2018

4E's Socratic Model: A grounded theory for managing team creativity in an organisational context

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4E'S SOCRATIC MODEL: A GROUNDED THEORY FOR MANAGING TEAM CREATIVITY IN AN ORGANISATIONAL CONTEXT

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Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

University of Notre Dame Sydney

School of Business

March 2018

KEYWORDS

Creativity; Socratic Method; Socratic Dialogue; Leadership; Business management; Teams; Innovation; Critical thinking.

ABSTRACT

There has been considerable research on identifying the antecedents of creativity and the determinants of organisational creativity, but researchers are yet to develop an effective model for managing creativity within a traditional hierarchical management structure. It has been suggested that using the Socratic Method to create a learning environment within an organisation is a way to foster creativity in an uncertain environment. In this context the Socratic Method is defined as a directed questioning technique to encourage critical thinking. This thesis proposes that taking a Socratic approach to champion creativity enables management to increase creativity in their teams. It also reviews the relevant literature to test support for this assumption through the use of a grounded theory approach to propose and empirically test a model to manage a Socratic dialogue in a team environment. This thesis includes implications for theory and practice.

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STATEMENT OF ORIGINAL AUTHORSHIP

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature:

Date: 5 March 2018

ACKNOWLEDGEMENTS

I would like to thank my supervisors, Professor Hélène de Burgh-Woodman and Dr Sagar Athota, whose extensive knowledge ensured I didn't veer off the path too far. Their insightful comments made me question and revise so that the end result is far superior to my early drafts. Without their support the journey would have been much more difficult.

Chapter 1: Introduction

The purpose of this research is to apply and refine the Socratic method to better understand how to enhance creativity in organisations. As a result of this analysis, areas for future research that would further prove the legitimacy of creativity in the management context will be identified.

This chapter outlines the background (section 1.1) and context (section 1.2) of the research, and its purposes (section 1.3). Section 1.4 describes the significance and scope of this research. Section 1.6 describes the limitations of the study and section 1.7 includes an outline of the remaining chapters of the thesis.

1.1 Background

There has been considerable research on identifying antecedents of creativity and the determinants of organisational creativity, but researchers are yet to develop an effective model for managing creativity within a traditional hierarchical management structure. Organisational creativity is defined here as "a domain-specific, subjective judgment of the novelty and value of an outcome of a particular action" (Ford, 1996, p1115).

Richard Florida, whose book *The Rise of the Creative Class* (Florida, 2002) identified three conditions under which creativity would flourish, describes an environment where an individual's thoughts and ideas are valued; where recognition is based on merit; and where a range of views and backgrounds are acceptable and there is honesty in people's relationships. This contention is supported by Amabile et al. (1996), who also emphasize the importance of challenging work. However it is not just the antecedents of creativity that are important, it is also the interplay

between the individual and the context in which they operate (Elia et al., 2017) and how a deficiency in one area can be offset by a strength in another (Caniels & Rietzschel, 2015).

Achieving this utopia requires closing the gap between risk-averse corporate governance and the flexibility required for creativity to survive. This paradigm shift is critical in today's fast-moving business environment as creativity is a key factor for success (Hon, Bloom & Crant, 2011) and without it an organisation is unlikely to remain competitive (Anderson, De Dreu & Nijstad, 2004; Sohn & Jung, 2010; Beheshtifar & Kamani-Fard, 2013).

Woodman, Sawyer and Griffin (1993) assert that creativity is an interaction between the individual and their work environment and therefore it is that interaction that produces creative outcomes in an organisational context (Jain, R., Jain, C. & Jain, P., 2015), which Sonnenberg and Goldberg (2007) say can be managed using the Socratic Method (a directed questioning technique to encourage critical thinking). Is this a potential solution to the problem? This thesis is an exploration of this contention.

1.2 Context

The importance of creativity in an organisational context was first highlighted by Schumpeter (1942) when he said that the process of "creative destruction" (new ideas/ways destroying old ones to create value) was at the heart of Capitalism (1942, p. 82). However, creativity of itself is not enough to guarantee growth. Edith Penrose (1959), in espousing her theory of growth of the firm, points out that a firm's failure to grow is "often attributed to demand conditions rather than to the limited nature of entrepreneurial resources" (Penrose, 1959, p. 37). Those demand conditions are not

only market driven but are also influenced by the culture of the organisation, which in many cases doesn't tolerate trial and error decision-making (Thompson, 1961, p. 486). The issue is thus to be able to foster creativity in an environment that is not conducive to risk taking.

While the ideal traits of the creative individual and the most conducive environmental conditions have been well documented by socio-cultural theorists such as Amabile (1983) and Csikzentmihalyi (1996), there is no clear framework identified for managers to use to foster creativity in a real-world context. There has been much research that focuses on individual characteristics and interactions within a group but little that considers a process by which these individuals and their interactions can be managed to produce creative outcomes. The current study therefore extends the knowledge by producing a model (based on real-world interactions) that results in a creative outcome irrespective of individual differences in creativity or environmental impediments.

In today's hypercompetitive business environment there is an air of constant change as companies scurry to catch up to, or retain relativity with, their respective competitors (Anderson, Potocnik & Zhou, 2014). Often, they must achieve this with fewer resources. The speed of this change means that companies "must become learning organisations; places in which everyone learns to do things better in an age of uncertainty" (Sonnenberg & Goldberg 2007, p. 54). That raises the question about the best way to achieve this. While the authors mention a number of different approaches, they highlight the Socratic Method as being one of the best options.

1.3 Purpose

The purpose of this research is to test Sonnenberg and Goldberg's (2007) assertion that taking a Socratic approach to champion creativity will enable management to increase creativity in their teams. This study first examines what is meant by a "Socratic approach" and what constitutes both individual and organisational creativity through examination of the relevant literature. The identified process is then tested in the field to identify the conditions under which this statement is true and to develop, test and validate a model for its use.

1.4 Significance and Scope

The significance of this project is that the research results will advance the theoretical understanding of creativity in an organisational context and provide a framework for managers to create a positive climate of creativity in their organisations. As stated in section 1.2 above, there is no clear framework identified for managers to use to foster creativity in real-world conditions. Recent authors such as Elia et al. (2017) present some research-based factors, but these are yet to be empirically tested.

This research was undertaken using a socio-cultural framework, which Amabile (1983) proposed (based in part on the work of Bordieu (1966)), consisting of three components: the person, domain and field. This framework is appropriate because the topic is concerned with the creativity of various players (the person) within an organisational context (the domain) and will be examined with specific organisations (the field).

Within this framework I use a grounded theory methodology because it supports the development of a concept (the proposed Socratic Model) through the use of constant comparison and ongoing questioning.

The scope of this research was to:

- Explore the incidence of creativity in a selection of Australian organisations and determine whether a Socratic approach to creativity will increase its effectiveness.
- Identify a Model that incorporates the diversities of creativity into a structure that can be used by managers in the real world.

1.5 Research question

The primary research question or core variable was developed using an approach recommended by Creswell (2009) for the development of grounded theory:

What is the theory that explains the process of using a Socratic method to produce creative outcomes in organisational team interactions?

1.6 Limitations

As this was a phenomenological study, the results may not be transferable outside the organisations studied. However, the resulting theory is designed to provide a starting point for the management of creativity within an organisation that can then be adapted to account for unique circumstances.

1.7 Thesis Outline

The chapters for the remainder of this thesis are presented using the stages of a Socratic Dialogue that replicates the various stages of the Model from which the substantive grounded theory is developed. The successful conclusion of this will

provide a partial proof that the proposed Socratic approach is viable as a management tool.

The stages and chapters are listed below:

- Chapter 2: Literature review – **exploration** stage – what we currently know
- Chapter 3: Research Design – **examination** stage – method for gathering evidence
- Chapter 4: Results and Theory Development – **examination** stage – what views have been exposed
- Chapter 5: Discussion – **evaluation** stage – where this leads
- Chapter 6: Conclusions and Implications – **election** stage

Chapter 2: Literature Review

This chapter begins with a discussion of the context of the review in grounded theory research (section 2.1) and a review of definitions of creativity (section 2.2), and continues with the historical background of creativity research (section 2.3). It then reviews literature on the following topics: the creative individual (section 2.4), which discusses individual traits that enhance creativity; the creative organisation (section 2.5), which discusses structures and conditions that encourage creativity; and Socratic approaches to managing creativity (section 2.6), which examines the use of the Socratic method in an organisational context.

Sections 2.7 and 2.8 highlight the implications from the literature and develop the conceptual framework for the study.

2.1 Context of the Literature Review

In grounded theory research, it is accepted that a comprehensive review of all literature in the field under investigation beforehand is not desirable as it could be a constraining factor (Corbin & Strauss, 2015). This view is echoed by Becker (2007), who cautions that it is better to use, rather than be used by, the literature.

Relevant theoretical frameworks emerge as data is collected and analysed; therefore reviewing the literature is an ongoing part of theory development (Charmaz, 2006). Based on the recommendation of Corbin and Strauss (2015), this chapter enhances sensitivity and provides descriptive materials relating to the study of creativity in an organisational context and stimulates analytic questions to be

addressed in observations and interviews. It also reveals gaps in extant knowledge and positions the study in relation to these gaps (Charmaz, 2006).

This approach allows the identification of the antecedents of both individual and organisational creativity and the establishment of a context from which to measure the effectiveness of taking a Socratic approach to improving it. Secondly, by examining the support for use of the Socratic method in this context I establish a baseline from which to build the proposed Socratic model.

This chapter can also be matched to stage 1 of the Socratic process; exploring what is already known.

2.2 Creativity Defined

Creativity has been seen as a process of the development of novel ideas that result in something of value (Anderson, Potocnik & Zhou, 2014; George, 2007; Oldham & Cummings, 1996; Shalley, Zhou & Oldham, 2004). It is distinct from innovation, which follows on from creativity and is viewed as idea implementation (Amabile, 1996; King & West, 1987).

Creativity is the result of the interaction of three factors: cognition, environment and personality (Eysenck, 1993). In the creative context, cognition involves the selective combination of unrelated ideas or concepts (Koestler, 1964). A creative environment is one that supports free collaborative improvisation (Sawyer, 2006). The personal qualities and traits of the creative individual include motivation, experience, risk orientation, social skill and persistency (Amabile & Gryskiewicz, 1987). It is important to distinguish between a trait, which is attitudinal, and a quality such as extroversion, which is personality-based. In the team context an individual's

attitudes can be positively affected by creative experiences regardless of their individual personality traits (Amabile et al., 2005).

Creativity (the development of novel ideas) is distinct from innovation which is the implementation of them. While this study is concerned only with creative outcomes, the usefulness of them in a management sense can only be determined by the ability to be successfully implemented. Cropley, Kaufman and Cropley (2011) posit that innovation is not necessarily a separate construct and can in fact occur simultaneously.

Cropley and Cropley (2005) describe this construct as functional creativity which meets four criteria: relevance and effectiveness, novelty, elegance and genesis. However, the development of creative functionality must arise out of a creative outcome and therefore the current study concentrates on the efficient production of that.

2.3 Historical Background

There have been four notable stages in the study of creativity since 1924, when Wertheimer, in an address to the Kant Society, promulgated Gestalt theory, based on the notion that examining the constituents of something will not necessarily allow a description of the whole. In other words, there is more value in the whole than the sum of its parts. When applied to creativity, this view holds that examination of the constituents of creative behaviour will not explain the whole.

However, in the following decades the focus was on doing just that – examining the constituents of creativity. Guildford (1950) advocates a psycho-analytical approach but cautions not all creativity is the same. He recognises the Gestalt view, recommending examining patterns rather than specific factors as their

productivity in a creative sense will vary in different applications. However, Guildford does identify five creativity-relevant abilities an individual should have: problem sensitivity, fluency, novel idea generation, flexible thinking, and the ability to synthesise and analyse.

Wertheimer and Guildford's work focused on the individual, whereas Amabile (1983) introduces a componential model of creativity made up of three pillars: motivation plus domain and creativity-relevant skills. While agreeing with Guildford that creative abilities are important, without specific domain-related skills or motivation they will not necessarily result in creative productivity.

Nine years later, Sternberg and Lubart (1992) introduced an investment theory, which focuses on creative productivity, saying the greatest output will come from identifying and pursuing undervalued ideas, which requires the application of six resources (p. 245): intelligence, knowledge, thinking style, personality, motivation and environmental context.

All of these theories can be summarised by taking an interactionist view that creativity is the result of a confluence of situational and behavioural factors arising from interactions amongst individuals, groups and organisations (Woodman, Sawyer & Griffin, 1993). This brings us back to the Gestalt view: if the sum of the whole is indeed greater than its constituents, how is this confluence of factors best managed to produce that synergistic effect? (George, 2007).

In order to answer that question, we need to first identify the elements that make up the whole, and, therefore, we must examine individual creativity, how that is affected by organisational climate, and how individual creativity in concert with organisational climate affects creativity in a team context.

2.4 Creative Traits and Competencies

A recent global study (Adobe, 2012) found that only 1 in 4 people feel that they are reaching their creative potential and that there is increasing recognition of the importance of creativity in an economic sense. This finding is important because self-efficacy has a positive bearing on an individual's ability to experiment with new ideas (Yoon & Kayes, 2016).

Amabile (1983), in discussing the social psychology of creativity, proposes a framework for conceptualising creativity that consists of domain-relevant skills, creativity-relevant skills and task motivation. This framework suggests that creativity is not something that happens in isolation but is the product of an individual's outlook, experience and environment. Therefore, in order to benefit from creativity, an organisation must create an environment conducive to creative thought and action. Or, as Amabile says, "creativity requires a confluence of all components; creativity should be highest when an intrinsically motivated person with high domain expertise and high skill in creative thinking works in an environment high in supports for creativity" (Amabile, 2012, p. 3).

A review of the literature on the internal and external drivers of individual creativity reveals 10 themes (illustrated in Figure 2.1). Because the literature relevant to this study is so prolific it helps to see both the range of drivers as well as the authors who discuss them which in turn focuses the discussion on the most relevant themes. This approach is also taken for the other sections of the literature review.

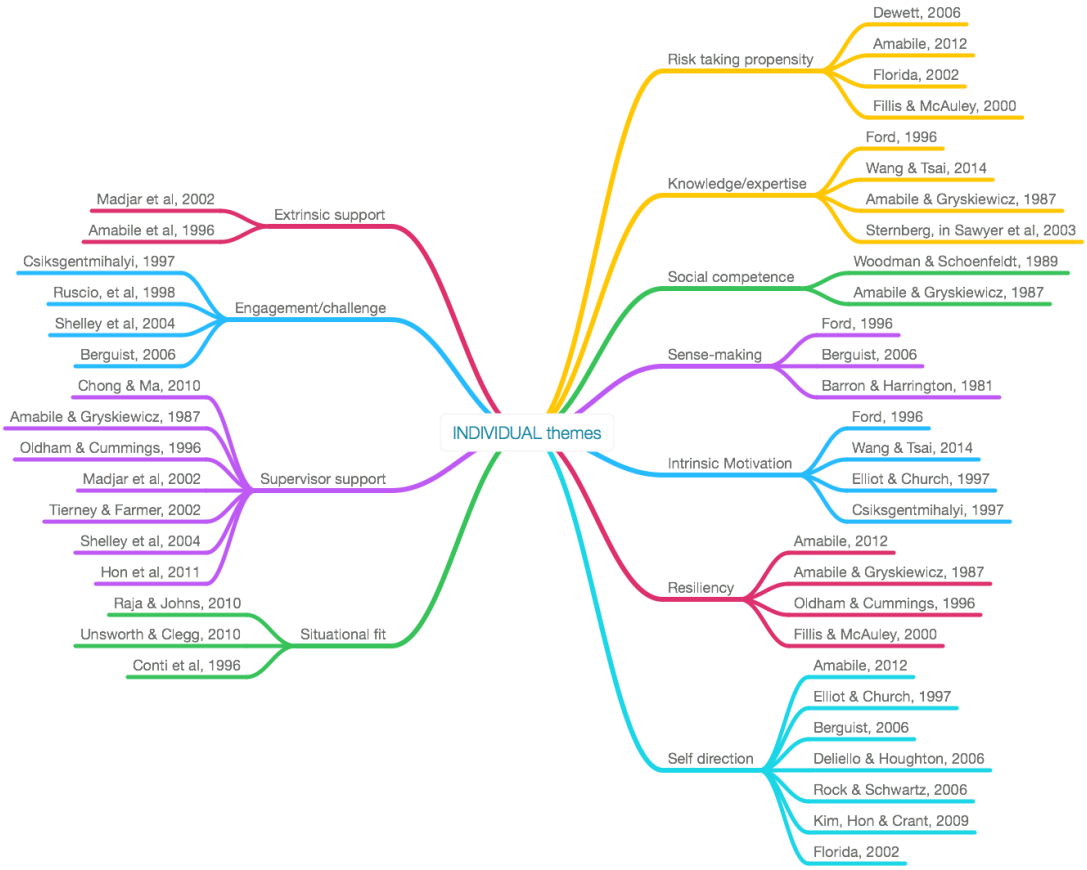

Figure 2.1: *Themes in individual creativity*

2.4.1 Intrinsic factors

An initial coding of studies on individual creative traits identified 6 broad themes shown in Figure 2.1 (reading from bottom to top): self-direction/intrinsic motivation (combined), resiliency, sense-making, social competence, knowledge/expertise, and risk-taking propensity. Each of these is discussed below.

The first theme (self-direction/motivation) is defined as an individual who acts autonomously and with purpose (Rhee, 2003). It is arguably the most significant factor as it is a catalyst for an individual to indulge in creative behaviour and thereby develop new insights (Rock & Schwartz, 2006; Amabile & Gryskiewicz, 1987; Florida, 2002; Ford, 1996; Gilson & Madjar, 2011). It stems from the desire to master something (Elliot & Church, 1997; Berguist, 2006), which in turn increases

motivation (Elliot & Church, 1997; Wang & Tsai, 2014). However, a number of authors also link intrinsic motivation to a strong sense of creative self-efficacy (Diliello & Houghton, 2006; Mathison, 2011; Tierney & Farmer, 2002).

Writing from a neuro-scientific perspective, Rock and Schwartz (2006) state that insights generated by the individual make stronger connections in the brain than insights given to them as a conclusion. If creative insights stem from individual proactivity in making new connections it is not surprising that there is growing consensus amongst academics that proactivity (as described above) is a critical driver of organisational effectiveness. (Kim, Hon & Crant, 2009).

While motivation stems from both intrinsic and extrinsic influences (Amabile, 1996; Andriopoulus, 2001; Oldham & Cummings, 1996), the synergistic effect is more pronounced when intrinsic motivation is high (Amabile, 1993), which in turn is strengthened through learning perception, level of importance and positive feedback (de Almeida et al., 2017). This implies that a motivated individual with the right attitude, operating in a supportive environment, will have the greatest potential to produce a creative outcome. However, even where creative self-efficacy is low it can be significantly improved by positive organisational influences (Mathiesen, 2011).

The second theme is resiliency. Resiliency is a process-oriented construct involving affect, cognition and behaviour, enabling an individual to overcome challenges (Rothstein, McLarnon & King, 2016). There is general agreement that resiliency and perseverance are important in the development of creative solutions (Amabile & Gryskiewicz, 1987; Oldham & Cummings, 1996; Fillis & McAuley, 2000). According to Ford (1996) perseverance comes from an individual's sense-making process, which attributes meaning to specific information and then dictates a

certain action, even in the face of ambiguity. The resulting perseverance is therefore logical rather than being based on pure doggedness and can be said to be dependent on a learning orientation (Gong, Huang & Farh, 2009).

The third theme is sense-making. Resiliency and motivation by themselves are necessary but not sufficient to facilitate a creative outcome; an individual also needs to have the ability to synthesise information in order to create new meanings (Ford, 1996). This process is described by Weick (1995) as a retrospective evaluation of situations. Proficiency in sense-making leads to more creative outcomes that are radical in nature rather than incremental (Gilson & Madjar, 2011). This higher order creativity is a pre-requisite to achieving a transformed consciousness (Berguist, 2006) that, in turn, contributes to overall creative self-efficacy.

The fourth theme is social competence. Amabile & Gryskiewicz (1987) conceptualise the components of social competence as rapport, listening skills, team interaction skills, being open to ideas, and political nous. Their research, conducted amongst scientists, found that highly creative scientists had good social skills that enabled them to communicate better and have a stronger rapport with other team members compared with scientists who were less creative. In addition to the competencies described above, Cirella (2016) says that collective reframing (building on others contributions) is a social competency that demonstrates commitment to a social system and adds to collective creativity. This idea of situational social competency is echoed by Pera (2013) who calls it distributed creativity.

The interactionalist model of creative behaviour first described by Woodman and Schoenfeldt (1989) confirms that creativity in an organisational context is

characterized by individuals working together in a social context. However, it is not enough just to work together; an individual's creativity is dependent on their position in the group (Bourdieu, 1966). This is because new ideas come from a process of social interaction that canvasses the views of many to arrive at new conceptions (Dewett, 2004).

The fifth theme concerns expertise. Without specific knowledge or experience the proactive or self-directed person will be restricted in their ability to conceive and act on new ideas (Sternberg, in Sawyer et al., 2003, p. 96). Amabile and Gryskiewicz (1987) and Ford (1996) agree, with Ford noting that "Accumulated experiences lead individuals to develop interpretive schema, preferences, expectations, and knowledge related to specific domains of behaviour." (1996, p. 1117). Ford includes knowledge and ability as one of three major influences that either facilitate or constrain creativity (the others being sense-making and motivation). Having broad interests has also been identified as relevant (Oldham & Cummings, 1996), as that can lead to considering an issue from a variety of contexts.

The sixth theme is risk-taking propensity. Willingness to take risks is an antecedent to creativity (Dewett, 2006; Florida, 2002). Risk orientation and risk-taking behaviour feature prominently in lists of personal qualities identified by researchers as an antecedent to creativity (Amabile & Gryskiewicz, 1987; Fillis & McAuley 2000). However, in order for risk to be productive there must be organisational encouragement and tolerance (Amabile et al., 1996; Dewett, 2006).

In summary, there are six creative competencies: self-direction/intrinsic motivation (combined), resiliency, sense-making, social competence, knowledge/expertise, and risk-taking propensity. Of these self-direction/intrinsic

motivation is the most significant as without it an individual can lack the motivation to use their creative faculties (Rock & Schwartz, 2006). However, in a business context it is recognised that an individual operates as part of a social system, therefore it is the interplay between intrinsic and extrinsic factors that will determine the level of creativity exhibited.

2.4.2 Extrinsic factors

A positive work environment can help offset an individual's resistance to change, and is an important input into employee creativity (Hon et al., 2011; Park et al., 2014). Researchers have identified three environmental factors that have a bearing on an individual's creativity: situational fit, supervisor support, and engagement.

The relationship between personality and creativity is dependent on the situation (Fishbein & Azjen, 1975; Anderson et al., 2014) and the stronger the fit between a situation and the personal traits of the individual, the more likely it is that the desired behaviour will result (Raja & Johns, 2010). This is supported by Conti, Coon and Amabile (1996), who found empirical support for Amabile's componential model (1983) in that measures of creativity within the same context (situation) and domain showed a strong positive relation.

Unsworth and Clegg (2010) while agreeing with the need for recognition and encouragement found that even when fit and support are high, creativity is seen as something additional to an individual's role and as such engagement in creativity can be dependent on the worthwhileness of the task and the likely effect on the individual.

Creative self-efficacy can also be enhanced by supervisory support and a non-controlling management style (Amabile & Gryskiewicz, 1987; Oldham & Cummings, 1996; Madjar et al., 2002; Tierney & Farmer, 2002; Shalley et al., 2004; Chong & Ma, 2010). This is regardless of the level of an individual's creativity; however, a high level of individual creativity does insulate against an unsupportive climate (Choi, Anderson & Veilette, 2009). Support from co-workers and other outsiders also has a similar effect, irrespective of the individual's perceived creative ability (Madjar et al. (2002), although Shalley et al. (2004) caution that the results in this area are less clear.

While numerous studies have examined the impact of various supervisory behaviours on individual creativity, the wide range of behaviours studied and the limited study of each has meant that the results are sometimes inconsistent (Anderson et al., 2014). This effect is illustrated by Chini (2011), who found that an organisational culture that encourages creativity (through support for risk taking and idea generation) positively affected creative outcomes but that encouragement from supervisors and colleagues did not. This implies that a motivated individual is not negatively affected by immediate impediments to creativity as long as the overall culture of an organisation supports it.

Based on the preceding review, an individual with high creative potential will be intrinsically motivated and resistant to negative extrinsic inputs (Amabile, 1983). They will also have the ability to create new meanings from inputs and have a willingness to take risks. However, in this study, creativity in organisational teams is being examined so it is important to make the distinction between an individual's *creative potential* as described by Amabile (1998) and others and *practiced*

creativity, which DiLello and Houghton (2008) define as the ability to exercise that potential.

In summary, creativity in a team context is dependent on individual creativity, moderated by social and structural antecedents (Bourdieu, 1966; Dewett, 2004; Fishbein & Azjen, 1975; Anderson et al., 2014; Woodman et al.,1993).

2.5 The Creative Organisation

While it is generally agreed (as discussed earlier) that creativity can improve business outcomes, the traditional management model "is built on a monocratic, hierarchically structured authority chain" (Cummings, 1965, p. 221) which, in practice, produces a reality where proactive behaviour is often discouraged (Bateman & Crant, 1999). They attribute this to the over-controlling effects of rigid company structures and instead advocate a management approach that encourages freedom to pursue broad organisational goals in "fruitful, creative, innovative ways" (Bateman & Crant 1999, p. 66).

Creed (2011) expands on this theme by identifying five categories of organisational norms/rituals where traditional management and creativity are in conflict, as outlined in Figure 2.2.

Figure 2.2.
Traditional vs Creative Orientation

Traditional Organisation	Creative Organisation
Conservatism	Innovation
Precision	Imprecision
Task orientation	Relationship orientation

Aggression	Calmness
Stability	Growth

This is consistent with Cummings' (1965) view of a traditional organisation and demonstrates that a structure that encourages creativity is the antithesis of a traditional hierarchical management structure. So, given that the culture of an organisation can have a negative effect on creativity, how does a manager develop an environment in which creativity will flourish?

Firstly, it is important to state that creativity is an interaction between individuals and their work environment (Woodman et al., 1993) but a creative environment plays a primary role. An increase in organisational creativity has a positive effect on both the individual's motivation and job satisfaction (Basadur, 1993) and is an important precursor to the development of creativity in teams (Park et al., 2014). However, while the highest overall creativity comes from high individual and organisational creativity mechanisms, if only one of these is high the results are significantly better if that factor is organisational creativity (Bharadwaj & Menon, 2000). So, what are the antecedents of organisational creativity?

Amabile and Gryskiewicz (1987) identify five elements important in establishing a creativity climate in an organisation: freedom, encouragement, resources, recognition and challenge. An employee who has a feeling of control over their work is more likely to pursue new ways of doing things rather than wait to be told what to do. This can be further encouraged by an organisation that has an overall creative expectation (Unsworth et al., 2005; Lin & Lui, 2012) that can also mediate negative organisational influences (Unsworth et al., 2005).

An encouraging and supportive management can serve as a buffer between the individual and organisation and mediate negative influences (Choi et al., 2009; Hon et al., 2011). Managers are also responsible for the allocation of resources that according to Epstein, Kaminaka, Phan and Uda (2013) is their most important role in eliciting creativity. However, supportive managers do not necessarily increase creative performance (Chong & Ma, 2010) – but they are directly responsible for time availability and valuing new ideas that contribute to employee creative willingness (Basadur & Hausdorf, 1996). A positive creative climate is also supported by managers providing recognition of and feedback on employees' work (Amabile et al., 1987).

Baumeister, Bratslavsky, Finkenauer and Vohs (2001) caution that managers also need to pay attention to the negative as one negative can undo a long history of positive interactions. This is an example of prospect theory which states that in decision-making people tend to overweight a certain outcome and underweight a probable outcome (Khaneman & Tversky, 1979). Therefore, in the case of reinforcement, the loss (negative) looms larger than the historical positives.

Finally, a challenging work environment has a positive effect on employee creativity (Amabile et al., 1987), but it needs to be backed up by supportive non-controlling supervision to produce creative outcomes (Cummings & Oldham, 1997). However, there is a fine line between being supportive and unconstrained freedom, which Cokpekin and Knudsen (2012) say has a negative effect on creativity; therefore an environment that promotes both individual growth and a learning environment will be better equipped to facilitate creativity (Robinson & Stubberud, 2015).

2.6 Creativity in Teams

Creativity involves a complete ecological system made up of intrapersonal, interpersonal and environmental factors (Treffinger et al., 1993). Rhodes (1961) proposes the 4P's model of creativity (person, process, press and product). Creativity in teams involves both the individuals and the process by which they interact to produce a creative outcome, however, Rhodes adds "press" as a fourth P which stands for the interaction between the person and the environment, which he says has a moderating effect.

This fourth P is an important consideration as it suggests that a team consisting of highly creative individuals in a conducive environment is not sufficient in order to produce a creative outcome. This study proves that creative outcomes are possible regardless of individual creativity and environment – the critical factor is the way in which participants interact.

In a lean, highly competitive environment, co-operative teamwork can overcome a deficit in resources (Appelbaum, Bethune & Tannenbaum, 1999), resistance to change (Hon et al., 2011), and can positively affect intrinsic motivation (Amabile, 1997); therefore, it is not enough just to develop creative leaders, you must also develop creative self-directed teams who can react quickly to changing circumstances (Jain et al., 2015).

A review of the literature reveals seven themes relevant in producing creative teams: openness to creativity, engagement, integrating processes, goal orientation, positive external forces, group knowledge, and diversity. Figure 2.3 depicts studies that contribute to developing these themes. Next, each theme will be discussed in turn.

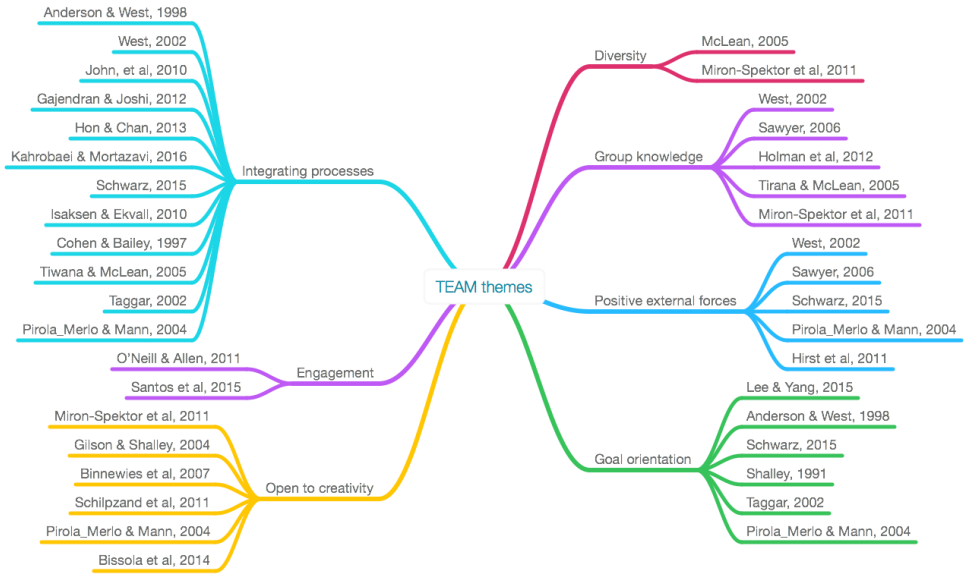

Figure 2.3: *Themes in team creativity*

The first two themes – openness and engagement – are necessary antecedents to creativity because they provide the foundation for working as a team rather than a group of individuals, and can insulate against lower levels of individual self-efficacy and negative external forces.

Being open to (Gilson & Shalley, 2004) and engaging in (Schilpzand, Herold & Shalley, 2011) creative processes are the first steps in producing creative outcomes. In a team context, the sharing of ideas communicates a willingness to engage (Binnewies et al., 2007) but engagement motivation is higher in teams with low bureaucracy regardless of individual differences (Hirst, Vanknippenberg, Chen & Sacramento, 2001). Support for this comes from Bissola, Imperatori and Colonel (2014) who found that it is the combination of individual creativity and team dynamics and processes that can produce a creative result regardless of individual creativity.

As we have seen, engagement in a challenging task increases motivation and results in a creative outcome (Ruscio, Whitney & Amabile, 1998). Csikszentmihalyi (1997) calls this effect 'flow', the results of which add up to an outcome greater than the sum of the inputs. This idea of flow also explains how a fully engaged team can perform at high levels regardless of the individual creativity of team members. An important prerequisite to engagement is the building of trust and cohesiveness between members that, according to Nath (2009), requires three behaviours: self-observation, an appreciation of diversity, and developing a capacity for new behaviours. Building trust introduces feelings of safety and support that open the doors for creative behaviour (Nisula & Kianto, 2016).

In exploring causal relationships between personality and its effect on team performance, O'Neill and Allen (2011) found that only conscientiousness was predictive – in other words commitment to team processes is more important than personality. This differs from an earlier study by Neuman, Wagner and Christiansen (1999) who found that in addition to conscientiousness, openness and agreeableness were also predictive. In this study, the authors worked with 82 teams in a real-world retail environment, whereas O'Neill and Allen worked with engineering students where culture and expectation may have had a part to play.

Commitment to team processes can also stem from the presence of shared mental models in teams which, according to Santos, Ultdewilligen and Passos (2015), have a positive effect on performance and serve to facilitate group integration (West, 2002). Without such processes, even the positive effect of the presence of creative team members is neutralised (Taggar, 2002; Tiwana & McLean, 2005). Individual group members who don't have the same understanding of the group's

reality (Jehn, Rispens & Thatcher, 2010) and lack integration are likely to underperform.

In research conducted with 13 work groups, Burningham and West (1995) found that being committed to a vision and engagement in its development were significantly related to creative output. In addition to vision, they found that participative safety, task orientation and support for creativity also had significant impact. Interestingly, lack of support for innovation in itself didn't affect a group's ability to arrive at a creative outcome.

Debate within a team can have both positive and negative outcomes. Too much debate can lead to limited understanding of viewpoints, with individuals conveying ideas rather than engaging. On the other hand, too little debate results in the suppression of thoughts and ideas. Isaksen and Erkvall (2010) suggest that having a facilitator to lead the group and manage the process is a good way to integrate perspectives and prevent unproductive conflict. While team self-direction is not necessarily a bad idea it is only successful when dealing with familiar concepts (Cohen & Bailey, 1997). The tension that stems from group interactions is necessary to produce a level of discomfort that in turn produces change (Brown & Grant, 2010). Some negative effects, such as pessimism, can actually enhance creativity (Charyton et al., 2009). In their study Charyton et al. expected optimism to increase creativity; however, their results suggested the opposite. As their study was with college students this finding might not translate to a business environment.

Empowering leadership contributes positively to creative output and team engagement where task interdependence is high (Hon & Chan, 2013) and the frequency and quality of communication between the leader and team members not

only increases engagement but also has a positive impact on outcomes (Gajendran & Joshi, 2012; Kahrobaei & Mortazavi, 2016). A leader is also responsible for creating a compelling vision and setting goals to provide effective support for creativity (Schwarz, 2015). Setting creative goals in a team context will also enhance creative output (Lee & Yang, 2015; Shalley, 1991). In a group setting it is best if leadership comes from an independent facilitator who can both motivate participants and manage knowledge; this produces an efficacy of interaction between the individual, the group and the organisation (Cropley & Urban, 2000).

Leader expectation and group knowledge together have a positive effect on creativity (Holman et al., 2012). To ensure a high level of relational capital, the amount of group knowledge (West, 2002) and the degree of integration of that knowledge is important (Cohen & Bailey, 1997; Tiwana & McLean, 2005), and when coupled with high degrees of motivation and feelings of safety within the group, employee creativity will be maximised (Zhang & Gheibi, 2015).

Diversity amongst team members (and support for it) has a positive effect on overall creative performance (McLean, 2005; Sosa, 2011) but this can also result in a higher degree of conflict within the group, which has to be carefully managed to avoid having a negative effect on group creativity (Jehn et al., 2010). Diversity in cognitive style is also important as more creative styles positively affect idea generation, whereas an attention-to-detail style is positively linked to performance quality (Miron-Spektor, Erez & Naveh, 2011).

2.7 Initial synthesis of the Data

Figure 2.4: *Creative ecosystem*

Creativity in an organisation exists as part of a creative ecosystem (Figure 2.4). It relies on integrating the creative potential of the individual with a supportive operating environment and a culture that supports risk-taking and idea generation.

Creativity is both experiential and social (Florida, 2002) and benefits from synthesising information based on diverse perspectives in an integrative social environment (Sawyer, 2006). A desire to produce a practical outcome, coupled with strong social ties, improves the likelihood of an idea being implemented (Baer, 2012).

Researchers have identified six antecedents of creativity in an individual; however, in order to harness that creativity an organisation must provide a supportive environment that tolerates mistakes. Of the six traits highlighted, self-direction/intrinsic motivation is the one that must be fostered in all individuals for the

Socratic approach to work effectively, as a disinterested individual will not actively participate in the questioning process that is designed to stimulate critical thinking.

From an organisational perspective, creativity depends not only on the individual but also on the structures that organize them (Sawyer, 2006, p. 292). This means that the task of the manager should be to create an environment where employees feel engaged, by understanding the conditions under which creativity will flourish (Anderson et al., 2014). The challenge for managers is that they often work in an environment that is less than supportive or tolerant and their teams are made up of people with varying degrees of creativity; however, self-reported measures of creative potential can be used by managers to identify and act on specific gaps (Diliello & Houghton, 2008).

The creative organisation is one that has a structure and culture that foster the conditions supported by norms and rituals that lead to creative outcomes (see Figure 2.5).

Figure 2.5

Conditions and norms of the creative organisation

Conditions	Norms
Individual Freedom	Innovation
Encouragement (management and peers)	Imprecision
Resource and time	Relationship orientation

Recognition	Calmness
Challenge	Growth emphasis

Decision-making is often the preserve of senior management and is not usually encouraged amongst the rank and file. Gratton (2007) proposes a new approach to management, based on Socratic leadership, where "The role of leader will be less about controlling and commanding, and more about igniting energy and enabling groups to volunteer and emerge." (p. 45).

The leader must create an environment where three essential conditions are met. The first requirement is to suspend but not suppress your own judgment, as in the dialogue itself it is important to consider all perspectives. Secondly, it is important to view all participants as colleagues – rank inhibits the free flow of information. The third requirement is to use a facilitator who is not a participant but rather serves to manage the flow of the dialogue through enforcement of the ground rules and the use of Socratic questioning. (Senge, 1990).

Based on a number of experiments with students, Monteil (1991) concluded that an individual's cognition "can be controlled and activated in part by meta-systems of social regulations" (p. 234). A team engaged in a Socratic Dialogue can be said to be such a metasystem, in which the processes and norms governing the dialogue can have a direct relationship with the outcome. So, rather than focusing on the creativity of individuals, we should consider instead the dynamics of a metasystem that efficiently facilitates a creative outcome (see Figure 2.6):

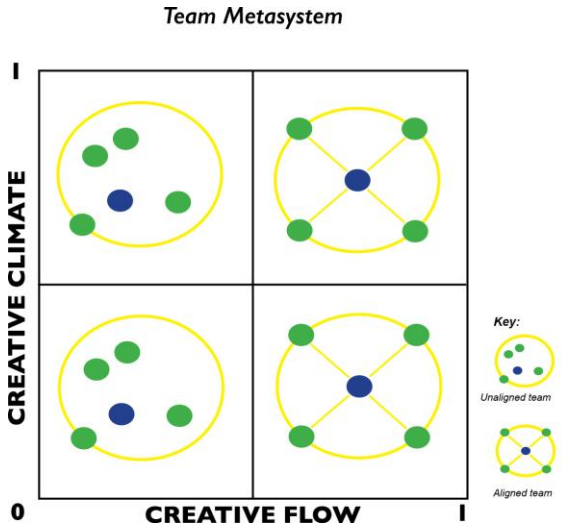

Figure 2.6: *Creative Team Metasystem*

Figure 2.6 illustrates a team cell (top right quadrant) that has a strong desire for mastery of a subject as part of a supportive metasystem with a creative mandate. The team illustrated consists of motivated, experienced creative thinkers (consistent with Amabile's 2012 conception of highly creative individuals). This is illustrated by the circles, representing individual team members, who are aligned to the outside perimeter of the team cell (representing goal commitment). Uncommitted and less creative team members would be shown closer to the inside of the cell (as shown in the unaligned team cell).

The ideal scenario illustrated shows the team cell positioned in the top right quadrant of an environment that is represented by two axes: creative climate and creative flow. A highly creative climate coupled with a high degree of team creativity produces the highest overall creative output (Bharadwaj & Menon, 2000). This is further enhanced by the degree of engagement in the task that produces creative flow (consistent with Csikzentmihalyi, 1997). The final element of the metasystem is the team leader/facilitator (represented by the cell nucleus being an

empowering leader with a high degree of relational capital, generating an environment that is participative rather than prescriptive (Hon & Chan, 2013).

The proposed Socratic Model (discussed below) has been designed to test whether an everyday team in an organisational context can become a highly creative team, as conceptualized above, through the application of a Socratic approach to team operation.

2.8 Socratic Approaches to Managing Creativity

What is Socrates' famous method? In the absence of Socrates himself we must make do with Plato, Aristotle and others from ancient times to interpret it for us. McPherran (2010) describes Socrates as a facilitator (who has no fixed opinions of his own) guiding a dialogue to a conclusion, always cognizant of participants' interests. According to McPherran, the Socrates in Book 1 of Plato's Republic is the one most closely aligned to the Socratic Dialogue as he self-assuredly interrogates, leading the interlocutor to a state of aporia, where they recognize that their view is incorrect. So, let us examine Book 1 to determine whether this does provide a model for the Socratic method as we know it.

In Book 1, Socrates starts by posing a question seeking to define the meaning of a concept, in this case justice, by asking Cephalus to choose between two conceptions (331c). As an aid to clarity Socrates presents a scenario to illustrate the answer is more complex than Cephalus might think. This approach is designed to encourage critical rather than defensive thinking; however, a single question appears to be insufficient to achieve this as Cephalus takes his leave, asking Polemarchus to take his place (331d). From this exchange it appears that for the elenctic method to

work, participants must be committed to the process and also agree on a definition of the question under consideration.

