How Could Creativity in Secondary Schools be Impacted by Scenario Planning?

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Declaration

I, Sunny Gavran, declare that the Doctor of Education thesis entitled ‘How Could Creativity In Secondary Schools Be Impacted By Scenario Planning?’ is no more than 60,000 words in length including quotes and exclusive of tables, figures, appendices, and references. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Sunny Gavran

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To my children, Jonathan, Amiel and Nathaniel I have one thing to say; Everything is possible if you put yourself to it!

‘Knowledge is a process in conduct that so organizes the field of action that delayed and inhibited responses may take place. The test of the success of the process of knowledge, that is, the test of truth, is found in the discovery or construction of such objects as will mediate our conflicting and checked activities and allow conduct to proceed.’

Mead, George Herbert. (1932/2002). *The Philosophy of the Present*, Prometheus Books: New York, p. 91.

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Abstract

The research will investigate whether creativity in secondary schools might be impacted by scenario planning with regards to its significance with learning. Creativity is the basis of innovation and progression of humanity in understanding itself and its relation to the world it is engaged with. Creativity is not only an outcome, it is also a method and a constructivist approach that would be appropriate to explore the issues related to creativity. Elkjaer (2000, p. 89) summarises Dewey's approach in that, 'Dewey's philosophical – and thus his pedagogical – point of departure is the living experience of everyday life. According to Dewey, philosophy is to be understood in terms of the problems with which it deals and these problems originate in the conflicts and difficulties of social life.' From this perspective, teachers and students can approach their learning from a philosophical and personal point of view, as they negotiate issues to be investigated for creative resolution. They come to understand the world as they interact with it, observe the outcomes of their actions and reflect on why things are the way they are.

With constructivism and pragmatism as a theorising framework, narrative research is a methodology, which can allow participants to construct their own understanding of creativity as a form of knowledge, its manifestation and cultivation in secondary classrooms for the aim of a democratic and just society. Scenarios are part of a family of descriptive strategies that allow for the imagining of different futures, without trying to predict the future.

This research conducted in the constructivist and pragmatist Paradigm, was seeking to find how teacher-participants in a scenario planning process, view and imagine creativity in secondary schools in Australia. Narrative inquiry was an appropriate methodology in this research as the teacher-participants were telling their view of creativity in the near future of about 15 years from now. At the end of the scenario planning process, which was the method, six scenarios were developed around six main concepts they identified and felt comfortable imagining together. The six scenarios were the foundation to theorising the themes for implementing creativity in secondary schools, as the research indicated. Arising from analysis of the themes and drawing on Synergetics theory, formation of Synergetic Creativity has been developed as a comprehensive model for creativity in secondary schools.

In this thesis, research questions are investigated in a cyclical rather than linear manner, as readings, discussion, data gathering and reflection occurs. A cohesive research story emerges throughout as results are identified from data and are analysed for general implications. The theorising of these general implications is then undertaken to generate a series of themes as research findings. The theorising of findings takes place as the researcher brings the sum total of the research experience to bear on data and results and reads meaning from what resonates in relation to the literature of key theorists. In this way, qualitative research involves analysis and interpretation of various forms of data and experience such that new and/or rearranged understandings of particular fields of knowledge and associated issues and problems can be described and proposed. This ongoing, cyclical process is outlined in Figure i

below, showing that researchers are constantly moving between the various aspects of knowledge formation as thinking, analysis and interpretation matures across the research process. A number of overall cycles of research for ongoing refinement of meaning and findings should be undertaken if possible.

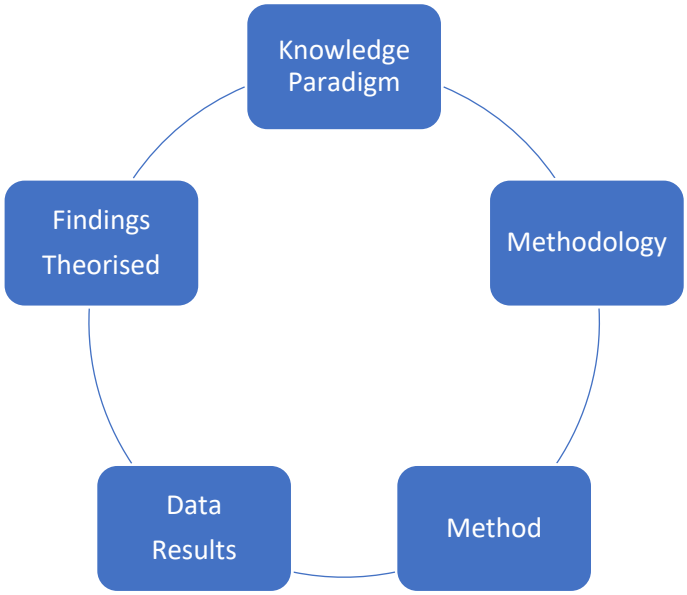

Figure i. Development of findings in cycles of qualitative research

Interconnection between the five key aspects of the research process adopted by this thesis as shown in Figure 1 is demonstrated by the following descriptions, whereby there is an integrated flow of researcher inquiry that is constantly occurring:

- Knowledge Paradigm. Overall pragmatist conceptualisation of knowledge production
- Methodology. Narrative inquiry where participants contribute from the perspective of lived experience

- Method. Scenario planning as data involving the drafting of future-oriented situations for improvement
- Data/Results. Generation of key ideas arising from analysis of all data
- Findings theorised. New knowledge and ideas as themes expressed in relation to major theorists referenced.

Within this intellectual context, chapters of the thesis involving the Literature Review, Methodology and Method enable the compilation of results and the theorising of findings, consistent with data and with the cohesive narrative established by the research.

Aims

- To develop a more comprehensive understanding of creativity in secondary schools.
- To draft and discuss a number of scenarios which will describe strategies of implementing creativity in secondary classrooms without predicting outcomes.
- To contribute to qualitative research understanding through the development of the scenario planning method.
- To challenge and extend thinking regarding an intersubjective knowledge production.

- To investigate the following research questions:

How could creativity in secondary classrooms be impacted by scenario planning?

What are the challenges for teaching creativity in secondary schools?

Contribution to knowledge

It is intended that this research will contribute to new understanding of creativity itself and its application in secondary schools, but also new ways of investigating it through scenario planning. It is anticipated that gathering appropriate data will enable theorising of educational practice, will encourage new and original understanding that will provide an ongoing practice, thinking and investigation. In this respect, the generation of new knowledge arises from constructivist engagement with reality that occurs not only from daily practice but also in relation to previous literature, research and knowledge. It is planned that the drafting of scenarios and discussions will provide new strategies from which knowledge arises. The ongoing connection between theory and practice in secondary classrooms is hoped to be discussed during the scenario planning process for the purpose of understanding creativity from different perspectives. Outcomes of this research include the development of scenario planning as a methodology to producing knowledge, the theorising of Synergetic Creativity as new approach to creativity in secondary schools, and a series of envisaging experiments regarding the application of Synergetic Creativity. The first and overarching challenge for advancing creativity in schools is recognition of the need to develop a philosophical view of learning and of knowledge from which creative acts are generated, to accept that all humans are creative as they

engage the issues of daily existence. In many conservative classrooms around the world, this is a difficult challenge to accept.

Practical contribution

There is little detailed exploration of creativity with scenario planning in the literature particularly in secondary classrooms. It is anticipated that this research will contribute to the understanding of creativity in an innovative and original direction.

This is a particular concern in secondary schools given the often restrictive and rigid characteristics of the curriculum and the separated nature of subjects. There is some evidence of change in this direction, for example in the Australian Curriculum approach to creative thinking but, it is early stages and is not a major trend yet. This research might be helpful to give more substance to this new orientation of creativity in secondary classrooms. There is a strong view emerging that tertiary students need to strengthen their creative and innovative thinking and intentions as applied to their field of studies.

Chapter 1 - Literature review

What is creativity?

Creativity is a tricky concept. We know what it is when we see it, yet there is some difficulty in defining it and therefore in teaching it. However, while reviewing the literature for a definition of creativity, two approaches have emerged. On the one hand, the person-centred approach to creativity argues that creativity is enriched within the person (Guilford, 1950; Isaksen & Treffinger, 2004). On the other hand, the sociological approach, emphasised the role of the society one lives in cultivating creativity (Beghetto & Kaufman, 2013; Gunter, 1990; Jeffries, 2011). Different views are presented in general in Eastern and Western societies. Niu & Sternberg (Niu & Sternberg, 2006) found that while Easterners view creativity as a social and moral component of oneself, Westerners view it as an individual characteristic. Also, an attempt to combine both is evident in the componential theory of creativity (Amabile & Mueller, 2002) which suggests a combined approach to creativity is necessary where it specifies four components required to foster creativity and creative work production (intrinsic motivation, high domain expertise, creative thinking, and environment that supports creativity). This idea also presented in Csikszentmihalyi and Wolfe (2014 p.162) which contend that creativity cannot exist in a vacuum of one's life instead:

> Creativity can be defined as an idea or product that is original, valued, and implemented…whatever individual mental process is involved in

creativity, it must be one that takes place in a context of previous cultural and social achievements, and is inseparable from them.

My research will look into the individual as well as the social elements of creativity as my research sees a correlation between the two. A correlation which recognizes the importance of the individual's inner world containing and reflecting the social encounters a creative person engages with. Therefore, this research acknowledges that creativity needs the social as well as the individual to co-exist successfully as it is asking the following one leading question and one sub question:

How could creativity in secondary classrooms be impacted by scenario planning?

