2018

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

Philip Dennett
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?

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<thead>
<tr>
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<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td></td>
<td>Limited tolerance</td>
<td>Considerable tolerance</td>
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Do you have access to resources you might need when developing new ideas?

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<tr>
<td></td>
<td>Limited access</td>
<td>Considerable access</td>
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</table>
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
Philip Dennett                      Associate Professor Helene de Burgh-Woodman
Phone 0477 033 777                                           Phone: 02 8204 4249
Email                                                                     Email: helene.deburgh-woodman@nd.edu.au
Appendix 7
Memos written to support theory development
Mem 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
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:

- Group ownership
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.
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


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

<table>
<thead>
<tr>
<th>Section</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Disconnect between creative thinking and the corporate environment</td>
<td>Agreement with the necessity for creativity and innovation but at a loss as to how best to manage it.</td>
</tr>
<tr>
<td>Approaches to creative thinking</td>
<td>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.</td>
</tr>
<tr>
<td>4E’s Socratic Model</td>
<td>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</td>
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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.
Spiggle (1994) proposes a framework for qualitative data analysis and interpretation summarized in the table below:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Categorisation</td>
<td>Initial coding of data using sense-making passages as a basis.</td>
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<tr>
<td>Abstraction</td>
<td>Translates empirical categories into concepts.</td>
</tr>
<tr>
<td>Comparison</td>
<td>Ongoing comparison of data incidences to inform future data gathering.</td>
</tr>
<tr>
<td>Dimensionalisation</td>
<td>Identification of the dimensions of defined categories.</td>
</tr>
<tr>
<td>Integration</td>
<td>Establishing connections between concepts.</td>
</tr>
<tr>
<td>Iteration</td>
<td>Ongoing revisions based on previous analysis.</td>
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<tr>
<td>Refutation</td>
<td>Critical examination of emerging theory.</td>
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</table>
## Memo 26: Cognition and creativity

<table>
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<tr>
<th>Author(s)</th>
<th>Description</th>
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<tbody>
<tr>
<td>Runco &amp; Chand (2005)</td>
<td>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.</td>
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<tr>
<td>Harrington (1975)</td>
<td>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)</td>
</tr>
<tr>
<td>Mumford et al. (2009)</td>
<td>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.</td>
</tr>
<tr>
<td>Dollinger (2003)</td>
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<td>Bandura (2001)</td>
<td>In a team setting shared belief is an important element in protecting against setbacks and attaining a desired outcome (B).</td>
</tr>
<tr>
<td>Qaio et al. (2014)</td>
<td>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.</td>
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<tr>
<td>Mulnix (2012)</td>
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<tr>
<td>Kunsch et al. (2014)</td>
<td>Mapping an argument using a hierarchical structure enhances the ability to think critically (M) (K)</td>
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</tbody>
</table>
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

<table>
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<tr>
<th>Author</th>
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<tbody>
<tr>
<td>Kenny (2008)</td>
<td>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.</td>
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<tr>
<td>Baer (2012)</td>
<td>(B) found that a desire to produce a practical outcome coupled with strong social ties together improve the likelihood of an idea being implemented.</td>
</tr>
<tr>
<td>Levi (2005)</td>
<td>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.</td>
</tr>
<tr>
<td>Lewis (2011)</td>
<td>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.</td>
</tr>
<tr>
<td>Raelin (2012)</td>
<td>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...</td>
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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
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 Csikszentmihalyi’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.

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 Nath 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

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

Data structure based on Gioia, Corley & Hamilton (2012).
Memo: LR1

Scope of review

Relevance

<table>
<thead>
<tr>
<th>Author</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al. (2014)</td>
<td>An organisation that is not creative is unlikely to remain competitive.</td>
</tr>
<tr>
<td>Anderson et al. (2004)</td>
<td></td>
</tr>
<tr>
<td>Beheshtifar &amp; Kamani-Fard (2013)</td>
<td></td>
</tr>
<tr>
<td>Sohn &amp; Jung (2010)</td>
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</table>

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

<table>
<thead>
<tr>
<th>Author</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Anderson et al. (2014)</td>
<td>11 themes:</td>
</tr>
</tbody>
</table>
## Definitions