Polemarchus at first defends Cephalus' stand by quoting Simonides. This demarks the second stage of the elenchus: that of exposing what is currently believed about the issue under discussion. Before attempting to refute this logic, Socrates makes sure that his interpretation of what Simonides said is in alignment. This exchange highlights the importance of ensuring a statement's meaning is clear before a refutation is attempted.

Thus the elenchus continues, with Socrates presenting scenarios rather than contradicting directly, until he brings Polemarchus to a state of aporia (334c). Only after this state has been reached does the dialogue move on (336) until finally Polymarchus admits he is wrong. Robinson (1953) says this reflects Plato's view of an elenchus. It is only then that Socrates asks for new suggestions – this is the third stage in which a search for a solution is instigated. Note that at no time does Socrates seek to win the argument based on his superior skill; rather, as Vlastos (1982) says, the whole premise of the elenchus is for participants to expose beliefs at the expense of advantage.

Thrasymachus, who up until now has only been a bystander, demands that Socrates offer his own opinion (336d). Instead Socrates professes ignorance and encourages Thrasymachus (who professes to know the answer) to enlighten him. If Socrates had yielded to this request he would in effect have turned the elenchus into an eristic argument that seeks to win rather than find truth (Vlastos, 1982).

The dialogue now becomes a group one for a time, with Polymarchus and Thrasymachus being joined by Clitophon, and the dynamics of the group come into

play, which Thrasymachus exploits by attempting to revert to his original thesis (341). Having a number of participants, however, does not alter the approach, as Socrates continues to address statements directly to the person making them before inviting other contributions.

It seems at this point that Socrates is facing a standoff that he averts by asking if a better result could be obtained by both sides promoting the positive aspects of their argument and then having an independent party judge the winner (348b). This strategy causes all parties to commit to the elenctic process and Thrasymachus agrees to continue using Socrates' approach. Book 1 ends with Socrates summing up and Thrasymachus agreeing (357b). Thus, some conclusion is reached without necessarily being a "solution".

Based on this exchange in Plato's Republic, it can be said that the Socratic method, or "standard elenchus" as Vlastos (1982) terms it, is a process involving the following steps: Debate and agreement on the topic; clarification of meaning before refutation occurs; self-recognition of error in current beliefs; search for potential new meaning; and summing up and agreed conclusion.

How can this be applied in a modern context? While there are conflicting views (Schiender, 2013), from an organisational context it is generally agreed that Nelson was the first to apply it. Nelson (1949) says that the method doesn't produce new knowledge, but rather uses reflection to make explicit the tacit. He describes the method as one of regressive abstraction – moving backward from a statement and removing assumptions – to be left with the essence. In order to reflect, we must first question those assumptions therefore the process can be described as the "practice of asking the 'right' questions to stimulate thinking" (Kachaner & Deimler, 2008, p.

41), the result of which is claimed to be a higher level of engagement and ownership of issues.

In the examination of assumptions the process will also illustrate shortcomings in thinking (Morrell, 2004) that can create dissonance, as often deeply held beliefs may be challenged during the dialogue (Alexander, Shallert & Reynolds, 2009). The resulting conflict can result in the difficult or entrenched being passed over or agreement being reached without mutual belief in the outcome. This means the wealth of tacit knowledge (Nelson's goal) available to a group remains tacit rather than being converted into explicit and therefore useful knowledge (Kessels, 2001).

However, this dissonance, if handled correctly, can result in people examining their beliefs more closely (Grill, Ahlborg, Wikstrom & Lindgren, 2015), and is at the core of a Socratic Dialogue. This identifies the need for effective facilitation; in other words, someone who takes the role of Socrates in asking the right questions in an effort to produce a creative solution (Santaneen, Briggs & de Vreede, 2004). Introducing an element of structure into a dialogue brings a greater focus on the problem being discussed, producing fewer but more creative solutions than a free-flowing structure such as brainstorming (Sagiv, Arieli, Goldenberg & Goldschmidt, 2010).

The importance of questioning is well established but the specifics (such as number and type) remain uncertain (Schneider, 2013). While authors such as Paul and Elder (2008) advise against predetermining questions, it should not be left to the skill of a facilitator to be able to arrive at a successful outcome. The questioning process should be one of guided discovery that involves moving from the concrete (what is known), to the abstract (synthesis of that knowledge) (Padesky, 1993) thus

inspiring new insights that produce a creative outcome (Neenan, 2009). Skordoulis and Dawson (2007) agree, saying that this process is particularly useful in times of change when the status quo is being challenged. For a Socratic dialogue to work effectively, the person assuming the role of Socrates (facilitator) must possess 'strategic knowledge – which question to ask next – rather than factual knowledge on the subject itself' (Archie, 2010).

The abstract nature of Socrates' directed questioning technique lends itself to use in a variety of contexts (Overholser, 1991) and it can also be applied in both leadership and follower roles. Such roles and suitable applications have been identified by Tucker (2007), as presented in Figure 2.7.

Figure 2.7.

Roles and applications for Socratic questioning

Role	Application
Instructor	Critical thinking and comprehension
Mentor	Intellectual development
Leadership	Follower buy-in
Follower	Probe reasoning
Peers	Open dialogue and feedback

From a leadership point of view, questioning should be seen as a legitimate process (Gratton, 2007) but it needs to be managed. A participative approach such as that at the heart of a Socratic dialogue can result in creative insights (Andriopolous, 2001) but it also runs the danger of producing unrestrained creativity that can be counterproductive. However, the risk of this can be mitigated through the use of specific questions to change minds in addition to ones that guide discovery (Neenan,

2009). This creates interplay between critical and creative thinking that causes people to question their ideas and those of others (Chesters, 2012).

Gose (2009) identifies five strategies Socrates used to create a successful dialogue:

- Probing questions about ideas that have been tabled
- Expansive questions to uncover relationships between ideas serving to categorize existing knowledge
- Devil's Advocate-style propositions
- Maintenance of the group dynamic
- Assigning roles to encourage lively discussion.

This analysis suggests that Socrates' role goes beyond that of an interrogator and that Socratic questioning should be used to stimulate a dialogue where participants' beliefs on an issue are challenged (elenchus) to identify incorrect assumptions so participants themselves find their beliefs wanting (Morrell, 2004). From this resulting state of frustration (aporia) a joint search for truth is begun. Socrates typically began with a question such as "What is the point of X?" Paul and Elder (2006) agree that the question should relate to a belief or conclusion that is held or has been reached; however, other authors suggest starting the dialogue with a collaborative agenda-setting process (Bolten, 2001; Chesters, 2012; Andriopoulos & Lowe, 2000).

For a Socratic dialogue to be effective it should be divided into three distinct parts (Chesters, 2012; Kessels, 2001). The first concerns the question itself; in its final form it should be simple and specific to experiences rather than hypothetical,

and should also be capable of being solved by rational argument (Bolten, 2001). The second part is a dialogue addressing the question, the aim of which is to reach an explicit (actionable) consensus (Overholser, 1991). The final part is an evaluation that results in specific principles that apply to the question (Vlastos, 1982). This has the effect of increasing the knowledge capital of the organisation or group, which has a positive effect on organisational learning (Bennett, Anderson & Sice, 2015).

For a Socratic dialogue to be successful it must recognize and support the considerations relevant to human behaviour that, according to Ajzen (2002), are behavioural, normative and control beliefs. In other words, in order for the desired behaviour to be successful, an individual must first feel positive about it, must perceive support for it amongst peers and believe the behaviour is feasible. To develop the trust necessary to tackle difficult issues and come to some shared meaning, institutional roles and status should be suspended to remove any defensiveness (Bagshaw, 2014) and thus produce a sense of fellowship that Socrates called Koinonia (Michalko, 2012).

In this climate, positive feelings are reinforced based on feedback that increases feelings of efficacy (Lewis, 2011). The staged nature of the Socratic model provides natural points at which progress can be assessed and positive feedback given. This is reinforced when agreement is reached at the end of the dialogue and follow-up actions are identified and agreed. The positive contextual factors described above increase individual inclination towards creative behaviour (Lim & Choi, 2009).

Sometimes, in reaching consensus, more interrelated questions are raised. Kessels (2001) attributes this to the process of unlearning, which often exposes faulty

assumptions that have been held dear by the group. As a result Kessels' idealistic hourglass model cannot be applied universally, so rather than the final outcome being the agreement of Principles (the result of Nelson's regressive abstraction) after the 'judgement', it should end with an agreement on actions that should be taken. This then allows for further investigation and consideration of other questions at a later date. It also allows for investigation beyond philosophical boundaries (Bolten 2001).

Based on this discussion, it can be said that the resulting process should achieve three things: expose tacit knowledge; identify false assumptions, and create a climate of self-examination. Structurally it should be managed by a non-participating facilitator who poses appropriate questions to stimulate dialogue; provides feedback to maintain positive engagement; and sums up, resulting in agreement on future action.

2.9 Proposed Socratic Model

The proposed Socratic Dialogue Model (Figure 2.10) synthesizes the approach of Socrates himself with the constructs of 21st century authors (Figure 2.8) for application in a business context. It proposes that the initial question (what do we currently believe about the issue?), establishes a hypothesis or belief that requires testing and is followed by a series of questions gathering evidence (what evidence supports our belief?); questions to uncover conflicting views (what conflicting views are there?); and finally a series of questions to explore the implications and consequences of the discussion (where does this dialogue lead us?).

At the core of the method is the Socratic elenchus or refutation, which is a series of questions from Socrates designed to expose inconsistencies or ambiguities in belief (Vlastos, 1982). Ambiguity in a premise set in a Socratic elenchus must be

removed before any refutation can be accepted as true (Dougherty, 2007). He cites, as an example, Plato's Gorgias 491c (trans. Lamb, 1967) in which Socrates queries Callicles on his meaning of the term 'better and superior'. A facilitator, then, must consider each premise individually rather than the set as a whole when guiding a discussion.

It is important that this process is reflexive and results in self-awareness rather than something imposed (Kirkland, 2012). Socrates, as reported by Plato, explains the importance of this by saying "…the lover must follow his beloved wherever he might lead." (Euthyphro 14C trans. Woods & Pack, 2007). This means that even though you are committed to your favourite ideas you nevertheless should be prepared to challenge them. According to Kelly (2011) this is difficult to achieve, as people often come to a discussion with a commitment to a certain doctrine or ideal that provides a lens through which they engage in the dialogue. However, it is only from the resulting state of aporia that a dialogue can move away from personal opinion to examine the question rationally.

Mathews (2009) makes an important distinction between the Socratic Method common in teaching (where a knowledgeable instructor seeks to teach using questions rather than direct instruction) and the Socratic elenchus where Socrates specifically pleads ignorance on the subject at hand and presumes that the interlocutor has tacit knowledge of it that can be exposed through questioning. From the perspective of creativity, however, both these methods need to be combined so that the facilitator should take the position of Socrates conducting an elenchus to enable participants to expose tacit knowledge, and through a new dialogic process recombine it into new knowledge. This additional process is important so as not to end in a state of perplexity (aporia), which often resulted from a purely Socratic

elenchus (Mathews, 2009). This interplay between critical and creative thinking allows us to be critical without being defensive and thereby frustrated by the process (Chesters, 2012).

A distinction should also be made between ‘knowledge’ and ‘opinion’. Knowledge can be substantiated whereas mere opinion cannot (Prior, 1998). During the Elenchus the person undertaking the role of Socrates needs to expose opinions so that they don’t form part of the new knowledge unless they can be ratified.

The objective of the dialogue is not to make final decisions (Bohm, 1996) but to engage participants in a creative process that “inspires further curiosity and open-minded reflection” (Skordoulis & Dawson, 2007, p. 993). According to Schmid (1983) the rationale for the Socratic method is to expose both the lack of knowledge about the dialogic issue and any delusions about existing knowledge.

This creative process can be used as a management tool to engage participants in the decision-making process in order to foster increased understanding and ownership (Kachaner & Deimler, 2008; Skordoulis & Dawson, 2007).

Authors in the field of business who refer to the Socratic method put forth a number of different descriptions of the underlying process (Figure 2.8). In each case they add additional steps aimed at coming to some conclusion that extends Socrates’ philosophical model.

Kessels (2001) reviews a number of approaches to conducting dialogues in a business setting and laments that they lack clear guidance on their implementation. He introduces the idea of first and second order questions. A first order question relates to something concrete, whereas a second order question is abstract relating to the way a first order question should be considered. This idea of blending abstract

and concrete is at the core of a Socratic dialogue and something that a facilitator needs to be skilled in as some knowledge is tacit rather than explicit.

Kessels suggests that a dialogue should be conducted in three sessions. The first session to formulate the question itself such that it is non-empirical, capable of being addressed through rational argument and also based on experience rather than hypothesis. The second session is where the question is considered and the third is the evaluation. Kessels presents the dialogue as an hour glass model starting with the question where all views are canvassed, then converging to a specific judgement and diverging again to justify the result.

Bolten (2001), like Socrates, concerns himself with ethical questions. He uses a case study from the banking industry to illustrate the dialogic process using the traditional Socratic dialogue. Bolten's contribution in a business sense is insight into facilitating a dialogue. Firstly, that the question being considered must be related to something of value to the participants rather than a dialogic exercise. And, secondly, that the facilitator (apart from being experienced) needs to be able to contextualize the abstract by using concrete examples.

Chesters (2012) proposes a six-step model based on two distinct phases: creative and critical. The creative phase explores the question itself and the generation of ideas while the critical phase is evaluative. Chesters makes the point that these two phases represent an interplay rather than a progression. This has relevance to the facilitator who must be comfortable with such an interplay – at times encouraging divergent thinking and at others encouraging convergent thinking. The skill comes from knowing which type to use at any point of the dialogue.

Andriopoulos & Lowe (2000) use a grounded theory methodology to develop a theory they call perceptual challenging. The theory was developed from 40 in-depth interviews with members of project teams in three organisations in creative industries. The process of perceptual challenging has four steps: adventuring, overt confronting, portfolioing, opportunising. Unlike the Socratic method, the first step, adventuring combines aspects of question determination and refutation which could potentially result in an exploration of the more obvious issues before all the issues have been exposed; whereas an important element of the Socratic method is agreement on what is known before moving on. This serves to put participants on the "same page" and helps to reduce interpersonal conflict.

The second step, overt confronting, closely matched the Socratic refutation, however this is where the methods diverge – the final two stages are related to individuals working on multiple projects and how they manage them rather than as a team working on a single issue.

Figure 2.8.

Approaches to creating a Socratic Dialogue

Socratic Method	What is *X*?		Refutation (Elenchus)	Frustration (Aporia)		
Kessels (2001)	Question definition		Dialogue		Evaluation	
Paul & Elder (1998, 2006)	Examining origin or source	Belief, statement or conclusion	Support, reasons, evidence and assumptions	Opposing thoughts and objections	Implications and consequences	
Bolten (2001)	Original question in non-empirical form		Information gathering	Argumentation	Results	
Chesters (2012)	Problematic situation	Constructing an agenda	Gathering and	Reasoning and analysis	Making judgements and self-	Concluding

		suggesting		correcting
Andriopoulos & Lowe (2000)	Adventuring	Overt confronting	Portfolioing	Opportunising

Discussion

Kessels (2001) stresses the importance of commencing with an examination of the question itself to remove ambiguities and foster engagement in the process. From the point of view of participants, this process helps clarify thinking and introduces the idea of examining beliefs before the substantive arguments are put. For the facilitator, it sets the scene, providing a non-threatening way of establishing their role in the process and also establishing argument amongst participants early in the process. Paul and Elder (1998) emphasise the need to unpack questions proposed to uncover the presuppositions that make it up. In this unpacking process, the facilitator should keep in mind that the aim is to arrive at a question that doesn't require empirical investigation (Bolten, 2001). Too often a dialogue fails to arrive at an answer because further investigation is required. Instead, the topic must be capable of being examined through a process of thinking only. Andriopoulos and Lowe (2000) use the term "adventuring" to describe this initial stage to emphasise that in creative processes, orthodoxy needs to be challenged to expose any relevant uncertainties.

The second stage in the process is to gather relevant information and at the same time try to elicit concrete examples of abstract ideas so that participants are forced to question their beliefs themselves (Bolten, 2001). Andriopoulos and Lowe (2000) go further, labelling this as a process of overtly confronting both concepts and contexts. Once all relevant information has been exposed it must be questioned in order to determine what is opinion (can't be substantiated) and what is actual

knowledge. This process should result in each participant self-correcting (Chesters, 2012) rather than having a solution imposed. During this stage, the facilitator should be aware of the need to group common themes together to keep the dialogue on track in order to encompass the diversity of both knowledge and context (Andriopoulos & Lowe, 2000).

The final step, which extends the traditional Socratic Dialogue, is to gain agreement on the implications and consequences of the knowledge exposed (Paul & Elder, 1998).

My initial synthesis of the data in the preceding literature review leads to the generation of a process based on a Socratic dialogue that is illustrated in Figure 2.9 and followed by a discussion of each stage.

At each stage of the review I used open coding to generate concepts to enhance my sensitivity to the data and provide questions for implementing the process in the workshops that form the second stage of data collection. This process is an important first step in the development of a grounded theory because it can be used to make comparisons between the data and the literature (Corbin & Strauss, 2015). The concepts and the insights gained from them are detailed in Figure 2.9.

Figure 2.9.

Concepts and insights gained from the literature

Concept	Insights gained
Environment	The environment created through the process must be conducive to creative thinking. The facilitator should therefore ensure the process is one of guided discovery where participants come to their own conclusions and at the same time feel they can safely express their opinions without fear of ridicule. This will also encourage people to synthesize information and express new ideas.
Engagement	The facilitator should be aware of and overcome any reticence in any participant by directing questions broadly to ensure engagement by everyone. This questioning should not only expose differences in thinking but also differences in experience and background so that participants have an appreciation of diversity that will improve creative outcomes. Each participant will have a different level of creativity-relevant skill; therefore, the initial engagement process should recognize and enhance them. According to the literature these are: self-direction/intrinsic motivation, resiliency, sense-making, social competence, knowledge/expertise, and risk-taking propensity.
Self efficacy	As people often underestimate their own creativity it is important to establish a measure of this through the questionnaire used in this study so that the effect on the individual of implementing the model can be ascertained.
Tolerance	Dominant individuals can often stifle creativity through dogmatism or challenging people rather than ideas. An important role of a facilitator will be to

	moderate such behavior.
Encouragement	In developing questions the facilitator should keep in mind that the process is one of guided discovery. This is often a problem for leaders who are anxious to push their own agenda. Appropriate feedback should be used to maintain motivation.
Challenge	Engagement in a challenging task increases motivation and results in a creative outcome. The questioning process must lead participants to recognize any faults in their own thinking rather than directly challenging their ideas. This will encourage them to critically examine what they think and distinguish between opinion and knowledge.
Culture	Creativity exists within an organisational environment that cannot necessarily be changed to facilitate more creative outcomes. However, having a person who is in a position of authority involved can demonstrate supportive management that can mediate negative organisational influences. As culture is driven from the top it will be an important part of the implementation process to gain the support of senior leaders in an organisation to legitimise creativity as one of the key norms of the operation.

The proposed Socratic dialogue model (Figure 2.10) is the result of synthesising my review of the literature and determining the process used in the workshop stage of the research.

Figure 2.10: Proposed Socratic Dialogue Model

2.9.1 The Question

Socrates typically started with a challenging question, the answer to which people often claimed to know, but upon further questioning they started to critically examine their thinking. Paul and Elder (2006) suggest that as part of this process, the origin or source of those beliefs should also be questioned. This process encourages participants to be self-directed by challenging what they may have been told before and putting them in a situation where they have to actively consider their beliefs.

Bolten (2001) suggests a caveat; that the original question should be formed in collaboration with participants, a collaboration which Chesters (2012) says should include constructing an agenda. Andriopoulos and Lowe (2000) highlight the creative aspect of this process by using the term 'adventuring' as part of creating a perpetually challenging environment where "individuals are encouraged to explore uncertainty, so that they can generate innovative solutions." (Andriopoulos & Lowe, 2000, p. 736).

2.9.2 The Evidence

A desired outcome of this second part of the Socratic Dialogue is that the questions should be challenging and produce a realization that a contrary view is possible or even probable (elenchus). It is important for the questioning to be overt and confronting (Andriopoulos & Lowe, 2000) and to ask participants to provide evidence of their beliefs (Paul & Elder, 2006) to differentiate them from assumptions. This process encourages people to use their experiences to reflect on alternatives.

2.9.3 The Argument

By this point participants should be ready to question their beliefs and consider opposing thoughts and objections (Paul & Elder, 2006) and at the same time be prepared to argue with other participants (Bolten, 2001) to ensure all conflicting views are exposed and examined. At this point of the dialogue group dynamics come into play and participants are forced to consider other opinions. It can also be a test of participants' resilience.

This process is important as it can help to avoid "groupthink" which is often the result of a drive for consensus (Nemeth & Nemeth-Brown in Paulus et al., 2003).

2.9.4 The Results

The final result stage examines the implications and consequences (Paul & Elder, 2006) of the preceding dialogue and produces a creative outcome. In order to produce a creative outcome, an information-driven session where new learning and evaluation is sought (such as the one proposed) is the most appropriate (Stasser & Birchmeier in Paulus et al., 2003).

While Chesters (2012) suggests that a conclusion is required, this shouldn't be seen as an ending of the exploration of the issue, but rather as a summation of the current situation and hopefully a starting point for further exploration (Bohm, 1996; Skordoulis & Dawson, 2007).

2.10 Summary and Implications

If managers are to use the Socratic method in promoting creativity in their teams, they must first understand how to effectively harness creativity to produce innovations that will lead to competitive advantage. While it has been demonstrated that employee creativity is of benefit to an organisation (Gong et al., 2009) and is a necessary step in gaining a competitive advantage (Oldham & Cummings, 1996) ideas alone "are [a] necessary but not sufficient condition for opportunities to emerge" (Dimov, 2007, p. 718). Therefore, in operationalizing the Socratic Model the desired outcome should be to produce actionable results.

The contribution of this research is to empirically test and validate the theoretical model; document its final iteration; and produce a template for its use by management. A grounded theory methodology is used because of the exploratory nature of this task and a desire to produce a management tool grounded in reality. This methodology is discussed in detail in Chapter 3.

Chapter 3: Research Design

This chapter describes the design adopted by this research to achieve the aims and objectives stated in section 1.3 of Chapter 1. Section 3.1 discusses the methodology used in the study, the stages by which the methodology is implemented, and the research design. Section 3.2 describes the participants in the study; sections 3.3 and 3.4 list all the instruments used in the study and justify their use, and section 3.5 outlines the procedure used and the timeline for completion of each stage of the study. Section 3.6 discusses how the data are analysed and finally, section 3.7 discusses the ethical considerations of the research and its limitations.

This chapter is the start of the examination stage of the Socratic Model as it describes the process by which the data is obtained.

3.1 Methodology and Research Design

3.1.1 Methodology

Phenomenology or grounded theory? While both of these qualitative approaches have similarities in that they seek to investigate phenomena, the grounded theorist is not seeking only to reveal phenomena but to develop a theory that emerges from them (Wimpenny & Gass, 2000). Also, phenomenology only considers what people say, whereas in grounded theory, observation and published literature are also valid sources (Goulding, 1998).

Few researchers have described the best approach to the study of organisations using phenomenological techniques; however, Sanders (1982) is highly cited (Gill, 2014). She identifies four levels of analysis for phenomenological studies: description of phenomena; identification of common themes; reflection on themes,

and abstraction of the essence (the why). In addition to interviews, Sanders (1982) also advocates the use of document analysis and observation as appropriate phenomenological techniques. Sanders' suggested approach is consistent with that of grounded theorists.

I used a grounded theory methodology because it supports the development of a theory (the proposed Socratic Model) through the use of constant comparison and ongoing questioning and it is appropriate when looking for new insights into existing problems (Charmaz, 2006; Corbin & Strauss, 2015).

Grounded theory is a form of emergent inquiry in which new knowledge is created out of the ongoing interaction between researcher and participants (Keegan, 2009). Charmaz (2006) points out that grounded theory encourages early analysis of qualitative data, which stimulates new questions and leads the researcher on new paths not necessarily exposed in a traditional literature review. This is a key advantage of the methodology, as the use of a Socratic approach to managing creativity in organisations has not been comprehensively explored. This means that the development of a new theory grounded in data will provide a base for further examination. A constructivist approach was also taken because it allows the researcher to be an active participant (Conlon et al., 2013), which in this case was as a facilitator.

Data in a grounded theory study doesn't just come from what people say, it also comes from the context in which they say it and the social interactions that are a part of it (Charmaz, 2006). This is critical for this study, as individuals are not being studied in isolation. The essence is to examine how a group of individuals working as a team come to a creative solution to a problem. This suggests a constructivist

process in which knowledge is socially constructed and comes from shared meaning. (Williamson, 2006; Pouliot, 2007).

The coding process that is at the core of a grounded theory study allows ongoing comparison and analysis that enables future data gathering to be adjusted (Charmaz, 2006; Hallberg, 2006). Coding begins immediately so that specific phenomena are identified in order to see if they reoccur (Clarke, 2003).

A common criticism of grounded theory is the potential for a lack of rigour (Chiovitti & Piran, 2003). To avoid this, Beck (1993) proposes three criteria (credibility, fittingness, and auditability) that can be used to establish rigour. Based on Beck's suggestions, rigour in this study is established in three ways: Firstly, credibility comes through agreement from participants that results reflect their experience and accurately describe the outcomes from the session. Secondly, fittingness is achieved by checking that findings are consistent across all the groups under study. And thirdly, auditability comes via the production of detailed field notes immediately following each session.

3.1.2 Research Design

Using a grounded theory methodology allows the use of multiple sources of data (Charmaz, 2006; Corbin & Strauss, 2015) from which the theory is developed. Data gathering methods used were:

- Workshops conducted in a real-world setting, which examine a question of interest to the subject organisation using the proposed Socratic model.
- Questionnaires given to each participant exploring their perceptions of creativity as it relates to themselves and their organisation.
- Observations during each workshop

- Seminar to gather feedback from managers on the final model developed over the course of the study.

The use of workshops allowed the model to be tested using a real dialogue. The original conception of the model itself arose out of the literature review but in order to develop theory from its use, it had to be applied to a real situation. It also allowed the researcher (as facilitator) to be both an observer of the social interplay and a participant in the process in order to identify issues with both the structure and application of the model.

The use of individual questionnaires was designed to produce a baseline for the level of individual perceptions of creativity and the perceived tolerance of it by both the supervisor and the organisation itself. This was used to gain insight into how creativity is viewed in each organisation and how that might influence the results that were obtained. The data would also be valuable during implementation of the Socratic model in an organisation over time to measure the effect it had on people's perceptions and to highlight any operational issues.

Questions were based on Amabile et al's (1996) perceptual model of creativity that used five categories of question: encouragement, autonomy, resources, pressures, and organisational impediments. The questionnaire was designed in two parts, the first to establish a baseline as described above and the second, administered after the workshop was designed to capture individual perceptions of the process itself.

The third method, observation, came from notes made by the facilitator during each workshop combined with the qualitative responses from part B of the

questionnaire. These two sources created the data from which the grounded theory was developed.

The fourth method was a seminar with managers from different organisations to present the model developed from the theory to establish whether they felt it had the potential for real-world application.

3.2 Participants

Seven participating organisations were self-selected based on responding to a message sent to 311 business contacts on LinkedIn. This method of selection was chosen because of the level of trust required of organisations in sharing confidential data. As I was a known quantity to all of the managers responding it removed any potential uncertainty.

The seven organisations operated in a range of different industries. This helped minimise the likelihood of any contextual bias. Industries represented were: market research, engineering, education, local government, medicine, psychology, and an industry association. The number of participants in each organisation ranged between 3 and 5 with a total number of 29 individuals.

I chose to use multiple organisations to ensure that results were transferable, which is preferable when dealing with a broad-based phenomenon (Yin, 1981). It is also appropriate in building a grounded theory that will be extended as the study proceeds (Benbasat, Goldstein & Mead, 1987).

While single industry studies are common because they allow more environmental control (Dobni & Luffman, 2000), the aim of this study was to develop a model that has more universal relevance (Romaniuk & Sharp, 2003). The

eventual number of organisations participating was determined by the saturation point that comes when no new themes emerge (Corbin & Strauss, 2015).

3.3 Instruments

3.3.1 Workshop template

Each workshop was conducted using the Socratic Dialogue Model outlined in Figure 2.9.

3.3.2 Interview record

In the first workshop participants were interviewed using the first three sections of the record of interview presented in Figure 3.1. The final section was used during follow-up interviews with each participant.

Figure 3.1.

Interview Record

Interview Record	
Section 1: Tasks requiring creativity	
Topic	*Response*
Incidence of creativity in the respondent's department	
Section 2: Leader-member exchange	
Topic	*Response*
Working relationship between leader and member	
Section 3: Support for creativity	
Topic	*Response*
Existence of conditions under which creativity might flourish	
Section 4: Creative self efficacy	
Topic	*Response*
Level of confidence in ability to be creative	
Section 5: Follow-up interview	

The remaining workshops used a written questionnaire to overcome restrictions in data gathering that arose from the first workshop (see Appendix 5).

3.4 Data Collection

Workshops were conducted with teams in seven organisations. In the first organisation the Socratic Model developed from the initial literature review was used to ensure it was understandable and workable in real life and to provide a benchmark from which to develop the grounded theory. Following this, teams from six additional organisations were chosen. Team size ranged from seven members to three and the organisations were a mix of profit and non-profit.

3.5 Procedure and Timeline

1. Organisations responding to my initial request were given an outline of the study (Appendix 4) and an appointment was made to conduct the Socratic workshop.
2. A follow-up telephone interview was conducted with the team leader to discuss the question they wished to consider in the workshop.
3. An initial workshop was held to expose any operational issues that might arise and to allow time for any required research or adjustments.
4. The remaining six workshops were held between February and December 2014.
5. A seminar with three managers was held (May 22, 2015) to gather feedback on the final model.

3.6 Analysis

Data comprised:

- Questionnaires completed by participants during the workshops.

- Written minutes of each workshop recording the process and discussion.
- Information relevant to the substantive area obtained from public records.

The sources of data are consistent with Corbin and Strauss's (2015) view that all forms of data are (both qualitative and quantitative) are appropriate in grounded theory and that data collection and analysis should be ongoing.

Data was analysed first using open coding to identify concepts and then compared for similarities and differences (Corbin & Strauss, 2015). The resulting lower-level concepts were then divided into categories to identify major themes, as recommended by Corbin and Strauss (2015). During this process a series of memos were written (see Appendix 6) to record the theory as it developed.

3.7 Ethics and Limitations

All participants were given a plain language statement and signed a consent form. At no time during the research were names or other individual identifying data recorded. Questionnaires were anonymous and were not shared with the organisations involved. Ethics clearance was granted for this research.

There were two limitations that could affect the validity of the results. The first was that the organisations participating were self-selected and while they came from a variety of industries there is the potential that their proactivity made them more open to creativity and therefore more actively engaged. The second limitation was that of access. The data gathered was based on a single session with each organisation and a single questionnaire that was completed by participants before and after that session.

However, the objective of the research was to develop and test a model that could be used to produce creative outcomes in teams and the objective was that each

workshop be concluded with a satisfactory outcome (as recognised by the participants).

Chapter 4: Results & Theory Development

This study uses a Grounded Theory methodology to explore the use of a Socratic approach to managing team creativity in an organisational context and to create a theoretical model that will enable the process to be replicated in the real world. Section 4.1 describes the method of data collection. Section 4.2 describes the benchmarking process and Section 4.3 discusses the first stage of theory development following the benchmarking process. The remaining sections summarise the findings of individual workshops and the ongoing development of the theory based on them.

This chapter continues the examination stage of the Socratic model by identifying what views have been exposed.

4.1 Organisation 1

The company chosen was in a service industry and consisted of the senior management team, which included an owner-manager and two key staff. The question to be addressed (What are the distinct competencies we have over our competitors?) was determined in a previous meeting with the initiator of the project (one of the key staff members). The workshop was divided into four steps in line with the steps in a Socratic dialogue as outlined in Chapter 3. A summary of the discussion is detailed below.

4.1.1 Discussion

To commence the Socratic Dialogue, the question posed was: “What are the distinct competencies we have over our competitors?” In exploring what participants

currently believed, six points were raised and agreed on by participants. These were: people driven; not "cookie cutter"; insightful; not "platform" reliant; create actionable insights; deliver (offer actions) on insights: "deliver the intelligence".

Taking each point in turn, participants were asked to provide any supporting evidence for their beliefs. It seemed that the above points were things that the company routinely said to clients but that no-one could easily articulate. Interestingly, the only 'evidence' that participants could come up with was a broad "feedback from clients" statement, which created a sense of aporia in the group as the reason this question was raised originally was because the company wanted to improve their responses to tender requests after they had received feedback that their standard response lacked strong supporting evidence of claims made.

This led into the third stage of the Dialogue (Argument) where each of the 6 points were examined by posing the question "Could your competitors claim the same thing?" Initially, participants tried to defend the validity of each point until one said, "Generally the competencies we talk about are not recognised in feedback from tender submissions we make." This comment, while negative, seemed to bring people closer together and subsequently four claims were abandoned and the two remaining ones (create actionable insights and deliver the intelligence) were questioned further by asking participants to describe how these attributes were manifested in projects they had worked on. Examples of these competencies in action were: principals take an active part in jobs; work with clients in implementation phase; appeal to multiple audiences through customising reports and other communications to audience; credibility allows access to Board level; flat structure enables work to proceed under duress (deadlines, access).

In the final stage of the Dialogue (Results) participants were more focused and worked as a team rather than promoting individual agendas. This was particularly apparent with the Principal of the organisation, as initially he appeared to listen to other viewpoints but not take them in. The descriptions provided by participants were assembled to form part of a proposed project management methodology they could field test and then use as evidence of their unique capabilities. The methodology outlined in Figure 4.1was the final outcome of the dialogue:

Figure 4.1.
Proposed project management methodology

Methodological steps
Senior management meet at design stage to ensure proposal is both appropriate and outcomes-focused.
Team chosen based on job type and complexity (internal and external)
Proposed programme and timeline presented to client.
Client input to approve or amend.
Instrument design phase.
Client signoff for programme.
Establishment phase (subject recruitment, instrument setup)
Pilot phase (for “sensitive” projects)
Conduct programme
Client progress reporting (agreed intervals and forms)

Reporting phase (multiple levels including physical, written and workshops as required).

The session lasted approximately three hours and all the participants expressed surprise that a problem they had found difficult to resolve could be solved so quickly. They also felt encouraged to refine the methodology they developed in the session further.

In subsequent interviews, all of the participants agreed that the process was both painless and gave them a sense of ownership that they didn't have before. This feeling can be summed up best in the comment of one participant who said: "Yes, I definitely think the process we went through got us to a good answer to our question. And, I suspect it could encourage empowerment, inclusion and as a result creativity in an organisational situation. It gave me confidence to think more creatively in future."

The workshop with this first group was designed to provide a benchmark for running a Socratic dialogue in a team environment by testing the initial model that came out of the literature review. The objective was to determine whether the model could be successfully applied in a real-world context and the result indicated that the process was robust. The outcome was that the process was an easy one to work with and no one was confused by the task or had questions that weren't covered in the introduction to the Model. The process produced an outcome that participants were happy with and provided a platform for future creative endeavours. This was confirmed by feedback from participants afterwards, which supported the hypothesis that creativity would be enhanced through using this process.

Based on this I concluded in a memo afterwards that the 4-step process was an effective way to manage a meeting in a team environment as it produced an outcome in a short time that all group members were happy with, and it provided two bases for further development (competencies and a methodology).

However, to provide a baseline from which to compare, some form of measurement was required. The intention was for it to be provided via the use of in-depth interviews but in the real-world environment it was not possible to administer these concurrently, and access to all of the group members (particularly senior management) was extremely limited. Therefore, a written questionnaire was developed from the interview guide used with the first group, which was then incorporated into the running of subsequent workshops to provide an assessment from all participants in situ.

In a separate post-workshop interview with the instigator of the project the following feedback was obtained (see Figure 4.2).

Figure 4.2.

Workshop 1: Interview record

Interview Record

Section 1: Tasks requiring creativity

Topic	*Response*
Incidence of creativity in the respondent's department	Have freedom to perform task but a creative approach not encouraged. Much work is restricted because of entrenched methodologies accepted as industry standard.

Section 2: Leader-member exchange

Topic	*Response*
Working relationship between leader and member	We operate in a small team and generally have good relationships, however as owners are involved directly decisions can be made on the fly.

	I can rely on my boss to support me.

Section 3: Support for creativity

Topic	*Response*
Existence of conditions under which creativity might flourish	Taking time out to discuss many issues.
	Perhaps bring in outsiders to help facilitate.
	Failure to meet internal type deadlines is ok (often not chased up by manager) but client-related failure is not accepted.

Section 4: Creative self-efficacy

Topic	*Response*
Level of confidence in ability to be creative	Generally work within standard boundaries and don't feel particularly creative.
	Feel too busy to have the luxury of "creative time".

Section 5: Followup interview

Topic	*Response*
Change in creative efficacy	Yes, I definitely think the process we went through got us to a good answer to our question. And, I suspect it could encourage empowerment, inclusion and as a result creativity in an organisational situation.
	It gave me confidence to think more creatively in future.

4.2 Theory Development – Stage 1

After each stage of the data gathering process, in line with Spiggle's (1994) recommendation, I made ongoing revisions based on previous analysis so that the emerging theory was tested in future data gathering. Based on the data gathered from the first organisation, the finding was that the process itself was effective but that to achieve legitimacy in a real-life context there should be some form of initial measurement made to be able to quantify the value of the process over time.

To allow for this in future workshops the process began with the administration of a confidential written questionnaire to each participant to provide a benchmark of each team's self-reported creativity. Following the workshops, participants were

asked to record observations about the process and any changes in their own personal sense of creativity.

4.2.1 Questionnaire

The purpose of the questionnaire was to provide a creativity index for a group that can be used as a benchmark against which changes in creativity can be measured in future. To provide a useful index of team creativity, such a questionnaire should include questions relating to the main constituents of a team: the individual, the organisation itself, and the management.

Individual motivation

Intrinsic motivation has been identified by researchers as having a strong link to individual creativity (Amabile & Gryskiewicz, 1987) and is also linked to organisational effectiveness (Kim et al., 2009). To measure individual proactivity two questions are proposed:

- To what extent do you actively seek out opportunities to try new things?
- How comfortable are you in taking risks when it comes to trying out new ideas?

Organisational climate and managerial support

Amabile et al. (1987) identified five contextual conditions that impact on creativity: freedom, encouragement, resources and time, recognition, and challenge. This is broadly supported by Andriopoulus (2001) who also adds leadership style.

These factors have been extensively measured through Amabile's KEYS framework (Centre for Creative Leadership, 2010), which is an organisational survey that measures the climate for creativity in an organisation.

Based on the areas identified in the KEYS framework, Figure 4.3 lists the relevant areas and the questions I proposed to provide a measure of them (including the two individual creativity questions at the end).

Figure 4.3.
Areas of exploration

Area	Question
Degree of Freedom	Is there much freedom for you to decide how to perform work?
Encouraging environment	Are you generally encouraged to find new or alternative ways of doing things?
Lack of impediments	Is it possible for you to learn new things through your work?
Need for recognition	How well do you feel that your immediate supervisor understands your problems and needs?
Managerial support	Regardless of how much formal authority your supervisor has how likely are they to "bail you out" when you really need it?
Organisation climate	What level of tolerance is there for failure in your organisation?
Sufficient resources	Do you have access to resources you might need when developing new ideas?
Managerial encouragement	Is management actively enthusiastic and supportive for new ideas and new ways of doing things?

Proactivity	To what extent do you actively seek out opportunities to try new things?
Level of comfort	How comfortable are you in taking risks when it comes to trying out new ideas?

A copy of the instrument is included as Appendix 5.

The proposed questionnaire was designed in two parts. Part A consisted of 10 questions, each using a 5 point Likert scale with 5 being the highest score (Figure 4.3). The 10 questions were adapted from Amabile's comprehensive KEYS tool, which measures the innovation climate in work teams. My questionnaire had three categories of question measuring:

- a person's own feeling of individual creativity
- the level of organisational support for creativity
- the level of supervisory support for creativity.

From these questions, it can be established whether there is a mitigating effect of the Socratic Dialogue on individual or team creativity over time.

Part B, administered immediately after the workshop, consists of a single qualitative question: "If the process used today to facilitate the discussion became a routine part of team operations in your organisation, would it change any of your views expressed in your answers to the questions in Part A? If so, which ones and in what way?"

4.2.2 Proposed workshop structure

Each workshop consisted of a Socratic dialogue structured to address a question of concern to the organisation.

Based on answers to the 10 questions in the questionnaire, a creativity index was compiled for each person and then a total creativity index for the group was calculated based on the arithmetic mean (average) of the individual scores. Each person's score reflects their ranking for each question (n) on a scale of 1-5, therefore the creativity index is n/50.

The value for management in having a measure such as this is that it provides a benchmark against which change in perceptions of creativity (both in organisational climate and individual feelings) can be measured. It also serves to identify the degree of alignment within the team to help identify competencies and issues the facilitator needs to be aware of and plan for. It is not designed to produce any comparable quantitative data but rather to gain insight into the qualitative responses.

From a theory development perspective, the creative profiles were compiled to demonstrate that the results weren't dependent on having highly creative individuals in a climate conducive to creativity.

4.3 Organisation 2

This organisation operates in the education sector. The workshop was attended by eight members of a specific department including the manager, who acted only as a team member.

4.3.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 38.6.