- *What are the challenges for teaching creativity in secondary schools?*

These questions touch on the individual as well as the social environment of which creativity in secondary classrooms should be taught, learned and practiced.

The correlation and connection between social and individual in the context of creativity is evident further when Csikszentmihalyi & Wolfe (ibid, 2014, p.164) states 'if by creativity we mean the ability to add something new

to the culture, then it is impossible to even think of it as separate from persuasion'. Therefore, creativity should be viewed as a process and a product of both the individual and the social environments. The innate desire for the identification and categorising of creativity has been considered by humanity over an extended period of time.

Identify and codify Creativity; 100 years in the making

Many theorists, psychologists and practitioners have proposed various courses of action to be able to identify, codify and framework creativity. The following will give a brief historical outline over the past century of some of these suggestions.

In 1926 Graham Wallas suggested four stages of the creative process within human beings (Wallas, 1949). These four stages are: Preparation, Incubation, Illumination, and Verification. Wallas explained that in the Preparation stage the person investigates the problem from all possible directions such as; background understanding of the issue, investigating the key factors at play, educating oneself in the topic at hand and discovering logical procedures. The Incubation stage will see the person 'not consciously thinking about the problem' (Lytton, 2012, p. 10), and will let the information gathered in the Preparation stage to resonate within him or her. The Illumination stage is where the person pieces together all the information he/she gathered and is ready for an illuminating new formation in which he/she can propose a solution to the problem at hand. This stage cannot be forced on the person and

needs to develop naturally. At the last stage of Verification, the idea's validity is tested when it has been reduced to its exact form.

Three decades later, in 1950 Guilford proposed four abilities to generating ideas: Fluency, Flexibility, Originality, and Elaboration. Guilford's framework was person-cantered and as such, analysed the personal, motivational and temperamental traits of the creative person (Guilford, 1950). When developing the framework, his work took into account the background and work methods of creative people. Fluency is regarded as the capability of the person to generate as many options as possible. Flexibility is when the person is able to find many types of responses to an issue. Originality examines the ability of the person to think of novel ideas and unique perceptions. Elaboration is the skilfulness of the person to bring these ideas to reality and expand on them so they can become interesting and richer (Isaksen & Treffinger, 2004).

Later in 1961, a search of a universal definition of creativity by Rhodes (1961) developed a classification system that allows us to look at creativity from four elements: Person, Process, Press and Product. This system combines the perspective of the individual as well as the social influences on creativity. Rhodes classification system attempted to examine creativity from its different aspects. The Person imbues personality, intelligence, temperament traits, habits and attitudes of the creative person. Process is the application of motivation, learning, thinking and communication, and the process can be taught; it is how people go about being creative. Press is the relationship people

have with their own environment, and how the environment presses on the person and helps him/her or hinder their creativity. As people perceive their environment and its sensations differently, these can ignite creativity within people in return. Product is the outcome of Person, Press and Process: 'When an idea becomes embodied into tangible form it is called a product. Each product of a man's mind or hands presents a record of his thinking at some point in time.' (Rhodes, 1961, p. 309). The product helps assess the creativity process within a person and can take into account the other factors at play. It is through the product that one's creativity is exposed to others and allows them to share the creative thinking one possess.

Drawing on this approach in 1966, the Torrance Tests of Creative Thinking were published for the first time and were revised six times thereafter in 1974, 1984, 1990, 1998 and 2008 (Bart, Hokanson, & Can, 2017). The concept of these tests was to analyse the creativity process and how do people approach problem solving issues. The early version of this testing included four dimensions, Fluency, Originality, Elaboration and Flexibility which were proposed in Guilford's work (Guilford, 1950). However, in its 1984 version onwards, Flexibility was removed from study of the test and instead the measuring of abstractness of titles and resistance to premature closure inserted (Bart et al., 2017).

In 1970, Abraham Maslow (Maslow, 1971) recognized two stages of creativity; Primary creativeness and Secondary creativeness. Primary creativeness derives from the unconscious and is the origin of new discovery.

Secondary creativeness is the logical, common sense and reasoning people are engaged with while building on prior knowledge. This new perspective on creativity contributed to the extensive work of Amabile in 1983 in her articulation of the componential theory of creativity (Amabile, 2012). In her theory, Amabile uses psychological and organizational approaches to develop the influences on one's creativity. She includes inner components such as skills, processes and task motivation in conjunction with the environmental conditions one is engaged with – social component.

In 1990, this view of social and individual elements as effects on human creativity were cemented in the work of Csikszentmihalyi (1997) in which he stated that creativity is not just one component working in one direction, rather, it is an outcome of a combined interactive system containing three components, 'a culture that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognize and validate the innovation' (Csikszentmihalyi, 1997, p. 1). His work is important and comprehensive as it explains and outlines the relationships between inner and outer elements that contribute to the development of creative thinking and creative output. It aligns with the view of Mead (Mead, 1934) that creativity allows us to incorporate our past, with or without intention and thereby might assist humans in understanding one another or even explain one another or assist one another. Novel ideas which constitute creativity are a product of acknowledging the necessities of the other. As noted by Sawyer (2000, p. 153), 'The distinction between creative process and resulting product was one of the central themes of American pragmatism.

Dewey based his aesthetic theory on the distinction between *art product* and *work of art*'(original emphasis). In this conception, art is not only observed, but generates new feelings and understanding through its working, it is active and experience.

The development of human thinking around creativity over the past century is important when we want to evolve educational institutions. In the context of this research, creativity is vital to education in general and to secondary schools in particular because educational establishments are the melting pots of individual and social interactions and construction of society. For individuals and society creativity can be the vessel in which students and teachers carry their prior experiences and cultures. While such learning processes take place and incorporate creativity, ideas can be transformed from one another in a progressive and open-minded fashion.

Creativity in Schools

Creativity is a significant element of learning as it allows the learner and the teacher to be able to share ideas and concepts that are developed together or individually, it attracts the expansion of knowledge in transforming thoughts into physical products and it enhances the understanding of themes from various perspectives (Adams, 2005; Beghetto & Kaufman, 2013; Cropley, Kaufman, Murphy & Moran 2014; Fisher, 2004; Lytton, 2012; Sternberg & O'Hara, 1999).

Given the scope of viewpoints regarding the nature of creativity, the recent work of Harris (2017) on a similar topic to this research, offers relevant insight and advice. Her project has significant potential to help and inform governments on how to implement creativity in schools. In her study of secondary schools in Australia, Singapore, Canada and the USA involving 75 interviews and survey of students and staff, she notes that the relationship between teacher and student was the focal point for fostering creativity in classes (p. 25). For creativity to blossom in schools, the environment of which teacher-student relationships take place should be '...safe creative learning environments in school contexts, an environment that is open, conducive to openness and express, and trying to bring out kids' curiosity' (p. 25). The idea of safe environment for creativity has been put forward in Cropley's article (Cropley, 2006, p.129) about the social approach to creativity where he states that creative people should be offered a safe space where they '…can break social rules without punishment, thus protecting them from social or other sanctions'.

Safety, understood in this way, is part of an environment in space and time for cultivating creativity. The environment set by the teacher is as safe as can be for creativity to be cultivated. Jeffrey (2006) contributed to this view on creativity when he argued that being creative through the learning process involves reflective cycles of the path chosen by students and teachers when using creative actions in classrooms (p.408); this can be done when students and teachers feel safe to engage in conversations about their creativity. Harris (2017, p.8) also found that 'creativity continues to be under-represented and

misunderstood in teacher education courses especially for secondary school student teacher', and concludes that secondary schools should nurture creative risk, imagination and iteration for the purpose of preparing students for creative workplaces. The communicative approach to teaching and learning will be later discussed when constructivism, pragmatism and the social act will be reviewed.

Support for a continuum of a student's life from school to the workplace is evident in McWilliams and Dawson's work (McWilliam & Dawson, 2008, p.635), who acknowledge the 'creative capital' of companies as the most important driving force to expansion and success in the business. They found that economists view creativity '…as a form of capital, and thus as an engine of economic growth and social dynamism'. This capital can be seen as social immanent affordance, when students and teachers enjoy the creative products of their thinking and learning. Social phenomena will enjoy the creative output of students, and later of workers, if the social environment will support, acknowledge and celebrate creativity.

In order for schools to engage in this proposed continuum of one's creative journey from school to post school, teachers need to be able to understand and experience themselves the concept and practise of creativity. In this way, teachers are more likely to foster creativity within their classrooms. This idea is supported by Beghetto and Kaufman (2013, p.12), who point out that 'Teachers who understand that creativity combines both originality and task appropriateness are in a better position to integrate student creativity into the everyday curriculum in ways that complement, rather than compete with,

academic learning'. More persuasively, Selkrig and Keamy (2017) state that it is vitally important that '… teachers' creative pedagogies are not reproductions of tired and 'safe' teaching approaches, and instead, their professional identities and teaching capacities are moulded through the characteristics of reflective practice, critical evolution, and their continuing professional and creative learning' (p.329). Selkrig and Keamy (2017) also pointed out the importance of creative habits to support the notion held by many, that creativity is a habit.

