective. It was thus impossible to establish an experiment group on the same year of study, receiving the same treatment (CIO).

Current entrepreneurial ventures

The question on entrepreneurial ventures created ambiguity. Various respondents did not answer the question, only 49 responded. A differentiation between “start-up self” and “direct or indirect involvement” should have been established. This creates an opportunity for further research.

The demographic analysis did not serve as the primary objective of the study, and the significant differences among the groups with regards to demography were uncontrollable. Experiment group 1 formed part of the first entrepreneurship students taking the degree in entrepreneurship, and creativity, innovation and opportunity finding *per se.* Experiment group 2 served as the first group taking the elective. No previous documentation exists with regards to demographic comparison and interference. These variables will contribute to future research as conducted on a longitudinal basis.

iii. Comparison of results between Experimental and Control groups

All factors show a significant difference between the control group and the experimental groups. The difference is most prevalent in the following factors:

- Effect on society (Eta Squared = 0,222)
- Analysis of demand (Eta Squared = 0,226)
- Competitive advantage (Eta Squared = 0,219)

Descriptive hypotheses or propositions served as the formulation of empirical testing and will form part of the summary and conclusion henceforth:

Proposition 1:

Experimental group 1 (treated) will show significantly higher scores on the likely commercial success of innovations, than the Control group.

This proposition is accepted based on the analysis of Table 34 (ANOVA) where the Experimental group 1 exhibit significant differences in factor results compared to the Control group.

Proposition 2:

Experimental group 2 (treated) will show significantly higher scores on the likely commercial success of innovations, than the Control group.

From the results obtained in Table 34 (ANOVA) it is evident that the results of Experimental group 2 compared to the Control group are statistically significant. This proposition is therefore accepted.

Proposition 3:

Experimental group 1 (treated) and Experimental group 2 (treated) will show significantly higher scores on the likely commercial success of innovations, than the Control group.

Proposition 1 & 2 could not be rejected based on the interpretation of the statistical analysis of this study. One can thus conclude that Proposition 3 is also accepted.

Proposition 4:

Experimental group 1 (treated) will show significantly higher scores on the likely commercial success of innovations, than Experimental group 2 (treated).

The proposition proposed is rejected. The results from the study shows that Experimental group 1 do not present a significantly higher score on the likely commercial success of innovations, than Experimental group 2.

Proposition 5:

No significant differences exist between the Experimental groups and Control group with regards to the likely commercial success of innovations.

This proposition is rejected based on the findings illustrated in Table 34 (ANOVA). There are significant differences among Experimental group 1 & 2 and the Control group with regards to the likely commercial success of innovations.

Conformation is furthermore provided by the Discriminant analysis, where a correct placement of 77.3% is achieved (Table 40).

7.4 Recommendation

The following recommendations are made with regards to future research of a similar or related nature:

- The sample size of experimental groups needs to be increased as the field of entrepreneurship in South Africa grows within a training context. The samples used represent a rather small portion of the potential entrepreneurship learners.
- The demographic structure of the samples has to be aligned with each other. The current study showed that significant differences exist in terms of Home language and Race composition. An opportunity is therefore created to investigate the continuous role and influence of Language and Race as detrimental or beneficial in creativity, innovation and opportunity finding training, within an entrepreneurial developmental context. These factors can furthermore enlighten researchers and educators on the existing obstacles and catalysts in the potential entrepreneur's learning and development environment, in terms of Language and Race (cultural factors).
- The CIO training model addressed the following deficiencies in entrepreneurship education directly:

- The model focused on training the entrepreneur and not the traditional manager
- The intervention ensured the acquisition of skills with feasible opportunity finding as the primary point of convergence
- The model addresses the entrepreneurial skills: creativity, innovation and opportunity finding directly, as part of an entrepreneurship training programme
- Pertinent differentiation is established to understand the exact variance between an “idea” and an “opportunity”, within an entrepreneurial and market context. The training model accentuated the feasibility and realism of market related opportunities
- The training methodology applied in this study is based on experiential and action learning and therefor overcome stifling pedagogical paradigms in teaching business and entrepreneurship
- The model reveals more about and for the learner, due to its learner centred approach, than teaching methods that disclose more about the lecturer
- The study offers future educators a tool and approach to cultivate creativity, innovation and opportunity finding.

• This study endeavoured to be unique (as indicated in the previous point) and the results support the statement. It can therefor be derived that the CIO training model may serve as a successful instrument in entrepreneurship training, with a specific notion to creativity, innovation and opportunity finding as differentiating entrepreneurial skills. The model may for instance be expanded and adjusted to extended timeframes and presented on higher levels of learning (e.g. post-graduate studies).

This attempt will offer entrepreneurship educators and trainers a platform for future development in the field of entrepreneurial skill facilitation. A much needed foundation for a novel science.

" ... no wonder that it has taken over a decade of entrepreneurial research to recognise the enormity of the problem of understanding "the elephant."."

Timmons J.A. (1994)