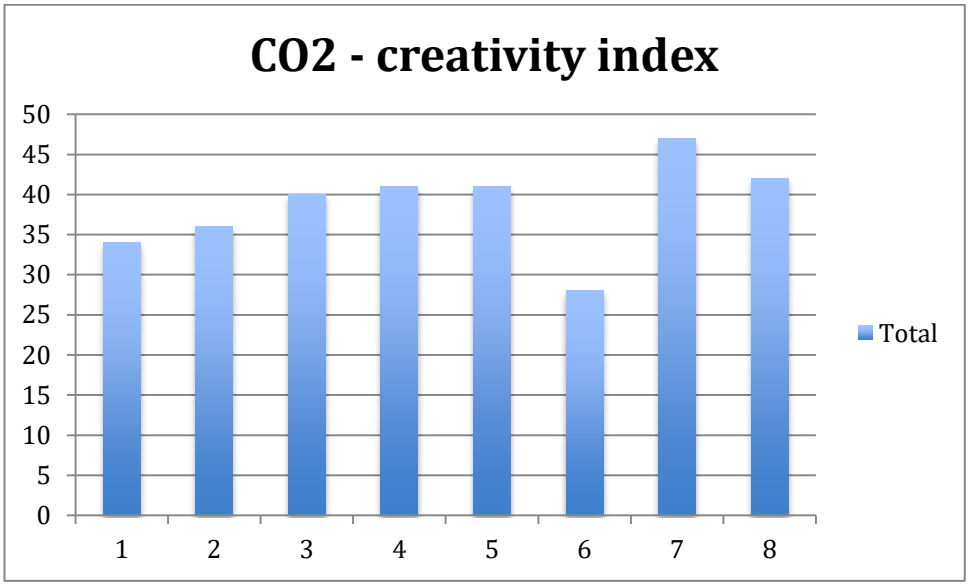

Figure 4.4: *Individual creativity index CO2*

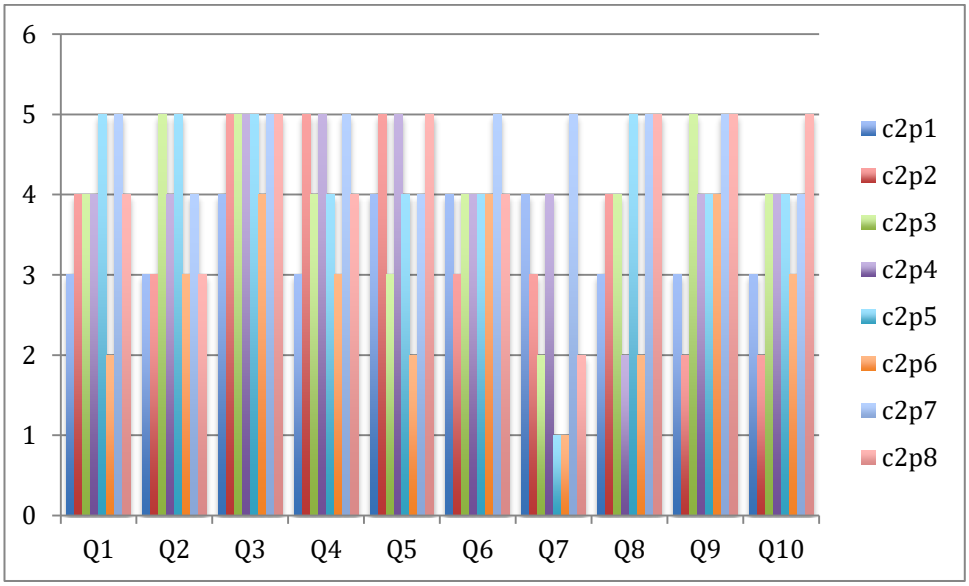

Figure 4.5: *Question rankings – CO2*

An analysis of the 3 categories of question produces an index of:

- Self = .76
- Supervisor = .81
- Climate = .76

This indicates that the group has members with a wide variation in individual creativity but a strong sense of support from their immediate supervisor (more so than support within the organisation itself). One group member had a significantly lower creativity index than the rest of the group.

4.3.2 Discussion

The Socratic dialogue session lasted for approximately 2 hours and finished with agreement on two follow-up actions. While all members of the group actively participated in the discussion, in the initial stages some members held back while others dominated the discussion. When analysing the questionnaire responses, it was clear that this could be caused by the high variance in overall creativity. One member in particular seemed reluctant to participate fully (C2P6). In this case there was a lack of agreement on the question itself that was provided by the organiser of the session. This caused the dialogue to stall but after backtracking and asking the group to debate the question, which was to discuss service levels in the face of budget cuts, participants became more engaged and after agreeing on the question seemed to operate much more as a team; all members took an active part in the rest of the dialogue.

Having agreed that the question should be "What is the meaning of pastoral care as a service delivery imperative?" the group was asked what they currently believed about the issue. They spent some time discussing the specifics of the question without reaching any consensus. After further questioning the following consensus was reached:

- It was agreed that firstly Pastoral Care is not just a top level "mission statement" but something that is actively implemented in day-to-day dealings with clients.

- While Pastoral Care is not formally measured or recognized (apart from client feedback) it should form part of the KPIs for staff.
- Pastoral Care should be a point of difference for the organisation and is therefore desirable even under a restrictive budgetary environment.

Participants were then asked to list ways in which this concept is applied within the organisation and agreed on the following:

- Providing extra face time (one on one) for clients
- Smaller class sizes
- Ethical marking practices
- Open access to staff
- Positive client-to-client interactions
- Sense of community through curriculum and other activities
- Recognizing the "whole person" through the interview process rather than just academic achievement.

The next stage was to examine any conflicting views. Participants reiterated their belief in providing pastoral care but highlighted two barriers:

- Lack of formal recognition of effort in this area affects delivery
- Pressure on workloads and resources means ability to provide pastoral care is negatively impacted.

Overall, there was a general feeling of frustration directed at upper management. The variance in response to questions relating to this produced quite spirited responses. This feeling is summarised by the following comment from one participant:

"It is difficult to change because it needs to be approved by too many people up the line. The organisation is rigid but our manager encourages creativity which makes it less frustrating."

As a result, 5 of the 8 participants reported that they would not change their responses to the creativity index questions as a result of the session. One participant (above) identified organisational rigidity as a barrier to change, and two participants felt that the process would be effective as a change agent if senior management were facilitating change via this process. The team as a whole seemed quite cohesive and showed considerable support for their immediate supervisor. The main barrier to creativity was a perceived lack of organisational support, reinforcing Park et al.'s (2014) view that this is a precursor to creativity in work groups within the organisation.

The session ended with agreement on two actions:

- Work on senior management interface to gain support.
- Reduce churn through enrolment process. For example: automatic confirmations, teaching early.

4.4 Theory Development – Stage 2

The use of a Socratic dialogue as a process was effective as a management technique in running a "creative" meeting but without senior management input and buy-in it was felt that it would not result in a more creative environment overall. However, this could be (in part at least) offset by the development of group ownership of the process. This team initially did not buy into the process, as they could not see a return on their investment in time. It was only when, as facilitator, I stepped back from the process and got the group to debate the question itself that a

sense of ownership developed; therefore the stages of the dialogue itself don't provide sufficient structure to produce a successful outcome. To counteract this a second dimension adding processes to provide guidance for the facilitation of a Socratic Dialogue will be added. This will avoid producing a "black box" model, described by Hildbrandt and Oliver (2000) as one where "…the phenomena in question are not directly observable" (p 195). Such a structure should include type and staging of questions as well as procedures for group maintenance (Gose, 2009).

In the Socratic Dialogue currently there is a "black box" between each stage in which both inputs and outputs are known but not the process to get there. Based on the experience gained from this group the first step in the process should be to generate group ownership by debating the question itself and arriving at a consensus, as suggested by Bolten (2001) and Chesters (2012). This will also help to create a co-operative climate that is the first step in developing a creative team (Schilpzand et al., 2011).

4.5 Organisation 3

This organisation operates in the health sector. The workshop was attended by three members of a specific department including the manager, who acted only as a team member.

4.5.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 41 (with individual indexes ranging from 37 to 44). This was higher than the proceeding group and there was also less variance between group members.

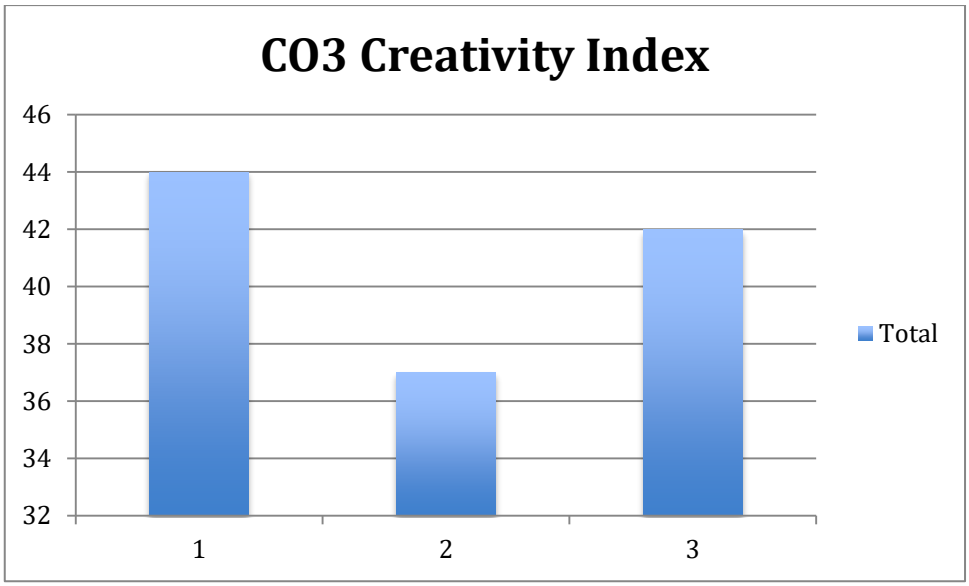

Figure 4.6: *Individual creativity index CO3*

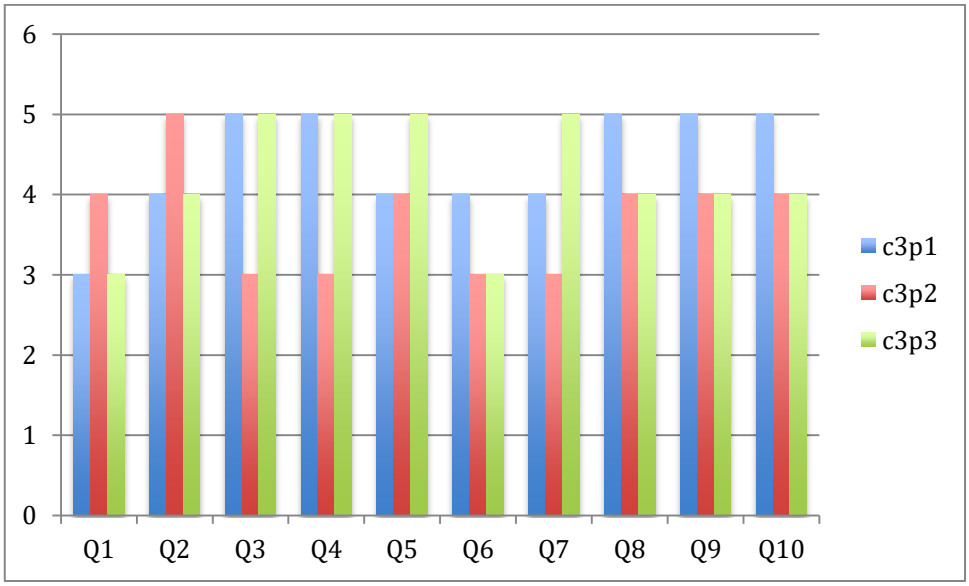

Figure 4.7: *Question rankings – CO3*

An analysis of the 3 categories of question produced an index of:

- Self = .87
- Supervisor = .87
- Climate = .79

4.5.2 Discussion

The question posed was “What events/programs should we provide to GPs for the remainder of the financial year?” This question was arrived at as a consequence of a vigorous discussion on identifying the most pressing issue facing the organisation. This approach, developed as a result of the first workshop, made a positive difference by engendering a strong sense of group ownership. This was illustrated by the view of one of the participants who said “Having buy-in from all participants was important - this guided the discussion to keep on track (historically a challenge for us).” As a facilitator it also allowed me to identify any tensions and possible areas of disagreement as an aid to future questioning.

The current problem for the group was that a number of activities had been proposed covering a wide range of issues; however, there was a feeling that the organisation didn’t have the capacity to manage them and they were not sure of their mandate for various types.

Participants were then asked to first step back from the question of specific activities and address the question of who their clients are. It was agreed that they provide healthcare support to GPs who are also members of the organisation. During the discussion the following conflicting views were exposed:

- That the organisation should provide advocacy type services rather than programmes.
- That the organisation consider as broad a range of opportunities as possible.

At this point there was general agreement so as facilitator I asked them to consider what actions they would like to take. Two actions were agreed on:

- That the organisation focus on providing programmes in areas that have proven successful (mental health).
- That programmes are done in partnership with organisations that can provide the funding for them. On this basis, 3 programmes were approved:
    - [NAME] Hospital – follow-up event
    - [NAME] – sensory modification
    - [NAME] (or similar) mental health skills.

The Socratic Dialogue session lasted 90 minutes and finished with agreement on two follow-up actions. In a briefing prior to the discussion a key issue was identified relating to potential conflict between the Board and operational staff in terms of expectations. All participants agreed that the Socratic Dialogue approach removed this conflict. Summing this up, one participant stated: "This approach increased the level of input non-Board staff had, which in turn would increase their buy-in and feelings of being valued."

All participants agreed that this process "enabled an open dialogue" and produced an outcome that "was better than expected." One participant summed up this sentiment by saying, "Yes, we were able to have a more open and constructive conversation, which helped us to nail down what we wanted to do and what was realistic/feasible." This idea of the process ending with a realistic and feasible outcome is a key test for the Socratic process being followed as without it an idea, no matter how creative, would have limited value to the organisation.

4.6 Theory Development – Stage 3

In order to facilitate open dialogue, two ideas have emerged so far; engagement of all participants and ownership of the question.

The first can be facilitated through the use of concrete questions that explore what people know rather than their opinions. The ideal place to start is a discussion on the question itself with input from all participants so that the process starts with an agreement and thus creates ownership of the question (this was evident from the results of the second workshop).

This approach is supported by Boswell (2006) who, in discussing the use of questions to encourage critical thinking, identifies three question types: concrete, abstract and creative, which progressively move from lower level enquiry to higher level abstract and creative thinking. As an aid to implementing the Model a base-line questioning layer was added to map an appropriate question type to specific stages of the process (see Figure 4.8).

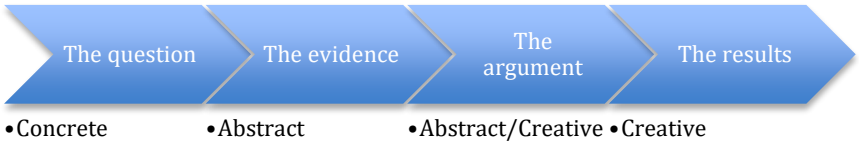

Figure 4.8: *Model with appended question types*

However the addition of a questioning layer, by itself, does not provide enough insight for someone to work with the model without training and/or experience. Neenan (2009) highlights the danger in relying on intuition when it comes to facilitating a Socratic Dialogue. This was an issue in conducting this study to this point, as even though I had prepared a range of questions in advance these only formed a relatively small part of the questioning process.

The key to a successful Socratic dialogue is that it should be a co-operative investigation (van Hooft, 1999) that ends with a consensus rather than an interrogation. To achieve this, the role of Socrates is not just to question; he must also recognise and react to the dynamics of the group (Gose, 2009) by reigning some

participants in and encouraging others. So the role of questioning is two-fold; on the one hand to stimulate discussion and on the other to stimulate ownership of both problem and solution.

A number of authors (Elder & Paul, 1998; Boswell, 2006; Oyler & Romanelli, 2014) suggest categories of questions to consider. Boswell focuses on a top-level progression (Concrete, abstract, creative) that has been incorporated as the second layer of the Model and is supported by Oyler and Romanelli (2014) who propose procedural (concrete facts), preferential (abstract opinions), and judgemental (synthesis or creative) questions. Elder and Paul (1998) provide a handy checklist to ensure the right question is asked for the right purpose:

Figure 4.9.
Question type and purpose after Elder and Paul (1998)

Question type	Purpose
Purpose	Task definition
Information	Examining quality
Interpretation	Examining meaning
Assumption	Questioning beliefs
Implication	Examine consequences
Relevance	Information filtering
Precision	Accuracy
Logic	Examining the whole

While Elder and Paul's questioning checklist provides a useful guide, it is important to remember that questions are not asked according to a predetermined schema as each person will apply their own contextual filtering process before answering. Therefore depending on the questioning stage (concrete, abstract, creative) a particular question should be posed to match the purpose.

4.7 Organisation 4

This organisation operates in the clinical health sector. The workshop was attended by three members of a specific department including the team manager, who acted only as a team member.

4.7.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 44.67 (with individual indexes ranging from 43 to 47). This was the highest index of the groups so far and while two of the three members had a similar index, one person was significantly higher.

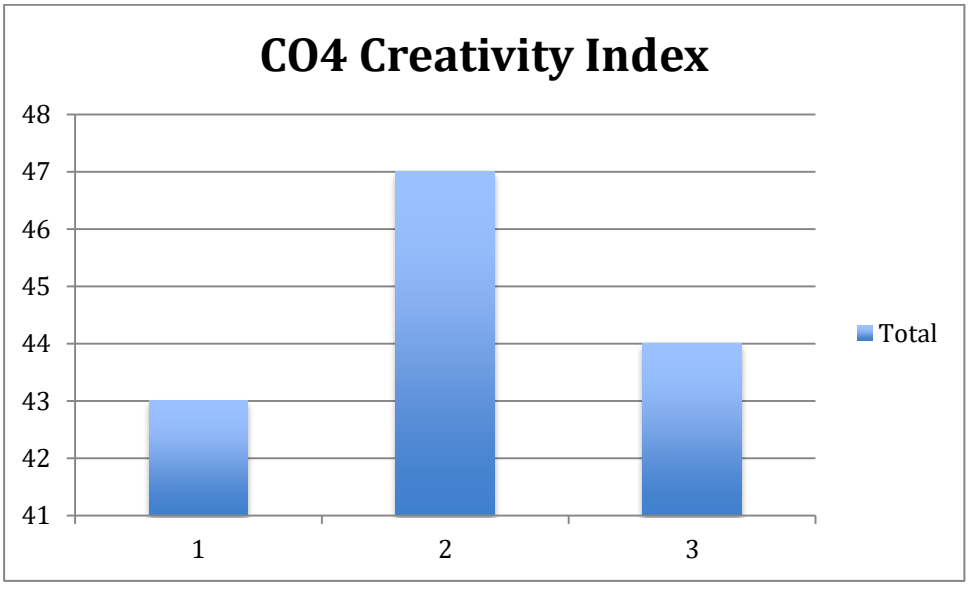

Figure 4.10: *Individual creativity index CO4*

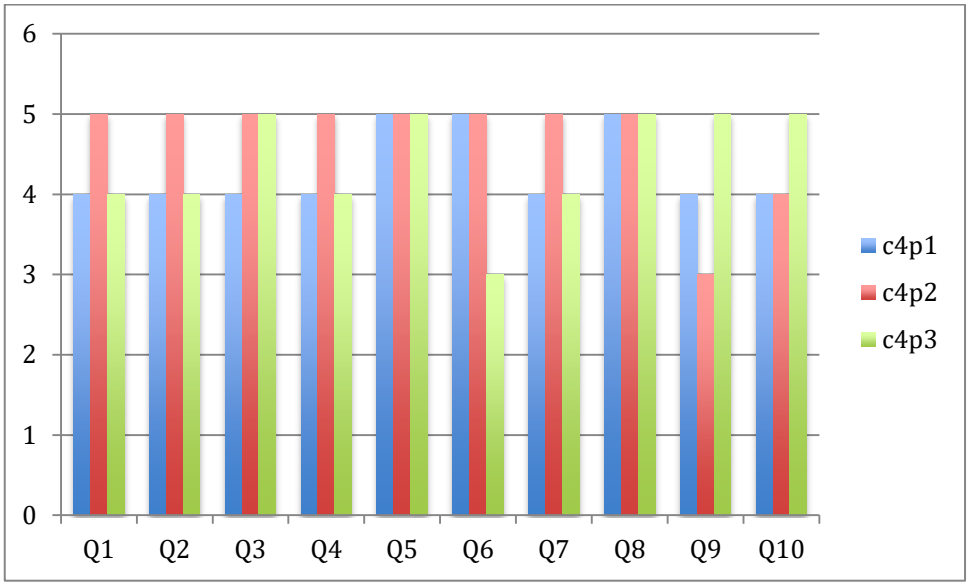

Figure 4.11: *Question rankings – CO4*

An analysis of the 3 categories of question produces an index of:

- Self = .83
- Supervisor = .93
- Climate = .90

4.7.2 Discussion

While the group was small, at the beginning of the session there was a feeling of suspicion as only the manager (who had the highest overall creative index) had been involved in the decision to hold the workshop; however, the addition of the debate on the question (which resulted in confirmation of the original question) and the structured nature of the questioning process quickly overcame this. This was validated by one participant, who said, "I think the process is a very useful way of drilling down, minimising misunderstandings and ensuring a shared understanding. I think it is a useful way to identify new opportunities."

In response to the question, which was “What are our core competencies?” participants were asked to nominate what they currently believed were their competencies. These were:

- Local
- Flexible, innovative
- Efficient (money and people)
- Governance and risk management
- Can-do people (we make stuff happen)
- Outcome focused
- Early intervention mission
- Passion
- Supportive of people (people development)

The manager in the group tended to dominate discussion. This was overcome by asking each participant to provide examples of actions relevant to each competency. After each example was given I asked further clarifying questions and also engaged the other members so that there was agreement on each one before proceeding. This process, while challenging to me as a facilitator, resulted in only four of the original nine competencies being carried forward. These were:

Local:

- Knowledge of issues
- Connected to a network
- Community trust and respect

Flexible/creative

- No preconceived ideas or agenda
- Take on client interests
- Use network
- Design based on end-user needs
- Seek solutions not blame
- Focus on continuous improvement
- Understanding and addressing barriers for participation (eg, access issues)
- “Project team” rather than “silo” approach to managing
- no “wrong door” policy

Efficiency

- recruit talent based on “fit” and motivation
- focus on deliverables (action plans instead of meeting minutes)
- encourage creative solutions by tolerating failure
- reinvest profits back into service delivery (financial efficiency)
- draw in people who have the answers (internal and external)

Governance

- robust policies (continuous review and adapt)
- constant evaluation (critical thinking)
- challenge everything
- training (up-skilling)

- individual autonomy
- balance of trust, freedom and responsibility
- life and death decisions
- sustainability

Participants were then asked to debate the best description of each competency identified above. Once all views had been canvassed, these were agreed and noted.

In the final stage, agreement was reached on two follow-up actions.

- That the organisation positioning be centred around "early intervention focus"
- That the findings above be communicated widely within the organisation.

The Socratic dialogue session lasted 120 minutes, which was long but the combination of ongoing questioning and agreement being reached at each stage meant that the group was largely unaware of the time and remained engaged throughout.

Following the session there was general agreement that this process should be implemented across the organisation. A follow-up email from the manager a week later confirmed this had been done: "We have spent this week following up on actions from our meeting and have introduced this concept across other areas of our business and are very happy and impressed by the results we were able to achieve." This statement reinforced the simplicity and clarity of the process and also that it could be easily implemented.

While there were no new insights related to the Socratic model that arose, this session provided critical validation of the changes to the process made so far and also

validated the process as a whole. I noted at the time the process went smoothly and also that this group during the latter stages seemed to act together intuitively so that the dialogue seemed to flow. This was more pronounced than in the previous two groups and is something that begged further investigation in future sessions and in reference to the literature.

4.8 Organisation 5

This organisation operates as an NGO (non-governmental organisation). The workshop was attended by three members of a specific department including the team manager, who acted only as a team member.

4.8.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 37 (with individual indexes ranging from 31 to 47).

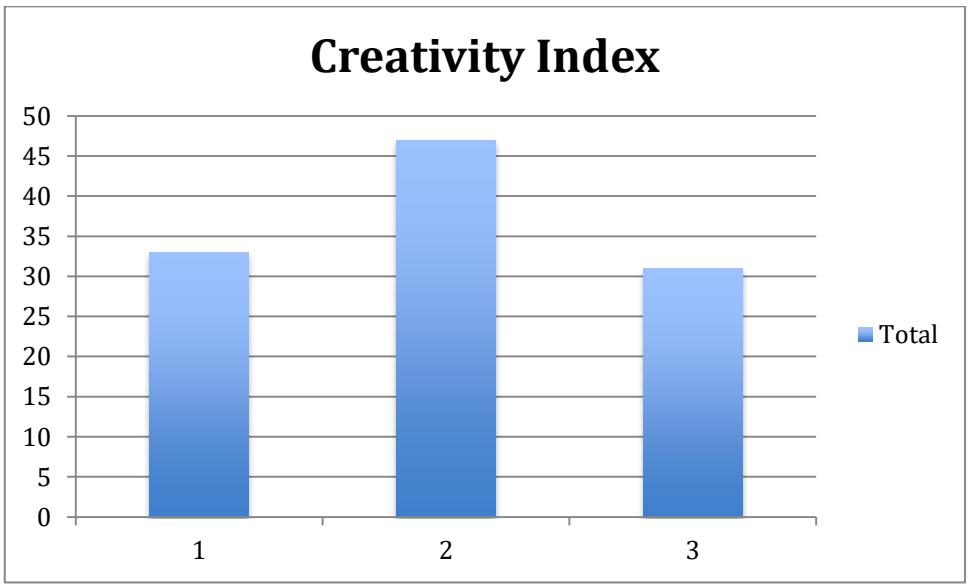

Figure 4.12: *Individual creativity index CO5*

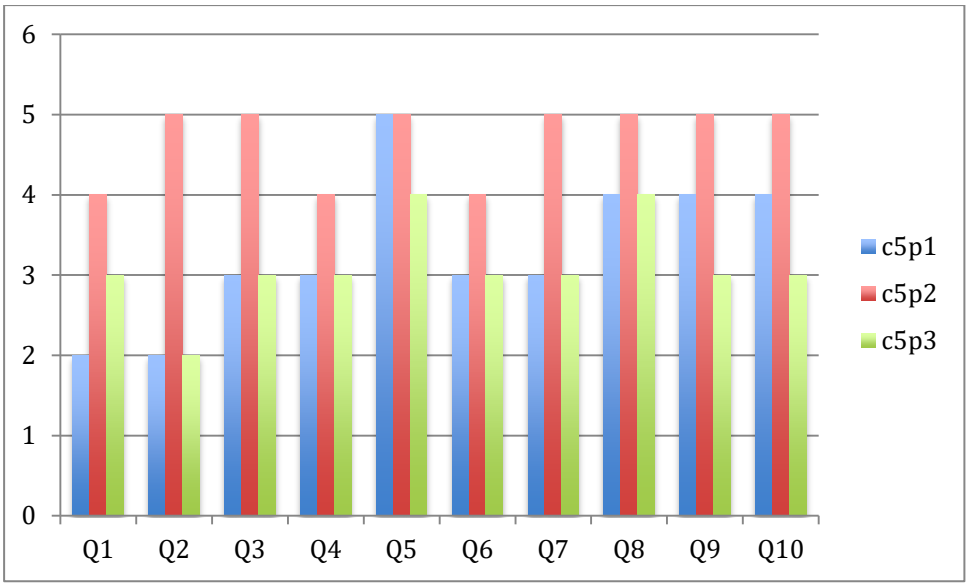

Figure 4.13: *Question rankings – CO5*

An analysis of the 3 categories of question produces an index of:

- Self = .80
- Supervisor = .80
- Climate = .70

4.8.2 Discussion

The Socratic dialogue session lasted for approximately 75 minutes and finished with agreement on a positioning statement containing three platforms (this was the group's desired outcome, agreed on during the opening discussion).

The question posed was "How do we present our vision for integrated health care?" This group being all members of the same department quickly agreed that this question was vital and wasted no time on debate.

Participants were asked to identify the issues relating to patient-centred care in the new healthcare environment– these were:

- Where do GPs fit

- Limited health literacy
- One size doesn't fit all

The new Primary Care Networks in which this organisation was to operate are designed to bring a team-based approach to primary care. The key conflict is where each member of the care team fits and what the patients' best interests are. This was debated for a time and seemed to be going in circles, so as facilitator I asked participants to consider the issue from the GPs' perspective and canvassed stories from the field that reflected what GPs were saying.

After each participant recounted their insights the group came to agreement on the ideal GP position. This was that it should be based on a three-pronged platform:

- Respect and understanding
- Providing a better outcome for both the patient and the State
- The lynchpin of patient-centred care.

All members of the group actively participated in the discussion and were surprised at how easily they managed to come to a conclusion using the Socratic dialogue model (given that this was a question they had tried and failed to get agreement on in the past). Part of this they attributed to having an external facilitator but they also felt that the process encouraged everyone to be involved, which limited dominance by any one participant, with one person noting on their questionnaire:

"I believe this methodology will allow outcomes to be achieved more quickly and also to be more inclusive i.e. a way to encourage the quieter, less experienced members of the team to feel confident enough to contribute."

4.9 Theory Development – Stage 4

This group showed the greatest variance in creativity as measured by the creativity index. In a team setting, shared belief (which seemed to be lacking in this case) is an important element in protecting against setbacks and attaining a desired outcome (Bandura, 2001) and contributed to the lack of cohesion.

In analysing the variance, it was mainly caused by the low scores of one participant, who was new to the organisation and who worked mainly in the field. The other two participants were quick to agree on an answer, at times taking leaps based on their higher level of tacit knowledge. Runco and Chand (1995) make the distinction between declarative or factual knowledge and procedural knowledge or "know how" – in this case we are dealing with a deficit in procedural knowledge. To counteract this, there needs to be a mechanism to expose any relevant procedural knowledge, which is often tacit, to ensure all participants can contribute without being hampered by a lack of understanding.

As facilitator I struggled at times to ask questions that reflected the variance in cognition that was apparent. By giving more explicit instructions to support questions posed, the generation of original and creative responses was enhanced, which was consistent with the findings of Harrington (1975).

It follows then, that cognition must also be considered as part of the underlying process. According to Mumford, Hunter and Byrne (2009), focusing on cognition has a greater effect than a focus on the approaches and interaction of individuals within a group. This idea is supported by Dollinger (2003), who found that a need for cognition was an important predictor of future creativity. Higher order cognitive skills, and therefore performance, can be enhanced by posing questions at different cognitive levels (Crowe, Dirks & Wenderoth, 2008).

The most widely accepted theory of cognition is that of Bloom, Engelhart, Furst, Hill and Krathwol (1956). Their taxonomy identifies six levels of cognition: knowledge, comprehension, application, analysis, synthesis and evaluation, which according to Krathwohl (2002) represent a cumulative hierarchy. Because a person's working memory is limited to holding approximately 7 chunks of information (Qaio et al., 2014), to be effective a dialogue should consider an issue progressively, taking into account the cognitive ability of participants. Accordingly, ensuring that a problem is explored by starting with questions about knowledge and then moving progressively to questions that require higher order cognitive skills will result in the mapping of an argument using a hierarchical structure, which will enhance the ability of participants to think critically (Mulnix, 2012; Kunsch, Schnarr & van Tyle, 2014).

The addition of a cognitive layer by mapping Bloom's Taxonomy onto the Socratic model leads to a model with three dimensions:

Process

Exploration, examination, evaluation, election.

To aid integration of the dimensions I have renamed the 4 steps of the process using a single descriptive word for each.

Questioning

Concrete, abstract, creative.

Cognition

Knowledge, comprehension, application, analysis, synthesis, evaluation.

By understanding people's different levels of cognition, asking a complex question too early can be avoided, thus avoiding confusing participants and ultimately frustrating the process.

These three layers of the model are represented in Figure 4.14, together with examples of appropriate question types.

Figure 4.14.
4Es Socratic Model with question types and cognition levels.

Stage	Question type	Cognition
Exploration stage	Concrete: What, where, when, why, who Explain, compare, give examples	Knowledge and comprehension
Examination stage	Abstract: Consider, solve, apply (to a new situation) What are the pros and cons? What is missing?	Application and analysis
Evaluation stage	Abstract and Creative: What are the links between…. and …..? Defend your choice, justify.	Synthesis and evaluation
Election stage	Decision and resolution	

This table was used in the following dialogues as a quick reference to enable the facilitator to focus on the appropriate type and level of question at the right stage of the process.

4.10 Organisation 6

This organisation operates in an engineering-based manufacturing environment. The workshop was attended by five members from different departments who operate as a senior management committee.

4.10.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 35.8.

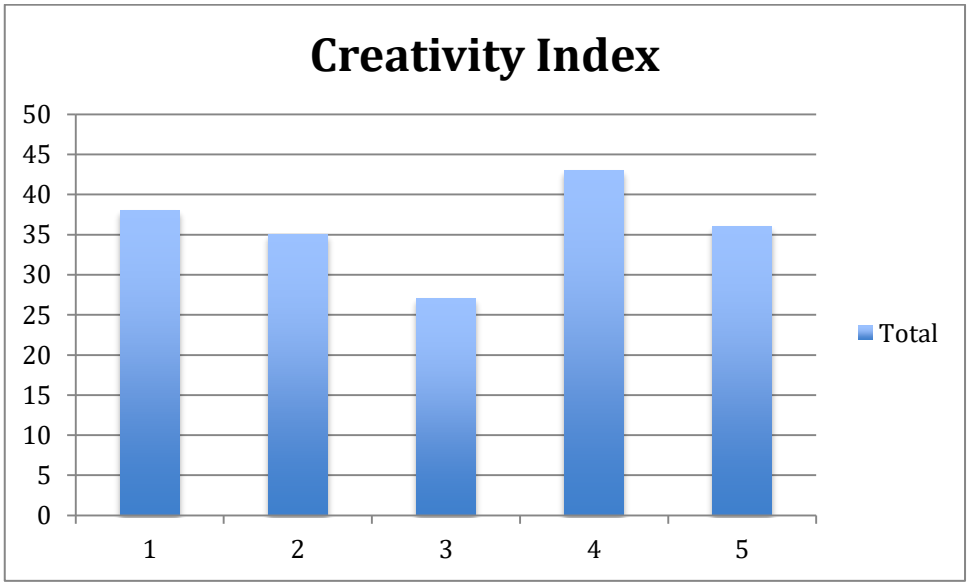

Figure 4.15: *Individual creativity index CO6*

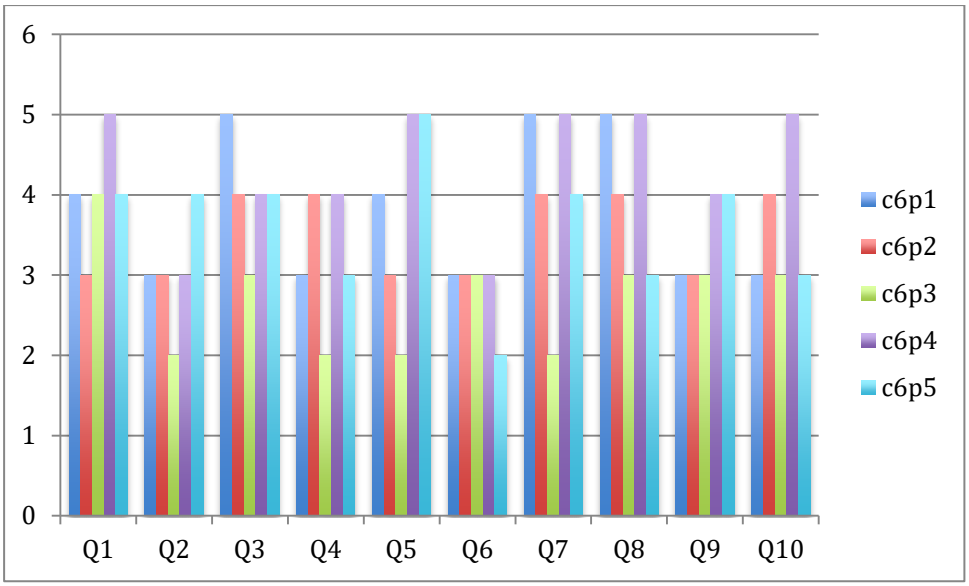

Figure 4.16: *Question rankings – CO6*

An analysis of the 3 categories of question produces an index of:

- Self = .70
- Supervisor = .70
- Climate = .73

4.10.2 Discussion

The Socratic dialogue session lasted 96 minutes and finished with agreement on a follow-up action. The question posed was "What are our core competencies?" This group differed from other groups in that they were all senior representatives from different departments in the organisation and initially there seemed to be a fear of opening up and sharing ideas. As a result I rephrased the question and asked each person in turn about competencies in their own department and then opened up the discussion about each. Competencies and associated examples of them were:

- Heavy machinery:
    - big and small jobs

    - range
    - time and project management
    - multiple shifts
    - technical expertise
    - ability to offer alternative solutions
- Fabrication:
    - in-house production saving time
    - ability to value-add
- People:
    - technical skills
    - mix of experienced and newly graduated working in teams
    - flat structure
    - can-do attitude
    - sales people with tech knowledge
    - problem-solvers

Participants were then asked to discuss key issues that needed to be resolved in order to maximise the value from each. Issues identified were:

- basic jobs tend to be price driven – need to examine sources/relationships with suppliers of raw materials and external "labour" to maximize price competitiveness
- while "value-add" is a core competency it is important that the company culture supports this throughout the organisation.

Participants agreed that the process was worthwhile in "in helping the team identify problems or challenges and form strategies to offset them". It was also noted

that the workshop provided a non-threatening environment in which people from different departments could work together on a project. There was a general feeling that this type of meeting should be a regular occurrence as an open discussion like this was something that rarely occurred.

4.11 Theory Development- Stage 5

Initially, the participants were wary of the process but the more structured questioning process helped significantly in overcoming this and stimulating discussion. For example, at a concrete level participants had no problem identifying categories of competencies based on their current experience; however, when asked to give examples of these competencies they had trouble with more abstract concepts. By asking them to consider the issue from their clients' perspectives they were subsequently able to come up with more creative answers.

This workshop served to validate the changes made after the previous workshop. It was also proof that the model is applicable to cross-functional teams – all previous groups were made up of members of the same department who worked together on a daily basis whereas the members of this group came together monthly and each represented a different department of the organisation.

However, this experience highlighted the need to be aware of group dynamics from the outset and have specific strategies to overcome any deficits. Kenny (2008) makes a distinction between a nominal group (such as this one) that is loosely formed, and a real group. Where a group has existing norms and strong connections between members they are more likely to develop a sense of collective consciousness where members become less defensive and more open, which leads to greater creativity. The result, according to Kenny, is "…enhanced communication,

facilitated coordination and flow in action, creative insights and problem solving, intuitive wisdom, and a sense of deep knowing and connection." (p 597).

Therefore in dealing with any group, in particular a nominal one, it is first necessary to establish a sense of a shared common goal, which can be stimulated by engendering a desire to produce a practical outcome. Coupled with strong social ties this improves the likelihood of an idea being implemented (Baer, 2012). By focusing on this a sense of collective consciousness (and ultimately creativity) can evolve and create a sense that contributions are group ones rather than personal ones (Raelin, 2012). A facilitator can enhance this sense by fostering a sense of "flow", which Csikszentmihalyi (1996) says adds up to an outcome greater than the sum of the inputs. This idea of flow also explains how a fully engaged team can perform at high levels regardless of the individual creativity of team members.

Csikszentmihalyi (2002) identifies two ways we can achieve flow, either by bending the environment to our will or by changing the way we think about it to avoid incongruity, which leads to a sense of defensiveness/self-consciousness that forms a barrier to integration. The loss of this barrier helps establish a more collegial feeling (Rufi et al., 2015), which in turn leads to greater creativity (Kenny, 2008).

Using a case study methodology, Hargadon and Bechky (2006) examined collective creativity in six organisations and found that collective creativity comes from a combination of help seeking, help giving, reflective reframing, and reinforcing behaviours. The resulting collective mind creates new meanings that lead to creative outcomes.

In reporting their findings they also highlighted the fact that the four behaviours above resulted in only fleeting rather than constant collective creativity. This would suggest that behaviour itself is not enough to maintain a sense of flow. It

also points to the need to have a capable facilitator who is conscious of group dynamics and can work on removing barriers. Tools available to a facilitator include providing positive feedback; reinforcing the common goal; encouraging story-telling; maintaining openness; and ensuring no individuals are left out.

Cropley and Cropley (2009) question whether there is a cause and effect relationship between personality and creativity that could instead be the result of experiences that remove roadblocks; for example, a reticent person who receives positive feedback that results in a positive psychology. Therefore taking a risk with positive results is likely to lead to a Pavlovian response (Charyton et al., 2009). The resulting mental state, such as increased motivation or elation, can effectively overcome deficits in the so-called creative personality traits. This is particularly apparent in Csikezentmihalyi's (2002) descriptions of creative flow where engagement in a positive activity overcomes interpersonal and intrapersonal barriers. Positive feedback can also help overcome fear of evaluation, which is often a problem with group creative idea generation (Paulus et al., 2002).

A facilitator can enhance a sense of collective consciousness by a process of summing up at relevant points in a dialogue to show how new knowledge or understanding has evolved from the contributions of individuals to form a collective opinion (Raelin, 2012). Research has shown that personal storytelling, rather than increasing a sense of self, actually helps to develop a sense of consciousness or resonance (Levi, 2005).

Having a sense of a shared common goal also increases connections between group members, but Kenny (2008) warns that in nominal groups there are usually no existing group norms or connections so it is up to the facilitator to firmly establish an agreed common goal at the beginning of the process.

Openness to experience is key to the Socratic process because unless it is possible for an individual to reflect on their current thinking they will not be able to arrive at a potential solution to a problem. Support for this comes from McCrae (1987) who found a direct link between creativity and openness to experience; and Zhao et al. (2009) who linked the construct to entrepreneurial outcomes.

In an environment such as a workshop using a Socratic method, a facilitator can manage interactions so that openness and conscientiousness are enabled. This is consistent with Zhao et al. (2009), who, in a meta-analysis of relevant papers, found that both these factors are the ones most strongly associated with entrepreneurial intentions and outcomes. This is also consistent with Csikezentmihalyi's (2002) conception of flow as a state requiring maximum engagement in an activity.

The need to focus on flow during the dialogue has been incorporated into the model as links between each stage. The model so far can be described as a black-box model, which Kotler (1967) says is one that doesn't describe the specific linkages between two variables. In the case of the current model, the concept of flow can be used to link each of the stages.

The strategies described above can be incorporated into a guide for facilitators to ensure they are aware of ways in which a collective consciousness can be developed. This is illustrated in Figure 4.17.