Creativity as habit

In her book 'The Creative Habit' Twyla Tharp (2008, p.7) wrote extensively about the work ethics of creativity: 'Creativity is a habit, and the best creativity is a result of good work habits'. Tharp is one of the most successful choreographers in the world with more than 130 dances for her company. She emphasises habitually creative people maintain their skills by constantly practicing, and this habit of practicing and gaining skills can form the bridge between what a person sees in their mind and what the world sees. However, she stresses the importance of combining passion and skill for the emergence of a creative life. Her view of habit in creativity is supported by Sternberg (Sternberg, 2007, p.24) who wrote:

> *Creativity is as much a habit in and an attitude toward life as it is a matter of ability. Creativity is often obvious in young children, but it may be harder to find in older children and adults because their creative potential*

has been suppressed by a society that encourages intellectual conformity.

The idea of habit will be later explored in the context of pragmatism and the human experience. The connection between habit, creativity and pragmatism is at the core of this thesis.

Understanding Creativity in practice

John Cleese, who is an English actor, comedian, screenwriter and producer, gave a speech about creativity in 1991 (Cleese, 1991) in it he explained his view of open and closed mode of creativity. In the closed mode we are working at a goal. We are active for a purpose, stressed about the achievement and not much humour is involved. On the other hand, an open mode is playful, relaxed, less geared for a purpose, and curiosity is employed. By being playful, we allow our natural creativity to take action. However, he emphasises that the two modes have to be switched between one another in order for ideas to come to life. This correlates to Tharp idea about the bridge between what the individual sees in their mind and what the world sees. In the open mode, only the individual is able to see the idea, while in the closed mode the work habit of bringing the idea to life can take form so the world can see the idea as well.

Creativity in practice with Computer Game Design

An example of the shift between the open and closed modes can be demonstrated by computer game designers. Game designers see the world not just as it is but also as it could be. Therefore, they develop their ideas about alternative worlds, with missions, tasks and revelations while the gamers explore their new world and are immersed in the experience in as many senses as the technology allows. The new world developed around ideas the game designer is familiar with (cities or outdoors) or environments made up (islands in the sky). Whichever environment they develop, it is always relying on the prior knowledge the game designer holds and that would be sensible enough for the gamers to engage with. In order for the game designer to bring to life their ideas, they need to program the game in the platform they are using (PC, PlayStation, Xbox or any other platform). The platform manages to give the game designer the technological framework of which they work with, that is the ability of the console to process data, ability to project the data, how much data can one environment contain etc. Within this framework, the game designers will bring their work habit with them to be applied in the closed mode, where they need to bring to bear the collaboration of the many factors in one game. These factors have been developed in the open mode, where the game designers were playful, imaginative and not stressed in meeting the requirements of the final product. The switch between the modes will produce a new game as what the game designer imagines to be is still subjected to the constrains of the technological environment they chose to work with.

In his research about game designers and creativity, Jeffries (2011 p.79) found five highest ranking variables from game design practitioners:

- Visualise the game, and player, in your mind
- Games analysis, and analysis of games mechanics
- Creative facilitator: bring other people's ideas into the games design process
- Game play rules
- The overall vision

These five variables represent well the movement between open and closed modes, and creativity as habit. As designers start in an open mode by visualising the game and see the finished state of the game in their minds they turn to closed mode to learn from other games. They analyse other games, looking for strengths and flaws and understand how these games work in their domain such as Fantasy, First hand shooter, Adventure, Storytelling etc. The designers will then have to move to the open mode, where they collaborate with others in developing the game. Here is where they can employ imagination and playfulness. However, in order for the game to work, they need to move back into the closed mode and make the rules of the game and their implementation. Finally, they would have to come back to the open mode to finalise the overall vision of the game. At this point, factors that are unable to be incorporated might be able to be incorporated in it in other ways.

Creativity in Practice in Education

In education, Thomson, Hall, Jones, & Green (2012) take a different position about open and closed modes by defining them as playfulness and skills. They describe a finding from their research about creative pedagogies and the incorporation of artists in schools when they write that 'Signature creative pedagogies derive from the combination of platform, purposes and practices' (p.48). They saw creativity manifest from a holistic view of education and the combination of the three - platform, purpose and practice - that constitutes the signature. They suggested that incorporating artists in schools on a regular basis will enable the transformation of creativity through playfulness and skill for learners and teachers. Lucas (2016, p.287) summarised the attempts to understand creativity when he states that 'Although creativity is becoming increasingly important today, the subject is broad, vague, and daunting for many teachers'. In his research, Lucas attempts to explore the five Creative Habits of Mind. Habits of mind are ways of thinking about situations we encounter in life based of our previous experiences (Costa, & Kallick, 2008). As humans we encounter dichotomies of which we try to understand and predict the result of our intervention with them. When we employ Habits of Mind we expect extensive significance and higher quality to emerge for us to be able to contain the situation, learn from it and adjust our Habits of Mind. For example, in discussing Vygotsky's approach to creating learning environments for human development, Holzman (2009) proposes what she calls a 'tool-and-result methodology to capture the dialectics of Vygotsky's conception.' That is, there is an active and continuous

search for meaning involving both what we do and how we think about what we do. In this way, Vygotsky has moved away from creation only occurring in an individual head, but instead, occurring at the cultural interface between person and social environment.

The concept of Habits of Mind was explored in Costa and Kallick's (2005, p.4) practice in a Vermont community high school in the United States. They explain habits of the mind as follow:

> *The 16 Habits of Mind are habits of thought and action that help people manage uncertain or challenging situations. They can help people take action when there is no known solution to a problem. The Habits support thoughtful and intelligent action.*

This approach to education was funded by the United States Department of Education and is still practiced in there today.

In the United Kingdom, Lucas (2016, p.262) developed a model of five core creative habits:

1. *Inquisitive (Wondering, Exploring and investigating, Challenging assumptions)*
2. *Imaginative (Playing with possibilities, Making connections, Using intuition)*

3. *Persistent (Sticking with difficulty, Daring to be different, Tolerating uncertainty)*
4. *Collaborative (Sharing the product, Giving and receiving feedback, cooperating appropriately)*
5. *Disciplined (Developing techniques, Reflecting critically, Crafting and improving) (p.262).*

These 5 core creative habits, as Lucas explains, are vital for creative thinking as we need to think and act in certain ways. He acknowledges the challenge of bringing creativity into the school system which holds a subject-specific nature for the learning and teaching. Therefore he proposes the Habits of Mind to bring creativity and creative thinking to the individual learner and the individual teacher. However, as Lucas mentioned in his conclusion, there should be a whole school reconstructive approach in order for creativity to be employed successfully in schools. This idea of a holistic view of creativity will be discussed fully in Chapter 4.

From a social philosophical point of view, Mead (1934) referred to habits as the process of acquiring a mind, different than animals, while using gestures that become significant symbols when individuals are taking the role of the other. Mead saw habits as forming the internal mind of humans through socialisation processes. He expressed habits as part of the thinking process where we '…readjust our habits and reconstruct our objects' (Mead, 1934, p. 341).

Habits and Correlation between Open/Closed Modes

The model Lucas (2016) has developed of 5 core creative habits, corresponds well with the open and closed modes of creativity proposed by John Cleese. The First Habit of *Inquisitive* is a closed mode stage, where the creative thinker searches for more than a quick answer to a question, rather they are investigating core questions which relate to their idea. They will explore and actively look for more information about their core question. The Second Habit is an open mode, where *Imagination* takes the fore and playfulness with manipulating various aspects of the core question is exercised. For the ideas to be able to be presented in the world outside of the creative thinker, there is a need for the next core creative habit, a closed one, *Persistent*. This habit will see the creative thinker trying to overcome difficulties in rising their thinking from thinking to reality, their tenacity will help them go beyond their comfort zone of which they will consult regularly, and the uncertainty they experience can be tolerable. The Fourth Habit, *Collaborative*, is an open mode where the creative individual shares their product they developed in the previous stages and is open for feedback, imagining together, searching through playfulness for other solutions, and working collaboratively at times with peers. The final stage of *Disciplined*, is a closed one. In this stage the creative individual will practice for the purpose of improvement, acquiring the skills needed to create the bridge between what the creative individual sees in their mind and what the world sees, as noted earlier by Twyla Tharp (2008).

These connections between scholars and artists are the foundations of nourishing creative individuals at schools. As mentioned before, Thomson, Hall, Jones and Green (2012, p. 45) proposed the incorporation of artists in schools because together with teachers they 'create more and less stable time/space where their frames and purposes produce new practices'. They advocate for the constant role of artists to play at school as they are not interchangeable with the teachers' position.

A Change in our schools and our approach to learning in these institutions was suggested by Lucas (2016) and Thomson et al (2012), to accomplish an incorporation of creativity in school. They advocated that we need a change in our schools and our approach to learning in these institutions. To acquire the knowledge about the way Australian schools operate within the framework of the Australian curriculum, a review of the policy will take place in the next section. It will outline the position of the Australian Curriculum to Creativity.

Creativity and the Australian Curriculum

Teachers work in the framework of the Australian Curriculum and are guided by the required learning areas as outlined. The Australian Curriculum in The Australian Curriculum, Assessment and Reporting Authority (ACARA) sets forth creativity in the section of 'General Capabilities' (ACARA, 2015b) where it states 'the Australian Curriculum is equipping young Australians to live and work successfully in the twenty-first century'. The Australian Curriculum gives

a description of the capabilities young Australians should embrace to do so: ‘In the Australian Curriculum, capabilities encompasses knowledge, skills, behaviours and dispositions.’ (ACARA, 2015b) These capabilities are: Literacy, Numeracy, Information and Communication Technology (ICT) capability, Critical and Creative Thinking, Personal and Social Capability, Ethical Understanding and Intercultural Understanding. The relationship between the capabilities and the learning areas is illustrated in the diagram below.