<table>
<thead>
<tr>
<th>Author</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Anderson et al. (2014)</td>
<td>Creativity has traditionally been conceived as &quot;the generation of novel and useful ideas&quot; p1298.</td>
</tr>
<tr>
<td>Shalley et al. (2004)</td>
<td></td>
</tr>
<tr>
<td>Oldham &amp; Cummings (1996)</td>
<td>George also makes the distinction that problem-solving by does not in itself result in creativity.</td>
</tr>
<tr>
<td>George (2007)</td>
<td></td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>Creativity (first step) seen as idea generation whereas innovation (second step) seen as idea implementation.</td>
</tr>
<tr>
<td>Shalley et al. (2004)</td>
<td></td>
</tr>
<tr>
<td>Amabile (1996, 1997)</td>
<td></td>
</tr>
<tr>
<td>King &amp; West (1987)</td>
<td></td>
</tr>
<tr>
<td>Amabile &amp; Khaire (2008)</td>
<td>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.</td>
</tr>
<tr>
<td>King &amp; West (1987)</td>
<td>Innovation is distinct from creativity in 3 ways, namely, not absolute (situational newness), public (implemented in a social context), and intentional (not by chance).</td>
</tr>
<tr>
<td>Amabile et al. (2005)</td>
<td>“Creativity- coming up with fresh ideas for changing products, services, and processes so as to better achieve the organisation's goals- “ p367</td>
</tr>
<tr>
<td>George (2007)</td>
<td>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.</td>
</tr>
</tbody>
</table>
## Individual

<table>
<thead>
<tr>
<th>Author</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Ford (1996)</td>
<td>Creative action is a result of three factors: sensemaking processes; motivation; knowledge and skills.</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>Big Five dimensions (i.e., conscientiousness, openness to experience, agreeableness, extraversion, and neuroticism)</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>Managers can enhance employee creativity in employees who don’t view themselves as creative.</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>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.</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>The relationship between personality and creativity is dependent on the situation.</td>
</tr>
<tr>
<td>Raja &amp; Johns (2010)</td>
<td>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.</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td>Understanding the conditions under which a person with a low disposition for creativity will allow a manager to nurture it.</td>
</tr>
<tr>
<td>Madjar et al. (2002)</td>
<td>Support for creativity from coworkers and/or supervisors increase creativity in the individual.</td>
</tr>
<tr>
<td>Amabile et al. (1996)</td>
<td>Madjar et al. (2002) also found that this applied</td>
</tr>
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</table>
irrespective of individuals perceived creative ability. Support from outside work had a similar effect.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Reference</th>
<th>Description</th>
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<tbody>
<tr>
<td>Elliot &amp; Church (1997)</td>
<td></td>
<td>Having the desire to master something has a positive effect on intrinsic motivation.</td>
</tr>
<tr>
<td>Anderson et al. (2014)</td>
<td></td>
<td>While numerous studies have examined various supervisory behaviors and their effect on individual creativity the results are not conclusive. This is because of wide range of behaviours and limited study of each and in some cases, inconsistent results.</td>
</tr>
<tr>
<td>Amabile (1993)</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Amabile (1997)</td>
<td></td>
<td>Social environment can positively affect intrinsic motivation.</td>
</tr>
<tr>
<td>Amabile et al. (2005)</td>
<td></td>
<td>Positive personal affect leads to higher creativity at work.</td>
</tr>
<tr>
<td>Bergquist (2006)</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Fishbein &amp; Azjen (1975)</td>
<td></td>
<td>A person’s behavior is influenced by both individual attitude and social norms.</td>
</tr>
</tbody>
</table>
Creative self-efficacy is reinforced and enhanced by supervisory support and a management style that is non-controlling.

Found empirical support for Amabile's (1983) componential model in that measures of creativity within the same context and domain showed strong positive relation.

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

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.

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) Proposed Generativity theory – new ideas emerge from previously learned ideas that become interconnected over time.

Epstein et al. (2013) 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) Organisational creativity does not necessarily lead to innovation.

Sohn & Jung (2010) 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) “[I]nnovation 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 categories "(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 relationships 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**