Stage	Question types	Notes
Explore ***What do we currently believe about the issue?***	<u>Knowledge</u> what, where, when, why, who. <u>Comprehension</u> explain, compare, give	Establish a sense of a shared common goal by beginning with a dialogue to establish agreement on the question itself. Focus on engendering a desire to produce a practical outcome that will improve the likelihood of an idea

	examples.	being implemented.
Examine ***What evidence supports that belief?***	Application consider, solve, apply (to a new situation). Analysis What are the pros and cons? What is missing?	During the examination encourage personal story telling, which will help to develop a collective consciousness. It is also a way to help members of the group to drop their defenses.
Evaluate ***What conflicting views are there?***	Synthesis What are the links between…. and …..? Evaluation defend your choice, justify.	Positive feedback is another tool that can lead to increased group efficacy and is particularly important when seeking conflicting views. Focus on separating ideas expressed from the individual expressing them.
Elect ***Where does this dialogue lead us?***	Decision and resolution	Collective consciousness (and ultimately creativity) can evolve from a sense that contributions are group ones rather than personal ones. Enhance this sense by a process of summing up at relevant points in a dialogue to show how new knowledge or understanding has evolved from the contributions of individuals to form a collective opinion. This is particularly important during this final stage where you need buy-in to a group agreement.

Figure 4.17: *4E's Socratic model facilitator's worksheet*

4.12 Organisation 7

This organisation is a local government authority. The workshop was attended by three members from a single department. There was no team manager.

4.12.1 Creative profile

Based on answers to the questionnaire this group had an overall creativity index of 15.

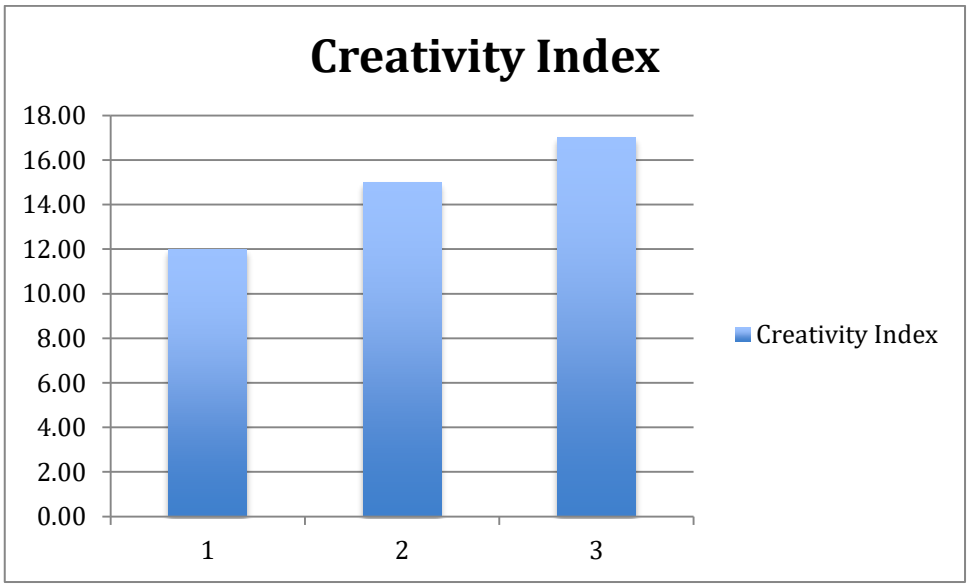

Figure 4.18: *Individual creativity index CO7*

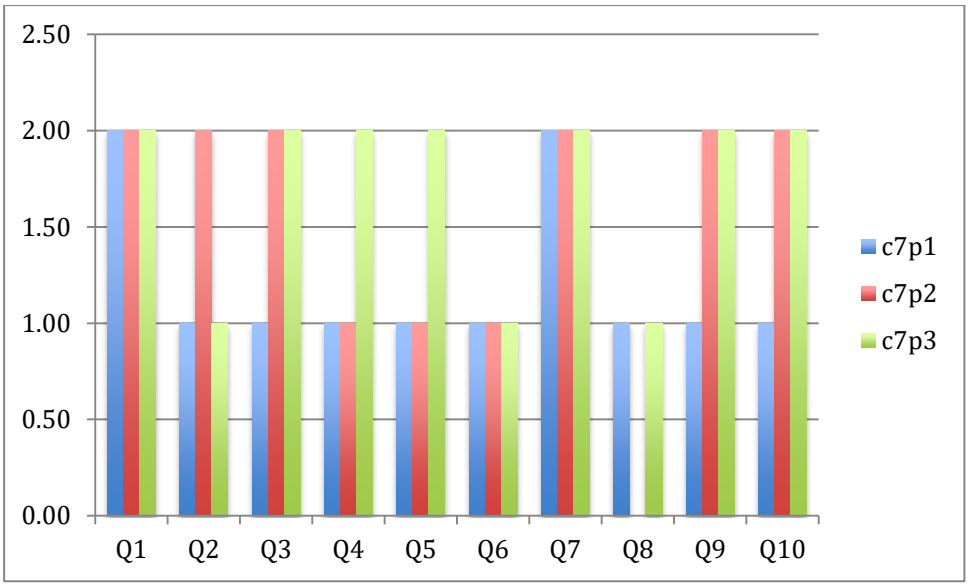

Figure 4.19: *Question rankings – CO7*

An analysis of the 3 categories of question produces an index of:

- Self = .33
- Supervisor = .27
- Climate = .30

This group reflected a very low score in self-reported individual creativity as well as a total lack of support for creativity in the organisation's culture.

4.12.2 Discussion

The Socratic dialogue session lasted for approximately 65 minutes and finished with agreement on one follow-up action.

The question posed was "How do we improve efficiency in our planning department?" Issues raised all revolved around a feeling of a poor team culture. They were:

- No team development
- Little interaction to share experience

- No “quality” assurance
- Performance metrics don’t encourage innovation

The group felt that there were two structural issues that inhibited creativity:

- Treatment of planning apps must fit within guidelines
- Volume is an effective way of managing output.

This group was interesting in that the members had a very low individual creativity index but were very open to the process. The issue in this case was that there was no culture of creativity within the organisation and individuals felt that by themselves they could not effect change.

While all members of the group actively engaged with the process there was an overall feeling that any long-term change would have to come from the top. This group included members of a team but no supervisors. All participants felt that the Socratic approach would produce more creativity and innovation. This was clearly expressed by one participant who said: “With tolerance and support I believe I could be much more creative in the work environment and that the culture would also be much more positive.”

My overall impression was that if creativity were to be encouraged by management, these people would be keen to work within that environment. So even though there was a cultural issue, the support of management could overcome it and enable creativity to thrive. While the group felt that change must be driven from the top to be effective, the group agreed they could encourage more teamwork and sharing to improve both team culture and skills. Initially the group agreed to have a monthly meeting of their own to examine issues that arose with planning applications

during the month from the point of view of knowledge sharing rather than "defending" what had happened.

The addition of guidance to facilitators as recommended after the previous session proved to be of value in producing a sense of collective efficacy that was missing due to both low individual senses of creativity and a perceived lack of support for it at management level.

There were no new insights gained that called for any change or addition to the Socratic Model in its current form and the final conception of the 4E's Socratic Model is illustrated in Figure 4.20.

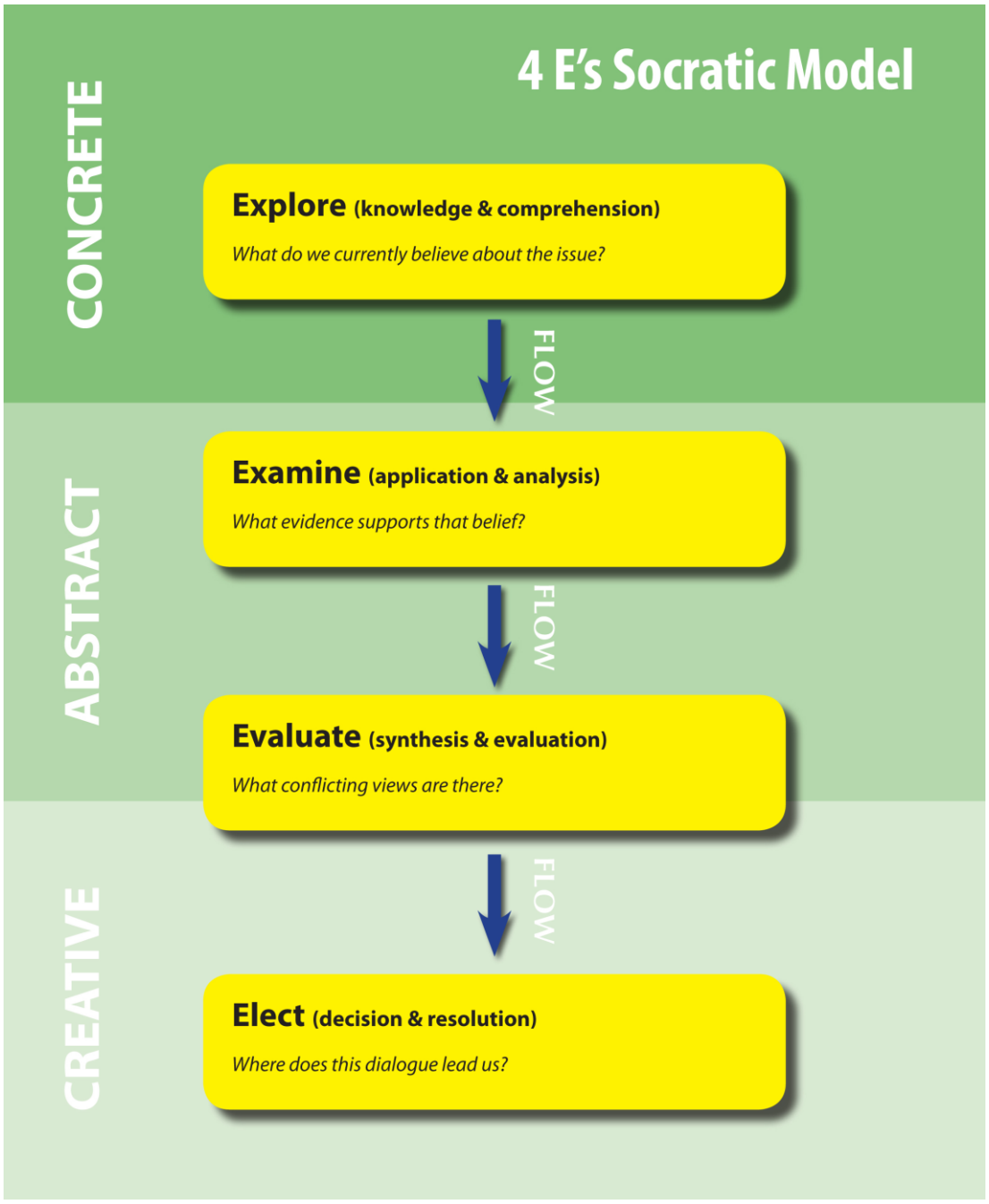

Figure 4.20: 4E's Socratic Model

4.13 Chapter summary

This chapter outlined and discussed the data collected and then described the open coding process used to develop the themes from which the grounded theory is produced. It also summarized the findings of individual workshops – all of which

concluded with a creative outcome. Following the results of each workshop, the implications of the grounded theory were also discussed and additions/changes made with reference to relevant literature.

This process resulted in a final model (Figure 4.20) that incorporates the Socratic process into a system for delivering creative outcomes in an organisational context.

Chapter 5: Discussion

This study produced the grounded theory of the 4E's Socratic Model as a means of encouraging creativity in an organisational context. The use of a Model is a legitimate approach to theory building in a qualitative context and serves as an aid to interpretation and the building of new knowledge (Briggs, 2007) and therefore is particularly relevant in this study.

At each stage of the data gathering a series of memos were written to record insights gained and to interpret phenomena that came from my observations as a facilitator and written insights from participants.

This chapter represents the evaluation and election stages of the Model.

5.1 Theory Building Process

According to Eisenhardt and Graebner (2007) a grounded theory is a result of a cyclical process involving data, emerging theory and validation against extant literature; however, it is also important to demonstrate rigour throughout this process. Gioia, Corley and Hamilton (2012) suggest developing a data structure that distils first order concepts into second order themes followed by aggregate dimensions.

Having gathered all the raw data, open coding was used to interpret the comments made by participants. Based on this coding, ten first order concepts emerged, which were distilled into second order themes producing three aggregate dimensions (as shown in Figure 5.1):

Figure 5.1.

Data structure based on Gioia, Corley and Hamilton (2012).

1st Order Concepts	2nd Order Themes	Aggregate Dimensions
Open and honest exchange of views	Eliminate politics	Group Flow
Offset negative dynamics	Change in social dynamic	
Encouraged people to speak up	Empowerment	
Lack of encouragement	External catalyst	Leadership engagement in creative processes
Multiple approvals required	Hierarchical structure	
No senior management buy-in	Process champion	
No commitment to change	Creative culture	
Specific goals	Topic agreement	Group accountability
Focused discussion	Acting in concert	
Project planning	Defined outcomes	

5.2 Aggregate Dimensions

5.2.1 Group flow

Creativity is dependent on the relationship between the creator(s) and their position in the social system in which it takes place (Bourdieu, 1996). Csikszentmihalyi and Sawyer (1995) agree, saying that organisational creativity is a function of group rather than individual creative processes. At the core of this is social interaction that starts with an open and honest exchange of views.

The concept of open dialogue was mentioned by four groups and is closely linked to producing a realistic/feasible outcome. In all the sessions I encouraged every member of the group to participate. The value of this participation was reflected in comments like: *"Yes, we were able to have a more open and constructive conversation, which helped us to nail down what we wanted to do and what was realistic/feasible."* As the comment illustrates, this was particularly important to make the more junior members of the group feel engaged and able to participate without fear. This open and honest exchange of views overcame negative aspects of the existing group dynamic and encouraged people to speak up, as reflected in the following comment: *"I believe this methodology will allow outcomes to be achieved more quickly and also to be more inclusive i.e. a way to encourage the quieter, less experienced members of the team to feel confident enough to contribute."*

A number of authors suggest that a sense of creative self-efficacy is a catalyst for creative behaviour (Diliello & Houghton, 2006; Lim & Choi, 2009) and that it can be enhanced by a positive environment (Chong & Ma, 2010; Lim & Choi, 2009). In the questionnaire, scores for questions relating to self-efficacy ranged from 0.7 – 0.87 across all participants, which in itself suggested that there may be differences in outcomes as a result. This was highlighted during the session with the second organisation, in which there was a wide disparity between individuals in terms of creative efficacy and also a feeling that the process didn't have organisational support.

However, by establishing group ownership of the process by opening with a discussion of the question under consideration, deficits in efficacy and support were overcome, resulting in a sense of group flow. The resulting collective consciousness (described in the 5th stage of theory development) helped to overcome the effects of

any deficits in creative self-efficacy, which suggested that a positive environment itself is a catalyst for creative behaviour (Bissola et al., 2014), irrespective of individual creativity.

Apart from a debate on the question itself, this sense of collective consciousness or flow came from two different aspects of the 4E's Socratic methodology: firstly, by drawing out existing knowledge systematically through directing concrete questions about knowledge and comprehension to each participant; and secondly, by mandating that during this process the views expressed went unchallenged. This resulted in all participants identifying as group members rather than as individuals and removed the politics that is often a characteristic of group interactions. This is consistent with Remenyi and Griffiths' (2007) presentation of two illustrative case studies of a Socratic Dialogue in action, using them to suggest an approach that should be taken to conduct such a dialogue. They suggest that the following are important: honest views; no judgemental approaches; clear and simple expression; no dominating individuals; and the need for a facilitator to keep the dialogue on track. However they neglect to provide a detailed model of how such a discussion should be run, saying only that the facilitator should be "skilled, energetic and hard-working" (p163).

The first exploration stage of the model overcomes this deficit by producing a system for a facilitator to follow and is consistent with Csikszentmihalyi and Sawyer's (1995) and McIntyre's (2013) views that success is system- rather than idea-driven and should describe the actors, their interaction and any forces acting on them.

Another element that is important in a systematic approach is the questioning process itself. Many popular creative thinking techniques focus on producing new

ideas (for example Alex Osborn's (1953) Brainstorming concept). The problem with these is often the issue of group-think (Gobble, 2014), which can inhibit divergent thoughts and discourage people from disagreeing with the group.

The 4E's Socratic Model overcomes this by using an hourglass approach to questioning (Figure 5.2). This combines both convergent and divergent thinking, starting broadly to expose all existing knowledge and then converging to a state of consensus before diverging again to produce a creative outcome. The positive effect associated with this approach bears out Goldschmidt's (2016) assertion that both forms of thinking are necessary in creativity and that the ability to switch between them when required is a hallmark of creativity. It also maintains flow by systematically examining the issue and avoiding the lack of focus that is common in creative brainstorming.

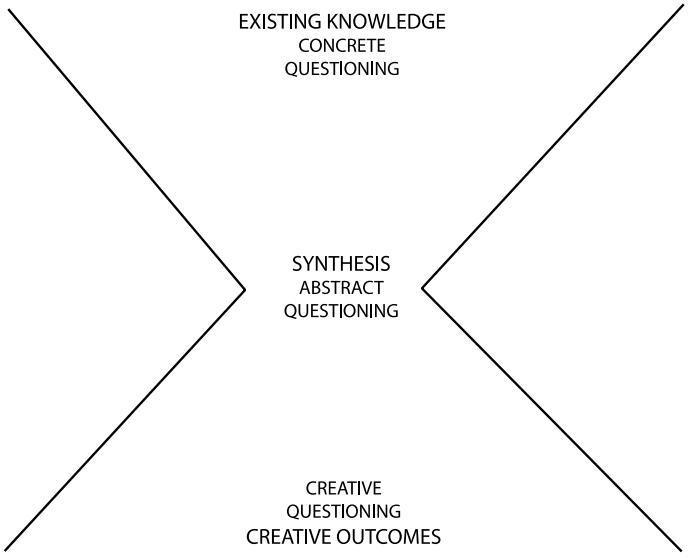

Figure 5.2: *Questioning process.*

In maintaining a state of group flow, members acted as a single entity, thus providing an important linkage between each step of the process. This enabled

smooth transitions between the steps and helped transform the Socratic process into a system for producing creative outcomes.

5.2.2 Leadership engagement in creative processes

The experience with each organisation studied proved the value of using a Socratic dialogue as a team management tool but also showed that a rigid hierarchical organisation is a barrier to creativity. One participant summed this up clearly by saying, “While I view myself as creative I have limited confidence in trying new things due to the lack of support for innovation in my organisation. The approach taken in the session would be most effective in this organisation if it was driven from the top. With tolerance and support I believe I could be much more creative in the work environment and that the culture would also be much more positive.” This is consistent with the findings of Choi et al. (2009) and Hon et al. (2011), both of whom suggested that a supportive management mediates negative environmental influences.

In a similar vein, five of the eight participants in the second organisation studied reported that they would not change their responses to the creativity index questions as a result of the session. One participant identified organisational rigidity as a barrier to change, and two participants felt that the process would be effective as a change agent if senior management were facilitating change via this process. While the workshop session concluded with agreement on future direction, we didn’t get agreement on specific timeframes or responsibilities.

This suggests that it is easy for deadlines to be missed if there is no champion of the process. In working with the process in a company it is important to ensure that there is an internal champion who can take the place of the facilitator to ensure

progress doesn't stall. The process must also be sold to senior management so that it may be viewed as an effective management tool.

During the session the group made it clear that while they had confidence in both their creativity and the support of their team manager there was a sense that they were wasting their time due to the bureaucratic nature of the organisation and the conservative nature of senior management. It seems that it is not enough to have the support of a team manager – it is also important to have this process recognised as a legitimate part of the overall management philosophy. To facilitate this, a guide to the process with evidence supporting its use was produced to support a business case to help gain acceptance in situations where the process is instituted departmentally.

The role of a leader (of an organisation or a group within that organisation) is to create an environment where uncertainty and risk are tolerated and personal consequences in a creative environment are positive. Andriopoulus (2001, p. 834) identifies the relevant contextual influences relating to this as a combination of organisational climate and culture, leadership style, resources and skills, structure and systems. However, it is the leader who controls all of those influences and therefore needs to be actively involved in creative processes.

In a practical sense, the support of senior management can be shown by including management representatives in the process to demonstrate it. In a briefing prior to one of sessions, a conflict between the management team and the Board (in a not-for-profit organisation) in terms of expectations being unrealistic was highlighted. The session, which included the Board Chairman, provided a structure whereby everyone felt comfortable that they would be accountable for the outcomes agreed. This came from having present, in the same session, all the people who had opinions about and were affected by the topic under discussion. The neutrality

provided by the Socratic process removed personalities from the debate and enabled both sides of the conflict to see the other side's point of view, which prompted one person to say, *"This process enabled an open dialogue in which thoughts and ideas could be tabled and challenged. The outcome was better than expected! Having buy-in from all participants was important - this guided the discussion to keep on track (historically a challenge for us). Using this process would definitely help immediate supervisors/Board to understand internal resource challenges."*

Previously there was a general feeling of unwillingness to take risks; however, the airing of all the relevant issues with all stakeholders present meant that there was an increased willingness to both take and accept risk. This situation emphasizes the need for a neutral facilitator (whether that be an internal or external person) to ensure personalities are not bought into the discussion.

Despite a willingness to be creative, an unsupportive environment will potentially negate it, as one member of the final group pointed out: *"Yes I feel that the work culture would change from one in which innovation is regarded with suspicion into one which rewards unconventional and new thinking. I think unfortunately the management structure in my organisation is not conducive to a frank and honest exchange of ideas. I wish it were."*

To assist in overcoming management reluctance a number of participants expressed the need to have a resource that could be used by managers to seed the Socratic approach within their organisations. The resulting publication of *Creative Leadership Techniques* (see Appendix 2) proved effective in meeting this need.

In addition to the need for management buy-in, the issue of corporate culture itself was raised. All the participants in one group (CO2) mentioned that implementation of the 4E's Socratic methodology would not in itself cause a change

in their creative behaviour despite it producing a valid creative outcome. Rather than being a reflection of the validity of the process, this was related to their feeling that the organisation's culture didn't encourage creativity, in spite of the fact that it was encouraged by their team leader. This feeling wasn't related to a lack of creative confidence as this group's self-reported creativity index was consistent with the other groups, and individuals reported high levels of creative self-efficacy.

The same issue arose in other group (CO7), who felt that a shift in management culture was required: *"I think unfortunately the management structure in my organisation is not conducive to a frank and honest exchange of ideas."* Members of this group felt strongly that if management used the Socratic model as an integral part of their way of managing, it would have a positive effect on the overall culture of the organisation: *"Yes I feel that the work culture would change from one in which innovation is regarded with suspicion into one which rewards unconventional and new thinking."* This organisation was very hierarchical and there was a feeling there was a strong disconnect between management and staff.

In both cases it was clear that for the Socratic model to work as a management technique, it had to be both supported and driven by senior management. Bateman and Crant (1999) suggest that the solution to this problem is to create a climate that encourages proactivity (a behaviour that is too often discouraged in a hierarchical organisation). This assertion is the result of a number of empirical investigations that linked a proactive culture with both the number and frequency of innovations. Of course, having a proactive bias exposes an organisation to risk, which is why both direct management support and a creative culture are necessary to mediate negative influences (Choi et al., 2009; Hon et al., 2011).

The Socratic Model as a management tool therefore needs to be championed by leaders within the organisation in order for it to be successful, and be supported by appropriate resources and processes. While in each of the cases in this study the workshops were conducted successfully, without a positive context the Socratic approach alone is not sufficient to offset an ongoing negative environment.

5.2.3 Accountability

Group accountability was mentioned in Group CO6, whose members consisted of representatives from different divisions of the company, some of which were in conflict with others, despite each division relying on the others to be successful. This triggered stage 5 of theory development, which established group ownership as an important precursor to a successful process.

This dimension was also mentioned in two other groups (CO3 and CO5) and related to a feeling that using the Socratic model had resulted in some quantifiable outcomes that were both specific and realistic. Group CO3, in a briefing prior to the session, were particularly concerned with unrealistic and vague expectations from senior management. However, after the session, which included the senior managers, there was general consensus that this approach resolved those issues.

As predicted in the literature, tolerance got in the way of groups acting in concert. It manifested itself when some participants became frustrated with the dialogue when their views were challenged and illustrated the value of having a strong facilitator. As facilitator my goal was to ensure everyone was committed to the relevant team processes by agreeing to both the question being addressed and the outcome expectation. This commitment helped overcome issues of personality and was consistent with the findings of O'Neill and Allen (2011) relating to team level personality.

5.3 Implementing the 4E's Socratic Model

The preceding section discussed the dimensions that emerged during fieldwork. Some of these informed the ongoing development of the model itself (discussed in Chapter 4) while the remainder related to issues with implementing the model as a management process within an organisation. These issues are listed in Figure 5.3.

Figure 5.3.
Implementation issues

Issue
The need to embed the model as part of the culture of an organisation.
Using a neutral facilitator (either internal or external) to direct the dialogue.
Having measurable outcomes and assigned responsibilities so that momentum can continue throughout the life of a project.
Provide supporting collateral to legitimise the process and provide a guide for its implementation.

5.3.1 Supporting collateral

A resource in the form of an e-book (see Appendix 1) was written to provide a guide to managers and to help them produce a business case for the introduction of the 4E's Socratic Model into their organisations.

The objectives for testing the Creative Leadership Resource were to determine whether the Resource could provide a self-directed guide to implementing the 4E's Socratic Model in a corporate team environment, and to acquire information to improve the clarity and workability of the Resource.

Proof of Concept Pilot

The pilot was conducted in a workshop context with three senior managers from different organisations. Each participant was a leader of operational teams in their organisations and participants were self-selected via a LinkedIn request to 307 connections.

The workshop lasted for 90 minutes and consisted of working through a PowerPoint-based presentation that explained the concept of Creative Leadership and introduced the 4E's Socratic Model. The resource itself was sent to participants before the session to enable them to review it. The session was divided into five sections following the structure of the resource discussing each chapter in turn.

Participants were asked to provide feedback at each stage of the presentation and also to discuss the validity of the Model as a management tool suitable for implementation.

Figure 5.3.

Key outcomes

Section	Comment
Disconnect between creative thinking and the corporate environment	Agreement with the necessity for creativity and innovation but at a loss as to how best to manage it.
Approaches to creative thinking	Familiar with each of the tools but few positive outcomes when used. The phenomenon of "group think" was mentioned as one of the biggest issues and hard to overcome.
4E's Socratic Model	Feedback that the Model was easy to

	understand and that it provided a good framework for developing a creative team environment; but recognition that the key to making it work would be the ability of the leader to manage it.
Levels of cognition	Feedback that these provide a learning framework that encompasses the range of human ability and an ideal structure on which to base questions.
Discussion	It was felt that the Model overcame the previously identified problem of "group think". It was felt that creative thinking tools were often used to stimulate thinking, which was stage 3 (evaluation) of the 4E's Model and that without the earlier stage of exposing what is known, was the cause of both "group think" and a lack of engagement by some team members. Each of the managers agreed that the Model would provide an effective framework for managing creativity in their teams.

Reflection

Apart from general agreement that the Model was a useful tool and easy to work with, the most interesting element of the discussion was the level of frustration participants felt with traditional creative thinking tools they had worked with and that were mentioned in the resource. The biggest issue highlighted during the discussion was that of "group think", where brainstorming-type sessions are often dominated by

confident, opinionated individuals. Participants felt that the 4E's Socratic Model was a tool that could overcome this.

On reflecting further on this concept of "group think", which seemed to arise as a result of the group discussing without effective guidance, I wondered if it had anything to do with a distinction between a dialogue and a discussion. In examining the literature on this point I found support for such a distinction from Bolten (2001) who maintains that it is common in a discussion for participants to try to convince others, whereas in a dialogue the goal is to investigate, which requires an understanding of all perspectives. This reinforces the establishment of a hierarchy in questioning to ensure a dialogue ensues and a consensus is reached. It is also supported by Belonax (1980) who, in an educational context, suggests the integration of the Socratic method with Bloom's taxonomy of educational objectives so that questions can be posed in a hierarchical way that correspond with the levels of cognition as identified by Bloom.

Fishman (1985) maintains that the goal of the Socratic method is a search for truth, whereas the questioning process is a tool to help arrive at the truth. In the process, he says the participants should gain self-knowledge rather than see it as a vehicle for self-expression. This supports Bolten's (2001) distinction between a dialogue and a discussion. A dialogue is likely to result in self-knowledge as the process forces participants to question their own beliefs as well as those of others.

This search for the truth, via a hierarchical questioning process that moves from the concrete to the abstract, results in a consensus gained through the Socratic dialogue that comes through the self-realization of participants rather than the expertise of one or more participants. This results in genuine learning (Golding, 2011).

5.4 Theory Development

At the end of each workshop conducted during the data gathering phase, memos were created to record the findings and insights gained as a result of them. This process has been summarised in Figure 5.4 below:

Figure 5.4.
Stages of theory development

Stage	Findings	Insight gained
Process validation – company 1 (CO1)	Encouraged empowerment, inclusion and creativity	Validation of process
CO2	Success requires senior management buy-in	Create a resource to assist in building a business case to obtain senior management support for the process
CO3	Engagement of senior management in workshop removed disconnect between senior management and operational staff	Identify member of senior management to champion the implementation of the process. This can be supported through the development of the resource discussed above
CO4	The process helps cement team	Facilitator should focus on team building as part

	relationships, which will create a positive working environment	of the second "evidence" stage to help create a greater level of tolerance between team members during the "argument" stage
CO5	Engagement by all participants	Facilitator should be neutral (always) but in the event of entrenched conflict an external facilitator could be considered
CO6	Created a non-threatening environment	Focusing on engendering flow to integrate each stage of the process
CO7	Increased self-direction of teams	The process can be used to stimulate bottom-up change

5.4.1 Model evolution

During the course of the research the model was empirically grounded against the concepts that were developed, based on the findings. This process meets one of the key criteria for evaluating a grounded theory as proposed by Corbin and Strauss (1990). This resulted in four additional elements being incorporated into the model. These were:

1. A preamble to the first stage – conducting a discussion and formally getting the agreement of the group on the question itself. This is supported by both the literature and the findings of this research.

2. Progression of questions – from concrete to abstract to creative. This was incorporated as a second dimension in the model.
3. Cognition – proceed on a hierarchical basis from knowledge-based questions to evaluative questions to aid cognition during the process.
4. Flow – foster a collective consciousness by fostering a sense of flow.

Following this process, the final model was validated via a workshop consisting involving three managers who hadn't been part of the original research. The workshop presented a facilitator's guide, the aim of which was to provide a step-by-step outline of the process as a guide for conducting a session using the 4E's Socratic Model. Following the workshop there was agreement that the guide made it easy for anyone taking on the role of a facilitator to prepare and conduct a session with little or no prior experience.

5.5 Validation of Final Model

To determine the validity of the final Model and supporting collateral, I organised a workshop with a bid team in an organisation, who were trying to develop a bid strategy for a request for tender (RFT). This was a typical project for this organisation and was part of day-to-day operations. The process used is discussed below:

5.5.1 Explore

As a starting point I used an unpacking process designed to explore statements that are made. This forced participants to focus on the elements of the question itself and was a good way to break the ice. It also restricted questions to concrete enquiries that didn't allow people to expand on any subjective opinions they may have had.

Paul and Elder (2006) suggest that statements made are rarely complete and that they should be viewed as a series of interconnected thoughts. Exploration began by breaking the connections in the RFT so that individual elements were identified, similar to individual pieces of a puzzle that can then be analysed and reassembled in different ways. The relevant part of the request stated:

"Please provide a brief background of your organisation and its products/services provided with a particular emphasis on the relevance of them to this RFT."

The team unpacked the statement into the following individual pieces:

- brief background
- organisation
- products and services
- relevance to RFT

5.5.2 Examine

Having unpacked the statement, the examination stage was conducted as a brainstorming session where the aim was to expose ideas and concepts without argument and therefore concentrate on posing concrete questions to expose facts and abstract questions to uncover opinions. Examples of questions used were:

- In the context of this request, what is meant by brief?
- Which products/services are relevant?
- What information about the organisation is appropriate?

5.5.3 Evaluate

The evaluation stage started by questioning the facts to expose any contrary opinions, because during the examination the facts were stated without hearing any contrary opinions. This called for more creative questions to identify new combinations or linkages:

- What are the benefits to the client of working with an organisation with the capabilities we have described?
- How can we order those capabilities to create the right emphasis to tell that story?
- For each capability, which elements from the RFT are relevant?

5.5.4 Elect

The final step was to bring the discussion to a conclusion by identifying specific subsequent steps. In this case the next step was the assignment of tasks to specific team members:

- Analyst to quantify specific benefits
- Writers to draft initial statements (after analyst information obtained)

The final action was to set a time when the team would reconvene to discuss the draft statement.

5.5.5 Discussion

The addition of the two extra layers in the model made it much easier to stay focused as the facilitator. Firstly, in terms of preparation, it forced me to consider not only the questions I might ask but also ones that were the at the appropriate level in both type and cognition. Secondly, having a visual of the model (See Figure 4.17: 4E's Socratic model facilitator's worksheet) in front of me during the discussion

gave me a guide for the type of question required at different times in order to stimulate discussion or tease out linkages in the evaluation stage that resulted in more creative thought.

In discussion after the session, participants expressed surprise at how quickly they were able to come to a conclusion that they felt gave critical direction to their response to the RFT. This was something I also noticed and was surprised to note later that the total time taken was just over 60 minutes compared with similar sessions during the initial data gathering stage that lasted over 90 minutes.

5.6 Chapter Summary

The Socratic model proved to be an effective way of encouraging creativity (opening dialogue, providing accountability, positive culture) in teams. However, to actually work in practice it would require leadership and commitment from senior management so that it becomes a part of the organisation's culture.

Having established the robustness of the Socratic model, the second part of the study focused on giving managers the tools to implement the model in their own organisations. This was done by delivering a one-day training workshop to a number of managers from different organisations and measuring their confidence in and likelihood of rolling it out in their organisations.

It must be noted that these findings are based on successful outcomes in a variety of situations, but all using an external facilitator. This was done to concentrate on the applicability of the model itself and remove any bias that might have come from using different facilitators.

Chapter 6: Conclusions & Implications

This chapter starts with a justification of the theory developed, and its contribution to the literature. This is followed by a discussion on limitations (section 6.3) and suggestions for future research (section 6.4). Section 6.5 is a parting word on the thesis.

6.1 Theory Justification

6.1.1 Evaluation

A number of authors (Paul & Elder, 1998; Andriopoulos & Lowe, 2000; Bolten, 2001; Kessels, 2001; Chesters, 2012) present steps in a process to extend Socrates' philosophical model when it is applied to a business context. However, for the average executive, there is little in the way of explanation as to how they should negotiate each step in the process (Kessels, 2001).

Bolten (2001) gives some advice, suggesting that dialogic success comes from having a skilled facilitator, while Kessels (2001, p53) lists some of the techniques such a person should use. At the heart of the Socratic method is the elenchus that Chesters (2012) describes as a "process of questioning" (p77) but doesn't elaborate upon. A process, by definition, needs to be structured and contain a number of steps and it is not enough to say it requires only a skilled facilitator.

The purpose of this research was twofold: firstly, to identify the conditions under which using a Socratic approach as a tool to champion creativity was effective in an organisational context; and secondly, to develop, test and validate a model for its use.

The primary research question or core variable was: *What is the theory that explains the process of using a Socratic method to produce creative outcomes in organisational team interactions?*

The resulting 4E's Socratic Model was found to be an effective tool in producing creative outcomes in the context of an organisational team. It achieved this by producing creative, actionable outcomes in all seven organisations studied. It also modelled a culture that encouraged creativity and tolerance, and described an environment where creativity is encouraged by producing conditions that are conducive to it.

It achieved this by developing a system incorporating four critical elements: Firstly, by creating an environment that gave participants the personal freedom to provide an opinion in a non-threatening context. According to Sawyer (2006) this is a prerequisite for creativity to emerge;

Secondly, by providing encouragement to think creatively, outside normal operating constraints. This factor is critical in a team-based environment where members have disparate levels of individual creativity as shown in the creativity indices of teams studied in this research;

Thirdly, by giving recognition that each team member's opinion is valid and valued. Recognition helps instil a sense of control over the environment that increases the likelihood of a person thinking and acting creatively (Amabile & Gryskiewicz, 1987); and

Fourthly, by challenging participants to go beyond the common wisdom to create something new and innovative. Challenge, however, must be enough to stimulate debate without producing unproductive conflict (Isaksen & Erkvall,

2010). The 4E's Socratic model created an environment where this balance was effectively maintained.

In each of the workshops a creative outcome was made possible through the interplay between the facilitator, the group as a whole, and individual members. The facilitator used a process of regressive abstraction as recommended by Nelson (1949), firstly by the use of careful questioning to expose tacit knowledge; secondly, by questioning beliefs related to that knowledge; and thirdly by facilitating ownership of the issues under discussion. This facilitated the recognition of new patterns in the knowledge, using the lens of a variety of perspectives.

6.1.2 Practical application

Glaser and Strauss (1967) identified four properties (degree of fit; understandable by the layman; general applicability; and user control) that a successful study should have in order for it to have practical application. These are addressed in Figure 6.1 below:

Figure 6.1.
Validation against Glaser and Strauss (1967) properties.

Properties	Validation
Degree of fit in the substantive area	Fit comes from the development of the theory based on world data that suggests they are usable in practice (Corbin & Strauss, 2015). Data was gathered from seven organisations in a variety of industries to avoid any bias in terms of industry type or organisation size. In each dialogue a workable creative outcome was achieved.

Understandable by the layman	In order to ensure the model could be easily understood by the layman, I published a book, *Creative Leadership Techniques,* aimed at practitioners, which discussed the genesis of the model and its structure. This was then validated through a presentation to a group of senior managers. As a result of feedback from this session an accompanying facilitator's guide was developed as a tool that could be used to guide a group when working with the model.
General applicability	Because the 4E's model was developed based on data gained from a range of organisations it can be said to have general applicability.
User control	The user has total control over the use of the 4E's model: the model identifies the steps in a process and gives supporting advice but the implementation relies on the user and the process can be adapted based on individual experience.

6.1.3 Viability of the model

Based on information gathered during the literature review, an initial version of the Socratic dialogue model was developed and put into the field for testing. It quickly became apparent that while the model included all the major phases of a successful dialogue, in its initial form it was a 'black box' model with unidentified linkages. Four linkages were identified and described by the model.

The first linkage is at the beginning rather than between the initial two steps. Kirkland (2012) stresses the need for the process to be reflexive and not imposed.

This reflexivity was kick-started by engaging team members through a dialogue on the question itself. This generated a sense of group ownership and removed any sense of individual agendas. This is consistent with the approach of Socrates himself, whom Plato, in the Republic, says started a dialogue with questions seeking to define the meaning of a concept. It is also consistent with recommendations made by modern scholars (Bolten, 2001; Chesters, 2012).

The second linkage was the establishment of a questioning structure rather than just relying on the skill of the facilitator. This enables the user to retain control over the process, a factor that Glaser and Strauss (1967) say is important in order for a study to have practical application. The structured questioning had a progressive momentum from concrete to abstract and finally creative questions. This facilitated the engagement of all members of a team, regardless of their individual creativity index.

The third linkage was a cognitive progression to questions to expose tacit knowledge and improve individual creative efficacy. This validates contentions made by a number of authors (Dollinger, 2003; Crowe, Dirks & Wenderoth, 2008; Mumford, Hunter & Byrne, 2009) who link cognition to creativity.

The final linkage was the development of a sense of collective consciousness, or flow, which Csikszentmihalyi (1996) says produces outcomes that exceed the value of individual inputs. While flow is recognised as being an important element of creativity it is often left to the skill of the facilitator to enhance it (Remenyi & Griffiths, 2007). In this study there were four elements that contributed to it. Firstly, the establishment of a common goal (as recommended by Kenny, 2008) shifted the focus from the individual to the group, resulting in many of the groups expressing amazement at how quickly they were able to produce a creative outcome.

Second was the use of story-telling (as recommended by Levi, 2005) to both clarify concepts and encourage participation. By asking participants for specific examples of their contentions it became self-evident when the facts of the story they were telling didn't support their original statements.

Third was the provision of positive feedback (as recommended by Paulus et al., 2002) that increased individual self-efficacy, overcoming deficiencies in individuals' perceptions of their own creativity.

The final element was the use of a process of summing up at critical stages (as recommended by Raelin, 2012). This helped to maintain flow and the production of collective rather than individual opinions.

The insights gained during the study were developed to form a system for producing creative outcomes using a Socratic process. This system was then described in a facilitator's guide and then tested and validated in the field.

6.2 Contribution to the Literature

The 4E's Socratic model contributes to the literature in five ways; firstly by using a systems perspective to define a specific process based on the use of a Socratic dialogue to produce a creative outcome in an organisational context. Bordieu (1966) said that creativity is dependent on the relationship between the creator(s) and their position in the social system in which creativity takes place. The 4E's Socratic model describes such a system, where the individual players are supplanted in favour of the group in an environment directed by a neutral facilitator. The resulting process overcame deficiencies in individual creativity and team member relationships, but in order to thrive in an organisational context requires cultural tolerance of a creative mindset. It also challenges existing perceptual and

knowledge structures that Grisold & Peschl (2017) say are prerequisite in innovation and new knowledge creation.

Secondly, the questioning process needs to be structured in a way that encourages a sense of flow within the group but doesn't inhibit idea generation or result in group-think. This need was apparent from the first workshop, which concluded successfully, but while participants agreed on specific capabilities they appeared to have different meanings or implications for each of them. Structure was built into the questioning process by adding two extra dimensions (question type and cognition) to the single dimension Socratic dialogue. The introduction of question type resulted in a sense of engagement that is critical in a creative process in the production of a creative outcome (Schilpzand et al., 2011). The question-type dimension starts with questions that explore concrete knowledge rather than opinions and then progresses onto abstract questions (aiding synthesis) and then creative questions that produce new meaning. This addition also encouraged people with less creative efficacy to participate without fear of ridicule and went a long way towards the establishment of collective efficacy within the team. The second dimension overlaid this by introducing cognition into the mix. This encouraged more equal participation and resulted, in the words of one participant, in "minimising misunderstandings" and ensuring a "shared understanding".