Figure 1. 1 General capabilities in the Australian Curriculum (ACARA, 2015a)

Creative Thinking is defined by the Australian Curriculum as the following:

‘Creative thinking involves students learning to generate and apply new ideas in specific contexts, seeing existing situations in a new way, identifying

alternative explanations, and seeing or making new links that generate a positive outcome' (ACARA, 2015b).

This acknowledgment of creativity in the Australian Curriculum is encouraging and points at the forward thinking nature of its developers to equip Australian students with the capability to be imaginative, involving complexity in their learning processes and shifting most of the responsibility of the learning to the students. It is unclear as to why the Australian Curriculum has decided to divide the general capabilities into seven categories and the way they are connected to the learning areas. The justification of the seven categories of capabilities might be found in the Melbourne Declaration *(Ministerial Council on Education, 2008, p. 13)*:

> *The curriculum will support young people to develop a range of generic and employability skills that have particular application to the world of work and further education and training, such as planning and organising, the ability to think flexibly, to communicate and to work in teams. Young people also need to develop the capacity to think creatively, innovate, solve problems and engage with new disciplines.*

The assumption that the capability to think creatively and learning how to learn can be applied in all the learning areas is intricate. To be able to think creatively in all eight learning areas such as mathematics, literature etc (ACARA,2015b), students need to be experts in the specific learning area for them to conceptualise abstract ideas and to think rationally (Donnelly &

Wiltshire, 2014). Students also need to gain deep knowledge and understanding of particular subjects for them to be able to transfer knowledge and understanding to a new set of circumstances (Adams, 2005; Cropley & Kaufman, 2012; Lytton, 2012).

The focus of creative and critical thinking in the Australian Curriculum is for students to engage in effective learning and for them to be ready for the 21st century challenges of changing environments, social and economic pressures. Creative thinking can find support in Mead's (1934) social experience explanation. His ideas divide the social experiment into four elements which teachers could use in their teaching for creativity. These four elements are in short (Cronk, 2016; McKenzie, 2015; Mead, 1934):

1. The self develops with social experience
2. The social experience is an exchange of symbols
3. Understanding intention requires imagining a situation from another point of view
4. By taking the role of the other, we become self-aware.

Caution should be practiced when substituting creative thinking with creativity. These two terms are not always interchangeable and might be confusing. While creative thinking generates ideas, possibilities and actions in combination with reflective processes, creativity is the outcome of such thinking (Beghetto & Kaufman, 2013; Cropley, 2006; English & Jones, 2003; Friedrich, Stenmark, & Mumford, 2011; Harris, 2017; Lucas, 2016; Lytton, 2012). Creativity is what the 'other' sees and can react to, it is the 'product' that can

be presented outside of the creator's mind that we can relate to, offer critic and celebrate. Creativity should be developed and supported by creative thinking skills.

As a society there is a need for us to "advance beyond the 'Information Age' into the 'Conceptual Age' (Moran, Cropley, & Kaufman, 2014, p. 250). The process involved in such a transformation emphasises three abilities that are key to creativity: Synthetic, Analytical, and Practical (Sternberg & O'Hara, 1999). Synthetic is the ability to produce unorthodox ideas with the skill of redefining problems effectively and to think insightfully. The Analytical aspect of intelligence in the creativity context is to think critically about ideas, to be able to evaluate their strengths and weaknesses and while doing so, trying to promote paths of improving and developing these ideas. The Practical aspect involves the pragmatic part of bringing these ideas to life and applying them effectively. The incorporation of these three abilities will produce, as research suggests, insightful students that '…significantly outperformed students taught in a way that emphasized only analytical abilities' (Adams, 2005, p. 7).

There might be gaps between what is documented in the Australian Curriculum approach to creativity and the practice of creativity in secondary schools. As it is not as easy as framing the curriculum around creative thinking, creativity needs to be embedded in many aspects of education in schools. It is encouraging and motivating to see ACARA acknowledging the importance of creative thinking. Included in the aim of educating Australian students to become successful learners, confident and creative individuals as well as active

and informed citizens, creativity becomes a central aspect of teaching in learning in all schools (ACARA, 2015a).

In the scenario planning process ahead, the teacher-participants take part in envisioning what could have happened in the mid-term future (10-15 years) of secondary schools in the creativity context. While doing so, it is hoped that the challenges to practising creativity will emerge from the discussions of the teacher-participants; as well as a clearer view of the reasons for these gaps between the guidance of the Australian curriculum and the exercising of creativity in secondary classrooms.

Constructivism

Ludwig Wittgenstein wrote ‘The limits of my language mean the limits of my world. All I know is what I have words for’ (Wittgenstein, 1994). The way I understand such a statement is not confined into verbal, word consisting language. Rather, it is any language we decide to use to express our innermost thoughts and desires, frustrations and focal points, interests and investigations. Language can take many forms, for example, it might be the language of text, dance, music, model forming, painting or even silence itself.

Language forms an understanding of one another and of the world around us. It is the means by which we inquire about the world with other people. It is what separates us from animals in wondering out loud about something of which we do not have knowledge. Through language we can

express our thoughts, give instructions, verbalise our needs and communicate our desires.

There are two approaches to constructivism which I would like to investigate in this section. One is the personal approach and the other is the social approach. I will explain both approaches as I think it is important to understand the inner processes of constructivism (personal) with the outer process of constructivism (social) as they both create the delicate fabric of people's perception of the world. Acknowledging the two approaches to constructivism can strengthen the research and the research outcomes while explaining the processes participants went through and contending the scenarios they will develop.

Constructivism asks the question of how complex is one's view of the world and of other people? There seems to be a black hole between data and knowledge. The difference between the two is that data is raw material and passive while information is active in the formation of knowledge (Bodner, Klobuchar, & Geelan, 2001; Fosnot, 2013). Constructivism is advocated to establish complex thinking regarding the world and people around us (Bentley, 2003; Broadfoot, 2008). It is an epistemological theory that explains, describes and anticipates individual thought and communication (Draper, 2002; Ultanir, 2012). In this regard, language is a manifestation of such thinking and it is reflected in the way we construct the world around us as a collective and personally.

Personal Constructivism

The personal theory view of constructivism (Burr, Giliberto, & Butt, 2014; Cohen, Manion, & Morrison, 2013) was founded by George Kelly in the 1950's (Kelly, 1955) and maintains that people develop very complex structures in order to understand each other.

Three key ideas associated with the personal view of constructivism:

1. Cognitive schemata.
2. Cognitive complexity.
3. Person-centred communication.

I do not intend to explain each of the above in length, however, a brief description of them could inform the research. This will help outline situations participants will encounter from various points of view, assist in analysing the scenarios and prompted thinking about concepts related to creativity later on in the research. Also, the following brief explanations might help the researcher and the reader get a holistic insight into the situation the participants will discuss during the scenario planning process, while engaging in conversations and while the scenarios will be formulated.

Cognitive Schemata

Cognitive schemata organises one's perception and helps one think very quickly about information. They are like mini systems of judgment in one's inner world that are called schemata. Personal constructs (bipolar dimensions such

as intelligent-non-intelligent), stereotypes (generalisations about people and experiences) and scripts (expectations of situations) consist of the cognitive schemata (Cakir, 2008; Doolittle, 2014). Cognitive schemata develops in one's mind by categorising information related to objects and experiences they collect in their lifetime.

Cognitive Complexity

Cognitive complexity asks how complex is one's interpretive process? This looks at three different dimensions when we challenge our belief system; the Differentiation (how many distinct interpretations are in individual uses), Abstraction (interpretations of others actions and motives), and Organisation (making sense of contradictory information). Cognitive complexity comes to challenge the easiness of accepting different aspects of our belief system as such a process takes away all the interpretation and cognitive complexity (Doolittle, 2014; Oxford, 1997).

Person-Centred Communication

Person-centred communication is the process one goes through when adjusting the communication one has with other people based on the interpretations one gives of the people one communicates with (Burleson, 2007).

These three parts compile the personal construct theory of Kelly (Kelly, 1955) which might give an insight into understanding why misconceptions are so remarkably resistant to instruction and learning (Burr et al., 2014). This research intends to take this insight one step forward and will try to argue that in order for teachers to be creative they might need to be adventurous to embark on a creative journey with themselves and with their students. Kelly (as cited in Bodner et al., 2001 p.1117) argued that 'people sometimes hesitate to experiment because they dread the outcome; they fear that the result of the experiment will place them in an ambiguous position where they will no longer be able to predict and control future experiences' (Bodner et al., 2001, p. 1117). This might start a thread of thinking and an attempt to theorise the attitude for creativity within classrooms in secondary schools. However, to do so there is a need to look into social constructivism and the way it is impacting creativity. We are social beings who engage our formal learning mostly in classrooms throughout schooling, therefore, social constructivism might highlight the connection between what we know and the way we communicate this knowledge with our peers.