<table>
<thead>
<tr>
<th>Author</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>West (2002)</td>
<td>Four factors facilitate innovation: task characteristics; group knowledge; external demands; integrating processes.</td>
</tr>
<tr>
<td>Anderson &amp; West (1998)</td>
<td>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).</td>
</tr>
<tr>
<td>Miron-Spektor, Erez, and Naveh (2011)</td>
<td>Having members with creative and conformist cognitive styles enhanced idea generation, whereas having members with attention-to-detail cognitive styles inhibited it.</td>
</tr>
<tr>
<td>Raja &amp; Johns (2010)</td>
<td>Contend that extraverts protect their own self-interest in complex or demanding situations.</td>
</tr>
<tr>
<td>Jehn, Rispens, &amp; Thatcher, 2010</td>
<td>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. <em>Comment:</em> 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.</td>
</tr>
<tr>
<td>Gajendran and Joshi (2012)</td>
<td>The quality of LMX has a positive effect on team innovation.</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Citation</th>
<th>Text</th>
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</thead>
<tbody>
<tr>
<td>Sawyer (2006)</td>
<td></td>
<td>Strength of group creativity is linked to team dynamics so that time together, shared knowledge and conventions, and complementary expertise coupled with organisation acceptance.</td>
</tr>
<tr>
<td>Gajendran &amp; Joshi (2012)</td>
<td></td>
<td>The frequency and quality of communication between the leader and team members not only increases engagement but also has a positive impact on outcomes.</td>
</tr>
<tr>
<td>Cohen &amp; Bailey (1997)</td>
<td></td>
<td>Categorize effectiveness in a team context to consist of three dimensions: team performance, member attitudes, behavioural outcomes. They also state that, &quot;effectiveness is a function of environmental factors, design factors, group processes, and group psychosocial traits.&quot; P243</td>
</tr>
<tr>
<td>Cohen &amp; Bailey (1997)</td>
<td></td>
<td>“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</td>
</tr>
<tr>
<td>Cohen &amp; Bailey (1997)</td>
<td></td>
<td>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.</td>
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<tr>
<td>Authors</td>
<td>Key Findings</td>
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<tr>
<td>Holman et al. (2012)</td>
<td>Existing knowledge and leader expectations have a positive impact on employee innovation.</td>
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<tr>
<td>Shalley (1991)</td>
<td>Setting creative goals in a team context enhances creative output.</td>
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<td></td>
<td>Note: this fits into the first stage of the model where agreement is reached on the topic.</td>
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<tr>
<td>Jehn et al. (2010)</td>
<td>Individual group members don't all have the same understanding of the group's reality</td>
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<td></td>
<td>Note: this reinforces the need for the model to include cognition as one of the structures.</td>
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<tr>
<td>Schilpzand et al. (2011)</td>
<td>Being open to the experience has a significant effect on creativity.</td>
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<td>Note: - this supports the importance of the first stage in coming to agreement about what is known.</td>
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<tr>
<td>McLean (2005)</td>
<td>Diversity in teams (and the support for it) have a positive effect on overall creative performance.</td>
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<tr>
<td>Stasser &amp; Birchmeier in Paulus et al. (2003)</td>
<td>Decision-making in groups is appropriate when acceptance, satisfaction, and commitment of decisions are desired.</td>
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<td></td>
<td>If the desire is to produce a creative outcome – an information-driven session where new learning and evaluation is sought, is most appropriate.</td>
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<tr>
<td>Nemeth &amp; Nemeth-Brown In Paulus et al. (2003)</td>
<td>Groupthink is the result of a drive for consensus. This can be reduced or even eliminated by canvassing dissenting opinions.</td>
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</tr>
<tr>
<td>Pirola-Merlo &amp; Mann (2004)</td>
<td>Identify 4 factors that are important for team creativity: shared vision; participative safety; task</td>
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</table>
orientation; and organisational support.

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 converge to influence employee creativity.” P936

**Leadership**

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<tr>
<th>Author</th>
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<tr>
<td>Hon &amp; Chan (2013)</td>
<td>Found that empowering leadership contributes</td>
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</table>
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**

<table>
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<tr>
<th>Author</th>
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<tbody>
<tr>
<td>Anderson et al. (2014)</td>
<td>Future research should focus on the impact of context on the manifestation of traits rather than the traits themselves.</td>
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<tr>
<td>Anderson et al. (2014)</td>
<td>P1319: &quot;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&quot;</td>
</tr>
<tr>
<td>Anderson et al. (2004)</td>
<td>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.</td>
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<tr>
<td>Unsworth et al. (2005)</td>
<td>&quot;our findings suggest that interventions aimed at increasing perceived levels of creative requirement may lead to increased creativity.&quot; P556.</td>
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<tr>
<td>George (2007)</td>
<td>&quot;future theorizing and research may benefit from considering internal processes in a dialectical fashion rather than seeking to identify one process as a key facilitator of creativity and its seeming &quot;opponent&quot;</td>
</tr>
</tbody>
</table>
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

"Team creativity results from finding novel associations and linkages among the diverse ideas, perspectives, and domain expertise that individual team members hold" P19

"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.
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 achieve 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.

This approach takes a broader view of creativity than the psychoanalytical approach proposed by Guilford 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.

…


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."

...
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.

...


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.”
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 similarities 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.

Wimpenney 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**

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<tbody>
<tr>
<td>Bharadwaj &amp; Menon (2000)</td>
<td>Creativity is not an innate ability and can be developed by practice and through the use of training programs.</td>
</tr>
<tr>
<td>Basadur et al. (1982)</td>
<td>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.</td>
</tr>
<tr>
<td>Isaksen et al. (2000)</td>
<td>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</td>
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<tr>
<td>Sawyer (2006)</td>
<td>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.”</td>
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<td>According to Sawyer it is generally agreed that the creative process consists of 4 stages: preparation, incubation, insight, and verification</td>
</tr>
<tr>
<td>Klijin &amp; Tomic (2010)</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 describe “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

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<tr>
<td>Kessels (2001)</td>
<td>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.</td>
</tr>
<tr>
<td>Kessels (2001)</td>
<td>Much has been written about the learning process in organisations but little on dialogic methodology to support it.</td>
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<tr>
<td>Kessels (2001)</td>
<td>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.</td>
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</table>
| Kessels (2001)  | Gives an example of a Dialogue that while reaching consensus led only to more interrelated 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
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