Thirdly, the study found that creativity in teams is not dependent on individual creativity skills. Amabile's (1983) componential model of creativity suggests creativity emerges from a combination of task motivation, domain and creativity relevant skills. The 4E's Model suggests that a creative outcome in a group context is not dependent on individual creativity and that it comes instead from a combination of task motivation, domain-relevant skills and group interaction. In effect, individual

creativity skills were replaced by the creative skills of the group that were harnessed by the sense of flow that emerged during the process. The sense of collective efficacy resulting from this appeared to positively affect overall creativity. This finding is consistent with the findings of Kim and Shin (2015) who empirically tested team creativity in 97 work teams across 12 different organisations. Csikszentmihalyi (1999) extends Amabile's conception by overlaying Amabile's components on a background consisting of Bourdieu's (1966) idea of social and cultural capital interacting with a person's genetic makeup, talents and experience. If you replace 'person' with 'group' this approach is consistent with the 4E's Model. Ivcevic (2009) explains this apparent disconnect by making a distinction between creative potential and creative actualization which, he says, is influenced by social and cultural situational elements. The 4E's Socratic model removes impediments that contribute toward such a distinction.

The fourth contribution is that use of the 4E's Socratic model overcomes differences in professional backgrounds of participants. Foreman-Peck and Travers (2015) point out that the Socratic dialogue is not suitable for dialogues between participants of different professions and suggest that a Socratic dialogue doesn't take into account contextual aspects or allow for improvisation (two things they say are essential). By contrast, in my study, three of the organisations comprised participants from different professions and in each case the dialogue was concluded successfully by incorporating both context and improvisation. In the first instance, recognition of contextual elements is reliant on the skill of the facilitator but is supported by the integration of both question type and cognition stage. This helps expose commonalities and promote agreement on various points of fact that stop a dialogue from stalling. In the second instance, improvisation, the 4E's model's focus on

establishing flow promotes the feeling of collegiality that overrides traditional professional loyalties.

The final contribution is the documentation of a system that produces group flow. It does this through the process of exposing, debating and reconstituting to produce new understanding. The success of this approach relied on a collective flow being produced from motivated rather than creative individuals. It also addresses Csikszentmihalyi's (2015) statement that "…we still know very little, about the specific motivational values of different ways of patterning information." (P59).

The 4E's Socratic model also meets all six of Csikszentmihalyi and Sawyer's (1995) prerequisites for a successful creative process (social interaction, synthesis, knowledge, commitment, insight and challenge). It does this by a process of turning information from a variety of individuals into knowledge that is accepted by the group, which Kessels (2001) says is fundamental to a successful dialogue.

6.3 Limitations

As this research was a phenomenological study, the results may not be applicable outside of the organisations studied (Bonoma, 1985), although this limitation has in part been addressed by studying seven companies in a range of industries. This study should be thought of as a starting point for companies wishing to promote creativity, rather than a prepackaged solution.

As participating organisations were self-selected this may indicate potential bias in that they may have a greater acceptance of the need for creativity in their organisations. However, through the use of a creativity index (grounded in data) we can see that there is a significant range in the results, which means that it would be difficult to claim there were any commonalities that were likely to produce a bias.

Another limitation is that the results are not quantifiable. This could be considered as an opportunity for future research to measure the results of implementing the model over time.

This study used an external facilitator (the author). This was done to concentrate on the applicability of the model itself and remove any bias that might have come from using different facilitators.

6.4 Suggestions for Future Research

The aim of this research was to develop and test a model for using a Socratic approach to the management of creativity in organisations. The model was developed using a grounded theory methodology. However, taking Glaser and Strauss's (1967) view of theory as a process I believe there is considerable scope for ongoing development in four areas.

Firstly, research could involve case studies recording the experience of an organisation-wide implementation over time to enable them to build skill in using the process as well as quantify its success.

Secondly, studies could be conducted measuring changes to self-perceived individual creativity based on involvement in a team that implements the 4E's Socratic model. It would be interesting to see whether increases in individual creativity within a team make a positive difference to the team's creative ability.

Thirdly, further research could investigate the results of using facilitators who are part of the organisation being studied, rather than professional outsiders.

Finally, studies could be done that test the use of the model in different contexts; for example, in education or government.

6.5 A Parting Word

Bordieu (1966) described creativity as a social system. This study has identified both the players and their relationships in such a system and has produced a model to describe them. The resulting system applies a Socratic method (as described by Plato) to an organisational context.

The 4E's Socratic model extends the traditional method by identifying and describing the linkages between each step in the process that act together to produce a group working as a single creative entity. The result was a sense of group flow that produced creative outcomes not identified by individual creative effort in the organisations studied.

The 4E's Socratic Model, and the system built around it, explains the process of using a Socratic method to produce creative outcomes in organisational team interactions, thus answering the research question posed at the beginning of the thesis.

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Appendices

Appendix 1: 4E's Socratic Model: Facilitators Guide

Appendix 2: Creative Leadership Techniques

Appendix 3: Creativity in Business – Book Chapter (a)

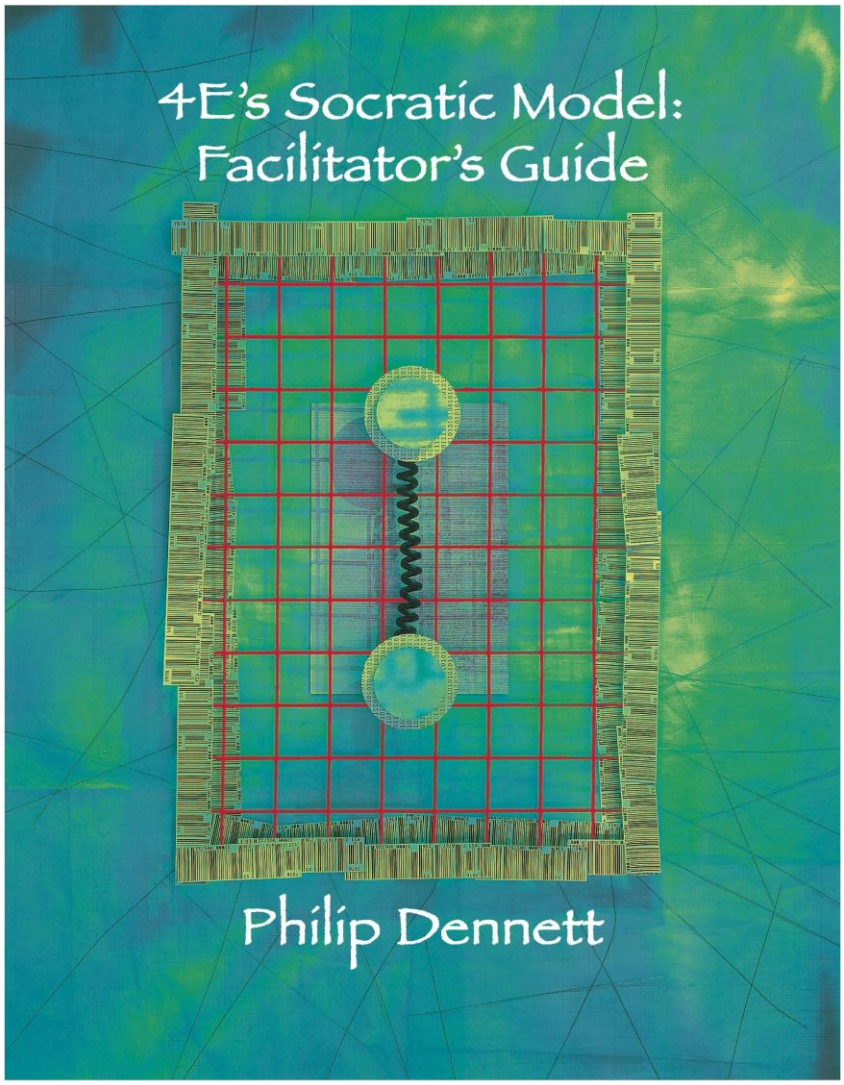
Appendix 4: Creativity in Business – Book Chapter (b)

Appendix 5: Questionnaire

Appendix 6: Proposal to participants

Appendix 7: Grounded theory Memos

Appendix 1
4E's Socratic Model Facilitators Guide



First published in 2015.

Mulga Partners Pty Ltd

17 Inverness Ave, Mudgee, NSW 2850, Australia.

National Library of Australia Cataloguing-in-Publication entry

Creator: Dennett, Philip, 1960- author.

Title: 4 E's Socratic Model: Facilitator's Guide / Philip Dennett.

ISBN: 978-0-9758433-6-9 (ebook : pdf)

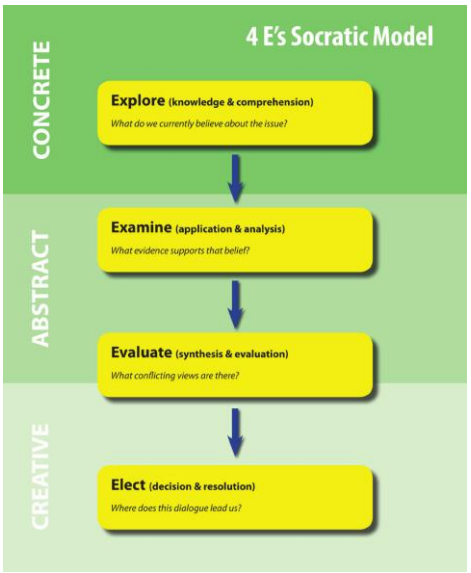
Subjects: Creative ability in business.

Leadership.

Dewey Number: 658.4063

Preface

This book is designed as a companion to the book Creative Leadership Techniques (Dennett, 2015) and is aimed at facilitators looking to use the 4E's Socratic Model as a tool for encouraging creativity in teams. The Model (pictured below) has been developed through application in a range of organisations all of whom found it to be an effective methodology.



– 4 –

Preparation

Once a discussion is under way it is easy for people to stray off topic and accept as truth statements made by others (particularly if they reinforce their own beliefs). This stifles creativity and critical thinking but can be avoided by taking a Socratic approach to managing the discussion using the 4E's model described above.

To conduct a Socratic dialogue it is important to remember that the process is much more than a simple question and answer technique, instead it can be likened to an interrogation aimed at uncovering the truth[1]. The key to this interrogation is that participants must come to their own conclusions as a result of questioning rather than being given conclusions ready made.

Step 1: Agreement about the topic

Prior to the commencement of a session using the Model, it is important to get agreement from participants about the topic to be discussed and the desired outcome. For example,

"This workshop is to discuss the core competencies of the organisation to confirm what they are and how they should be expressed to our customers."

As a leader you may be used to deciding the topic yourself, however people are much more engaged and contribute at a higher level if they are part of the decision-making process. Start instead with a goal and then let the group decide the right question to address in order to achieve it. If the goal is expressed clearly enough and it is something that is important to the organisation you will find that a consensus is not hard to achieve.

Step 2: Avoiding "group think"

Socrates ensured a group was operating effectively (e.g. not being dominated by individuals and encouraging full participation); and he leveraged the roles and positions taken up by various participants.[2] If the discussion is dominated by one, or a few participants, it discourages the input of less confident individuals and often results in "group think" where people just go along with things. The danger of this is that any resulting consensus isn't solidly agreed to (so people won't be commited to the outcome) and also that no new thinking emerges which defeats the purpose of the whole process.

Be prepared to take control of the discussion by ensuring everyone has a chance to speak. I usually start by asking each person in turn what their thoughts are before allowing people to bring in counter arguments. Where possible, I will make sure I don't start with the most dominant member of the group as people are often unduly influenced by them. I will also

bring people into the conversation (ongoing throughout the discussion) who have not contributed much. When I judge that a point has been made I will summarise and then ask someone else to expand or provide an alternate view. This stops any one person's view from dominating.

Step 3: Question planning

What type of question works best? Where should I start? To begin, it helps to understand people's different levels of cognition as a complex question asked too early could easily confuse participants and frustrate the discussion. Bloom[3] identified six levels of cognition (which have been incorporated into the Model):

- Knowledge – what, where, when, why, who
- Comprehension – explain, compare, give examples
- Application – consider, solve, apply (to a new situation)
- Analysis – what are the pros and cons? What is missing?
- Synthesis – what are the links between…. and …..?
- Evaluation – defend your choice, justify.

Begin the questioning process by uncovering what people currently know and what they believe to be true (Bloom's *knowledge* and *comprehension* stages).

Once this information is clear you can move on to discussing the *application* of it and analyse the pros and cons as well as *synthesise* the knowledge by asking devil's advocate type questions.

To assist, prepare a list of sample questions that could be applied to each stage. I always have a copy of the worksheet (see over) on the table so a quick glance can guide me in what to ask next.

4Es Socratic Model Worksheet

Stage	Question types	Notes
Explore ***What do we currently believe about the issue?***	Knowledge what, where, when, why, who. Comprehension explain, compare, give examples.	Establish a sense of a shared common goal by beginning with a dialogue to establish agreement on the question itself. Focus on engendering a desire to produce a practical outcome that will improve the likelihood of an idea being implemented.
Examine ***What evidence supports that belief?***	Application consider, solve, apply (to a new situation). Analysis what are the pros and cons? What is missing?	During the examination encourage personal story telling which will help to develop a collective consciousness. It is also a way to help members of the group to drop their defenses.
Evaluate ***What conflicting views are there?***	Synthesis what are the links between…. and …..? Evaluation defend your choice, justify.	Positive feedback is another tool that can lead to increased group efficacy and is particularly important when seeking conflicting views. Focus on separating ideas expressed from the individual expressing them.
Elect ***Where does this dialogue lead us?***	Decision and resolution	Collective consciousness (and ultimately creativity) can evolve from a sense that contributions are group ones rather than personal ones. Enhance this sense by a process of summing up at relevant points in a dialogue to show how new knowledge or understanding has evolved from the contributions of individuals to form a collective opinion. This is particularly important during this final stage where you need buy-in to a group agreement.

Many discussions stall because facilitators jump too quickly from what is known to more abstract concepts. By understanding the stages of cognition you can progressively work through each by asking appropriate questions.
Finally, be aware of the impression you create as a facilitator.[5]

1. Watch out for non-verbal communication which can point to a disconnect between what people are saying and what they are thinking.

2. Avoid questions that are likely to result in Yes/No answers as they can shut down a discussion prematurely. They also act as a line in the sand which people are often reluctant to cross.

3. Beware of showing favor for a particular line of thinking as this too can result in people with conflicting views speaking up.

4. As a facilitator, you should be careful of dominating the conversation by giving people the "right" answer. Teams are much more likely to be committed to a solution if they have arrived at it themselves. Your job is to be a guide in this process.

Step 4: Exploration stage

The Model can be broken down into 4 steps:

- Explore (knowledge, comprehension)
- Examine (application, analysis)
- Evaluate (synthesis, evaluation)
- Elect (decision, resolution)

The first three steps are questioning steps that can be mapped to Bloom's cognition levels (in brackets above) and the final step is where a decision on subsequent actions is reached.

As a starting point I suggest that you use the process of unpacking to explore statements. Paul and Elder[4] suggest that statements made are rarely complete and that they should be viewed as a series of interconnected thoughts. Start your exploration by breaking the connections so that individual elements are identified, similar to individual pieces of a puzzle that can then be analysed and reassembled in different ways.

Consider the following statement:

"Please provide a brief background of your organisation and its products/services provided with a particular emphasis on the relevance of them to this request for tender"

This can be unpacked into the following individual pieces:

- brief background
- organisation
- products and services
- relevance to request

This provides a structure for your exploration. Start with asking what participants understand about each part of the statement. This provides a specific focus for the second examination stage.

Step 5: Examination stage

There are 3 basic types of question[5] which form the backbone of the Model:

- Concrete – asking about facts, for example "How many customers…?" "What timeframe…?"
- Abstract – asking for analysis or conclusions, for example "Which option is more suitable and why?"
- Creative – reorganizing what is known into new combinations or recognizing patterns, for example "What is likely to happen if we…?"

Once you have unpacked a statement conduct the examination stage as a brainstorming session where the aim is to expose ideas and concepts without argument and therefore concentrate on posing concrete questions to expose facts and more abstract questions to uncover opinions. Applying this to the case above we could start with questions that explore the facts:

- Consider in the context of this request, what is meant by brief?
- Which products/services can be applied to the situation?
- What information about the organisation can be applied?

Step 6: Evaluation stage

During the evaluation stage start by questioning the facts to expose any contrary opinions as during your examination the facts will have been stated without hearing them. This will call for more creative questions to identify new combinations or linkages. For example, in the case above:

- What are the benefits to the client of working with an organisation with the capabilities we have described?
- How can we order those capabilities to create the right emphasis to tell that story?
- For each capability which elements from the RFT are relevant?

Step 7: Election stage

The final step is to bring the discussion to a conclusion by identifying specific subsequent steps. With simple issues you may already have reached an end point but it is more likely that further work will be required. The next step for the case above is the assignment of tasks to specific team members:

- Analyst to quantify specific benefits
- Writers to draft initial statements (after analyst information obtained)
- Team to reconvene to discuss draft statement.

The election stage shouldn't be hurried as it is the stepping off point for any follow-up work that needs to be undertaken. Make sure that the tasks that are assigned are quantifiable so during the next session you can identify where someone has been successful and/or what is required to improve the result.

Tasks should also be examined against your goals – is each task a valid one in terms of its contribution to the final goal? If not, then go back and review.

This validation process also means people are much more likely to be committed to the task assigned to them as they can see the value of its contribution toward achieving the goal.

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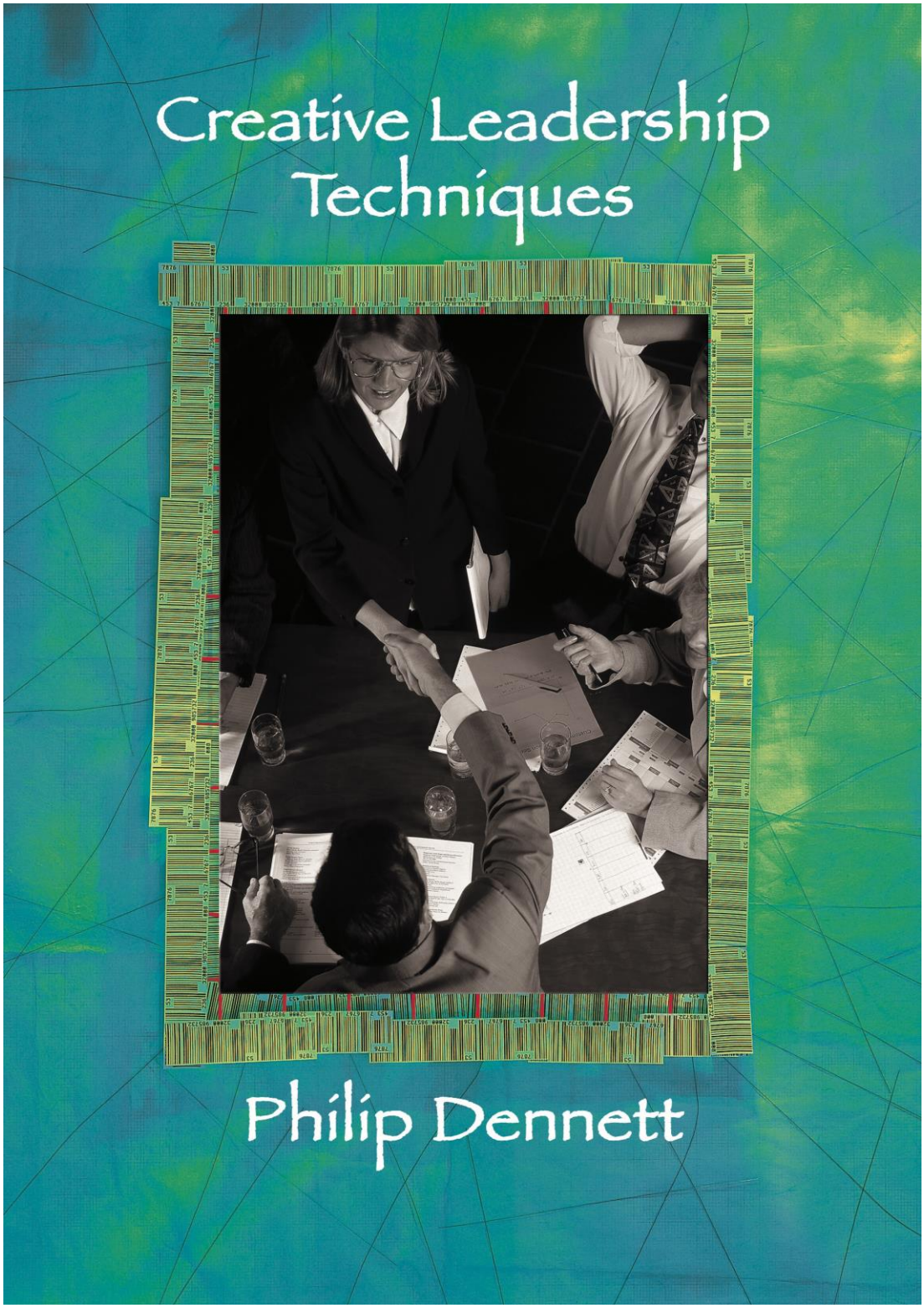
Appendix 2
Creative Leadership Techniques



First published in 2015.

Mulga Partners Pty Ltd

104 Jarrett St, Wyoming, NSW 2250, Australia.

National Library of Australia Cataloguing-in-Publication entry

Creator: Dennett, Philip, 1960- author.

Title: Creative leadership techniques / Philip Dennett.

ISBN: 9780975843352 (ebook : pdf)

Subjects: Creative ability in business.

Leadership.

Dewey Number: 658.4063

Creative Leadership Techniques

Philip Dennett

Contents

Preface

The purpose of this book is to describe the apparent disconnect between profit-seeking behavior in organisations and creativity by identifying the antecedents of creativity in an organizational context; exploring its incidence in a real-life setting and proposing a model, based on a Socratic Dialogue, for harnessing it in managerial practice.

Edith Penrose[1], in espousing her theory of growth of the firm, introduces the concept of creativity in management when she points out that a firm's failure to grow is "often attributed to demand conditions rather than to the limited nature of entrepreneurial resources". Schumpeter[2] goes further when he says that the process of "creative destruction" (new ideas/ways destroying old ones to create value) is at the heart of Capitalism.

How is it then that Corporations today are traditionally organized around a hierarchy divided loosely into Senior Management, Middle Management, and Workers? Worth or value is determined by the person in the superordinate role which results in the stifling of innovative behavior[3].

So where are these elements of entrepreneurial resource and creative destruction (that Penrose, Schumpeter and others discuss) in the modern firm? Where is the championing of decision- making that encourages trial and error?

Writing from a socio-cultural perspective, Sawyer[4] maintains that in a corporate environment creativity is a function of both people (employees) and the structures and practices that they perform under;

which, according to Florida[5] should include 3 values:

- Individuality – "resist traditional group-oriented norms"
- Meritocracy – "The creative class favors hard work, challenge and stimulation."
- Diversity and Openness – the creative class "favor organisations and environments in which they feel that anyone can fit in and can get ahead."

This stance is corroborated by Amabile[6] who describes the ideal environment for encouraging creativity as: "a sense of positive challenge in the work; work teams that are collaborative, diversely skilled, and idea-focused; freedom in carrying out the work; supervisors who encourage the development of new ideas; top management that supports innovation through a clearly articulated creativity-encouraging vision and through appropriate recognition for creative work; mechanisms for developing new ideas; and norms of actively sharing ideas across the organization."

Gratton[7] sums up the discussion on the value of creativity when she says "The role of leader will be less about controlling and commanding, and more about igniting energy and enabling groups to volunteer and emerge. What we need are more Socratic leaders."

If we consider Florida's 3 values in corporate Australia today, are they engrained in management practice or just terms that sound good in a corporate mission statement? The question then is: can we maximize the creativity in our teams and provide an environment in which creativity will flourish through a process of creative leadership?

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Chapter 1

What is creativity?

"But I'm not very creative" is a statement I've often heard, but when you ask the same person what they think creativity is, they respond with "artistic" abilities like singing, drawing or writing. While it's true not everyone has those talents it is possible for almost everyone to be more creative in the way they think and solve problems.

If you think of creativity as creating anything new or novel there are endless possibilities for creativity within organisations and teams – from new processes to new products and anything in between. Often the most successful creations come from combining existing elements in different ways; for example Apple's ipad that combined elements of the computer with elements of the smartphone.

Amabile[1], in discussing the social psychology of creativity, proposes a framework for conceptualising creativity that consists of domain-relevant skills; creativity-relevant skills and task motivation. This framework suggests that creativity is not something that happens in isolation but is the product of an individual's outlook, experience and environment. In order to benefit from creativity then, an organisation must create an environment conducive to creative thought and action. Or, as Amabile says "creativity requires a confluence of all components; creativity should be highest when an intrinsically motivated person with high domain expertise and high skill in creative thinking works in an environment high in supports for creativity"[2].

What are the traits Amabile's intrinsically motivated person should possess to maximize their creative potential? A review of literature in the area identifies five key traits relevant to creative action:

- self-direction/proactivity
- knowledge and experience
- risk-taking propensity
- social competence and
- resiliency.

Self Direction/proactivity

Writing from a neuro-scientific perspective, Rock and Schwartz[3], identify the importance of self-direction in developing insights (creativity): "For insights to be useful they need to be generated from within, not given to individuals as conclusions. It is true for several reasons. First, people will experience the adrenaline-like rush of insight only if they go through the process of making the connections themselves."

If creative insights stem from individual proactivity in making new connections it is not surprising that there is growing consensus amongst academics that proactivity is a critical driver of organizational effectiveness[4].

Knowledge and Experience

Without specific knowledge or experience the proactive or self-directed person will be restricted in their ability to conceive and act on new ideas[5]. According to Ford[6] "Accumulated experiences lead individuals to develop interpretive schema, preferences, expectations, and knowledge related to specific domains of behavior." (p1117). Ford includes knowledge and ability as one of three major influences that either facilitate or constrain

creativity (the others being sensemaking and motivation).

From an organizational perspective then, creativity depends not only on the individual but also on the structures that organize them[7].

Risk-taking behavior

Creativity, according to Florida[8], requires "self-assurance and the ability to take risks." Risk features prominently in lists of personal qualities identified by researchers as an antecedent to creativity[9]. However, in order for risk to be productive there must be organizational encouragement and tolerance[10].

Social Competence

The interactionalist model of creative behavior first described by Woodman and Schoenfeldt[11] confirms that creativity in an organizational context is characterized by individuals working together in a social context. The importance of this social element was illustrated in research conducted amongst research scientists by Amabile and Gryskiewicz[9], who found that highly creative scientists had good social skills that enabled them to communicate better and have a stronger rapport with other team members compared with scientists who were less creative.

Resiliency

There is general agreement that resiliency and perseverance are important in the development of creative solutions[9,12,13,14]. According to Ford[7] perseverance comes from an individuals sense-making process which attributes meaning to specific information and then dictates a certain action, even in the face of ambiguity. The resulting perseverance is therefore logical rather than being based on pure doggedness.

Of the five traits highlighted above, self-direction is the one that should be fostered in all individuals for a truly creative team to emerge, as a disinterested individual will not actively participate in the questioning process designed to stimulate critical thinking. From an organisational perspective the task of the manager should be to create an environment where employees feel engaged by identifying the conditions under which creativity will flourish. The following chapter considers those conditions.

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Chapter 2

Organisational Barriers to Creativity

From an organizational perspective what are the conditions under which creativity might flourish? Amabile & Gryskiewicz[1] identify them as:

- Freedom – "Freedom in deciding what to do or, more frequently, how to do one's work; a sense of control over one's work and ideas; a freedom from having to meet someone else's constraints; a generally open atmosphere."
- Encouragement – "Management enthusiasm and support for new ideas and new ways of doing things; an absence of destructive criticism and excessive fear of evaluation."
- Resource and time – "Access to appropriate resources, including facilities, information, funds, and people; sufficient time to solve problems in new ways.
- Recognition – "Appropriate, constructive feedback on one's work, along with appropriate recognition and rewards."
- Challenge – "A sense of challenge arising from the nature of the problem, a sense of pressure arising from outside competition or realistic time urgency."

However, in practice, the reality is that proactive behavior in organisations is often discouraged[2]. They attribute this to the over-controlling effects of rigid company structures and instead advocate a management approach that encourages freedom to pursue broad organisational goals in "fruitful, creative, innovative ways."[2]

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While it is generally agreed (as discussed earlier) that creativity can improve business outcomes, the traditional management model "is built on a monocratic, hierarchically structured authority chain."[3]

Creed[4] expands on this theme by identifying five categories of organizational norms/rituals where traditional management and creativity are in conflict:

- Innovation - Conservatism: scale to assess tolerance of risk-taking
- Imprecision - Precision: rigid systems and processes vs more ad hoc approach
- Relationship orientation – Task orientation: collegial/people driven approach vs goal/performance driven
- Calmness - Aggression: individualistic, driven and competitive vs group, calm and sharing load
- Growth – Stability: fast-paced, high growth emphasis vs slow and steady planned management

The second descriptor on each scale is consistent with Cummings view of a traditional organization, whereas the first descriptor represents a creative approach to management. Thus creativity is the antithesis of a traditional hierarchical management structure.

So, given that the culture of an organization can have a negative effect on creativity, how does a manager elicit creativity from team members?

Woodman, Sawyer and Griffin[5] say that while an organisation's characteristics create the context, organizational creativity is a function of both context and the creativity of groups within that organization.

Andriopoulus[6] identifies those contextual influences as a combination of:

- Organizational climate
- Leadership style
- Organisational culture
- Resources and skills
- Structure and systems.

Your challenge as a leader (of an organization or a group within that organization) – is to create an environment where uncertainty and risk are tolerated and personal consequences in a creative environment are positive.

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Chapter 3

Approaches to Creative Thinking

Many creative thinking techniques attempt to impose rigid structures upon what is essentially an unstructured and often messy process. People talk of a "lightbulb" moment where a new idea just pops into the mind, but usually this is a result of considerable conscious application over a period of time followed by unconscious processing. Hence you might wake up in the morning with a solution to a problem you've been considering for some time.

However, without any structure at all, an individual or group may get stuck at the initial idea stage and not follow any through to a logical conclusion. In facilitating many strategy sessions in a wide variety of organisations, I've used various elements from the techniques discussed below to help expose a range of ideas that can then be categorized and developed further.

Divergent thinking

Guilford[1] in discussing creativity testing, identified a number of elements that can be applied to a divergent thinking process:

The first is *fluency*. The objective here is to explore the consequences or implications of a stated idea. This will quite quickly identify ideas that have any fatal flaws and help give clarity to good ideas that may not be clearly formed as originally suggested.

Often suggested ideas are very similar so to truly cover a topic it is important to generate as much *novelty* as possible. I find using a mind

map useful as with it you can quickly group ideas around nodes where each new node focuses on a novel response.

A group discussion can stall when participants become very fixed on a specific concept, often defending it even when it is not logical to do so. To avoid this try to encourage *flexibility* by asking proposers to name at least one major negative before they become fixed on naming all the positives.

As Guilford says on page 453, "Many inventions have been in the nature of a *transformation* of an existing object into one of different design, function, or use." Therefore, if the group is comfortable with the ideas that have been generated, the next task is to attempt to reorganize them in different wholes. In doing so you may find that concept A adapted to include some elements of concepts B and C, might produce a superior solution.

And finally, comes the task of *critical evaluation*. What ideas are realistic given the constraints that are applicable to the situation? Of those ideas which one or one(s) are likely to produce the best outcomes? Given two best possible solutions, which one is the simplest, with the least constituent elements (less to go wrong)?

Brainstorming

Advertising executive, Alex Osborn[2] created Brainstorming as a technique in the 1950's and it has been widely used ever since. According to Osborn, a brainstorming session should be guided by 4 rules:

- Quantity – through quantity comes quality
- Hold criticism – don't interrupt the flow

- Welcome the unusual – encourages divergent thinking
- Look for associations – combine and improve

Over the years there have been a number of studies conducted that conclude the technique has flaws, mainly around the issue of "groupthink" which can inhibit divergent thoughts and discourage people from disagreeing with the group[3]. Other authors have suggested improvements to add structure to a brainstorming session. Two well-known techniques are discussed below.

SCAMPER

Educator Bob Eberle[4] proposed this mnemonic as a way of generating ideas to improve an existing concept. This can be used with Osborn's 4th rule about looking for associations.

SCAMPER stands for:

- Substitute.
- Combine.
- Adapt.
- Modify.
- Put to another use.
- Eliminate.
- Reverse.

The idea is to develop a set of questions relevant to each word and then pose them to your group as part of the evaluation phase of a brainstorming session.

Six thinking hats

Edward deBono's Six Thinking Hats is a tool to encourage people to adopt different perspectives when considering a question or issue.[5] This

tool can be used either individually or in a group where participants don one of the six hats in turn. Each hat represents a different approach to thinking. The hats are:

- Blue – to consider goals and objectives.
- Red hat – collecting opinions and feelings.
- Yellow – developing positive "reasons why" something might work.
- Green – creative and imaginative thinking.
- White – developing information, facts and knowledge; and
- Black – critical thinking about the any proposed solution.

While it is important to adopt only one hat at a time, the order is dependent on the situation and it is common to move back and forth between different hats.

While each of the techniques discussed above have merits, as a leader I was interested in developing a management process as an overarching approach to the development of a positive climate for creativity and innovation in teams. The next chapter proposes a model based on taking a Socratic approach to leadership which I've successfully piloted with a range of organisations and situations.

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Chapter 4

A Socratic approach to leadership

In today's hypercompetitive business environment there is an air of constant change as companies scurry to catch up to, or retain relativity with, their respective competitors. Often they must achieve this with fewer resources. The speed of this change means that companies "must become learning organizations; places in which everyone learns to do things better in an age of uncertainty."[1]That raises the question about the best way to achieve this. While the authors mention a number of different approaches, they highlight the Socratic Method as being one of the best options.

Socrates famous Method is explained by Kachaner and Deimler[2] as the "practice of asking the 'right' questions to stimulate thinking." They say that companies should spend more time "articulating the questions their strategy should address," concluding that "when they do, teams come back not only with the answer but also with a higher level of understanding and ownership of the chosen course."

Skordoulis & Dawson agree, saying that "The Socratic dialogue is particularly suited to organizations and companies that are in a process of change, in which basic norms, values and goals need to be challenged and explicitly communicated if the organization is keen to promote alignment across all levels"[3].

Socrates' directed questioning technique is particularly useful because it is applicable in both leadership and follower roles which Tucker[4] identifies in the table below, adding applications to each:

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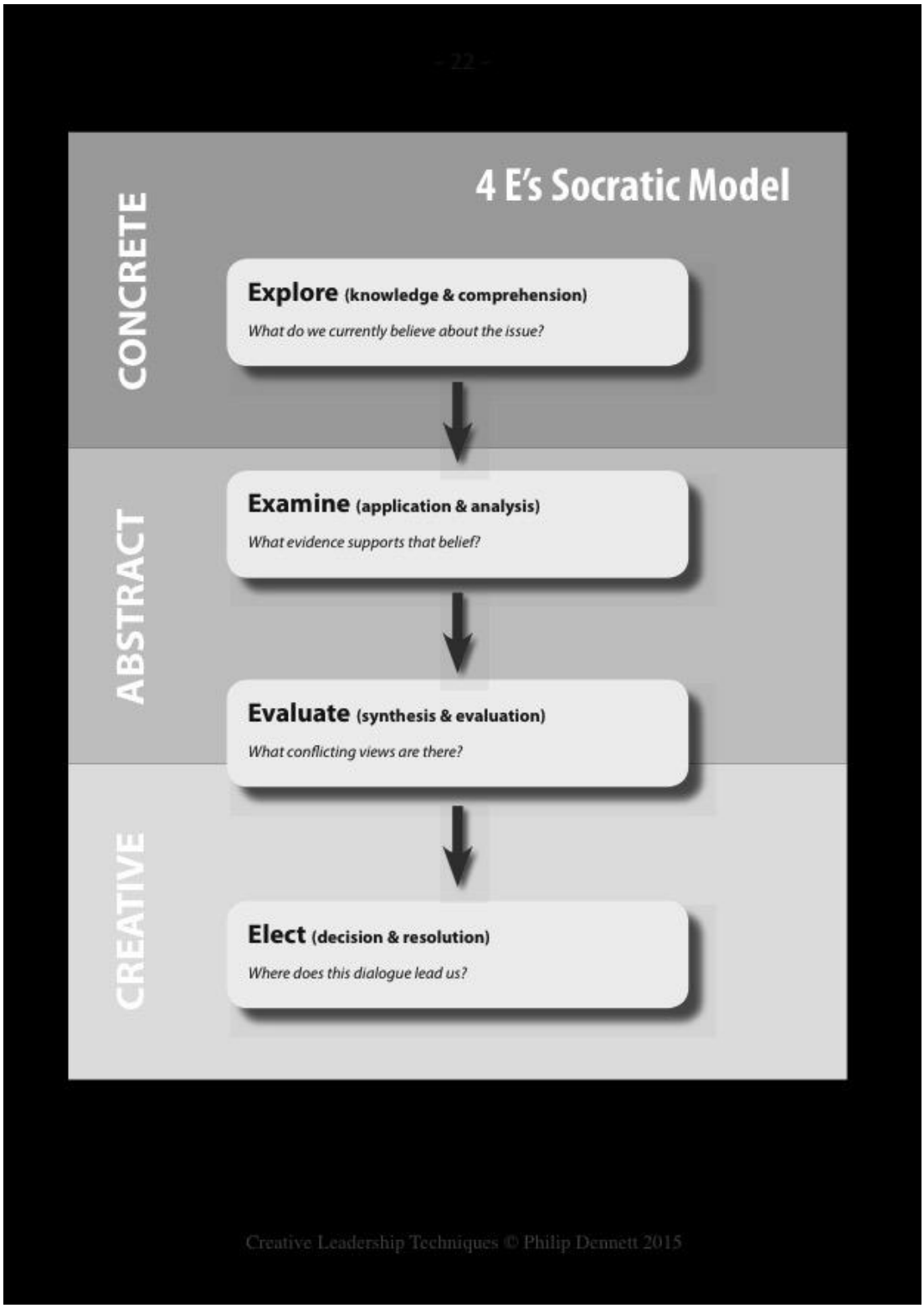
Role	Application
Instructor	Critical thinking and comprehension
Mentor	Intellectual development
Leadership	Follower buy-in
Follower	Probe reasoning
Peers	Open dialogue and feedback

However if managers are to utilise the Socratic Method in promoting creativity in their teams, they must first understand how to effectively harness creativity to produce innovations that will lead to competitive advantage. While it has been demonstrated that employee creativity is of benefit to an organisation[5] and is a necessary step in gaining a competitive advantage[6] ideas alone "are necessary but not sufficient condition for opportunities to emerge."[7]

Amabile[8], in discussing the social psychology of creativity, proposes a framework for conceptualising creativity that consists of domain-relevant skills; creativity-relevant skills and task motivation. This framework suggests that creativity is not something that happens in isolation but is the product of an individual's outlook, experience and environment. In order to benefit from creativity then, an organisation must create an environment conducive to creative thought and action. Or, as Amabile says "creativity requires a confluence of all components; creativity should be highest when an intrinsically motivated person with high domain expertise and high skill in creative thinking works in an environment high in supports for creativity."[9]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4 E's Socratic Model
CONCRETE
Explore (knowledge & comprehension)
What do we currently believe about the issue?
ABSTRACT
Examine (application & analysis)
What evidence supports that belief?
Evaluate (synthesis & evaluation)
What conflicting views are there?
CREATIVE
Elect (decision & resolution)
Where does this dialogue lead us?
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4E's Socratic Model

Socrates began a dialogue with an exploration of an issue to get agreement on the question to be discussed. This is an important first step as it produces a buy-in from participants. In a number of groups where the model (above) was tested this process took some time but allowed the group to quickly focus on the issue in the subsequent discussion.

Following this, through the process of Elenchus, Socrates examined the issue by posing questions about participants' beliefs relevant to the issue and questioned people to evaluate their beliefs by playing the devil's advocate.

The final part of the dialogue is for the group to elect a future course. This has the effect of concluding the dialogue with a consensus.

Proof of concept

Workshops using the Model were conducted with teams in seven organisations. In the first organization the model was tested to ensure it was understandable and workable in real life. As an illustration, the table below provides a summary of one team's results of the process broken down into the 4 steps.

The Question	What are the distinct competencies we have over our competitors?
Exploration *What do we currently believe about the issue?*	People driven Not "cookie cutter" Insightful Not "platform" reliant Create actionable insights Deliver (offer actions) on insights: "deliver the intelligence"
Examination *What evidence supports that belief?*	Feedback from existing clients

Evaluation *What conflicting views are there?*	Competencies not recognized in feedback from tender submissions Many competitors can make the same claims
Election *Where does this dialogue lead us?*	Documenting examples of competencies in action. Creation of an operating Methodology.

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In this session the group tackled a question that had been concerning the company for some time. They were routinely asked in business pitches to provide a list of competencies and they were stuck on how to describe them. All of the descriptors they used were generic and therefore not able to create a unique position for the company.

Once they were happy with the original list of competencies a series of 'how' questions were asked, for example:

- "What do you mean by [specific term]?"
- "Give us an example of how you would go about that?"
- "What are the benefits to the client from this approach?"

Following this discussion the group was able to compile a list of 5 competencies that could be documented in 'action' terms:

- Principals take an active part in jobs
- Work with clients in implementation phase
- Appeal to multiple audiences through customizing reports and other communications to audience
- Credibility allows access to Board level
- Flat structure enables work to proceed under duress (deadlines, access).

One of the issues that arose was they routinely talked about their operating methodology as being a core competency but they had never been able to document that clearly. The group was asked to recall a recent project and describe in detail how they talked it from original briefing to conclusion. Key words from that description were noted and placed in an ordered process.

This process was then debated and agreed upon:

1. Senior management meet at design stage to ensure proposal is both appropriate and outcomes focused.
2. Team chosen based on job type and complexity (internal and external)
3. Proposed program and timeline presented to client.
4. Client input to approve or amend.
5. Instrument design phase.
6. Client signoff for program.
7. Establishment phase (subject recruitment, instrument setup)
8. Pilot phase (for "sensitive" projects)
9. Conduct program
10. Client progress reporting (agreed intervals and forms)
11. Reporting phase (multiple levels including physical, written and workshops as required)

Following the successful test, teams from six additional organisations were chosen to work with. Team size ranged from seven members to three and the organisations were a mix of profit and non-profit.

In each pilot organisation, at the end of the workshop a consensus was reached which supported the use of the 4E's Socratic Model as an effective tool for managing group interactions.

The associated written questionnaires provided a benchmark of each team's self-reported creativity and a number of themes emerged from comments made as to their perceptions of the process. These are discussed below.