Social Constructivism

Above I briefly outlined the values and interpretations we give to the objects and situations we are involved in or observe in personal constructivism. Similarly, as in personal constructivism, social constructivism examines the values we give to the world around which we live, however, under social constructivism this set of values is 'brought into being through historically and

culturally situated social processes' (Gergen & Gergen, 2008, p. 818), as opposed to internal interpretative processes, as seen under personal constructivism.

In using the social constructivist framework, one can define objects to grow into being as constructed by the person concerned, with inherited connections to a community. Meaning to say, that when we construct our understanding of objects around us we are taking into account the social connections and connotations they are coming with. When one incorporates all the perspectives from the objects of experience, reality is drawn from communal relationships. Every relation we have with objects, according to constructivist thinking, will draw value. Therefore, objects of thought do not arise from a neutral construction of experience nor provide neutral of descriptions of the world. Language is important if not vital to constructing the reality of one's life. Wittgenstein argued that 'The meaning of an act, just as much as the meaning of words, is in fact established in the practical context of which it appears' (as cited in Nicolini, 2012, p.38). This might mean that the communication between people can carry the understanding of each other's view of the world. These descriptions will carry with them the lifeworld, actions and past experiences one brings to the communication process and might develop the intersubjective connection with the other.

Intersubjectivity in Education

Intersubjectivity is the connection we make with one another in a deep level of understanding. Mead argued that intersubjectivity means 'that social interaction both precedes and produces reflective consciousness' (Biesta, 1998, p. 91). While Martin Buber looked at the point of meeting, the place and the impact the meeting between people is having on them and their actions each of the participants in the dialogue relates to the situation they participate in while 'Their thoughts and experiences are dialogically interwoven with those of their other' (Crossley, 1996, p. 9). Both Mead and Buber thought of the interaction with other people as significant and meaningful, therefore, intersubjective. Instead of objectifying the other, in intersubjective thinking, we invite the other to our world and allowing them to have an impact as small as it might be on us and by doing so, shape the way we would interact with other people. In schools, students, teachers and administrative personnel constantly interact with one another. To achieve an intersubjective connection within all these interactions would contribute to creativity as it would need a secure environment to be able to flourish. Hooley (2017, p.23) wrote about those moments where teachers and students intersubjectively engage in learning together as 'the notion of the expression of different social acts becoming aligned as experience proceeds'. These interactions in schools are vital for students to develop their understanding of the world around them. If we will succeed in providing them with a positive creative learning environment, their meaningful connections to other people will increase.

Creativity and Language Use

Defining objects allows the beholder to endeavour to predict and control the object. Wittgenstein contended that the meaning of any kind of word is generated from language rules. He asks ‘what sense the meaning of a word that I understand can ‘fit’ the use that I subsequently make of it’? (McGinn, 2013, p. 78). This question strengthens the social constructivist view that social constructivism is a way of talking and a way of looking at objects and situations. It does not eliminate any particular perspective such as past experiences, ethnicity, and religion and so forth. Nor does it try to declare truth on its side, as all views of the same object or situation are truthful to the beholders. Communicating on multiple truths in the context of creativity might help bring together various people to create a new truth. That is of the way of which we can implement creativity in secondary classrooms in various subjects, and which can be applied in each of the participants lifeworld.

Through the language participants will use in the process of scenario planning, the teacher-participants might develop an understanding of the occurrences in various classrooms outside of their own and might find points of connection while sharing their own experiences.

The scenario planning process, of which will be explained in length next, can provide the space in time and place for the teacher-participants to develop an intersubjective connection to other teacher-participants that might help them understand one another’s view of creativity. Creativity might mean one thing to

a science teacher and another to a language teacher, however, in communicating their ideas and views of creativity, they might create a new direction for educators to cultivate and implement creativity in secondary classrooms. This communication process in scenario planning might help answer the sub-question of 'What are the challenges for teaching creativity in secondary schools?'

Preliminary Considerations of Scenario Planning

Scenario planning is about thinking the unthinkable. It is not an attempt to predict the future, but to suggest future possibilities or to explore different ends to various changes. These alternative futures can be altered by known factors such as demographics, political changes, and economical social and environmental driving forces. In scenario planning participants are involved in 'thinking elements that are difficult to formalise, such as subjective interpretation of facts, shifts in values, new regulations or inventions' (Jisc, 2013). These subjective interpretations, once they are verbalised, can assist all participants in the research to understand the reality constructed by other individuals in the research and might aid in intersubjective connection to unfold the meaning of creativity and its manifestation in various secondary classrooms.

The researcher hopes that this intersubjective connection would help answer the research sub-question of 'What are the challenges for teaching creativity in secondary schools?' as we could answer such complex question

through the understanding of one another. It is also hoped that this understanding would arise from the teacher-participants in the scenario planning process. This might lead to new knowledge which perceives that adventurous teachers might be a necessity in implementing creativity in secondary schools as was suggested before.

Modern scenario planning started in the 1950's in the United States by Herman Kahn and his attempt at the RAND Corporation to draw upon the consequences of a nuclear war. The method was later adopted by Royal Dutch Shell to anticipate changes in the oil market. This is where scenario planning gained its first success, when Shell was the only Western company that was prepared and able to react fast to changes in the market as a result of OPEC Oil Shock of 1973 where OPEC decreased their production to increase oil prices (Jisc, 2013).

The methodology of scenario planning in this research will be a process, which is collaborative and creative. The group of teacher-participants will hopefully construct four to six plausible, relevant and divergent scenarios that confront and question grounded perspectives participants hold about the future of creativity in education and its implementation in secondary schools. These scenarios can be used to examine current strategies and policies or to develop innovation in accomplishing the incorporation of creativity in secondary classrooms. Scenarios that will manifest out of this process should not be examined against their ability to predict the future, rather their ability to invoke learning of educational establishments, communication between groups of

teachers represented in the secondary school and understanding education and creativity as a whole and not as fragmented parts working to achieve the same goal.

Scenario planning provides an opportunity to '…draw upon the creativity of those involved, resulting in new views and interpretations on important external developments' (Jisc, 2013). Generally, there are six stages of scenario planning process. These are according to Stanford (2016):

- Orientation – determining the strategic question of which the group will grapple with.
- Identify forces of change – pin down the certain and uncertain elements that are forcing change in the view of the participants
- Build scenario framework – these will anchor the scenarios in divergence, relevance and plausibility.
- Develop scenario stories – the characters, timelines and plot are chosen to develop the narrative of each scenario.
- Identify early indicators – data, events and trends are been identify to observe the progress of each scenario.
- Communicate effectively – share the scenarios to spark new thinking.

The process of scenario planning is able to complement the social communicative approach put forward by Mead (1934) and Habermas (1984) when they consider language to be the paradigmatic form of communicative objectivation. The intersubjective connection participants would hopefully be involved in communicatively, while taking part in the scenario planning process,

will enable them to successfully communicate their positions. These positions might be looked at as Aristotle's predicaments which were the categories of: Language; Substance or Being, Quantity, Quality, Relation, Place, Time, Posture, Having or Possession, Action, and Passion (Marshall, 2009; Smith, 2016). The main idea of the categories is the classification of any object in the human mind that is describable without the integration of a few terms or relation between them together. While these predicaments will not be put forward in the scenario planning process, they might take place in the analysis process thereafter as 'they seem to be arranged according to the order of the questions we should ask in gaining knowledge of an object' (Internet Encyclopaedia of Philosophy, 2016) - the scenarios.

Praxis in Scenario Planning

Earlier I mentioned the idea of adventurous practice in implementing creativity in secondary classrooms. This perspective of adventure could spring from the scenario planning process as a praxis method. Praxis which does not conform to any predetermined form of action and diverges from a more traditional form of practice, could assist the teachers-participants in constructing the scenarios that are intended for them to think the unthinkable and stretch their reality further then they would ever do by themselves under their current conditions (Nicolini, 2012).

The goal of Praxis is '…not the knowledge obtained through an end result or the production of an object, but rather the knowledge produced through

action'(Tierney & Sallee, 2008, p. 676). That is praxis does not set about imparting or reproducing known knowledge, but rather respects the knowledge and understandings that are created through social practice and engagement with the world. The activities participants will take part in first communicating their views on creativity in secondary schools after discussions about creativity in the scenario planning process, and finally drafting-redrafting of scenarios, would be the most beneficial way to employ praxis as a way to construct a solution to a general problem (the challenge of implementing creativity in secondary schools) by using their knowledge of particular situations in the teachers' classrooms (Hemmings, 2000). Paulo Freire (1970) saw praxis as a way to reflect, engage and act upon issues concerning the greater good. He advocated for the reflection and action through communicating and connecting people when he wrote that praxis can be done by 'reflection and action upon the world in order to transform it' (Freire, 1970, p. 51). In this research, scenario planning can provide the space in time and place for teachers to engage in praxis and in so doing, might fountain new reality in the shape of the scenarios they would construct together. Praxis promotes the use of actionable research as it is about bringing theory and practice together to create a change in people's reality and to engage them in the process of reconstructing reality as active agents of such change (Tierney & Sallee, 2008, p. 679).

The future of implementing creativity in secondary schools, as it would derive from the scenarios, should set in motion change in the current position of creativity in secondary schools. This is because the social and personal constructivist theory would argue that 'Making inferences out of experiences constructs the wrong and right about the world, enriches experiences, changes

people's perception of right'(Ultanir, 2012, p. 199). Later in the methodology chapter, a more comprehensive look into praxis will take place as praxis is a method the research will use.

Praxis is the link between constructivism and pragmatism. While constructivism evolves around 'how an individual learner constructs knowledge in his or her mind' (Osmo & Pekka, 2003, p. 363), pragmatism ideas can 'ultimately determined in practice if they serve the purpose of action'(Osmo & Pekka, 2003, p. 364). These two schools of thought are tightly connected and the connection is in the action praxis can provide in linking thinking and practice.

Pragmatism in Education

On any given day, we are challenged with new issues that are encouraging us to adopt new behaviour. Dewey advocated that the continuation of adapting to our social surroundings is a vital part of the human experience (Dewey, 1922). This belief was previously contended by William James (2003, p.320) who wrote:

> 'a man possesses of learning only so much as comes out of him in action, and a monk is a good preacher only so far as his deeds proclaim him such, for every tree is known by its fruits'.

Pragmatism highlights the notion that learning is a continuing activity involving problem-solving techniques, thinking-reflection system, and experimentation. These activities coexist within each individual and create the

fabric of identity, habit, skill, and knowledge. The individual fabric of experiences influence us in return when we are called to take action, reason, be creative, exercise ethical behaviour and get involved in reflexivity (Ansell & Torfing, 2016; Baert, 2013; Dewey, 1922, 2007; Díaz, 2011; James, 2003).

In education, pragmatism construes human knowledge as a perspective-forming venture, by which students are in pursuit to adapt to the social environment they participate with. This knowledge is an instrument for students to form their system of belief, therefore, it is vital that students would have the capacity to investigate the world around them in various options and exhibit their ideas in a variety of techniques (Bacon, 2012; Dewey, 2007).

Democratic society, according to Dewey (2007) is a society which consists of ongoing readjustments of its institutions. This can be done through ongoing conversations among the different forms of life, educational institutions included. According to pragmatism in education, in these educational institutions students should be provided with real-life experiences and the education they are exposed to should have a social function (Bacon, 2012; Dewey, 2007; Jian-Jun, 2017; Sharma, Devi, & Kumari, 2018). Therefore, education with pragmatism in mind, should involve the continuum of reorganising and reconstruction of experience. Integration of the past and new discoveries are at the basis of educational pragmatism (Sharma et al., 2018) and as such, new experiences, activities and real-life experiences can obtain new knowledge about the students' world. This new knowledge, will contribute to the growth of students as they become more curious about the world with

every new discovery they make. This curiosity is the driving force of developing students' inherent capacities they bring with them to the educational institute.

Max Scheler wrote that ideas which are to stay in the mind or the spirit can become powerful when they manifest themselves through the impulses or human stimulus in practice or practical situations (Davis & Steinbock, 2011; Howard & Helmut Otto, 1942). He wrote about the sociology of the knowledge by which 'all human acts of experiencing, thinking, and knowing are socially conditioned' (Stikkers, 1987). This view is very much aligned with the views of Mead and Wittgenstein where under pragmatism, they see the human world as interaction between people through different types of acts. These acts are a testimony to the idea that one is both an individual and a member of a community or collective (Davis & Steinbock, 2011).

It is the pragmatist hope that the inherent capacities of community, collective, curiosity and communication will find new and creative manifestations of their ideas and perception of the world around them. Together with creativity, pragmatism can provide students with an exciting educational journey in our educational institutions.

Pragmatist approach to education is pluralistic in its essence as it should not be bound to an end; 'the ethos of pragmatism is extremely open, tolerant, and accommodating; it evades attempts to totalize it into a single dogmatic vision' (Garrison & Neiman, 2003, p. 21). Pragmatic view has no formula by which it operates within or tries to understand the world. Instead it accepts that

by participating in the events each person is involve in, we develop new experiences which might contribute to new knowledge. This new knowledge might be new to the person actively participating in it, or it might be new knowledge to the society one part-takes with (Gregory Fernando, 1996). Human knowledge is a process of actively adapting to the social environment (Bacon, 2012) hence, it accumulates the knowledge gained and adapts the reaction to the environment it operates within in a cyclical process of action, reflection and action again.

Pragmatism encourages humans to pursue these processes and engage with it, so we will be able to acquire the knowledge about the most achievable desired goals (Garrison & Neiman, 2003). In education, this might be a completion of a unit, a reaction to a question, or thinking about the concept of the law etc. All these thinking processes are engaging the students and the teachers in making sense of the world around them and searching for ways to better the situations they encounter.

Sharma, Devi and Kumari (Sharma et al., 2018) outlines seven principles of pragmatism; Pluralism, Emphasis of change, Utilitarianism, Changing aim and values, Individualism, Emphasis on social aspects, and Experimentalism. As pragmatism does not lay any preconceived ideas for its philosophical outcomes when using pragmatism as a philosophical approach, it does the same with regards to education. With this understanding in mind, the seven principles proposed above are an attempt to broadly describe the philosophy of pragmatism. They are not an attempt to give limits to education

under pragmatist view. Instead, it is a guideline to understand a pragmatist framework for classroom activities the process of learning occurring while teachers and students are engaging in educative processes. The principles of Sharma et al (2018) are significant as they draw a distinction between a pragmatist approach to thinking and the way that teachers go about establishing framework to meet curriculum goals. In other words, the difference between epistemological and sociological approach to education.

The Pragmatism of George Herbert Mead

George Herbert Mead (1963-1931) was trained in the fields of social psychology and philosophy. He advocated that people are active participants in their environments, who reflect, adjust and react according to our evolved identities when we interact with others (Fabbrichesi, 2016; Gillespie, 2005; Mead, 1934, 2002).

Mead (1934) distinguished humans from animal by two variations: the ability to delay reaction to stimulus and the language act (Aboulafia, 2008). They do that by the use of the symbolic gesture. These gestures can be in language use or in action and can be used to plan a reaction to stimulus or wonder about proposed reaction (Cronk, 2016). In this way, a greater knowledge of the world is being used and stored in the collective and in the individual. With this growing knowledge, humans can advance the society they live in via language and responses rather than being instantly responsive (Mead, 1934).

According to Mead human beings can consider the implications of their actions before reacting (Aboulafia, 2008; Mead, 2002). Therefore, they are able to organise their minds to work with different scenarios regarding a situation. This scenario work will be adopted in this research when scenario planning processes will take place. Mead also advocated that humans are able to make choices that are of an adaptation nature to the stimulus. These choices can be informed by the consciousness people develop while becoming 'other'. The analysis one is making by becoming 'other' contributes to the understanding of one another (Gillespie, 2005).

Significant gestures can be one way for one to internalise the other. Through the symbolic gestures we can connect, reflect and act together or alone in circumstances we encounter in life in general and in education in particular (Aboulafia, 2008; Gunter, 1990; Mead, 1925, 2002).

Mead and Wittgenstein were both taking into account the language gesture. Wittgenstein wrote in his book 'Philosophical Investigations' (Wittgenstein & Anscombe, 1997, p. Sect. 43), 'In most cases, the meaning of a word is its use'. The context of the language used and the way one uses language gives it its meaning and therefore becomes what Mead called a gesture. Wittgenstein saw language as a social act, where humans can communicate clearly and effectively what is on their minds. Mead advocated that through language communication, community would evolve as people's perspectives would become the framework for a society to form (Aboulafia,

2008; Gunter, 1990). Both Mead and Wittgenstein saw the creative power of language as an important part of the human experience. They seem to agree that the meaning of an act through language is given by the ways of speaking about our experiences and the way we reacted to them – the social act.

The social act is the social interaction that has become established over time and are able to be settled in relationships between people (Gillespie, 2005). This idea of the social act amalgamates people into one another, where the self can take the attitude of the other. It takes time for the self to develop, according to Mead, as it needs to be involved in many exchanges and social situations for one to come to the point where it can exchange gestures with another and understand its meanings. When one reaches this position, they are able 'to respond to its own signals to the other as the other does' (Ames, 1967, p. 182). Mead culminates synthesis of social and physical relativity as the capacity of being several things at once, which carries characterization of the human self and human society. In discussing the significance of Mead as a philosopher, Joas (1993, p. 239) comments that 'Mead's theory constitutes an enterprise that has great philosophical relevance and importance today, at a time of renaissance in many aspects of pragmatism.' Joas is concerned here with Mead's emphasis on social action, the creativity of action and how action connects with human intersubjectivity. He also notes Mead's incorporation of the latest scientific understandings and the bringing together of science and philosophy to strengthen both.

In education, the communication aspect and the ability to understand one another through the self is of high importance. Significant learning occurs when both the learner and the teacher participate in exchanging common symbols that they find meaningful (Gunter, 1990).

Other Research about Creativity in Education

Some other offers for the promotion of creativity were made in more recent times as mentioned recently. A five dimensional model of creativity and its assessment in schools has been proposed by Bill Lucas (Lucas, 2016) where he outlines the importance of Inquisitive, Imaginative, Persistent, Collaborative, and Disciplined as the core 5 dispositions of his model. His research was done in twelve schools and found that it might be possible to identify and assess creative habits of mind. In this way, the focus of Lucas's research is on measuring creativity and trying to find tools which can assist teachers, students and schools to assess creativity. The five dimensional model acknowledges its limitations and challenges. In my view the model is highly student-centred in that it does not appear to include teachers as co-participants in the creative learning and is not allowing other important stakeholders in educational establishment to be heard of taken into account, such as the community and school leadership.