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Open dialogue

This was the most commonly mentioned theme individually and across groups. Participants mentioning this felt that the process had resulted in an open and honest exchange of views which overcame negative aspects of the existing group dynamic and encouraged people to speak up:

"I believe this methodology will allow outcomes to be achieved more quickly and also to be more inclusive i.e. a way to encourage the quieter less experienced members of the team to feel confident enough to contribute."

Support from senior management

All the participants in one group commented that they didn't see the process making any difference even though the session produced a positive outcome. Rather than being a reflection of the validity of the model, it was related to their feeling that the organisation's culture didn't encourage creativity. Interestingly this group's self reported creativity index was similar to the other groups and individuals within that group all reported high levels of creative self-efficacy. This reinforces the need for people to feel that their input has the support of senior management which was also supported by the findings in two other organisations. In one group this reflected their feeling of a lack of support for creativity from senior management in spite of the fact that it was encouraged by their team leader. The other group felt that a shift in management culture was required: "I think unfortunately the management structure in my organisation is not conducive to a frank and honest exchange of ideas."

In each case it was clear that for the 4E's Socratic model to work it had to be both supported and driven by senior management.

Accountability

This theme related to a feeling that using the 4E's Socratic model had resulted in some quantifiable outcomes that were both specific and realistic. In a briefing prior to the session with one group, members were particularly concerned with unrealistic and vague expectations from senior management. However, after the session, which also included some senior managers, there was general consensus that this approach resolved those issues.

Risk tolerance

This theme was mentioned in two groups. Participants said that knowing they had the support of their manager would encourage them to be more creative as there would be a higher degree of risk tolerance.

Positive culture

This theme came from one group and was mentioned by all participants. They felt strongly that if management used the Socratic model as an integral part of their way of managing that it would have a positive effect on the overall culture of the organization: "Yes I feel that the work culture would change from one in which innovation is regarded with suspicion into one which rewards unconventional and new thinking."

This organization was very hierarchical and there was a feeling there was a strong disconnect between management and staff.

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External facilitator

While this theme was only mentioned by one person in one group it was interesting in that no-one else felt that having an external facilitator was necessary – even the ones where there were current issues between management and staff. In fact a member of another group expressed the opposite view, that an external facilitator would not be able to effect change.

Summary

The 4E's Socratic model proved to be an effective way of encouraging creativity (opening dialogue, providing accountability, positive culture) in teams, however to actually work in practice it would require leadership and commitment from senior management so that it becomes a part of the organisation's culture.

This was borne out in a subsequent email from the manager of the fourth group who advised that they had incorporated the model into their management system: "We have spent this week following up on actions from our meeting and have introduced this concept across other areas of our business and are very happy and impressed by the results we were able to achieve."

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Chapter 5

Questioning techniques

Once a discussion is under way it is easy for people to stray off topic and accept as truth statements made by others (particularly if they reinforce their own beliefs). This can be avoided by taking a Socratic approach to managing the discussion using the 4E's model described in the previous chapter. In this chapter we will examine specific questioning strategies for each level. To conduct a Socratic dialogue it is important to remember that the process is much more than a simple question and answer technique, instead it can be likened to an interrogation aimed at uncovering the truth[1]. The key to this interrogation is that participants must come to their own conclusions as a result of questioning rather than being given conclusions ready made.

Socrates used questions to:

- probe into statements that are made;
- explore relationships between ideas, and
- play the devil's advocate to challenge beliefs.

In addition he ensured the group was operating effectively (e.g. not being dominated by individuals and encouraging full participation); and he leveraged the roles and positions taken up by various participants.[2]

Of course, this sounds easy in theory but much more difficult in practice. What type of question works best? Where should I start? To begin, it helps to understand people's different levels of cognition as a complex question asked too early could easily confuse participants and frustrate

the discussion.

Levels of cognition

Bloom[3] identified six levels of cognition (which have been incorporated into the Model):

- Knowledge – what, where, when, why, who
- Comprehension – explain, compare, give examples
- Application – consider, solve, apply (to a new situation)
- Analysis – what are the pros and cons? What is missing?
- Synthesis – what are the links between…. and …..?
- Evaluation – defend your choice, justify.

Begin the questioning process by uncovering what people currently know and what they believe to be true (Bloom's *knowledge* and *comprehension* stages).

Once this information is clear you can move on to discussing the *application* of it and analyse the pros and cons as well as *synthesise* the knowledge by asking Devil's Advocate type questions.

Many discussions stall because facilitators jump too quickly from what is known to more abstract concepts. By understanding the stages of cognition you can progressively work through each by asking appropriate questions.

Questioning: applying the 4E's Socratic Model

The Model can be broken down into 4 steps:

- Explore (knowledge, comprehension)
- Examine (application, analysis)

- Evaluate (synthesis, evaluation)
- Elect (decision, resolution)

The first three steps are questioning steps that can be mapped to Bloom's cognition levels (in brackets above) and the final step is where a decision on subsequent actions is reached.

We will examine each step in turn:

Explore

As a starting point I suggest that you use the process of unpacking to explore statements. Paul and Elder[4] suggest that statements made are rarely complete and that they should be viewed as a series of interconnected thoughts. Start your exploration by breaking the connections so that individual elements are identified, similar to individual pieces of a puzzle that can then be analysed and reassembled in different ways.

The case study below provides an example of this process in action.

Case

This statement came from a request for tender that a bid team were examining during a tender response strategy meeting:

"Please provide a brief background of your organisation and its products/ services provided with a particular emphasis on the relevance of them to this RFT."

The bid team unpacked the statement into the following individual pieces:

- brief background
- organisation

- products and services
- relevance to RFT

Examine

There are 3 basic types of question[5] which form the backbone of the Model:

- Concrete – asking about facts, for example "How many customers…?" "What timeframe…?"
- Abstract – asking for analysis or conclusions, for example "Which option is more suitable and why?"
- Creative – reorganizing what is known into new combinations or recognizing patterns, for example "What is likely to happen if we…?"

Once you have unpacked a statement conduct the examination stage as a brainstorming session where the aim is to expose ideas and concepts without argument and therefore concentrate on posing concrete questions to expose facts and abstract questions to uncover opinions. Applying this to the case above we could start with questions that explore the facts:

- Consider in the context of this request, what is meant by brief?
- Which products/services can be applied to the situation?
- What information about the organisation can be applied?

Evaluate

During the evaluation stage start by questioning the facts to expose any contrary opinions as during your examination the facts will have been stated without hearing any contrary opinions. This will call for more creative questions to identify new combinations or linkages. For example, in the case above:

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- What are the benefits to the client of working with an organisation with the capabilities we have described?
- How can we order those capabilities to create the right emphasis to tell that story?
- For each capability which elements from the RFT are relevant?

Elect

The final step is to bring the discussion to a conclusion by identifying specific subsequent steps. With simple issues you may already have reached an end point but it is more likely that more work will be required. The next step for the case above was the assignment of tasks to specific team members:

- Analyst to quantify specific benefits
- Writers to draft initial statements (after analyst information obtained)
- Team to reconvene to discuss draft statement.

Some final Do's and Dont's

Based on the work of Boswell[5] I have outlined a number of principles that are useful for questioning:

1. Have a list of questions prepared ahead of time. This will make it easier to keep the flow going in a meeting and also help to ensure the questions are clear and relevant to the topic.

2. Watch out for non-verbal communication which can point to a disconnect between what people are saying and what they are thinking.

3. Avoid questions that are likely to result in Yes/No answers as they can shut down a discussion prematurely. They also act as a line in the sand which people are often reluctant to cross.

4. Beware of showing favor for a particular line of thinking as this too can result in people with conflicting views speaking up.

5. As a manager you should be careful of dominating the conversation by giving people the "right" answer. Teams are much more likely to be committed to a solution if they have arrived at it themselves. Your job is to be a guide in this process.

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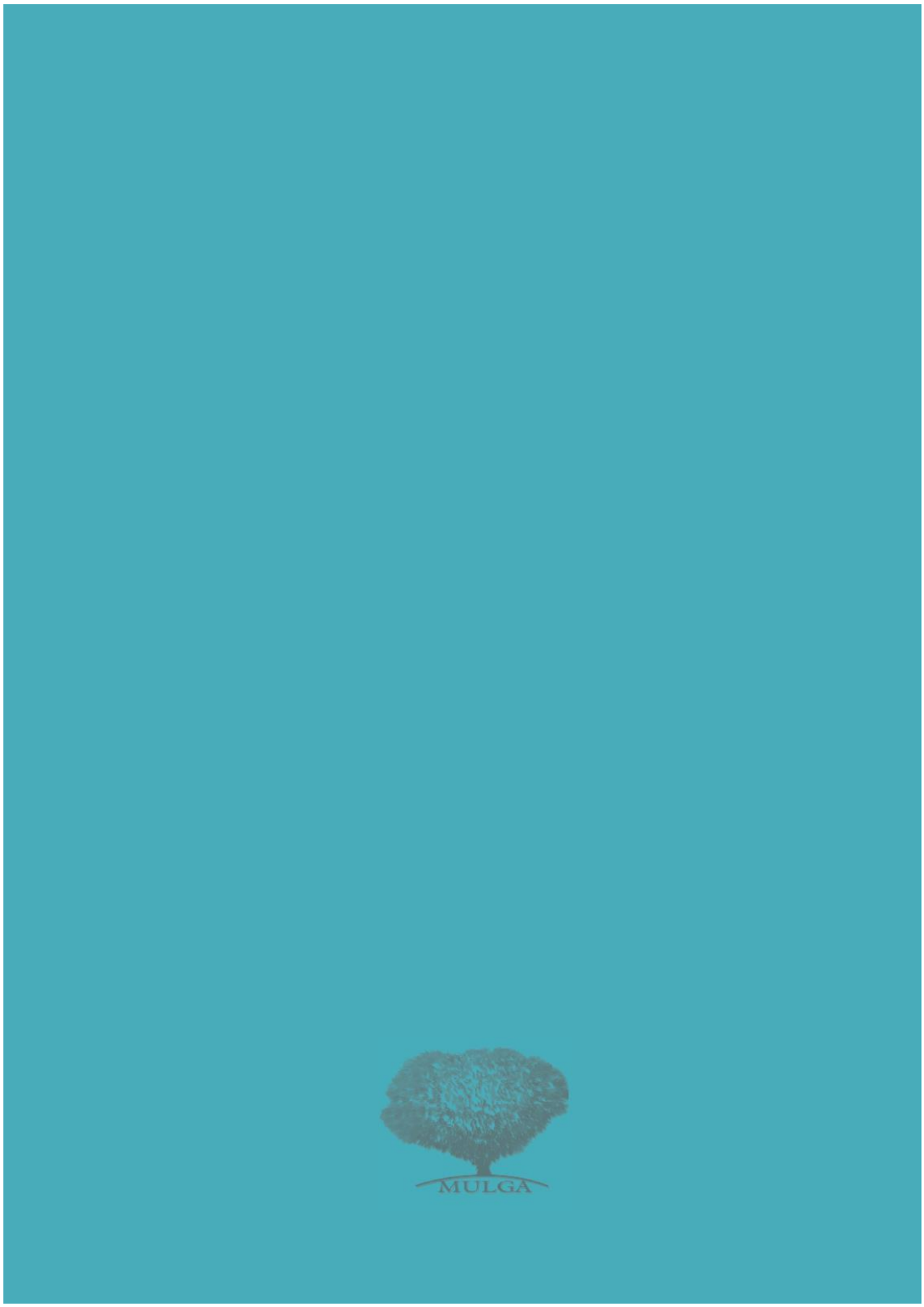
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Appendix 3
Book chapter:
A Socratic Approach to Managing Creativity in Business (a)

6 PHILIP DENNETT

A SOCRATIC APPROACH TO MANAGING CREATIVITY IN BUSINESS

ABSTRACT There has been considerable research on identifying antecedents of creativity and the determinants of organizational creativity but researchers are yet to develop an effective model for managing creativity within a traditional hierarchical management structure. It has been suggested that using the Socratic Method to create a learning environment within an organization is a way to foster creativity in an uncertain environment. In this context the Socratic Method is defined as a directed questioning technique to encourage critical thinking. This paper proposes that taking a Socratic approach to champion creativity will enable management to increase creativity in their teams, reviews the relevant literature to test support for this assumption and proposes a model to manage a Socratic Dialogue in a team environment.

Introduction

The importance of creativity in an organizational context was first highlighted by Schumpeter in 1942 when he said that the process of "creative destruction" (new ideas/ways destroying old ones to create value) was at the heart of Capitalism (1942, 82). However, creativity of itself is not enough to guarantee growth. Edith Penrose (1959), in espousing her theory of growth of the firm, points out that a firm's failure to grow is "often attributed to demand conditions rather than to the limited nature of entrepreneurial resources" (Penrose 1959, 37). Those demand conditions are not just market driven but are also influenced by the culture of an organization which in many cases doesn't tolerate trial and error decision-making (Thompson 1961, 486). The issue then is to be able to foster creativity in an environment that is not necessarily conducive.

While the ideal traits of the creative individual and the most conducive environmental conditions have been well documented by socio-cultural theorists such as Amabile (1983) and Csikzentmihalyi (1996) there is no clear framework identified for managers to use to foster creativity in real-world conditions where individual and environmental factors are less than optimal.

Decision-making is often the preserve of senior management and is not usually encouraged amongst the rank and file. Gratton (2007) proposes a new approach to management, based on Socratic leadership where, "The role of leader will be less about controlling and commanding, and more about igniting energy and enabling groups to volunteer and emerge." (45). The following literature provides support for this approach.

A Socratic approach to managing creativity

In today's hypercompetitive business environment there is an air of constant change as companies scurry to catch up to, or retain relativity with, their respective competitors. Often they must achieve this with fewer resources. The speed of this change means that companies "must become learning organizations; places in which everyone learns to do things better in an age of uncertainty." (Sonnenberg and Goldberg 2007, 54). While the authors mention a number of different approaches, they highlight the Socratic Method as being one of the best options.

Socrates famous *Method* is explained by Kachaner and Deimler (2008, 41) as the "practice of asking the 'right' questions to stimulate thinking." They say that companies who do, end up with a higher level of engagement and ownership of issues. Skordoulis & Dawson (2007) agree saying that this process is particularly useful in times of change where the status quo is being challenged. Socrates' directed questioning technique is also useful in both leadership and follower roles. Tucker (2007) identifies a number of different roles and applications that have been summarized in the following table:

Role	**Application**
Instructor	Critical thinking and comprehension
Mentor	Intellectual development
Leadership	Follower buy-in
Follower	Probe reasoning
Peers	Open dialogue and feedback

Table 1: Roles and applications for Socratic questioning

However if managers are to utilise the Socratic Method in promoting creativity in their teams, they must first understand how to effectively harness creativity to produce innovations that will lead to competitive advantage. While it has been demonstrated that employee creativity is of benefit to an organisation (Gong et al, 2009) and is a necessary step in gaining a competitive advantage (Oldham and Cummings 1996) ideas alone "are necessary but not sufficient condition for opportunities to emerge" (Dimov 2007, 718).

Amabile (1983), in discussing the social psychology of creativity, proposes a framework for conceptualising creativity that consists of domain-relevant skills; creativity-relevant skills and task motivation. This framework suggests that creativity is not something that happens in isolation but is the product of an individual's outlook, experience and environment. In order to benefit from creativity then, an organisation must create an environment conducive to creative thought and action. Or, as Amabile says "creativity requires a confluence of all components; creativity should be highest when an intrinsically motivated person with high domain expertise and high skill in creative thinking works in an environment high in supports for creativity" (Amabile 2012, 3).

What are the traits Amabile's intrinsically motivated person should possess to maximize their creative potential? A review of literature in the area identifies five traits relevant to creative action:

• self-direction/proactivity

- knowledge and experience
- risk-taking propensity
- social competence and
- resiliency.

Figure 1, on page 82, tabulates these characteristics identified by different authors, each of which is discussed below.

Self-direction/proactivity

Writing from a neuro-scientific perspective, Rock and Schwartz (2006), identify the importance of self-direction in developing insights (creativity). If insights are generated by the individual, the brain makes stronger connections than if the insight was given to them as a conclusion. If creative insights stem from individual proactivity in making new connections it is not surprising that there is growing consensus amongst academics that proactivity is a critical driver of organizational effectiveness. (Kim et al. 2009).

Knowledge and Experience

Without specific knowledge or experience the proactive or self-directed person will be restricted in their ability to conceive and act on new ideas (Sternberg in Sawyer et al 2003, 96). According to Ford (1996) "Accumulated experiences lead individuals to develop interpretive schema, preferences, expectations, and knowledge related to specific domains of behavior." (Ford 1996, 1117). Ford includes knowledge and ability as one of three major influences that either facilitate or constrain creativity (the others being sense making and motivation).

From an organizational perspective then, creativity depends not only on the individual but also on the structures that organize them (Sawyer 2006, 292).

Risk-taking behavior

Creativity, according to Florida (2002), requires "self-assurance and the ability to take risks." Risk features prominently in lists of personal qualities identified by researchers as an antecedent to creativity (Amabile, Gryskiewicz, Stanley 1987). However, in order for risk to be productive there must be organizational encouragement and tolerance (Amabile et al. 1996).

Social Competence

The interactionalist model of creative behavior first described by Woodman and Schoenfeldt (1989) confirms that creativity in an organizational context is characterized by individuals working together in a social context. The importance of this social element was illustrated in research conducted amongst research scientists by Amabile and Gryskiewicz (1987), who found that highly creative scientists had good social skills that enabled them to communicate better and have a stronger rapport with other team members compared with scientists who were less creative.

Resiliency

There is general agreement that resiliency and perseverance are important in the development of creative solutions (Amabile and Gryskiewicz 1987); Oldham & Cummings 1996; Fillis and McAuley 2000). According to Ford (1996) perseverance comes from an individu-

als sense-making process which attributes meaning to specific information and then dictates a certain action, even in the face of ambiguity. The resulting perseverance is therefore logical rather than being based on pure doggedness.

Of the five traits highlighted, *self-direction* is the one that must be fostered in all individuals for the Socratic approach to work effectively, as a disinterested individual will not actively participate in the questioning process that is designed to stimulate critical thinking. From an organisation's perspective the task of the manager should be to create an environment where employees feel engaged by identifying the conditions under which creativity will flourish.

Author(s)	**Self direction/ Proactivity**	**Knowledge/ Experience**	**Risk taking**	**Social competence**	**Resiliency**
Amabile and Gryskiewicz (1987)	Intrinsic motivation (self reliance)	Ability and experience	Risk orientation	Social skill	Persistence, lack of preconceptions
Florida (2002)	Self assurance, Intrinsic rewards, Individuality		Risk taking ability		Ability to synthesise
Fillis and McAuley (2000)	Internal locus of control, Independence		Risk taking behavior		Perseverance
Ford (1996)	motivation	Knowledge and ability			Sensemaking
Drucker (1985)					Identify and react to change
Gilson and Madjar (2011)	Intrinsic motivation				Problem driven, ability to abstract
Gong, Huang and Farh (2009)					Learning orientation
Mathison (2011)	Creative self-efficacy				
Oldham and Cummings (1996)	Intuition	Broad interests		Aesthetic sensitivity	Attraction to complexity, toleration of ambiguity
Tierney and Farmer (2002)	Creative self-efficacy				
Dimov (2007)	Action orientation			Social interaction	Continuous shaping

Figure1: Creative traits and competencies

Creativity and the Organisation

From an organizational perspective what are the conditions under which creativity might flourish? Amabile, Gryskiewicz and Stanley (1987, 25) identify them as:

- *Freedom*—"Freedom in deciding what to do or, more frequently, how to do one's work; a sense of control over one's work and ideas; a freedom from having to meet someone else's constraints; a generally open atmosphere."
- *Encouragement*—"Management enthusiasm and support for new ideas and new ways of doing things; an absence of destructive criticism and excessive fear of evaluation.
- *Resource and time*—"Access to appropriate resources, including facilities, information, funds, and people; sufficient time to solve problems in new ways.
- *Recognition*—"Appropriate, constructive feedback on one's work, along with appropriate recognition and rewards."
- *Challenge*—"A sense of challenge arising from the nature of the problem, a sense of pressure arising from outside competition or realistic time urgency."

However, in practice, the reality is that proactive behavior in organisations is often discouraged (Bateman and Crant 1999). They attribute this to the over-controlling effects of rigid company structures and instead advocate a management approach that encourages freedom to pursue broad organisational goals in "fruitful, creative, innovative ways" (Bateman and Crant 1999, 66).

While it is generally agreed (as discussed earlier) that creativity can improve business outcomes, the traditional management model "is built on a monocratic, hierarchically structured authority chain" (Cummings 1965, 221).

Creed (2011) expands on this theme by identifying five categories of organizational norms/rituals where traditional management and creativity are in conflict:

- Innovation—Conservatism: scale to assess tolerance of risk-taking
- Imprecision—Precision: rigid systems and processes vs more ad hoc approach
- Relationship orientation—Task orientation: collegial/people driven approach vs goal/performance driven
- Calmness—Aggression: individualistic, driven and competitive vs group, calm and sharing load
- Growth—Stability: fast-paced, high growth emphasis vs slow and steady planned management

The second descriptor on each scale is consistent with Cummings view of a traditional organization, whereas the first descriptor represents a more creative approach to management. *Thus creativity is the antithesis of a traditional hierarchical management structure.*

So, given that the culture of an organization can have a negative effect on creativity, how does a manager elicit creativity from team members? Woodman, Sawyer and Griffin (1993) say that while an organisation's characteristics create the context, organizational creativity is a function of both context and the creativity of groups within that organization.

Andriopoulus (2001, 834) identifies those contextual influences as a combination of:

- Organizational climate
- Leadership style
- Organisational culture

- Resources and skills
- Structure and systems.

This then is the role of a leader (of an organization or a group within that organization)—to create an environment where uncertainty and risk are tolerated and personal consequences in a creative environment are positive.

Socratic Dialogue Model

Figure 2: Socratic Dialogue Model

Socratic questioning can be used to stimulate a dialogue where participants' beliefs on an issue are challenged (elenchus) and found wanting by the participants themselves. From this resulting state of confusion (aporia) a joint search for truth is begun. Socrates typically began with a question such as "What is the point of X?" Paul and Elder (2006) agree that the question should relate to a belief or conclusion that is held or has been reached; however other authors suggest starting the dialogue with a collaborative agenda setting process (Bolten 2001; Chesters 2012; Andriopoulos & Lowe 2000).

The proposed Socratic Dialogue Model (Figure 2) synthesizes the approach of Socrates himself with the constructs of 21st century authors (Figure 3) for the purpose of application in a business context. It proposes that the initial question establishes a hypothesis that requires testing (what do we currently believe about the issue?) and is followed by a series of questions gathering evidence (what evidence supports our belief?); questions to uncover conflicting views (what conflicting views are there?); and finally a series of questions to explore the implications and consequences of the discussion (where does this dialogue lead us?).

The objective of the dialogue is not to make final decisions (Bohm 2010:19) but to engage participants in a creative process that "inspires further curiosity and open-minded reflection" (Skordoulis & Dawson 2007:993). This creative process can be used as a manage-

ment tool to engage participants in the decision-making process in order to foster increased understanding and ownership (Kachaner & Deimler 2008; Skordoulis & Dawson 2007).

Socratic Dialogue model	**The Question** *What do we currently believe about the issue?*		**The Evidence** *What evidence supports that belief?*	**The Argument** *What conflicting views are there?*	**The Results** *Where does this dialogue lead us?*	
Socratic Method	What is *X*?		Elenchus		Aporia	
Paul & Elder 2006	Examining origin or source	Belief, statement or conclusion	Support, reasons, evidence and assumptions	Opposing thoughts and objections	Implications and consequences	
Bolten 2001	Original questions formed in collaboration with participants		Information gathering	Argumentation	Results	
Chesters 2012	Problematic situation	Constructing an agenda	Gathering and suggesting	Reasoning and analysis	Making judgements and self correcting	Concluding
Andriopoulos & Lowe 2000	Adventuring		Overt confronting	Portfolioing	Opportunising	

Figure 3: Approaches to creating a Socratic Dialogue

The Question

Socrates typically started with a challenging question, the answer to which people often claimed to know but upon further questioning they started to critically examine their

thinking. Paul and Elder (2006) suggest that as part of this process, the origin or source of those beliefs should also be questioned. This process encourages participants to be self-directed by challenging what they may have been told before and putting them in a situation where they have to actively consider their beliefs. Bolten (2001) suggests a caveat that the original question should be formed in collaboration with participants, a collaboration which Chesters (2012) says should include constructing an agenda. Andriopoulos and Lowe highlight the creative aspect of this process by using the term 'adventuring' as part of creating a perpetually challenging environment where "individuals are encouraged to explore uncertainty, so that they can generate innovative solutions." (Andriopoulos and Lowe 2000, 736).

The Evidence

A desired outcome of this second part of the Socratic Dialogue is that the questions should be challenging and produce a realization that a contrary view is possible or even probable (elenchus). It is important for the questioning to be overt and confronting (Andriopoulos and Lowe 2000) and to ask participants to provide evidence of their beliefs (Paul and Elder 2006) to differentiate from assumptions. This process encourages people to use their experiences to reflect on alternatives.

The Argument

By this point participants should be ready to question their beliefs and consider opposing thoughts and objections (Paul and Elder 2006) and at the same time be prepared to argue with other participants (Bolten 2001) to ensure all conflicting views are exposed and examined. At this point of the dialogue group dynamics come into play and participants are forced to consider other opinions. It can also be a test of participants' resilience.

The Results

The final result stage is to examine the implications and consequences (Paul and Elder 2006) of the preceding dialogue. While Chesters (2012) suggests that a conclusion is required this shouldn't be seen as an ending of the exploration of the issue, rather a summation of the current situation and hopefully as a starting point for further exploration (Bohm 2010, Skordoulis & Dawson 2007).

Model Validation

To test the model's applicability in a business context, a program consisting of two phases was designed and tested in the field with a service based small to medium enterprise (SME) with approximately 7 staff members. The program started with a series of in-depth, semi-structured oral histories that were recorded. The interviews were conducted with the workers in their own environments ('natural location', Hussey and Hussey 1997) using a small number of probing questions. (Sanders, 1982, 357). Follow up interviews were conducted at the end of Phase 2 to determine the change in participants' perceptions relating to creativity within the organization.

Phase 2 consisted of a workshop, facilitated by the author, using the Socratic Dialogue Model based on a question the company wanted to explore.

Results

To commence the Socratic Dialogue, the question posed was: *"What are the distinct competencies we have over our competitors?"* In exploring what participants currently believed there were 6 points raised and agreed on by participants. Taking each point in turn, participants were asked to provide any supporting evidence for their beliefs. Interestingly, the only 'evidence' that participants could come up with was a broad "feedback from clients" statement which created a sense of *aporia* in the group as the reason this question was raised originally was because the company wanted to improve their responses to tender requests after they had feedback that their standard response lacked strong supporting evidence of claims made.

This led into the third stage of the Dialogue (Argument) where each of the 6 points were examined by initially posing the question "Could your competitor's claim the same thing?" As a result there were four claims abandoned and the two remaining ones were questioned further by asking participants to describe how these attributes were manifested in projects they had worked on.

In the final stage of the Dialogue (Results) the descriptions provided by participants were assembled to form part of a proposed project management methodology they could field test and then use as evidence of their unique capabilities.

The session lasted approximately three hours and all the participants expressed surprise that a problem they had found difficult to resolve could be solved so quickly. They also felt encouraged to refine the methodology they developed in the session further.

In subsequent interviews all of the participants agreed that the process was both painless and also gave them a sense of ownership that they didn't have before. This feeling can be summed up best by the comment of one participant who said: "Yes, I definitely think the process we went through got us to a good answer to our question. And, I suspect it could encourage empowerment, inclusion and as a result creativity in an organisational situation. It gave me confidence to think more creatively in future."

Implications

The objective of this initial test was to determine whether the Model could be successfully applied in a real world context and the result indicated that the process was robust. Specifically:

- The process was an easy one to work with. No one was confused by the task or had questions that weren't covered in the introduction to the Model.
- Incorporating Bolten's (2001) recommendation that participants should be a part of the decision on the question to be posed meant that participants quickly became actively engaged.
- The process produced an outcome that participants were happy with and provided a platform for future creative endeavors.
- Feedback from participants afterwards supported the hypothesis that creativity would be enhanced through using this process.

Further empirical testing of this Model is required to validate its applicability in a wide range of business contexts and to expose any limitations or adaptations that may be required.

Summary

Researchers have identified five antecedents of creativity in an individual; however, in order to harness that creativity an organization must provide a supportive environment that tolerates mistakes. The challenge for managers is that they often work in an environment that is less than supportive or tolerant and their teams are made up of people with varying degrees of creativity. Sonnenberg and Goldberg (2007) suggest that using the Socratic Method to create a learning environment within an organization is a way to foster creativity in an uncertain environment. This paper identified and empirically tested a Model that can be used by companies to foster creativity in their organisations. The model requires further testing to prove its applicability in a broader range of contexts.

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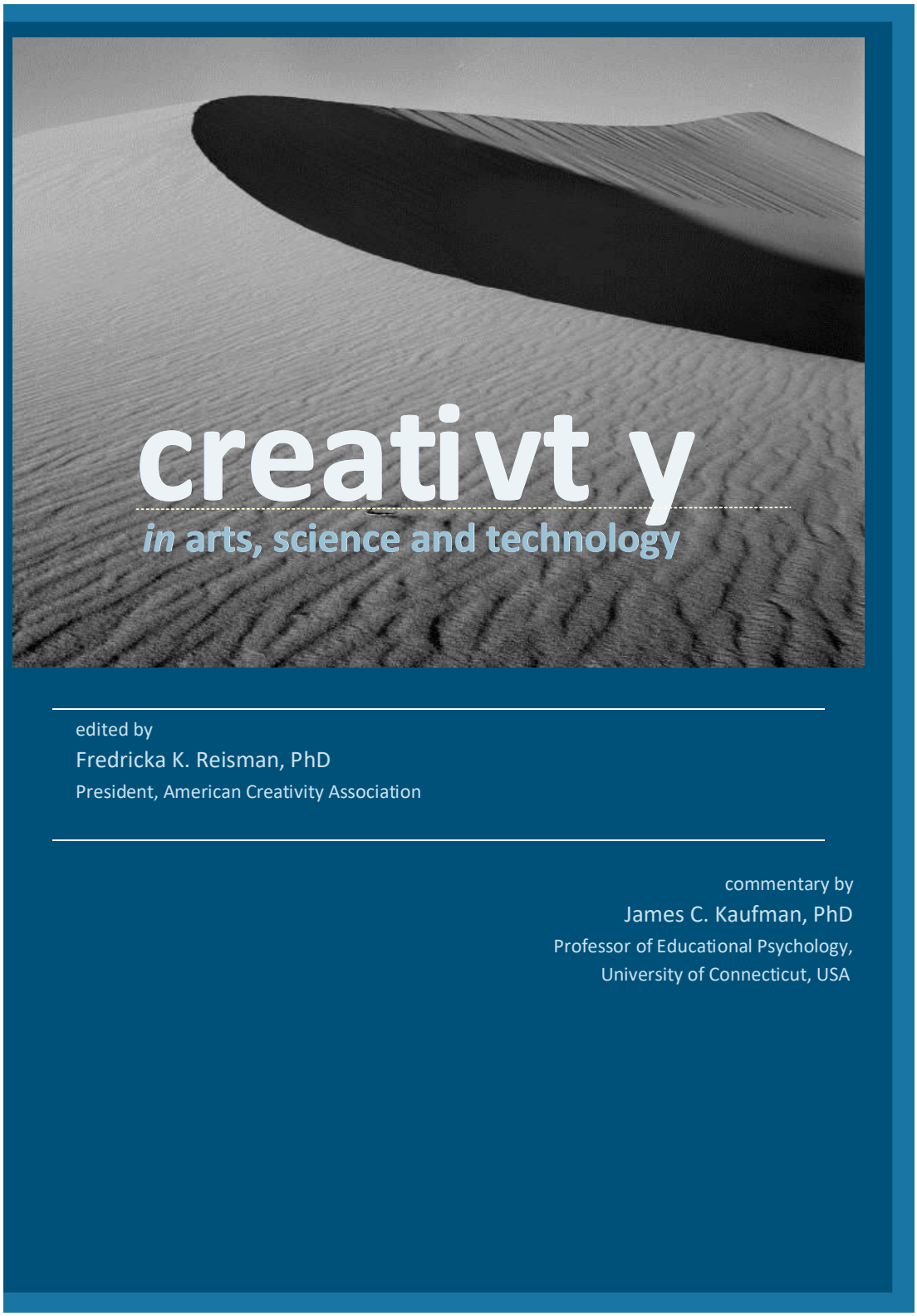
Appendix 4
Book chapter:
A Socratic Approach to Managing Creativity in Business (b)



CHAPTER THREE

THE 4E'S SOCRATIC MODEL—A FRAMEWORK TO FOSTER CREATIVITY IN TEAMS

PHILIP DENNETT

Abstract

It has been suggested that using the Socratic Method (a directed questioning technique to encourage critical thinking) to create a learning environment within an organization is a way to foster creativity in an uncertain environment. This article describes the development of a grounded theory to empirically test and refine a model to manage a Socratic dialogue within organizational teams. The resulting *4E's Socratic Model* produced concrete creative outcomes in real-world application in a range of organisations.

Keywords: Socratic method, creativity in business, critical thinking, managing teams

Introduction

This article presents the 4E's Socratic Model which was developed using a grounded theory methodology to investigate the use of the Socratic method as a means of encouraging creativity in an organisational context.

While there has been considerable research into both individual and organizational creativity, the use of a Socratic approach to managing creativity in organizations has not been comprehensively explored. The objective of the investigation was to develop a new theory grounded in data to provide a base for further examination.

Seven participating organisations were self-selected based on their response to a message sent to 311 business contacts on Linkedin. This method of selecting was chosen because of the level of trust required of organisations in sharing confidential data. Multiple organisations were selected to ensure that results were transferable which is preferable when dealing with a broad-based phenomenon (Yin, 1981). It is also appropriate in building a grounded theory that will be extended as the study proceeds (Benbasat, Goldstein & Mead, 1987).

Data was gathered through a series of workshops conducted in a real-world setting that examined a question of interest to the subject organisation using the proposed Socratic model (Figure 1). During the workshops, questionnaires were given to each participant to explore their perceptions of creativity as it relates to themselves and their organisation, answers to these questions were used to create a benchmark creativity index for the organisation. At each stage of the data gathering process a series of memos were written to record insights gained and to interpret phenomena that arose.

Through this process 11 themes were identified and then further examined using axial coding resulting in 5 major categories. These categories were: Open dialogue; Internal championing; Organisational environment; Questioning techniques; and Outcomes.

Figure 1: Socratic Model as tested

Open dialogue

‖Yes, we were able to have a more open and constructive conversation which helped us to nail down what we wanted to do and what was realistic/ feasible. This approach increased the level of input non-Board staff had, which in turn would increase their buy-in and feelings of being valued. Specifically, the process allowed us to plan and reach a realistic goal without being directed to achieve an outcome which wasn't realistic.‖ (Field note excerpt)

This excerpt is an illustration of the importance of encouraging all members of the group to participate. By creating a non-threatening environment, as facilitator I was able to engage with each member of the various groups encouraging them to share concrete examples of what they knew, rather than merely canvassing opinions. It became obvious early in the process that without this more in-depth approach certain team members discouraged others from contributing because of the forcefulness of their opinions.

Internal championing

While all workshop sessions concluded with agreement on future direction, in the first session agreement wasn‘t reached on specific timeframes or responsibilities. Later feedback suggested that it is easy for deadlines to be missed if there is no champion of the process. In working with the process in

a company making sure that there is an internal champion that continues the process in place of the facilitator means it is less likely that progress will stall.

In one of the groups 5 of the 8 participants reported that they would not change their responses to the creativity index questions as a result of the session. One participant identified organizational rigidity as a barrier to change, and two participants felt that the process would be effective as a change agent if senior management were facilitating change via this process.

To be effective in an organization the process should not only gain acceptance within the team but also must be sold to senior management so that it may be viewed as an effective management tool.

—...depends on clearly signalling change. We tend to self-serve in first 2 stages resulting in frustration and disinterest. Need to focus change on what we can achieve.‖ (Field note excerpt).

During the session this team made it clear that while they had confidence in both their creativity and the support of their team manager there was a sense that they were wasting their time due to the bureaucratic nature of the organization and the conservative nature of senior management. It seems that it is not enough to have the support of a team manager – it is also important to have this process recognized as a legitimate part of the overall management philosophy.

The Socratic Model as a management tool therefore needs to be championed by leaders within the organization in order for it to be successful, as conflicting contextual influences could negate any value gained. The role of a leader (of an organization or a group within that organization) is to create an environment where uncertainty and risk are tolerated and personal consequences in a creative environment are positive (Andriopoulus (2001).

Organisational environment

—It is difficult to change because it needs to be approved by too many people up the line. The organisation is rigid but our manager encourages creativity which makes it less frustrating.‖ (Field note excerpt).

This comment highlights the need for ownership from within the team. The problems of a rigid hierarchical organization have been well documented as a barrier to creativity—an important outcome of the Socratic process should be to get group ownership of the process to help counteract organizational rigidity. The result of such ownership is apparent from the comment below:

—The open question forum led to exact discussion and specific goals being reached on ideas that have been circulating for quite some time. Project planning - being accountable immediately will make the process more likely to succeed than in the past.‖ (Field note excerpt).

Sometimes group cohesiveness will assist in creating change from the bottom up as the following comment states:

―This process enabled an open dialogue in which thoughts and ideas could be tabled and challenged. The outcome was better than expected! Having buy-in from all participants was important—this guided the discussion to keep on track (historically a challenge for us). Using this process would definitely help immediate supervisors/Board to understand internal resource challenges.‖ (Field note excerpt).

In a briefing prior to the session, this team identified a conflict between the management team and the Board (not for profit organization) in terms of expectations being unrealistic. The session, which included the Board Chairman, provided a structure whereby everyone felt comfortable that they would be accountable for the outcomes agreed. This came from having in the same session, all the people that had opinions about and were affected by the topic under discussion. The neutrality provided by the Socratic process helped to remove personalities from the debate.

Questioning techniques

While the first workshop concluded successfully it became apparent early that the facilitator should be prepared to actively seek clarification of concepts that were raised. During the Evidence stage, a concept was agreed on by participants, but it appeared to have different meanings or implications to each of them. By asking a series of qualifying questions, before moving onto the next stage, I was able to draw these views out and thus provide a platform for further development.

While I am experienced in facilitating this type of discussion, in a real-world situation specific questioning strategies should be explored prior to a session to avoid stalling the process or ending with a fuzzy outcome that is hard to action. In reviewing data on the application of the Socratic method it became apparent that the Model needed to be more than a single dimension and should be overlaid with a questioning process that identifies the most appropriate approach to questioning at each stage of the Model. The questioning approach should align with the stages of the model as it moves from the known to the unknown.

Outcomes

The initial workshop was the first time the process was tested in a real world setting. The setting was a planning meeting to discuss the firm‘s capabilities and to provide direction for future expression of those capabilities in business pitches.

The first step in the process is to put the question under consideration to the group. In this case the question was: ―What are the distinct competencies we have over our competitors?‖ This question was determined in advance in a separate discussion I had with the Chief Executive. It quickly became apparent that before discussing the question, participants wanted to debate the rea-

sons behind the question and the relevance of it in terms of their business. Their main interest related to outcomes, in other words ―how will the answer to this question help us to achieve our goals?‖

In subsequent workshops, in discussing the question I made sure that each group also agreed on outcomes they wanted to achieve. In one group this made it easier for them to focus on specific actions to take:

―We have spent this week following up on actions from our meeting and have introduced this concept across other areas of our business and are very happy and impressed by the results we were able to achieve.‖ (Field note excerpt).

Theory development

This project started as an exploration of the use of the Socratic Method as a means of enhancing team-based creativity in an organisational context. The desired outcome was a grounded theory that would provide a documented and tested model that could be used by managers in a real world context. The four steps in the Model (Figure 1) provided an effective linear progression for a dialogue resulting in creative outcomes in the teams studied. However, the Model as it stands is not comprehensive enough to document a process that can be followed without the input of a trained facilitator. Therefore an additional stage of theory development was required with the objective of adding additional guiding layers suggested by feedback identified in the themes described previously.

Open dialogue

In order to facilitate open dialogue there were two ideas that emerged:

Engagement of all participants

Ownership of the question

The first can be facilitated through the use of concrete questions that explore what people know rather than opinions. The ideal place to start is a discussion on the question itself with input from all participants so that the process starts with an agreement and thus creates ownership of the question.

This approach is supported by Boswell (2006) who, in discussing the use of questions to encourage critical thinking, identifies three question types: concrete, abstract and creative that progressively move from lower level enquiry to higher level abstract and creative thinking. As an aid to implementing the Model, a baseline questioning layer can be added that maps an appropriate question type to specific stages of the process (see Figure 2).

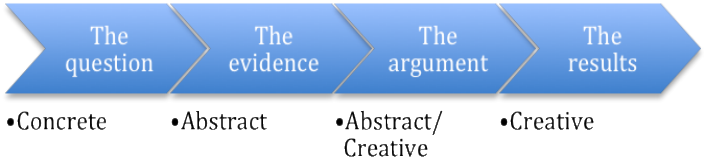


Figure 2: Model with appended question types

Internal Championing and Organisational Environment

Organisational rigidity was identified as a barrier to creativity. This is supported in the literature by Boswell (2006) and others who identify a range of ‗cultural' issues that inhibit creativity and innovation. Therefore it will be important to identify a champion from within the organisation who is at a high enough level to influence culture and effect change. The role of this person is to be a creative leader, encouraging creativity in teams and removing potential barriers to provide a supportive creative environment (see Figure 3).