More comprehensive research has been reported by Harris (2017) entitled Creative Ecologies: fostering creativity in secondary schools. This is a report which is another attempt to investigate creativity in secondary schools in

Australia, Canada, the USA, and Singapore. The three year research took into account principals, teachers and students and there is an effort to define, frame and measure creativity (in collaboration with the Australian curriculum). In its conclusion, the author argues that a whole system approach is preferable when students advance to workplace and offering businesses creative workers. I agree with Harris when she acknowledges that pulling creativity in one direction as to the teachers or students will not promote creativity in secondary schools. Her research is wide ranging and expands over many schools, however, it is too global and maybe too far reaching in its scope to propose an international solution arising from consideration of four national systems to promote creativity in secondary schools mainly in relation to workplaces. In tertiary level, Marjanovic (2019) concedes the importance of synergetic learning communities and developed and refined the different levels of knowledge as shown below.

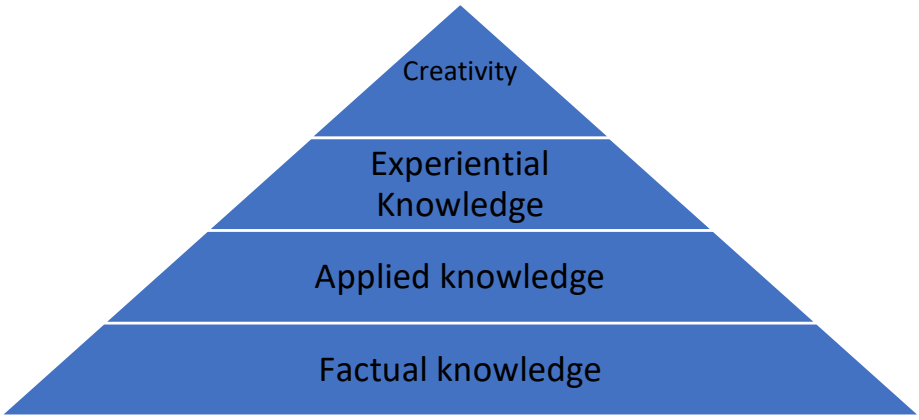

Figure 1.2 Different levels of knowledge (Marjanovic, 2019)

Marjanovic examines university teachers and students and is able to see in her research the university teacher as a reflective practitioner, creative designer, community leader, practicing professional and a change agent. However, the paper is again focused on university teachers and is not taking into account the other participating agents in the learning journey in university. In all of the above excellent examples of researching creativity in education, the authors have made great advancement in understanding the concept of creativity and they all offer various ideas into the way educational institutes can promote creativity.

Final Thoughts about Creativity

Creativity is the linking passage between old and new, the past and the future and it exists in the present through novel events. Creativity is the power to envision how the world would be before it is becoming. Creativity allows human beings to consider what does not yet exist and to try and make it come to life. In this process, humans might fail, succeed or engage themselves in a long process of refashioning what already exist. The novel events or exhibits can be interpreted or understood by the knowledge gained in previous experiences, therefore, creativity is inventing something new out of things that already exist around us. When we borrow ideas from one context and apply them in another or even in the same but in a different fashion, we are exploring creativity. For this to happened we need to channel our memories, thoughts and emotions to spark conversations around our perspectives. Creativity allows

us to incorporate our past with or without intention and thereby might assist us to understand one another or even explain one another. Novel ideas and novel products which constitute creativity are a product of acknowledging the necessities of the other.

In reflecting on the above comments, it is for me significant to recognise that they have been guided by the philosophy of George Herbert Mead and the other pragmatists and that accordingly a different construction of creativity in emerging. This research puts forward a different perspective of how to change and advance secondary schools in the context of creativity, through an all participated actors' perspective in the educational journey. It does not focus on parts of the educational environment, rather it suggests, as it is in the essence of synergetic, a whole thinking about and participating with educational establishments.

Creativity helps keeping education open, exciting and exposed to many different students and teachers who are the building blocks of secondary schools. Creativity might help us interconnect with others as we are allowing the other to enter out thinking, our ideas and our perspective of certain concepts. According to the pragmatist philosophy of Biesta (2015, p.23) 'Keeping education open for the event of subjectivity to occur does, of course, come with a risk, because when we keep education open anything can happen, anything can arrive'.

Chapter 2 - Methodology

Note: This project has ethics approval from the Ethics Committee, Victoria University Melbourne, reference number HRE18-024.

George Herbert Mead had a strong influence on this research and further in the discussion chapter, especially in the field of language gestures and the social evolvement of the self. He touched on the way people change when they are involved in various environments and each environment feeds the other. According to Gunter (1990, p. 21) 'Reflective thinking, or the passage of mind from one system (perspective) to another is not only the highest type of sociality, but also the realm of continual emergence and adjustment'.

An interpretive pragmatist and constructivist paradigm (Mertens, 1998) will be used as the general framework or worldview of knowledge given that the understanding and approach towards creativity will arise from the educational practice of teacher participants. A qualitative methodology of narrative inquiry (Clandinin & Connelly, 2000) will be the methodological strategy for developing teacher participant understandings and descriptions of their approach towards teaching, learning and knowledge. Scenario Planning (Jisc, 2013) conceived as praxis (Cherednichenko & Kruger, 2009) will be the specific method adopted to gather data on future possibilities of enhancing creativity in classrooms.

Narrative inquiry

The research will employ a narrative inquiry methodology to try and answer the question of 'How could creativity in secondary classrooms be impacted by scenario planning?' This discussion will necessarily consider other aspects of the research such as scenario planning and narrative inquiry that will be discussed in more details later. These aspects of the research are interconnected, which needs to be noted when appropriate.

Narrative research is about the life stories of participants and it provides accounts of human experiences (Ary, Jacobs, Sorensen, & Walker, 2013). The following explains how qualitative research sees narrative as a form of inquiry (Green, Camilli, & Elmore, 2006, p. 477):

> *People shape their daily lives by stories of who they and others are and as they interpret their past in terms of these stories. Story, in the current idiom, is a portal through which a person enters the world and by which his or her experience of the world is interpreted and made personally meaningful. Viewed this way, narrative is the phenomena studied in inquiry. Narrative inquiry, the study of experience as story, then, is first and foremost a way of thinking about experience.*

As human beings we strive to tell the story of our life, and by doing so, share our experiences for the upward mobility of society as a whole. Narrative

inquiry assumes that people live and tell stories and the researcher is trying to understand what people's experiences are (Pinnegar & Daynes, 2007) and as such, research with narrative inquiry as its methodology will research 'with' people instead of researching 'of' people: '…(narrative) researchers usually embrace the assumption that the story is one, if not the, fundamental unit that accounts for human experience' (Pinnegar & Daynes, 2007, p. 3). The stories that people are living are embraced in narrative inquiry as both the method and phenomena of study. The essence of narrative inquiry lays in the involvement and reconstruction of people's lives and their interrelation with the social habitat and other people (Clandinin & Connelly, 2000).

In a constructivist view we all hold our side of the truth and strive for our side of 'whole' wellbeing. Narrative inquiry is a methodology, which can operate as a laneway into people's way of constructing their own understanding, meaning and purpose. By employing scenario planning method (see later) within the methodology of narrative inquiry, the research will be able to minimise the risk of it becoming a narcissistic, self-interested research. The collaborative work of the teacher-participants in this research as will be outlined later, will enable a construction of scenarios that could be imagined and implemented in various secondary classrooms. The narrative manifested in the positive scenarios might be able to inform '…positive change in education [which] seems often absent'. However, Fowler then notes a warning that 'In such attractive narrative research, if theory is derived, it sometimes is fitted into popularized advice to teachers or recipes for teaching success, which serve to trivialize real difficulty in teaching' (Fowler, 2006, p. 7).

As a combination of scenario-planning and narrative inquiry, the research is hoping to achieve results that would orginate from the teacher-participants and their extensive experience in education. This extensive experience correlates to Dewey's idea on how humans develop a personal narrative.

Dewey's two principles of experience for the purpose of developing a narrative, which can tell the beholder's narrative of experience, are: Continuity of experience and Interaction (Dewey, 2007). Both Continuity of experience and Interaction are constructing the understanding of experience and forming the narrative of people's lives. The research will attempt a weaving of these narratives into scenarios where a new narrative will be written based on the experience of the teacher-participants. Through these interactions and drafting-redrafting scenarios method, it is hoped that a positive answer to an answer to the research question 'How could creativity in secondary classrooms be impacted by scenario planning?' will be revealed.

Support for such a new method in narrative inquiry can be found in the writing of Clandinin (2006, p.47) where she remarks, 'Narrative inquirers cannot bracket themselves out of the inquiry but rather need to find ways to inquire into participants' experiences… as well as co-constructed experiences developed through the relational inquiry process'. Narrative inquiry is a research methodology, which seeks to understand people's experience and draws on their view of their experience. In scenario planning the narratives are written in

a story format collaboratively while they attempt to communicate the meaning of an experience (Ary et al., 2013). These meanings can be visualised into scenarios in a collaborative attempt to implement creativity in secondary classrooms.