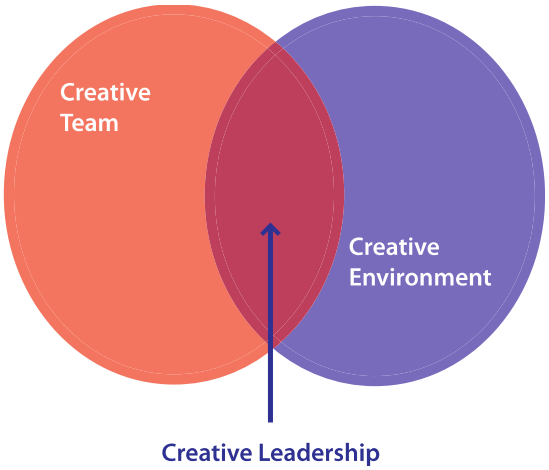


Figure 3: Role of the creative leader

Questioning techniques

In Figure 2 a second layer of questioning types was added to the model. However, this by itself does not provide enough insight for someone to work with the model without training and/or experience. Neenan (2009) highlights the danger in relying on intuition when it comes to facilitating a Socratic Dialogue. This is an issue I found in conducting this research. Even though I had prepared a range of questions in advance these only formed a relatively small

part of the questioning process. Therefore, I undertook a critical review of questioning techniques that could be synthesised to provide a third layer that provides specific guidance for each stage of the process.

The key to a successful Socratic dialogue is that it should be a co-operative investigation (van Hooft, 1999) that ends with a consensus rather than an interrogation. To achieve this the role of Socrates is not just to question he must also recognise and react to the dynamics of the group (Gose, 2009) by reining some participants in and encouraging others. So the role of questioning is two-fold—on the one hand to stimulate discussion and on the other to stimulate ownership of both problem and solution.

A number of authors (Paul & Elder, 1996; Boswell, 2006; Oyler & Romanelli, 2014) suggest categories of questions to consider. Boswell focuses on a top-level progression (concrete, abstract, creative) which has been integrated into a second layer of the Model and is supported by Oyler and Romanelli (2014) who propose procedural (concrete facts), preferential (abstract opinions), and judgemental (synthesis or creative) questions.

However, it is important to remember that questions are not asked in isolation as each person will apply their own contextual filtering process before answering. It follows then, that cognition must also be considered.

The most widely accepted theory of cognition is that of Bloom, Engelhart, Furst, Hill and Krathwol (1956). Their taxonomy identifies six levels of cognition: knowledge, comprehension, application, analysis, synthesis and evaluation which according to Krathwohl (2002) represent a cumulative hierarchy which fits neatly into the hierarchy present in the Socratic Dialogue Model. By understanding people‘s different levels of cognition we can avoid asking a complex question too early and therefore avoid confusing participants and ultimately frustrating the process.

This leads to a model (Figure 4) with three dimensions (to aid integration of the dimensions the 4 steps of the process have been renamed using a single descriptive word):

Stage	Question type	Cognition
Exploration stage	Concrete: what, where, when, why, who, explain, compare, give examples	Knowledge and comprehension
Examination stage	Abstract: consider, solve, apply (to a new situation) What are the pros and cons? What is missing?	Application and analysis
Evaluation stage	Abstract and Creative: What are the links between…. and …..? defend your choice, justify.	Synthesis and evaluation
Election stage	Decision and resolution	

Figure 4: Model with question types and cognition levels

Discussion

The addition of the two extra layers in the Model made it much easier to keep focused as the facilitator. Firstly, in terms of preparation, it suggested consideration of not only questions that might be asked but also staging them at the appropriate level in both type and cognition. Secondly, having a visual of the Model available during the discussion gave immediate guidance for the type of question required at different times in order to stimulate discussion or tease out linkages in the evaluation stage that resulted in more creative thought.

In a final session to test the final iteration of the Model (Figure 5), participants expressed surprise at how quickly they were able to come to a conclusion and also one they felt gave critical direction to their project. This was something as facilitator I also noticed and was surprised to note later that the total time taken in this session was just over 60 minutes compared with similar sessions during the initial data gathering stage that lasted over 90 minutes.

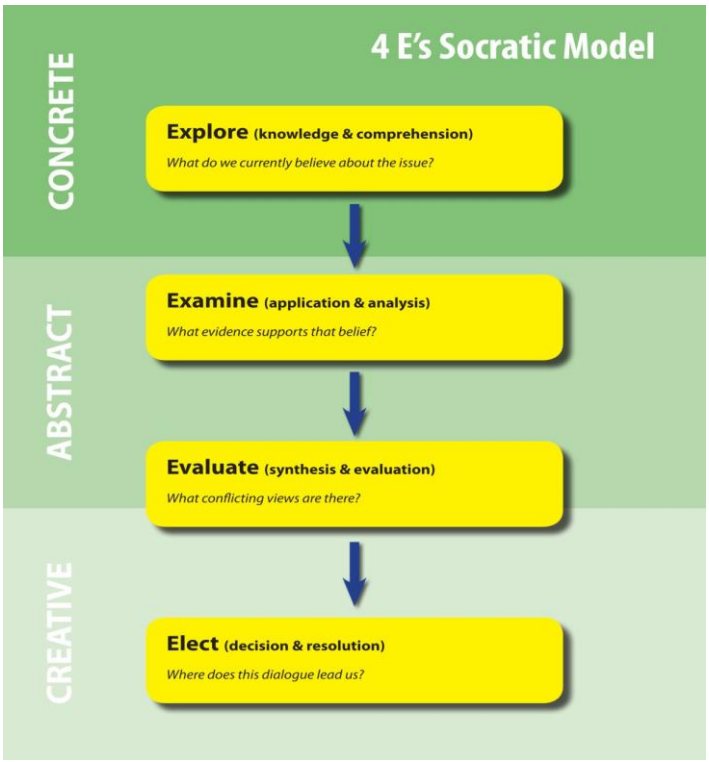


Figure 5: 4E's Socratic Model

Theory justification

The purpose of this research was to test the viability of a Socratic approach as a tool to champion creativity in an organizational context. The 4E's Socratic Model (Figure 5) was found to be an effective tool in producing creative outcomes in the context of an organizational team. It achieved this through:

- Producing a creative, actionable outcome in all seven organizations studied.
- Creating an environment where creativity is encouraged by producing conditions that are conducive to creativity; namely,
  - personal freedom—to provide an opinion in a non-threatening environment,
  - encouragement—to think creatively outside normal operating constraints,

  - recognition—that each team member's opinion is valid and valued,
  - challenge—to go beyond the common wisdom and create something new and innovative.
- Modeling a culture that encourages creativity and tolerance.

Delimitation

As this research is a phenomenological study, the results may not be applicable outside of the organizations studied (Bonoma, 1985). However, this study should be thought of as a starting point for companies wishing to promote creativity rather than a prepackaged solution.

Limitations

As participating organizations were self-selected this may indicate potential bias in that they may have a greater acceptance of the need for creativity in their organizations. However the wide range in levels of creativity measured by the creativity index of each group, means that it would be difficult to state that there were sufficient commonalities that were likely to produce a bias.

Another limitation is that the results are not quantifiable – this could be considered as an opportunity for future research to measure the results of implementing the Model over time.

This study used an external facilitator (the author). This was done to concentrate on the applicability of the model itself and remove any bias that might have come from using different facilitators.

Recommendations

In developing the 4E's Socratic Model in response to the data collected the aim has been to produce a management tool that reflects the experience of taking a Socratic approach to enhancing creativity in a team environment. However, prior to implementation it is important to consider the legitimacy of creativity in the organization and what organizational impediments might need to be removed.

Secondly, pick a project and a team to pilot the use of the model. A successful outcome will prove the value of institutionalizing the model and it will also give insights into how best to apply the process.

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Author's Brief Bio

Philip Dennett is a lecturer in Advertising at The University of Notre Dame Australia (Sydney). He has a broad business experience at senior executive level in advertising, publishing and marketing. In addition to teaching, Philip runs a successful consulting business specialising in business communications. He is currently completing his PhD thesis on creativity in an organisational context.

Appendix 5
Questionnaire

Workshop Questionnaire

Thank you for agreeing to participate in this session.

Before we start could you answer the questions in **Part A** overleaf. Your responses are anonymous and completely confidential.

For each question, circle the number on the scale that best represents your feelings.

Following the session, please provide feedback by answering the questions in **Part B**.

Part A

For each question, circle the number on the scale that best represents your feelings.

Is there much freedom for you to decide how to perform work?

1	2	3	4	5
Limited freedom				Considerable freedom

Are you generally encouraged to find new or alternative ways of doing things?

1	2	3	4	5
Little encouragement				Considerable encouragement

Is it possible for you to learn new things through your work?

1	2	3	4	5
Little possibility				Considerable possibility

How well do you feel that your immediate supervisor understands your problems and needs?

1	2	3	4	5
Limited understanding				Considerable understanding

Regardless of how much formal authority your supervisor has how likely are they to "bail you out" when you really need it?

1	2	3	4	5
Not at all likely				Highly likely

What level of tolerance is there for failure in your organisation?

1	2	3	4	5
Limited tolerance				Considerable tolerance

Do you have access to resources you might need when developing new ideas?

1	2	3	4	5
Limited access				Considerable access

Is management actively enthusiastic and supportive for new ideas and new ways of doing things?

1	2	3	4	5
Limited enthusiasm				Considerable enthusiasm

To what extent do you actively seek out opportunities to try new things?

1	2	3	4	5
To a limited extent				To a high extent

How comfortable are you in taking risks when it comes to trying out new ideas?

1	2	3	4	5
Not at all comfortable				Extremely comfortable

Part B

If the process used today to facilitate the discussion became a routine part of team operations in your organisation – would it change any of your views expressed in your answers to the questions in Part A?

If so, which ones and in what way?

Appendix 6
Proposal to participate in a Research Project:
Creativity in an Organisational Context
Researcher: Philip Dennett

- **What is the project about?**

The purpose of this research is to identify how creativity works in an organisational context; exploring its incidence in a real-life setting and to develop a model for harnessing it in managerial practice.

- **Who is undertaking the project?**

This project is being conducted by Philip Dennett and will form the basis for the degree of Doctor of Philosophy at The University of Notre Dame Australia, under the supervision of Associate Professor Helene de Burgh-Woodman.

- **Research Design**

- The research consists of administering a confidential questionnaire to team members in a company followed by a facilitated workshop (workshop time: 2-3 hours) which tackles an issue of importance for the company. The workshop is facilitated using a model based on Socratic dialogue to encourage people to participate "creatively".

Immediately following the workshop participants complete a brief questionnaire soliciting feedback on the process.

- **Outcomes for participating organisations**

Participating organisations will benefit in the following ways:

- Identification of the overall levels of creativity within the organisation

- Identification of any barriers to creative outputs

- Expert support in training managers in the use of the Socratic method in managing projects
- Facilitation support in a project environment.
- **Ethical Considerations**

This research will comply with the Policy of the Human Research Ethics Committee at The University of Notre Dame Australia 2006.

Informed consent

Organisations involved in the study will be provided with a detailed outline of the proposed research that will include:

- Objectives and proposed outcomes
- Copies of any research instruments
- Schedule of access required
- Plain language statement and consent forms will be provided for participants. Before each interview the voluntary and confidential nature of the research will be highlighted and participants given the option to withdraw at any point.

Confidentiality and anonymity

The researcher will comply with any specific confidentiality requirements imposed by participating organisations. Data will be collected and published so that the source remains anonymous. Any audio files will be destroyed on completion of the study. Interviews will be conducted in the organisation's workplace.

- **Contact details**

Researcher **Supervisor**

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Appendix 7
Memos written to support theory development

Memo 1

21st February 2014

Concept: Process development

The purpose of this memo is to record my impressions on the use of the Socratic Method in terms of the process itself.

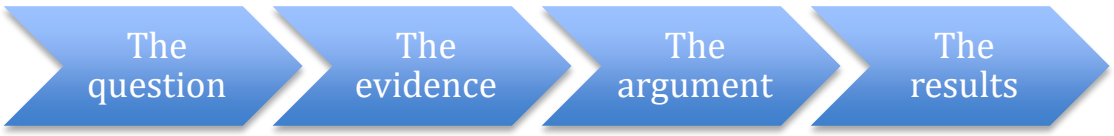
This initial workshop was the first time the process was tested in a real world setting. The setting was a planning meeting to discuss the firm's capabilities and to provide direction for future expression of those capabilities in business pitches.

The first step in the process (as depicted in the diagram 1.1 below) is to put the question under consideration to the group. In this case the question was "What are the distinct competencies we have over our competitors?" This question was determined in advance in a separate discussion I had with the Chief Executive. It quickly became apparent that before discussing the question, participants wanted to debate the reasons behind the question and the relevance of it in terms of their business. This idea was reinforced during a subsequent interview with the instigator of the meeting. Her comment was:

We operate in a small team and generally have good relationships, however as owners are involved directly decisions can be made on the fly.

There seemed to be a desire for other team members to challenge things the owners suggested. Hence before posing a question in future it would be desirable to gain acceptance first.

Diagram: Socratic Model version 1


The question
The evidence
The argument
The results

Memo 2

21st February 2014

Concept: Questioning

Field note excerpt:

Feedback from existing clients

While the first workshop concluded successfully it became apparent early that the facilitator should be prepared to actively seek clarification of concepts that were raised. In the field note above this concept (in relation to the "evidence" stage of the socratic process) while agreed on by participants, appeared to have different meanings or implications to each of them. To avoid this the facilitator should ask a series of qualifying questions before moving onto the next stage.

Commentary on memo:

While I am experienced in facilitating this type of discussion specific questioning strategies should be explored and provided as a supporting resource for others to follow the process.

Memo 3

21st February 2014

Concept: Results

Field note excerpt:

Failure to meet internal type deadlines is ok (often not chased up by manager).

While the workshop session concluded with agreement on future direction we didn't get agreement on specific timeframes or responsibilities. As the filed note above highlights it is easy for deadlines to be missed if there is no champion of the process.

Commentary on memo:

In working with the process in a company make sure that there is an internal champion that can take the place of the facilitator to ensure progress doesn't stall.

Memo 4

21st February 2014

Concept: Creative efficacy

Field note excerpt:

Change in creative efficacy

"Yes, I definitely think the process we went through got us to a good answer to our question. And, I suspect it could encourage empowerment, inclusion and as a result creativity in an organisational situation.

It gave me confidence to think more creatively in future."

Commentary on memo:

This comment identifies another positive outcome from the process – that of empowerment and inclusion. Note for future sessions: look out for this and other outcomes.

Memo 5

4th September 2014

Concept: Overcoming roadblocks

Field note excerpt:

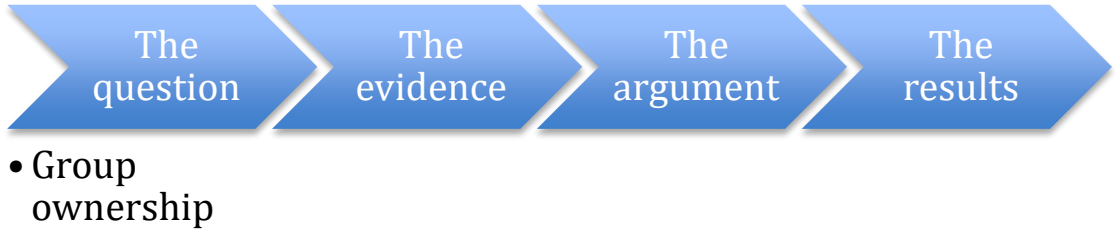
Change in creative efficacy

"It is difficult to change because it needs to be approved by too many people up the line. The organisation is rigid but our manager encourages creativity which makes it less frustrating."

Commentary on memo:

This comment highlights the need for ownership from within the team. The problem of a rigid hierarchical organisation has been well documented as a barrier to creativity – an important outcome of the Socratic process should be to get group ownership of the process.

Diagram: Socratic Model Version 2:



Memo 6

4th September 2014

Concept: Status Quo

Field note excerpt:

5 of the 8 participants (CO2) reported that they would not change their responses to the creativity index questions as a result of the session. One participant identified organisational rigidity as a barrier to change, and two participants felt that the process would be effective as a change agent if senior management were facilitating change via this process.

Comment on memo:

To be effective in an organisation the process should not only gain acceptance within the team but also must be sold to senior management so that it may be viewed as an effective management tool. I suggest that for this to happen, as part of the project I should produce a guide to the process with evidence supporting its use so that this can be used as part of a business case to help gain acceptance.

Memo 7

4th September 2014

Concept: Senior management leadership

Field note excerpts:

"depends on who is asking. Neutral facilitator - no. Senior management - yes."

"depends on clearly signalling change. We tend to self-serve in first 2 stages resulting in frustration and disinterest. Need to focus change on what we can achieve."

Comment:

During the session this team made it clear that while they had confidence in both their creativity and the support of their team manager there was a sense that they were wasting their time due to the bureaucratic nature of the organisation and the conservative nature of senior management. It seems that it is not enough to have the support of a team manager – it is also important to have this process recognized as a legitimate part of the overall management philosophy. This further points to the need for credible collateral that can be used to convince senior management.

Memo 8

17th September 2014

Concept: Accountability and open dialogue

Field note excerpts:

"The open question forum led to exact discussion and specific goals being reached on ideas that have been circulating for quite some time. Project planning - being accountable immediately will make the process more likely to succeed than in the past."

"Yes, we were able to have a more open and constructive conversation which helped us to nail down what we wanted to do and what was realistic/feasible. This approach increased the level of input non-Board staff had, which in turn would increase their buy=in and feelings of being valued. Specifically, Q1 and Q2 would be rated higher, as the process allowed us to plan and reach a realistic goal without being directed to achieve an outcome which wasn't realistic."

"This process enabled an open dialogue in which thoughts and ideas could be tabled and challenged. The outcome was better than expected! Having buy-in from all participants was important - this guided the discussion to keep on track (historically a challenge for us). Using this process would definitely help immediate supervisors/Board to understand internal resource challenges. This would potentially change my score."

Comment:

In a briefing prior to the session, this team identified a conflict between the management team and the Board (not for profit organisation) in terms of expectations being unrealistic. The session, which included the Board Chairman, provided a structure whereby everyone felt comfortable that they would be accountable for the outcomes agreed. This came from having in the same session, all the people that had opinions about and were effected by the topic under discussion. The neutrality provided by the Socratic process removed personalities from the debate.

In practice it will be important to emphasize the need for a neutral facilitator – whether that be an internal or external person.

Memo 9

18th September 2014

Concept: Risk tolerance

Field note excerpts:

"I would change my answer to the last question - I will not hesitate to take that risk because I have that support."

Comment:

This comment reflects the view of all the participants in this session. Previously there was a general feeling of unwillingness to take risks however the airing of all the relevant issues with all stakeholders being present meant that there was an increased willingness to both take and accept risk.

Memo 10

18th September 2014

Concept: Open dialogue

Field note excerpts:

"Yes, we were able to have a more open and constructive conversation which helped us to nail down what we wanted to do and what was realistic/feasible. This approach increased the level of input non-Board staff had, which in turn would increase their buy=in and feelings of being valued. Specifically, Q1 and Q2 would be rated higher, as the process allowed us to plan and reach a realistic goal without being directed to achieve an outcome which wasn't realistic."

Comment:

The concept of open dialogue was also mentioned by the previous group (CO2) and is closely linked to producing a realistic/feasible outcome.

Memo 11

24th September 2014

Concept: Implementation

Field note excerpts:

"We have spent this week following up on actions from our meeting and have introduced this concept across other areas of our business and are very happy and impressed by the results we were able to achieve."

Comment:

This note relates to a follow-up email received from the team leader of the group. It reinforces the outcome of the session and also highlights the simplicity of the process which enables it to be easily adopted.

Memo 12

19th September 2014

Concept: Open dialogue

Field note excerpts:

"I believe this methodology will allow outcomes to be achieved more quickly and also to be more inclusive i.e. a way to encourage the quieter less experienced members of the team to feel confident enough to contribute."

Comment:

In all the sessions so far I have encouraged all members of the group to participate which has been noted through the comment above. The way I have done this is to ensure we start with concrete examples rather than opinions. This element should form part of the final Model created as a result of this research.

Diagram: Socratic Model version 3:

- Group ownership
- concrete questions

Memo 13

19th September 2014

Concept: Facilitation

Comment:

All members of the group actively participated in the discussion and were surprised at how easily they managed to come to a conclusion using the Socratic Dialogue Model. A key part of this they attributed to having an external facilitator.

Memo 14

22nd October 2014

Concept: Open dialogue

Field note excerpts:

Participants agreed that the process was worthwhile in *"in helping the team identify problems or challenges and form strategies to offset them".*

Comment:

This group consisted of members from different divisions of the company, some of which were in conflict with others yet each division relied on the others to be successful. This reinforced findings documented in Memo 12 which established group ownership as an important precursor to a successful process.

Diagram: Socratic Model version 3:

- Group ownership
- concrete questions

Memo 15

2nd December 2014

Concept: Environment

Field note excerpts:

"Yes I would be more innovative and creative but only if the environment changed and supported that type of behaviour."

"Yes I feel that the work culture would change from one in which innovation is regarded with suspicion into one which rewards unconventional and new thinking. I think unfortunately the management structure in my organisation is not conducive to a frank and honest exchange of ideas. I wish it were."

"While I view myself as creative I have limited confidence in trying new things due to the lack of support for innovation in my organisation. The approach taken in the session would be most effective in this organisation if it was driven from the top. With tolerance and support I believe I could be much more creative in the work environment and that the culture would also be much more positive."

Comment:

In this group there was a strong feeling of willingness to be creative but that the environment wasn't supportive of that. This points to the need to have a resource that could be used by managers to seed the Socratic approach within their organisations.

Memo 16

7th February 2015

Concept: Creative traits

Data source: Literature review:

In reviewing the literature there was general agreement that there are 5 key creative traits:

- Self direction
- Knowledge and experience
- Risk taking behavior
- Social competence
- Resiliency

Comment:

Of the five traits highlighted, self-direction is the one that must be fostered in all individuals for the Socratic approach to work effectively, as a disinterested individual will not actively participate in the questioning process that is designed to stimulate critical thinking. From an organisation's perspective the task of the manager should be to create an environment where employees feel engaged by identifying the conditions under which creativity will flourish.

Memo 17

7th February 2015

Concept: Leadership

Data source: Literature review:

Andriopoulus (2001, 834) identifies contextual influences as a combination of:

Organisational climate

Leadership style

Organisational culture

Resources and skills

Structure and systems.

Comment:

This then is the role of a leader (of an organisation or a group within that organisation) – to create an environment where uncertainty and risk are tolerated and personal consequences in a creative environment are positive.

The Socratic Model therefore needs to be championed by leaders within the organisation in order for it to be successful.

Memo 18

7th February 2015

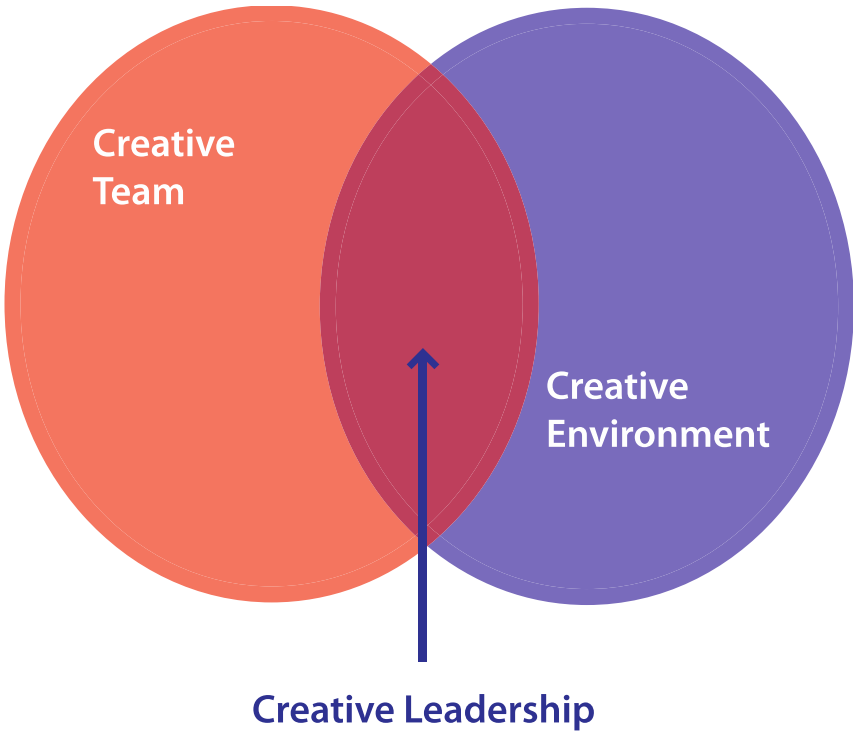
Concept: Climate

Data source: Literature review:

In Memo 16 we identified the characteristics of the creative individual and in Memo 17 we identified elements of a conducive climate.

Comment:

The Socratic Model needs the creative leadership of a “sponsor” within the organisation that has both the ability and “mana” to bring both sides of the equation together.



Memo 19

7th February 2015

Concept: Dimensions of creativity

Data source: Literature review:

My review identified 3 major conceptions of creativity:

- Gestalt process based approach
- Psychoanalytical approach
- Socio-cultural approach

Comment:

To be effective the Socratic Model should address each of these conceptions in its construction. This can be achieved through the following checklist:

Gestalt	The Model should be based on a defined process starting with problem perception, reorganisation of elements and then the applying of insight to arrive at a final solution to reflect Wertheimer's 1945 conception.
Psychoanalytical	Product (creativity judged by outcome) – therefore each session using the Model must come to an outcome that has definable endpoints. Process (the Model should follow a 4 step linear process comprising preparation, incubation, illumination, and verification). Participants conception of their own creativity should be measured to produce a creativity index that can form the basis for future analysis. Personality – application of the Model should allow for the encouragement and management of individuals with divergent creativity indexes.
Socio-cultural	Creativity is an outcome of a combination of the environment, the person, and intrinsic motivation – application of the model must recognise and manage each of these inputs.

Memo 20

7th February 2015

Concept: Questioning techniques

Data source: Literature review:

In reviewing data on the application of the Socratic method it became apparent that the Model needs to be more than a single dimension and should be overlaid with a questioning process that identifies the most appropriate approach to questioning at each stage of the Model.

Comment:

The questioning approach should take into account the 3 inputs into the socio-cultural approach to creativity (environment, the person, intrinsic motivation.)

Memo 21

7th February 2015

Concept: Questioning techniques

Data source: Literature review:

Boswell (2006) discusses 3 types of question:

- Concrete
- Abstract
- Creative

Bloom's taxonomy: **Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.**

Comment:

These could provide the second and third dimensions to the Model that I previously identified was required. By starting with concrete questions that explore people's knowledge and comprehension we gain both the trust and engagement of all participants. This also provides a roadmap for people in using the proposed Model as it enables them to plan appropriate questions at each stage.

Memo 22

Date: May 22, 2015

Subject: Creative Leadership Proof of Concept

Objectives for testing the Creative Leadership Resource

1. Determine if the Resource can provide a self-directed guide to implementing the 4E's Socratic Model in a corporate team environment.
2. Acquire information to improve the clarity and workability of the Resource.

Proof of Concept Pilot

The pilot was conducted in a workshop context with three senior managers of different organisations. Each of the participants were leaders of operational teams in their organisations.

The workshop lasted for 90 minutes and consisted of working through a Powerpoint presentation that explained the concept of Creative Leadership and introduced the 4E's Socratic Model.

Participants were asked to provide feedback at each stage of the presentation and also discuss the validity of the Model as a management tool suitable for implementation.

Key Outcomes

Section	**Comment**
Disconnect between creative thinking and the corporate environment	Agreement with the necessity for creativity and innovation but at a loss as to how best to manage it.
Approaches to creative thinking	Familiarity with each of the tools but little positive outcomes when used. The phenomenon of "group think" was mentioned as one of the biggest issues and hard to overcome.
4E's Socratic Model	Feedback that the Model was easy to understand and that it provided a good framework for developing a creative team environment; but recognition that they key to making it work would be the ability of the

	leader to manage it.
Levels of cognition	Feedback that these provide a learning framework that encompasses the range of human ability and an ideal structure on which to base questions.
Discussion	It was felt that the Model overcame the previously identified problem of "group think". It was felt that creative thinking tools were often used to stimulate thinking, which was stage 3 (evaluation) of the 4E's Model and that without the earlier stage of exposing what is known, was the cause of both "group think" and a lack of engagement by some team members. Each of the managers agreed that the Model would provide an effective framework for managing creativity in their teams.

Memo 23

Date: June 3, 2015

Subject: Group think

On reflecting further on this concept of "group think" which seemed to arise as a result of the group discussing without effective guidance, I wondered if it had anything to do with a distinction between a dialogue and a discussion. In examining the literature on this point I found support for such a distinction from

Bolten (2001) who maintains that it is common in a discussion where participants typically try and convince others, whereas in a dialogue the goal is to investigate which requires an understanding of all perspectives. This reinforces the need to establish a hierarchy in questioning to ensure a dialogue ensues and a consensus is reached. It is also supported by Belonax (1980) who, in an educational context, suggests the integration of the Socratic Method with Bloom's taxonomy of educational objectives so that questions can be posed in a hierarchical way that correspond with the levels of cognition as identified by Bloom.

Fishman (1985) maintains that the goal of the Socratic method is a search for truth whereas the questioning process is a tool to help arrive at the truth. In the process, he says the participants should gain self knowledge rather than see it as a vehicle for self expression. This supports Bolten's (2001) distinction between a dialogue and a discussion. A dialogue is likely to result in self knowledge as the process forces participants to question their own beliefs as well as those of others.

This search for the truth via a hierarchical questioning process that moves from the concrete to the abstract, results in a consensus gained through the Socratic dialogue which comes through the self-realisation of participants rather than the expertise of one or more participants. This results in genuine learning (Goldman, 2011).

Memo 24

Date: June 15, 2015

Subject: Model facilitator's guide

In discussion with a colleague a question was raised regarding application of the Model. The colleague felt that while the book *Creative Leadership Techniques* effectively explained the genesis of the Model and justified its use, a practitioner would benefit from a facilitator's guide that could be used as a supporting resource when conducting a session using the Model.

A suitable framework would consist of:

- An introduction focusing on the question to be considered
- Group management tips to support the smooth running of a session
- Goals and questioning guidelines for each of the 4 stages
- Guide for follow-up activities

The resulting resource will be published as a supporting companion to the CLT book.

Memo 25: Process

Spiggle (1994) proposes a framework for qualitative data analysis and interpretation summarized in the table below:

Stage	**Activity**
Categorisation	Initial coding of data using sense-making passages as a basis.
Abstraction	Translates empirical categories into concepts.
Comparison	Ongoing comparison of data incidences to inform future data gathering.
Dimensionalisation	Identification of the dimensions of defined categories.
Integration	Establishing connections between concepts.
Iteration	Ongoing revisions based on previous analysis.
Refutation	Critical examination of emerging theory.

Memo 26: Cognition and creativity

Runco & Chand (2005)	Make the distinction between declarative or factual knowledge and procedural knowledge or "know how". In this case we are dealing with a deficit in procedural knowledge. This means that in a Socratic dialogue there needs to be a mechanism to expose any relevant procedural knowledge which is often tacit to ensure all participants can contribute without being hampered by a lack of understanding.
Harrington (1975)	The value in giving explicit instructions to support the questions posed in a Socratic dialogue is the generation of more original and creative responses. (H)
Mumford et al. (2009) Dollinger (2003)	According to (M) focusing on cognition has a greater effect than a focus on the approaches and interaction of individuals within a group. This is supported by (D) who found that a need for cognition was an important predictor of future creativity.
Bandura (2001)	In a team setting shared belief is an important element in protecting against setbacks and attaining a desired outcome (B).
Qaio et al. (2014)	A person's working memory is limited to holding +/- 7 chunks of information (Q), which means to be effective a dialogue must consider an issue progressively taking into account the cognitive ability of participants.
Mulnix (2012) Kunsch et al. (2014)	Mapping an argument using a hierarchical structure enhances the ability to think critically (M) (K)

Crowe et al. (2008)	Higher order cognitive skills (and therefore performance) can be enhanced by posing questions at different levels on Bloom's Taxonomy (C).

Memo 27

Suggested amendments/additions from supervisor review of version 2.

- Further justification of the Socratic method as a creative mechanism
- Additional sources to support the use of the Socratic method as a tool in a business environment
- More academic support for the chosen research Method
- Addition of more discussion and integration relating to quotes used from research participants
- A more rigorous justification of my contribution to the field of creativity.

Memo 27: Collective consciousness + Flow

Author	Comment
Kenny (2008)	Where a collective consciousness is formed in a group, members become less defensive and more open which leads to greater creativity (K). The result according to Kenny is "…enhanced communication, facilitated coordination and flow in action, creative insights and problem solving, intuitive wisdom, and a sense of deep knowing and connection." (p 597). (K) makes a distinction between a nominal group that is loosely formed and a real group. Where a group has existing norms and strong connections between members they are more likely to reach this sense of collective consciousness; therefore in dealing with a nominal group it is first necessary to establish a sense of a shared common goal.
Baer (2012)	(B) found that a desire to produce a practical outcome coupled with strong social ties together improve the likelihood of an idea being implemented.
Levi (2005)	Research conducted by (L) identified personal story telling as a strong factor in helping to develop a collective consciousness or resonance. This is something that could be explored when working with the Socratic model as it could help members of a group drop their defences.
Lewis (2011)	Positive feedback is another tool that can lead to increased group efficacy (L). The staged nature of the Socratic model provides natural points at which progress can be assessed and positive feedback given. This is reinforced when agreement is reached at the end of the dialogue when follow-up actions are identified and agreed.
Raelin (2012)	Collective consciousness (and ultimately creativity) can evolve from a sense that contributions are group ones rather than personal ones. (R) A facilitator can enhance this sense by a process of summing up at relevant points in a dialogue to show how new knowledge or understanding

	has evolved from the contributions of individuals to form a collective opinion.
Csikezentmihalyi (2002)	• The best outcome comes from maximum engagement and effort in a worthwhile pursuit. • C identifies two ways we can achieve flow, either bending the environment to our will or, change the way we think about them to avoid incongruity.
de Almeida et al. (2017)	Intrinsic motivation is strengthened through learning perception, level of importance, and positive feedback.
Archie (2010)	For a Socratic dialogue to work effectively, the person assuming the role of Socrates (facilitator) must possess 'strategic knowledge – which question to ask next - rather than factual knowledge on the subject itself.
DiLello & Houghton (2008)	Make the distinction between creative potential described by Amabile (1998) and others and practiced creativity which is the ability to exercise that potential.
Brown & Grant (2010)	In commenting on the difference in effectiveness in group learning versus individual learning (B) says that it is the tension coming through group interactions that produce discomfort which produces change.
Burningham & West (1995)	In research conducted with 13 work groups, the authors found that being committed to a vision and engagement in its development were significantly related to innovation. Vision was one of four variables that they found had significant impact on overall innovativeness, these being vision, participative safety, task orientation and support for innovation. The first three were consistent with the findings relating to the development of the 4E's Socratic model, however lack of support for innovation didn't affect a group's ability to arrive at a creative outcome.

Dougherty (2007)	According to (D), ambiguity in a premise-set in a Socratic elenchus must be removed before any refutation has can be accepted as true. A facilitator, then, must consider each premise individually rather than the set as a whole when guiding a discussion. He cites as an example, Plato's Gorgias 491c (trans. Lamb, 1967) in which Socrates queries Callicles on his meaning of the term 'better and superior'.
Hargadon & Bechky (2006)	Using a case study methodology, the authors examined collective creativity in six organisations and found that collective creativity comes from a combination of help seeking, help giving, reflective reframing, and reinforcing behaviours. The resulting collective mind creates new meanings. In reporting their findings they also highlighted the fact that the four behaviours above resulted in only fleeting rather than constant collective creativity. This would suggest that behavior itself is not enough rather that it must also result in periods of Csikszentmihayli's flow.
Cropley & Urban (2000)	suggest that the efficacy of interactions between the individual, the group and the society (organisation) in the production of creative outcomes is dependent on cultivating influences. In a group setting the cultivating influence is the facilitator – someone who can both motivate participants as well as manage knowledge.
Treffinger et al. (1993)	Creativity involves a complete ecological system made up of intrapersonal, interpersonal and environmental

	factors.
Me	In each of the workshops a creative outcome was made possible through: • Careful questioning to expose tacit knowledge • The questioning of beliefs related to that knowledge • The recognition of new patterns in the knowledge brought about through the lense of a variety of perspectives.
Cropley & Cropley (2009)	The authors question whether there is a cause and effect relationship between personality and creativity that could instead be the result of experiences that remove roadblocks. For example, a reticent person receiving positive feedback resulting in a positive psychology. Therefore taking a risk with positive results is likely to lead to a Pavlovian response (Charyton et al., 2009). The resulting mental state, such as increased motivation or elation, can effectively overcome deficits in the so-called creative personality traits. This is particularly apparent in Csikezentmihalyi's (2002) descriptions of creative flow where engagement in a positive activity overcomes interpersonal and intrapersonal barriers.
Charyton et al. (2009)	Found that some negative affects, for example pessimism, can also enhance creativity.
Me	Socratic approach = process. Black box exists between steps to turn into Model. Individual = Big 5 personality traits = emotional stability, extraversion, openness to experience, agreeableness, and conscientiousness. Of these openness to experience is key to the Socratic process because unless it is possible for an individual to reflect on their current thinking they will not be able to arrive at a potential solution to a problem. Support for this comes from McCrae (1987) who found a direct

	link between creativity and openness to experience; and Zhao et al. (2009) who linked the construct to entrepreneurial outcomes.
	According to Zhao et al., (2009) an individual who is open to new experiences is "intellectually curious, imaginative, and creative; someone who seeks out new ideas and alternative values and aesthetic standards" (p385).
	In an environment such as a workshop using a Socratic method, a facilitator can manage interactions so that openness and conscientiousness are enabled. This is supported by Zhao et al. (2009), who, in a meta-analysis of relevant papers, found that both these factors are the ones most strongly associated with entrepreneurial intentions and outcomes.
	This is also consistent with Csikezentmihalyi's idea of 'flow' a state which requires maximum engagement in an activity.
	Organisation – creative expectation has been shown to mediate negative organisational influences (Unsworth et al., 2005).
	Teams – empowering leadership is an overarching construct that contributes to creative output and team engagement (Hon & Chan, 2013).
Florida (2002)	Creativity is both experiential and social (Florida, 2002) and benefits from synthesizing information based on diverse perspectives in a mutually supportive social environment.
Hargadon & Bechky,(2006).	The production of a creative outcome in a group setting involves four different types of social interaction: help seeking, help giving, reflective reframing and reinforcing (Hargadon & Bechky, 2006).

Keegan (2009)	In developing a grounded theory, a form of emergent inquiry will be used. Using this process, new knowledge will be created out of the ongoing interaction between researcher and participants (Keegan, 2009).
Woods & Pack (2007)	"...the lover must follow his beloved wherever he might lead." (14C) Speaker is Socrates in Plato's Euthyphro and supports Keegan above re emergent enquiry.
Kelly (2011)	According to Kelly (2011) this is often difficult to achieve as people often come to a discussion with a commitment to a certain doctrine or ideal that provides a lens through which they engage in the dialogue.
Mathews (2009)	M makes a distinction between the Socratic Method common in teaching (where a knowledgeable instructor seeks to teach using questions rather than direct instruction) and the Socratic elenchus where Socrates specifically pleads ignorance on the subject at hand and presumes that the interlocutor has tacit knowledge of it that can be exposed through questioning. From the perspective of creativity, however, both these methods need to be combined so that the facilitator should take the position of Socrates conducting an elenchus to enable participants to expose tacit knowledge to the point where existing tacit knowledge is exposed, and through a new dialogic process this is then recombined into new knowledge. This additional process is important so as not to end in a state of perplexity (aporia), which often resulted from a purely Socratic elenchus (Mathews, 2009).
Prior (1998)	P makes the distinction between 'knowledge' and 'opinion'. Knowledge can be substantiated whereas a mere opinion cannot. This distinction is important during the new process (above) that aims to create new knowledge. The facilitator needs to expose opinions so that they don't form part of the new knowledge unless they can be ratified.
Schmid (1983)	According to S the rationale for the Socratic method is to expose both the lack of knowledge about the dialogic

	issue and any delusions about existing knowledge.
Chini (2011)	C found that an organisational culture that encourages creativity (support for risk-taking and idea generation) maximized the outcome (practiced creativity) of employee creative potential. However supervisory encouragement, resources and work group support did not. This implies that a motivated individual is not negatively affected by immediate impediments to creativity as long as the overall culture of an organisation supports it.
Nath (2009)	According to N there are three behaviors that must be learned in order to generate trust and cohesiveness in a team: becoming an observer of self, appreciating diversity, and developing capacity for new behaviors.
Nisula & Kianto (2016)	Found that an individual's innovative behavior (in a temporary group) was only related to the contextual issues of task orientation and experimentation-supporting climate as well as the individual's self efficacy. In addition to the above research into permanent group creativity finds that innovative behavior is also related to participative safety, support for innovation and vision.
Paulus et al. (2002)	A problem with group creative idea generation (brainstorming) is the fear of evaluation (P). This can be overcome by the development of a sense of collective consciousness (Kenny,2008).
Rufi et al. (2015)	"Thus, in flow, the loss of self-consciousness (or personal identity) creates a heightened sense of belonging (or social identity), and individual characteristics vanish in favor of the social self and group characteristics." (p388)
Sosa (2011)	"Specifically, we found that strong ties that conduit a broad set of knowledge domains and link actors who enjoy working closely together are more likely to trigger creative ideas than ties that conduit a narrow set of knowledge domains and link socially distant

actors." (p17).

Hence group diversity and positive social interaction are critical to a creative outcome.

Memo 28: Flow

Themes from the literature:

- Self consciousness
- Defensiveness
- Evaluation fear
- Collective mind
- Maximum engagement
- Story telling
- Summing up
- Connections
- Feedback
- empowerment

Collective consciousness (and ultimately creativity) can evolve from a sense that contributions are group ones rather than personal ones (Raelin, 2012). A facilitator can enhance this sense by fostering a sense of "flow" which Csikszentmihalyi (1996) says adds up to an outcome greater than the sum of the inputs. This idea of flow also explains how a fully engaged team can perform at high levels regardless of the individual creativity of team members.

Csikszentmihalyi (2002) identifies two ways we can achieve flow, either bending the environment to our will or change the way we think about it to avoid incongruity which leads to a sense of defensiveness/self-consciousness that forms a barrier to integration – losing this helps establish a more collegiate feeling (Rufi et al., 2015), which in turn leads to greater creativity (Kenny, 2008).

Using a case study methodology, Hargadon and Bechky (2006) examined collective creativity in six organisations and found that collective creativity comes from a combination of help seeking, help giving, reflective reframing, and reinforcing behaviours. The resulting collective mind creates new meanings that lead to creative outcomes.

In reporting their findings they also highlighted the fact that the four behaviours above resulted in only fleeting rather than constant collective creativity. This would suggest

that behavior itself is not enough to maintain a sense of flow. It also points to the need to have a capable facilitator who is conscious of group dynamics and can work on removing barriers. Tools available to a facilitator include: providing positive feedback, reinforcing the common goal, encouraging story-telling, maintaining openness and ensuring no individuals are left out.

Cropley and Cropley (2009) question whether there is a cause and effect relationship between personality and creativity that could instead be the result of experiences that remove roadblocks. For example, a reticent person who receives positive feedback that results in a positive psychology. Therefore taking a risk with positive results is likely to lead to a Pavlovian response (Charyton et al., 2009). The resulting mental state, such as increased motivation or elation, can effectively overcome deficits in the so-called creative personality traits. This is particularly apparent in Csikezentmihalyi's (2002) descriptions of creative flow where engagement in a positive activity overcomes interpersonal and intrapersonal barriers. Positive feedback can also help overcome fears of evaluation which is often a problem with group creative idea generation (Paulus et al., 2002).

A facilitator can enhance a sense of collective consciousness by a process of summing up at relevant points in a dialogue to show how new knowledge or understanding has evolved from the contributions of individuals to form a collective opinion (Raelin, 2012). Research has shown that personal storytelling, rather than increasing a sense of self, actually helps to develop a sense of consciousness or resonance (Levi, 2005).

Having a sense of a shared common goal also increases connections between group members but Kenny (2008) warns that in nominal groups there are usually no existing group norms or connections so it is up to the facilitator to firmly establish an agreed common goal at the beginning of the process.

Openness to experience is key to the Socratic process because unless it is possible for an individual to reflect on their current thinking they will not be able to arrive at a potential solution to a problem. Support for this comes from McCrae (1987) who found a direct link between creativity and openness to experience; and Zhao et al. (2009) who linked the construct to entrepreneurial outcomes.

In an environment such as a workshop using a Socratic method, a facilitator can manage interactions so that openness and conscientiousness are enabled. This is supported by Zhao et al. (2009), who, in a meta-analysis of relevant papers, found that both these factors are the ones most strongly associated with entrepreneurial intentions and outcomes. This is also consistent with Csikezentmihalyi's (2002) conception of flow as a state requiring maximum engagement in an activity.

Memo 29

Data Structure

1st Order Concepts	2nd Order Themes	Aggregate Dimensions
Open and honest exchange of views	Eliminate politics	
Offset negative dynamics	Change in social dynamic	Group Flow
Encouraged people to speak up	Empowerment	
Lack of encouragement	External catalyst	
Multiple approvals required	Hierarchical structure	
No senior management buy in	Process champion	Leadership engagement in creative processes
No commitment to change	Creative culture	
Specific goals	Topic agreement	
Focused discussion	Acting in concert	Group accountability
Project planning	Defined outcomes	

Data structure based on Gioia, Corley & Hamilton (2012).

Memo: LR1

Scope of review

Relevance

Author	Notes
Anderson et al. (2014) Anderson et al. (2004) Beheshtifar & Kamani-Fard (2013) Sohn & Jung (2010)	An organisation that is not creative is unlikely to remain competitive.
George (2007)	"And while much research continues to focus on creativity in groups and teams, perhaps research in this area will benefit from consideration of how groups manage the fundamental paradox of needing both a coming together and meeting of the minds that fosters collective endeavors and divergent opinions and perspectives, meaningful dissent, and distinctive contributions that enable the achievement of real synergies and creative approaches." P468
Hon et al. (2011)	Today's fast moving business environment has meant creativity is a key factor for success.

History

Author	Notes
Anderson et al. (2014)	11 themes:

Definitions

Author	Notes
Anderson et al. (2014) Shalley et al. (2004) Oldham & Cummings (1996) George (2007)	Creativity has traditionally been conceived as "the generation of novel and useful ideas" p1298. George also makes the distinction that problem-solving by does not in itself result in creativity.
Anderson et al. (2014) Shalley et al. (2004) Amabile (1996, 1997) King & West (1987)	Creativity (first step) seen as idea generation whereas innovation (second step) seen as idea implementation.
Amabile & Khaire (2008)	Traditionally organisations separate creativity from innovation arguing that implementation requires totally different skills than idea generation, however the danger in this approach is that the enthusiasm is lost in translation and the essence is diluted.
King & West (1987)	Innovation is distinct from creativity in 3 ways, namely, not absolute (situational newness), public (implemented in a social context), and intentional (not by chance).
Amabile et al. (2005)	"Creativity- coming up with fresh ideas for changing products, services, and processes so as to better achieve the organisation's goals-" p367
George (2007)	George makes an important distinction between the conscious application of both personal and contextual characteristics and the unconscious processing (described as incubation) that often leads to creative insights.

Individual

Author	Notes
Ford (1996)	Creative action is a result of three factors: sensemaking processes; motivation; knowledge and skills.
Anderson et al. (2014)	Big Five dimensions (i.e., conscientiousness, openness to experience, agreeableness, extraversion, and neuroticism)
Anderson et al. (2014)	Managers can enhance employee creativity in employees who don't view themselves as creative.
Anderson et al. (2014)	Describe the five most important individual differences as "traits, values, thinking styles, self-concepts and identity, knowledge and abilities, and psychological states on creativity." P1303.
Anderson et al. (2014)	The relationship between personality and creativity is dependent on the situation.
Raja & Johns (2010)	Found that it was the degree of fit between situation and personal trait that results in a specific behavior. Dewett (2006) uses the example of the positive effect on creativity that intrinsic motivation has.
Anderson et al. (2014)	Understanding the conditions under which a person with a low disposition for creativity will allow a manager to nurture it.
Madjar et al. (2002) Amabile et al. (1996)	Support for creativity from coworkers and/or supervisors increase creativity in the individual. Madjar et al. (2002) also found that this applied

	irrespective of individuals perceived creative ability. support from outside work had a similar effect.
Elliot & Church (1997)	Having the desire to master something has a positive effect on intrinsic motivation.
Choi et al (2009)	Found that creative ability insulates against an unsupportive climate.
Anderson et al. (2014)	While numerous studies have examined various supervisory behaviors and their effect on individual creativity the results are not conclusive. This is because of the wide range of behaviours and limited study of each and in some cases, inconsistent results.
Amabile (1993)	Humans are motivated by both intrinsic and extrinsic influences. Both these influences have a synergistic effect, but that effect is more pronounced when intrinsic motivation is high.
Amabile (1997)	Social environment can positively affect intrinsic motivation.
Amabile et al. (2005)	Positive personal affect leads to higher creativity at work.
Berguist (2006)	Describes creativity at 4 levels or orders: Level 1 = a spontaneous act driven out of need. Level 2 = conscious engagement in an analytical process. Level 3 = synthesis leading to innovation. Level 4 = results in a transformed consciousness.
Fishbein & Azjen (1975)	A person's behavior is influenced by both individual attitude and social norms.

Chong & Ma (2010) Amabile & Gryskiewicz (1987) Oldham & Cummings (1996) Madjar et al. (2002) Tierney and Farmer (2002) Shalley et al. (2004)	Creative self-efficacy is reinforced and enhanced by supervisory support and a management style that is non-controlling.
Conti et al. (1996)	Found empirical support for Amabile's (1983) componential model in that measures of creativity within the same context and domain showed strong positive relation.
Csikszentmihalyi (1997)	Creativity results from a combination of being engaged in challenging work coupled with the desire to find something new and novel. He identifies critical components of this state of "flow" as: Having clear goals Immediate feedback Balance between skill and challenge Singlemindedness Exclusion of distractions No worry of failure Being unselfconscious Time is distorted The activity becomes an end in itself
Deliello & Houghton (2006)	Propose (based on existing theory and empirical evidence) that individuals with strong self leadership will also have a high perception of their own creative abilities.
Deci & Ryan (1987)	Rewards undermine intrinsic motivation because they are a form of controlling behavior. However, Unsworth & Clegg (2010) argue for a

	distinction between the actual process and initial engagement where they say extrinsic motivators have a positive effect.
Unsworth & Clegg (2010)	Say that having a corporate expectation of creativity increases engagement in the creative process; however the effects were strongest when both job role and specific task had creative expectation.
Dewett (2006)	Willingness to take risk is an antecedent of creativity in an individual. Autonomy and encouragement to create (behavioural) are also positively associated with WTR. Propensity to take risks (trait) however had no effect on creativity. Note that WTR is a state rather than a trait and is dependent on the context, and consideration of risk.
Epstein (1990) Epstein et al. (2013)	Proposed Generativity theory – new ideas emerge from previously learned ideas that become interconnected over time.
Barron & Harrington (1981)	In reviewing empirical studies over a 15 year period report general agreement on core creative characteristics "e.g. high valuation of esthetic qualities in experience broad interests, attraction to complexity, high energy, independence of judgement, autonomy, intuition, self confidence, ability to resolve antinomies or to accommodate apparently opposite or conflicting traits in one's self concept, and, finally, a firm sense of self as 'creative'." P 453
Hon et al. (2011)	A positive work environment can help offset individual resistance to change.
Deliello et al. (2008)	Suggest that self reported measures of creative potential and creative practice can be used to identify any additional creative potential that could be utilized by an organisation.
Shalley et al. (2004)	In a review of empirical studies Shalley et al. (2004) summarise the contextual characteristics that impact

	on creativity as complex jobs; supportive supervision; non-judgemental evaluation; non-intrusive setting but conclude that the case is less clear for relationship with coworkers; rewards; and time deadlines and goals.
Ruscio et al. (1998)	"Involvement in the Task was not only a strong predictor of creativity in each domain, but it also mediated the effect of intrinsic motivation on creativity…" P256.
Wang & Tsai (2014)	Found that "expertise, creativity skills, and intrinsic motivation" (p329) have significant effects on creativity.

Organisation

Author	Notes
Woodman et al. (1993)	Creativity is an interaction between the individual and their work environment.
Amabile & Conti (1999)	Amabile's 1988 componential model of creativity presumes that the relationships between expertise, creativity skills and task motivation are static when each of the components can be effected by external forces. In this paper Amabile recognizes this point.
Basadur (1993)	An increase in organisational creativity has a positive effect on both the individual (motivation, job satisfaction) and on the team (teamwork). Comment: This adds weight to the call to develop a creative culture in an organisation as a precursor to developing creativity in teams (Park et al., 2014).

Basadur & Hausdorf (1996)	Identified three factors that contributed to creative willingness in employees: valuing of new ideas, absence of negative stereotypes, and time availability.
Park et al. (2014)	Employee attitude (expressed as willingness to change and knowledge sharing intention) is an important input into employee creativity.
Choi et al. (2009)	The majority of studies into creativity focus on factors that promote it. The authors found two factors (aversive leadership and unsupportive culture) were creative inhibitors, however close (positive) monitoring by a leader can mitigate the effects of aversive leadership. They also point out that people of low creative ability are more affected by negative influences than those of high creative ability, however this is not universal as task standardization has a significantly negative influence over highly creative individuals.
Baumeister et al. (2001)	Managers should pay attention to the negative as much as the positive as one negative can undo a long history of positive interactions.
Chong & Ma (2010)	Organisations that have an interactive culture and support risk-taking tend to have employees with higher creative self efficacy.
Chong & Ma (2010)	Hierarchical organisations are not causally linked to a less creative environment and supportive managers do not necessarily increase creative performance.
Cokpekin & Knudsen (2012) Sohn & Jung (2010)	Organisational creativity does not necessarily lead to innovation.
Zain & Rickards (1996)	Innovative firms have more creative climates when compared to less innovative firms. However, by itself a high score on creativity by itself is not a sufficient

	predictor of innovativeness.
Bharadwaj & Menon (2000)	The highest levels of innovation come from an environment where both Individual and organisational creativity mechanisms are high. However, in environments when only one of these factors is high, results are significantly better when that factor is organisational creativity rather than individual creativity. This finding is consistent with both Amabile et al. (1996) and Cummings & Oldham (1997).
Cummings & Oldham (1997)	Employees with highly creative personalities need to be in complex jobs with supportive non-controlling supervision in order to produce innovations. Competition only has a positive effect on employees with both creative personalities and innovative (rather than adaptive) problem-solving styles.
Cokpekin & Knudsen (2012)	A creative work environment has a positive influence on product innovation but not process innovation. The authors suggest that this is likely to be because product innovations result in novel solutions whereas process innovations are generally incremental.
Cokpekin & Knudsen (2012)	Unconstrained freedom has a negative impact on innovation.
Unsworth et al. (2005)	Creative requirement definition: "the perception that one is expected, or needs, to generate work-related ideas." P542. In this study, the authors found that commonly accepted organisational influences were either fully or partially mediated by creative requirement.
Delbecq & Mills (1985)	"[IJnnovation in organisations is dependent on

	the interaction among three variables: the motivation to innovate, the obstacles against innovation, and the number of resources available . . ." P27
Epstein et al. (2013)	The provision of adequate and appropriate resources is the most important management competency in eliciting creativity.
George (2007)	George groups contextual influences into 4 vategories "(a) signals of safety, (b) creativity prompts, (c) supervisors and leaders, and (d) social networks" P454
Hon et al. (2011)	"We found that an organisational climate that encourages equality, freedom to move, and new ways of performing may be one important source of social cues associated with overcoming the detrimental effects of resistance to change. We also found that leaders who foster trust-based relation-ships and promote employees' sense of autonomy and coworkers who provide support and assistance also help ameliorate the negative effects resistance to change might have on employees' creative performance." P936
Yeh & Feng (2012)	"employees who perceive creativity climate in their organisation are more likely to engage in higher level of work motivation, which in turn positively impacts their perception of organisational innovation." P67
Robinson & Stubberud (2015)	"A firm structured in a manner that allows employees to grow and learn, especially as they work with people from different parts of the organisation, would be in a good position to develop its workers

	and to innovate new products and processes." P149

Team

Author	Notes
West (2002)	Four factors facilitate innovation: task characteristics; group knowledge; external demands; integrating processes.
Anderson & West (1998)	Developed the Team Climate Inventory (TCI) to measure group climate based on West's 1990 four factor theory of team innovation (vision, participative safety, task orientation, support for innovation).
Miron-Spektor, Erez, and Naveh (2011)	Having members with creative and conformist cognitive styles enhanced idea generation, whereas having members with attention-to-detail cognitive styles inhibited it.
Raja & Johns (2010)	Contend that extraverts protect their own self-interest in complex or demanding situations.
Jehn, Rispens, & Thatcher, 2010	Individuals who perceive higher levels of group conflict than other group members also feel more negatively toward the group. The presence of such individuals also decreases overall group creativity. *Comment:* Examine this factor in the results. Also the Model should have the effect of exposing conflicting views as well as removing individual conflict from the situation.
Gajendran and Joshi (2012)	The quality of LMX has a positive effect on team innovation.

Isaksen & Ekvall (2010)	Debate within a team can have both positive and negative outcomes. Too much debate can lead to limited understanding of viewpoints (individuals conveying ideas rather than engaging). Too little debate suppression of thoughts and ideas. The authors suggest that having a facilitator to manage the process is a good way to integrate perspectives and prevent unproductive conflict.
Binnewies et al. (2007)	Found that idea-related communication fosters engagement in the creative process, but that personal initiative is required for idea creativity.
Amabile (1998)	Creativity as a 5 step process (applicable to individual and small group creativity): Problem/Task presentation. Build up/reactivate relevant information. Determination of novelty of response. Validation of response. Assessment of progress against goal.
Schwarz (2015)	Organisational psychologist, Roger Schwarz (2015) say that in managing for creativity and innovation a leader needs to create an environment that has: • A compelling vision • Goal interdependence • Support for innovation • A task orientation • A cohesive team • Strong internal and external communication

Sawyer (2006)	Strength of group creativity is linked to team dynamics so that time together, shared knowledge and conventions, and complementary expertise coupled with organisation acceptance.
Gajendran & Joshi (2012)	The frequency and quality of communication between the leader and team members not only increases engagement but also has a positive impact on outcomes.
Gilson & Shalley (2004)	Engaging in creative processes is the first step to producing creative outcomes.
Cohen & Bailey (1997)	Categorize effectiveness in a team context to consist of three dimensions: team performance, member attitudes, behavioural outcomes. They also state that, "effectiveness is a function of environmental factors, design factors, group processes, and group psychosocial traits." P243
Cohen & Bailey (1997)	"Collective mind is defined not as the sum of individual knowledge, but rather as the interrelation of actions carried out within a representational understanding of the system." P259
Cohen & Bailey (1997)	When dealing with the familiar teams a facilitator (leader) can successfully allow more self-direction on the part of the team; however in dealing with the unfamiliar the result will benefit from an innovative approach on the part of the facilitator. This reinforces the need to use a model that allows for a range of questions that are less interrogative when dealing with known concepts moving to more interrogative when dealing with the unknown.

Holman et al. (2012)	Existing knowledge and leader expectations have a positive impact on employee innovation.
Shalley (1991)	Setting creative goals in a team context enhances creative output. Note: this fits into the first stage of the model where agreement is reached on the topic.
Jehn et al. (2010)	Individual group members don't all have the same understanding of the group's reality Note:– this reinforces the need for the model to include cognition as one of the structures.
Schilpzand et al. (2011)	Being open to the experience has a significant effect on creativity. Note: - this supports the importance of the first stage in coming to agreement about what is known.
McLean (2005)	Diversity in teams (and the support for it) have a positive effect on overall creative performance.
Stasser & Birchmeier in Paulus et al. (2003)	Decision-making in groups is appropriate when acceptance, satisfaction, and commitment of decisions are desired. If the desire is to produce a creative outcome – an information-driven session where new learning and evaluation is sought, is most appropriate.
Nemeth & Nemeth-Brown In Paulus et al. (2003)	Groupthink is the result of a drive for consensus. This can be reduced or even eliminated by canvassing dissenting opinions.
Pirola-Merlo & Mann (2004)	Identify 4 factors that are important for team creativity: shared vision; participative safety; task

	orientation; and organisational support.
	Found that "it is via individual creativity that creative team products emerge in a dynamic process that unfolds over time." P256
Taggar (2002)	Says that while it is important to have team members who are creative, without creative processes and interactions within the team this effect is neutralized. He identifies processes that affect the relationship between individual and group creativity as "goal setting, preparation, participation in group problem solving, and synthesis of ideas." (p327) This is consistent with Ruscio et al.'s (1998) findings.
Tiwana &McLean (2005)	Found a significant relationship between the ability to integrate individual expertise and overall creativity. In other words creative individuals don't produce creative outcomes in a team setting without integration. This integration is facilitated through higher levels of relational capital amongst team members.
West (2002)	"there must be strong group integration processes and a high level of intra-group safety. This requires that members have the integration abilities to work effectively in teams; and that they develop a safe psychosocial climate and appropriate group processes (clarifying objectives, encouraging participation, constructive controversy, reflexivity, and support for innovation)." P380
Zhang et al. (2015)	Found that "that both intelligence and divergent thinking enhance the creative performance of team members in both idea generation and idea development…" P518
Zhang & Gheibi (2015)	"argued that there is a three-way interaction between the knowledge integration, intrinsic

	motivation and team psychological safety; the level of employee creativity is highest when all three dimensions are high." P388
O'Neill & Allen (2011)	In examining the Big 5 personality factors and their effect on team performance found that only conscientiousness was predictive. This underlines the importance of ensuring all participants in a dialogue are afforded the opportunity and encouraged to be part of the knowledge integration process. This differed from an earlier study by Neuman et al. (1999) who found that in addition to conscientiousness, openness and agreeableness were also predictive. In this study the authors worked with 82 teams in a real-world retail environment, whereas O'Neill and Allen worked with engineering students where culture and expectation may have had a part to play.
Bissola et al. (2014)	While having team members who are individually creative has a positive effect on outcomes it is not enough in itself to guarantee a creative result, rather it is the combination of individual creativity and team dynamics and processes that matter. The stronger effect appears to be in team related creativity as teams with less creative members "can also achieve high-creative results provided they invest in team engagement, coordination, monitoring, and knowledge-sharing processes." P385
Hirst et al. (2011)	Found that engagement motivation was highest in teams with low bureaucracy regardless of personality type.
Lee & Yang (2015)	Highlight the importance of goal orientation in helping to produce creative outcomes in teams.
Santos et al. (2015)	"Our results suggest that high shared mental models are related to low levels of intra-group conflict, foster creativity, and in turn

	improve team performance and satisfaction." P645 *Note:* Shared mental model relates to common understanding amongst team members. The authors suggest that empowering leadership and engagement in goal-setting help promote SMM.
Monteil (1991)	Based on a number of experiments with students, Monteil (1991) concluded that an individual's cognition "can be controlled and activated in part by meta-systems of social regulations." P234. A team engaged in a Socratic dialogue can be said to be such a metasystem with the processes and norms governing the dialogue can have a direct relationship to the outcome. So, rather than focusing on the creativity of individuals we should consider instead the dynamics of a metasystem that efficiently facilitates a creative outcome.
Hon et al. (2011)	"Our study also supports the importance of taking a cross-level approach to studying employee creativity (Drazin et al., 1999; Weick, 1995; Woodman et al., 1993). We found that group-level and work-unit-level variables appear to influence individual-level creativity. Our data indicate that contextual factors can buffer the negative effects of resistance to change and thereby enhance employees' creative performance. These multilevel findings suggest that researchers should focus on how factors operating at several levels might con- verge to influence employee creativity." P936

Leadership

Author	Notes
Hon & Chan (2013)	Found that empowering leadership contributes

	positively to creative output and team engagement in teams where task interdependence is high. Beyond simply empowerment, a Positive leader-member exchange (LMX) increases both cognitive and behavioural energy which in turn increase creative output. (Kahrobaei & Mortazavi, 2016).

Gaps

Author	Notes
Anderson et al. (2014)	Future research should focus on the impact of context on the manifestation of traits rather than the traits themselves.
Anderson et al. (2014)	P1319: "We thus call for reinvigorated attention to process studies using appropriate observational, diary study, real-time case study, and ethnographic research approaches within organisational settings. These in situ approaches, we believe, are potentially valuable to uncover these processes as they unfold in organisations, rather than an overreliance upon large-scale questionnaire designs that appear to be predominant in the field presently"
Anderson et al. (2004)	In a review of empirical studies into organisational innovation, Anderson et al. (2004) complain that much of the research has become routine, focused on facilitators and inhibitors of innovation.
Unsworth et al. (2005)	"our findings suggest that interventions aimed at increasing perceived levels of creative requirement may lead to increased creativity." P556.
George (2007)	"future theorizing and research may benefi295t from considering internal processes in a dialectical fashion rather than seeking to identify one process as a key facilitator of creativity and its seeming "opponent"

	process as a detractor " P453
Jain et al. (2015)	"To deal with the complexity of new technologies and knowledge explosion, today's organisations increasingly rely on team creativity." P51
	"creativity is not fully generated by individual creativity; rather, interactions among team members in certain ways may significantly contribute to emerge team creativity synergistically." P53
Tiwana & McLean (2005)	"In other words, individuals in the team must integrate the knowledge that is shared at the project level to realize its value." P18
Tiwana & McLean (2005)	"Team creativity results from finding novel associations and linkages among the diverse ideas, perspectives, and domain expertise that individual team members hold" P19
Tiwana & McLean (2005)	"Relational capital is defined as the level of trust, reciprocity, and closeness of working relationships among the members of a team [35]. Integrating a given team member's expertise into the team's development activities requires that others in the team both trust his or her expertise and be able to incorporate it with relative ease. Relational capital facilitates this." P21
Miron-Spektor et al. (2011)	It is generally accepted that there are three different cognitive styles present in teams and that these styles are: "Creativity was positively associated with innovation but negatively associated with performance quality; conformity was negatively associated with innovation but positively associated with performance quality; and attention to detail was positively associated with performance quality but had no correlation with innovation." P741

Miron-Spektor et al. (2011)	Teams with a greater number of creative members produce more radical innovations. Note: Add a section on analysis that tracks individual creativity and then looks at any links.

Memo: LR2

Creativity definitions

Eysenck (1993) identifies factors interacting synergistically to produce creative achievement:

Cognitive – intelligence, knowledge, technical skills, special talent

Environmental – political/religious, cultural, socio-economic, educational

Personality – internal motivation, confidence, non-conformity, originality (p153)

Mumford and Gustafson (1988) conceptualise creativity as a syndrome:

"(a) the processes underlying the individual's

capacity to generate new ideas or understandings, (b) the

characteristics of the individual facilitating process operation,

(c) the characteristics of the individual facilitating the translation

of these ideas into action, (d) the attributes of the situation

conditioning the individual's willingness to engage in creative

behavior, and (e) the attributes of the situation influencing evaluation

of the individual's productive efforts."

Sternberg & Lubart (2002) describe creativity as coming from the development of undervalued ideas. They argue that by this measure there is the biggest potential to achive a higher return on the "investment". They also say that "creativity requires a confluence of six distinct but interrelated resources:

intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment." (Sternberg , 2006, p88). In conclusion Sternberg says that creativity comes from a conscious decision to pursue novel ideas, the analysis of them and the championing of them to others. N

This approach takes a broader view of creativity than the psychoanalytical approach proposed by Guildford and later Torrance who primarily measure divergent thinking

ability and which is not necessarily linked to value. Feldhusen & Goh (1995) agree that a multidimensional approach to measuring creativity is important and that individual cognition, processes and creative outcomes should be considered together.

Amabile (1997) cal mgmt. review:

"…creativity is simply the production of novel, appropriate ideas

in any realm of human activity…

Golann (1963) in a review of research relating to the psychological study of creativity identified four different perspectives:

- Product –creativity judged by outcome – i.e. if the outcome is judged to be creative then the author can said to be creative.
- Process – creativity is a 4 step non-linear process consisting of preparation, incubation, illumination, and verification.
- Measurement – a factor analytic approach based on a range of cognitive abilities that can be measured via testing.
- Personality – the study of motivation of creative behavior and the study of personality characteristics or life styles of creative individuals.

For each of the above approaches there are researchers who have empirically tested them and found them not to be universally true (Golann,1963).

Almeida et al. (2008):

"…analyse the construct validity of TTCT. In accordance with Guilford and Torrance, we expect the cognitive dimensions of creativity (flexibility, fluency, originality, and elaboration) to be consistent and stable when assessing students' performance in the different TTCT tasks. The consistency and stability of scores are imperative in considering these cognitive functions as important dimensions of creativity and determinants of creative production." (P54)

"These data suggested that the content, format and/or demands of each task are more decisive for a student's performance than the cognitive processes used to define and assess creativity. Originality, fluency, and flexibility are not so strong in the performance explanation, which suggests some difficulties in identifying creativity by these processes. If those cognitive functions are good indicators

of creativity, we can assume that these tasks are not good stimuli for creativity performance assessment." (P55)

…

Gestalt approach proposed by Wertheimer (1945) focused on process. He identified 3 steps to creation starting with problem perception, reorganisation of elements and the applying of insight to come up arrive at a final solution.

Davidson & Sternberg (1984) support the idea of a process, suggesting that it is insight that is at the core of highly creative outcomes and that insight is comprised of 3 sub-processes: selective encoding (sorting the wheat from the chaff); selective combination (combining individual pieces into a completed jigsaw); and selective comparison (relating new information to existing information).

…

Psychoanalytical approach proposed by Guildford (1950) focused on personality, i.e. creativity comes from creative people.

…

Koestler, A. (1964). The act of creation. New York: Macmillan.

Item: 153.35 in library

Said that creativity involved selective combination of unrelated ideas or concepts.

…

Outcome approach – i.e that creativity is determined by the outcome - a novel (original) and useful end result. Amabile (1983); Runco (2004).

While Amabile agrees that the outcome defines creativity the process behind it is a Socio-cultural one comprising three components: the environment, the person, and intrinsic motivation.

Amabile and Gryskiewicz (1987) in a study of R&D scientists identified five personal qualities that were present in creative individuals: intrinsic motivation, ability and experience, risk orientation, social skill, and persistency with a lack of preconceptions.

…

Unsworth & Clegg (2010) define creativity as a process rather than an outcome – in other words people are being creative through the process irrespective of the outcome.

…

Burguist (2006) – re the base layer of the Model:

“First order creativity operates out of necessity. This area of creativity occurs in the learning process of a child. This order may also engage when there is an immediate urgent need such as a threat to survival. This area seems to correlate to psychoanalytic creativity theories and development such as that described by object relations (Mahler, Pine, and Bergman, 1975). It likewise relates to respondent conditioning in that it occurs spontaneously in response to immediate needs. Maslow's primary creativity is in this category. In this order there is no awareness of self, or ego, just spontaneous acts driven by primal needs.

Second order creativity involves analytic processes. The individual is self-aware and consciously involved in the project at hand. The process focuses on improvement, extension and evaluation. Maslow's secondary creativity fits this category This area also relates to higher ego functions described by psychoanalysis. It correlates with creative acts which behaviorism calls operant response; i.e., the individual is aware of their response and rewarded for it.

Third order creativity becomes more abstract. It deals with synthesizing and innovation. The product created is as much "new as old"(Ainsworth-Land, 1982). In this order the individual opens up to the process and gives up control and begins self-integration. This seems to be the beginning of Maslow's integrated creativity and the realm of Koestler's "bisociation." “

…

Sawyer, Keith R; John-Steiner, Vera; Moran, Seana; Sternberg, Robert J; Feldman, David Henry; Nakamura, Jeanne; Csikszentmihalyi, Mihaly. Creativity and Development, Oxford University Press, 2003.

Sawyer P94 – “According to the investment theory, creativity requires a confluence of six distinct but interrelated resources: intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment. Although levels of these resources are sources of individual differences, often the decision to use a resource is a more important source of individual differences.”

…

Dimov (2007) p714:

"It would be naïve to think that business ideas — the way we know them in our post hoc admiration of them — are originally conceived in the same shape and form; rather, they emerge in an iterative process of shaping and development. In addition, it is unrealistic to presume that individuals develop their ideas in isolation; rather, as potential entrepreneurs seek to convince, engage, or organize other social actors, this is a social process of discussion and interpretation. I refer to this process of shaping, discussion, and interpretation, whereby initial ideas are elaborated, refined, changed, or even discarded, as opportunity development."

Dimov contends that an idea in itself is not sufficient to form an opportunity to be exploited. His process of opportunity development is one where ideas (what we currently know in the model) become opportunities through collaboration.

…

Sawyer, R. Keith (2006) Explaining Creativity : The Science of Human Innovation.

Oxford University Press.

P58 – "Psychologists have been studying the creative process for decades. They have several different theories about how it works, but most of them agree that the creative process has four basic stages: preparation, incubation, insight, and verification (see figure 4.1). •Preparation is the initial phase of preliminary work: collecting data and information, searching for related ideas, listening to suggestions. •Incubation is the delay between preparation and the moment of insight; during this time, the prepared material is internally elaborated and organized. •Insight is the subjective experience of having the idea—the "aha" or "eureka" moment. •Verification includes two substages: the evaluation of the worth of the insight, and elaboration into its complete form."

P293 – "the best manager is one who can create an environment in which free collaborative improvisation can flourish, and this requires an almost Zen-like ability to control without controlling."

P296 – "1.Everyday creativity is collaborative; 2.Everyday creativity is improvised; 3.Everyday creativity can't be planned in advance, or carefully revised before execution; 4.Everyday creativity emerges unpredictably from a group of people; 5.Everyday creativity depends on shared cultural knowledge; 6.In everyday creativity, the process is the product."

…

Eyesenck 1993, p153:

"I argue that creative achievement in any sphere depends on many different factors:(a) cognitive abilities – for example, intelligence, acquired knowledge, technical skills, and special talents(e.g., musical, verbal, numerical; (b) environmental variables -such as political-religious, cultural, socioeconomic, and educational factors; and (c) personality traits-such as internal motivation, confidence, nonconformity, and originality. All or most of these, in greater or lesser degree, are needed to produce a truly creative achievement, and many of these variables are likely to act in a multiplicative (synergistic) rather than additive manner."

…

Guildford (1950) p446:

"The general psychological conviction seems to be that all individuals possess to some degree all abilities, except for the occurrence of pathologies. Creative acts can therefore be expected, no matter how feeble or how infrequent, of almost all individuals."

P454: "The factorial conception of personality leads to a new way of thinking about creativity and creative productivity. According to this point of view, creativity represents patterns of primary abilities, patterns which can vary with different spheres of creative activity. Each primary ability is a variable along which individuals differ in a continuous manner."

…

Michalko (1998) p22 says that we think reproductively focusing on solutions based on our experience of what has worked in the past. The 4E's Model is designed to break this cycle of thinking by asking questions that challenge existing beliefs by exposing conflicting views.

…

Mumford and Gustafson 1988, p27:

"We suggest that the integration and reorganisation of cognitive structures is

likely to underlie major creative contributions…"

This also supports the 3rd stage of the model – the evaluation stage which uses questions to encourage people to synthesise information.

P28: "Therefore, creativity appears to be best conceptualized as a syndrome involving a number of elements: (a) the processes underlying the individual's

capacity to generate new ideas or understandings, (b) the characteristics of the individual facilitating process operation, (c) the characteristics of the individual facilitating the translation of these ideas into action, (d) the attributes of the situation conditioning the individual's willingness to engage in creative behavior, and (e) the attributes of the situation."

…

Nelson, 2010 p69:

"Creativity is an invention brought about by a particular arrangement of knowledge."

…

Shaunessey, 1998, p442 interviews Paul Torrance noted for his Creative Thinking Tests. Torrance suggests the following definition:

"I chose a definition process of creativity of research purposes. I

thought that if I chose process as a focus, I could then ask what kind of

person one must be to engage in the process successfully, what kinds of

environments will facilitate it, and what kinds of products will result from

successful operation of the process.

I tried to describe creative thinking as the process of sensing difficulties,

problems, gaps in information, missing elements, something askew;

making guesses and formulating hypotheses about these deficiencies, evaluating

and testing these guesses and hypotheses; possibly revising and retesting

them; and finally communicating the results."

...

Memo: LR3

Justification of approach

"There has been a quite notable paucity of research exploring the processes inherent in creativity and innovation compared with the plethora of studies evaluating the multitude of so-called antecedent factors to innovation. Indeed, the field appears to have moved away from process research in general despite earlier publications of valuable process models derived from longitudinal, observational studies in real time within differing organisational settings (e.g., King, 1992; Van de Ven et al., 1989)."

Anderson et al. (2014 p1319).

Phenomenology or grounded theory?

While both of these qualitative approaches have similiarities in that they seek to investigate phenomena, the grounded theorist is not just seeking to reveal phenomena but to develop a theory that emerges from it (Wimpenney & Gass, 2000).

Few researchers have described the best approach to the study of organisations using phenomenological techniques, however Sanders (1982) is highly cited (Gill, 2014). She identifies 4 levels of analysis for phenomenological studies: description of phenomena; identification of common themes; reflection on themes; abstraction of the essence (the why).

In addition to interviews, Sanders (1982) also advocates the use of document analysis and observation as appropriate phenomenological techniques.

Wimpenny and Gass (2000) "There is also a point however, at which interviewing in grounded theory and interviewing in phenomenology appear to diverge. The phenomenologist remains centred on eliciting the experience of respondents so that the phenomenon can be revealed. The grounded theorist, after an initial phenomenological approach, is then seeking to develop the emerging theory and may move on to other data collection methods, or structured interviews, to saturate emerging categories." P1491.

Gruber & Wallace (in Sternberg, 1999) Handbook of Creativity:

Describe the role of the investigator as both phenomenological (constructing meaning from observed data) and critical (analyzing and interpreting data).

Memo: LR4 – creative processes

Author	Notes
Bharadwaj & Menon (2000)	Creativity is not an innate ability and can be developed by practice and through the use of training programs.
Basadur et al. (1982)	Describes the creative problem-solving process as being both divergent and convergent and consisting of three phases: problem finding, solving and solution implementation. To be effective the authors propose that each stage should incorporate both ideation (divergent) and evaluation (convergent). They add that the ideation process be non-critical.
Isaksen et al. (2000)	Creative Problem Solving framework (CPS). Consists of 4 components divided into 8 stages. Components are: Understanding the challenge Generating ideas Preparing for action Planning your approach
Sawyer (2006)	P44 – "One of the most obvious differences between intelligence and creativity is that intelligence requires convergent thinking, coming up with a single right answer, while creativity requires divergent thinking, coming up with many potential answers." According to Sawyer it is generally agreed that the creative process consists of 4 stages: preparation, incubation, insight, and verification
Klijin & Tomic (2010)	The antecedents of group creative behavior are individual attitude on the one hand and a combination of group dynamics (composition, characteristics, processes and context) on the other.

West (1990)	Shared vision, non-threatening environment, endorsement, active participation are all moderators of creative behavior and outcomes.
Ohly & Fritz (2010)	Found that time pressure helped to increase creativity.
Runco (2004)	Creativity increases an individual's flexibility which better enables them to cope with a changing environment.
Ruscio et al. (1998)	Identified 3 processes relevant to creativity: Concept identification, wide focus, striving. These reinforce the validity of the Socratic dialogue as a creative mechanism. By examining the specific question at the first stage, various concepts relevant to it are exposed. Then in further stages the Dialogue moves from a narrow focus on what is known to a broader focus on the unknown. The authors decscribe "striving" as the process of questioning and reframing of concepts that are part of the examination and evaluation stages of the Model.

Memo: LR5 – Socratic Dialogue

Author	Notes
Kessels (2001)	Dialogues bring conflict which results in the difficult or entrenched being passed over or agreement being reached without mutual belief in the outcome. This means the wealth of tacit knowledge available to a group remains tacit rather than being converted into explicit (and therefore useful) knowledge.
Kessels (2001)	Much has been written about the learning process in organisations but little on dialogic methodology to support it.
Kessels (2001)	Says that for a Socratic dialogue to be effective it should be divided into three distinct parts. The first concerns the question itself – in its final form it should be simple and specific to experiences rather than hypothetical and also be capable of being solved by rational argument. The second part is a dialogue addressing the question the aim of which is to reach an explicit (actionable) consensus. The final part is an evaluation that results in specific principles that apply to the question. Kessels summarises this on page 66 through his hourglass model.
Kessels (2001)	Gives an example of a Dialogue that while reaching consensus led only to more interrelatd questions. This also happened with the NDU group. Kessels attributes this to the process of unlearning which often expose faulty assumptions that have been held dear by the group. As a result Kessels idealistic hourglass model cannot be applied universally, so rather than the final outcome being the agreement of Principles (the result of Nelson's regressive abstraction) after the Judgement it should end with an agreement on actions that should be taken. This then allows for further investigation and consideration of other questions at a later date. It also allows for investigation beyond philosophical boundaries (Bolten 2001). "At the same time it is only after such a process of unlearning, after the destruction of some

	customary, deep-seated but deficient ideas, that the question can be investigated on a deeper, a more fundamental level."
Senge (1990) (The 5th Discipline)	Senge discusses three essential conditions that must be fulfilled in order to conduct a successful dialogue. Firstly to suspend but not suppress your own judgement – as in the dialogue itself it is important to consider all perspectives. Secondly, viewing all participants as colleagues – rank inhibits the free flow of information. And thirdly, use a facilitator who is not a participant but rather serves to manage the flow of the dialogue through enforcement of the ground rules and the use of socratic questioning.
Nelson (1949)	"The regressive method of abstraction, which serves to disclose philosophical principles, produces no new knowledge either of facts or of laws. It merely utilizes reflection to transform into clear concepts what reposed in our reason as an original possession and made itself obscurely heard in every individual judgment." *Note:* Nelson who perhaps was the first to apply the Socratic method in a modern context is describing the process. He says that the method doesn't produce new knowledge, rather uses reflection to make explicit the tacit. He describes the Method as one of regressive abstraction – moving backward from a statement and removing assumptions to be left with the essence.
Bennett et al. (2015)	Knowledge capital is increasingly important in effective decision-making in organisations today and the use of Socratic Dialogue has a positive effect on organisational learning.
Bennett et al. (2015)	The authors report the following benefits of Socratic Dialogue: • Personal empowerment • Team building • Empathy • Understanding other views • Shared meaning • Self knowledge

- Critical thinking
- Self-directed learning
- Enhanced decision making
- Increased productivity

Schiender (2013)	What is Socrates famous method? In the absence of Socrates himself we must make do with Plato, Aristotle and others from ancient times to interpret it for us but then how is it applied in a modern context? While there are conflicting views (Schiender, 2013) from an organisational context it is generally agreed that Nelson was the first to apply it in a modern context (include Nelson comment above).
Schiender (2013)	However, the specifics (type, number etc) of questioning remain uncertain. *Note:* bring in discussion of a black box model here.
Paul & Elder (2008)	While authors such as Paul & Elder (2008) advise against predetermining questions it should not be left just to the skill of a facilitator to be able to arrive at a successful outcome.
Bagshaw (2014)	Institutional roles and status must be suspended during a Socratic Dialogue to remove defensiveness and enable participants to develop the trust necessary to tackle difficult issues and come to some shared meaning.
Michalko (2012)	"Socrates called these principles **Koinonia** which means "spirit of fellowship." The basic principles were: 1) Establish dialogue. 2) Exchange ideas. 3) Don't argue. 4) Don't interrupt. 5) Listen carefully. 6) Clarify your thinking. 7) Be honest."
Alexander et al. (2009)	Engaging in dialogue can create dissonance as your own often deeply held beliefs may be challenged

	through the process.
Grill et al. (2015)	However, this dissonance (see Alexander) if handled correctly can result in people examining those beliefs more closely (Grill et al., 2015) which is at the core of a Socratic Dialogue.
Ajzen (2002)	For a Socratic dialogue to be successful it must recognize and support for the considerations relevant to human behavior which according to Ajzen (2002) are behavioural, normative and control beliefs. In other words in order for the desired behavior to be successful an individual must first feel positive about it, must perceive support for it amongst peers and believe the behavior is feasible. This is supported by Lim & Choi (2009) who found that positive contextual factors increase individual inclination towards creative behavior.
Sagiv et al. (2010)	Found that structure produces higher creativity than a non-structured environment. While structure can be either internally or externally driven, they define external structure as "the goals, tasks, and procedures that the organisation constructs for its members". P31
Sagiv et al. (2010)	Found that a structured approach on the other hand takes the view that certain restrictions such as problem focus (a key element of the Socratic Dialogue) produces fewer but more creative solutions. This was compared to a free-flowing structure (such as brainstorming) that encourages free association of ideas.
Santaneen et al. (2004)	State that "facilitation is a vital component of generating creative solutions to problems." P178