Narrative inquiry provides both the process and the product (Kramp, 2003). The process involves reflection, structuring and narrating the story of the beholder within the context of space and time. However, as opposed to a positivist view on the world where one answer can be found to a question, narrative inquiry is taking into account the pragmatist and the constructivist view where different people hold different views about a situation or an experience. By doing so, narrative inquiry sits well within the pragmatic philosophy and it helps the researcher identify the importance in the variety of experiences instead of searching for verification or proof to what is true and what is not. As creativity is difficult to define and put forward as one truth, narrative inquiry with pragmatism in mind will assist the teacher-participants in the scenario planning to construct their stories of envisioning creativity in secondary schools in a mid-time frame (10-15 years from the present).

The emphasis in narrative inquiry is the storying and re-storying process of experiences. According to Moen (2006) three foundations form narrative inquiry: organisation of experiences in the world into narratives, past and present experiences appear in the narrative, multivoicedness occur in narratives. These three foundations are closely tied to language as narratives are told through language. However, other forms of language can come into play in narrative inquiry when the participants add the social act which was

discussed earlier. These social acts are forming a sub story of which the teacher-participants in the research will have to pay attention to as it is an inextricable part of the whole story of creativity in secondary schools.

Narrative inquiry is both a process and a product (Kramp, 2003) which makes praxis and pragmatism work well in this research. In pragmatism, experience has meaning and it is embedded in the context of which it takes place, 'Qualitative researchers engage in narrative inquiry share this respect for context, especially time and place' (Kramp, 2003, p. 105). While reflecting, structuring, narrating and redrafting, the teacher-participants will engage with the story of creativity as they have experienced it in their educational settings throughout their professional life. These experiences become meaningful when they are shared and crafted in conversation and planning scenarios. Hooley (2009, p.178) advocated for participatory narrative inquiry as a tool for social justice in Indigenous education. He writes '…the interaction on which daily life is based also reflect great social trends and currents that permeate humanity'. He continues to explain that narrative inquiry is an educational strength as it allows the transformation of creative investigations into concepts. Both Kramp and Hooley engage their ideas into the meaning of experiences through narrative inquiry. At this point it is important to note that the meaning we give to experiences with connection to prior knowledge or as new knowledge (Dennett, 2017), is the construction of a person's inner world based on the accumulation of meaning of experiences.

Narrative inquiry and scenario planning, as it will be explained later on, might be able to answer the philosophical questions about power, authority and community. These questions were raised by Pinnegar and Daynes (2007) when they investigated the history of narrative inquiry. They close their book chapter by challenging the conversations we engage with in research and they ask for a method or 'a way of talking and asking and answering and making sense – that will allow narrative to flourish in this congenial moment for stories' (Pinnegar & Daynes, 2007, p. 30). Scenario planning hands over the narrative to the participants and allows them to construct, reflect and reconstruct their vision in relation to a particular issue. In this way, the researcher minimises interferences to the construction of the narrative and gives the participants the power to contemplate a solution to an issue arising.

In the next section I will explain the connection of praxis and scenario planning within the narrative inquiry methodology and how they complement and advance one another.

Praxis

The research will use a praxis approach to try and answer the question of how can scenario planning be used as a driver for creativity in secondary classrooms and as such, will practise a narrative research with scenarios at its core. Praxis is broadly understood as the integration of practice and theorising to change situations for the benefit of all participants. It is an ethical and democratic process that respects the knowledge of all those involved and seeks

to improve situations and assist all participants for greater understanding of situations and of themselves (Freire, 1970; Hooley, 2017). The aim of this research is therefore to develop six scenarios based on the work of the six teacher-participants in the research. These teachers represent various subjects in secondary school, from Science to Legal Studies, Second Language to Maths. The teacher-participants will be involved in two face-to-face workshops and one online discussion. This engagement of teachers with one another will assist in developing their intersubjective connection, as it could be the ground for fertile positive scenarios. These scenarios will hopefully tell the story of their desired educational setting to implement creativity in secondary classrooms, through an understanding and trying to identify the challenges for teaching and incorporating creativity in secondary schools. Intersubjectivity is the inner connection people make when communicating with one another and 'recognises that meaning is based on one's position of reference and is socially mediated through interaction' (Anderson, 2008, p. 468).

This interaction between people is at the core of this research as it looks into constructing scenarios from a shared understanding of the process of creativity and its implementation in secondary schools. Intersubjectivity is not merely understanding one another, however, it goes much deeper into the 'meaning and understanding (that) lies along a continuum of mutual intelligibility' (Anderson, 2008, p. 468). These connections would be helpful in telling the stories of teachers in the creativity context in secondary classrooms and assist when constructing the narrative of the scenarios.

Fundamental philosophical issues are practised in praxis philosophy as abstract social conditions (Feenberg, 2014; Hooley, 2017). They emerge as practical issues lacking solutions echoing cultural dilemmas. In the philosophical practice, these dilemmas would be thought about, reconsidered and revaluated. In praxis, these issues would be treated as cultural theory antinomies. Thus, praxis handles these issues as highest manifested expressions of social contradictions. These contradictions might include Value/Fact, Freedom/Necessity, Individual/Society, Subject/Object (Feenberg, 2014). Kincheloe (2003) explained praxis as inseparable relation between theory and practice which would lead to informed practice and he presses that 'We must understand theoretical notions in terms of their relationship to the lived world, not simply as objects of abstract contemplation' (Kincheloe, 2003, p. 43). His ideas about praxis continue to inform the methodology of this research when he states 'viewing research as praxis, we use or research, to help participants (ourselves included) understand and change their situation' (Kincheloe, 2003, p. 43). This statement by Kincheloe is fundamental to the understanding of this research as the teacher-participants have not been involved in a scenario planning process before and through it they will be able to identify contemplate and understand their position and ideas about creativity through the discussions about the issues they will raise, and construction of the scenarios around the topic of creativity in secondary schools. They will do that while they are engaging with one another and form professional relationships around their views and practice. Praxis becomes more relevant and potent when people demonstrate 'The ability to read relationships [which] will carry over into all content areas' (Kress & Lake, 2013, p. 122). This intersubjective

knowledge of the people we communicate with, work with, and practice with 'remarks the conditions of informed action and constantly reviews action and the knowledge which informs it' (Carr & Kemmis, 2003, p. 33). Praxis thrives on the recurrence of such knowledge as it allows people to sharpen, adjust, modify and trial new concepts in their field of practice. Moral disposition is one of the guiding tools of praxis (Carr & Kemmis, 2003) and teachers are moral practitioners who truly and justly want to guide and educate the youth of which they are in constant contact within secondary schools. Moran et al (2014) wrote about the moral duty of teachers to foster creativity in the interest of the common good and to avoid harm to the common good as sometimes can be brought upon by creativity. When engaging with praxis in the context of creativity, the teacher-participants are able to identify their moral obligation to their profession and to the society of which they serve. In discussion, drafting, and arguing points of practice, the scenarios will be informed by the morality of the teacher-practitioners and their experience.

In feminist praxis literature, the idea of collaboration and interpersonal relations in praxis methodology is expressed in the works of Swarr & Nagar (2012), Hess-Biber (2011) and Hess-Biber & Piatelli (2012). Swarr & Nagar advocated for collaboration to be subjected to continuous critical investigation for the purpose of countering the institutional framework of the academy and the limits placed on activism. In this way, flow of ideas and practices can take place and remain dynamic and generative while 'it is critical to retain the incoherent, contingent, and contextual nature of such praxis' (Swarr & Nagar, 2012, p. 18). Praxis in this research is employed to give a voice to teachers as

professional practitioners working in educational establishments. As in feminist inquiry into praxis, so does this research pay attention to power and how knowledge is built: ‘Feminist research takes people as active, knowing subjects rather as passive objects of study’ (Hesse-Biber & Piatelli, 2012, p. 6). Thus, praxis in this research, is suitable as a methodological framework as it views the teacher-participants as knowledgeable people in their field of education with extensive experience in various countries and secondary schools. Collins (2002) and DeVault (1990) advocated for a feminist perspective that highlights the importance of the connections people in research create and by doing so, enhance the research as a well-informed research. Throughout the scenario planning process, the teacher-participants will develop empathic, interpersonal relationships for the research to be informed by their insights about the meanings they give to their lives. According to Hesse-Biber & Piatelli (2012, p.6) such research can be ‘useful and meaningful to participants and the larger society’.

Freire (Freire, 1970) adopted the notion of praxis as a liberating tool in education. He emphasises that liberation cannot be gained by the oppressed by chance, rather ‘through the praxis of their quest for it’ (Freire, 1970, p. 45). The histories and cultures people create are in a cyclical process with the history and culture they are subjected to and produces them. The educational culture and history the teacher-participants bring with them to the scenario planning process will shape the way they construct the positive scenarios through the language, culture and history they will share with their research community. Friere, discussed the development of human consciousness as

moving through a number of stages the highest of which he calls ‘critical’. He described critical consciousness as being able to take account of all the features that impact upon experience. In this sense Glass (2001, p.19) also noted that through the process of praxis ‘critical consciousness is mindful of the relationships among consciousness, action and world, and grasps the way of the world in the constructive nature of knowing’. This process of praxis which will generate new knowledge will be gathered and processed by the teacher-participant as thought and action cyclical process, is the core basis for the construction of the scenarios and the enhancement of thinking about creativity in secondary schools. Carr and Kimmis (2003, p.34) saw this process of thought and action as mutually constructive ‘as in a process of interaction which is continual reconstruction of thought and action in the living historical process’. This view supports Freire’s view that knowledge was not a state of mind but rather a state of being which produces history and culture (Freire, 1985; Glass, 2001; Kress & Lake, 2013).

In the words of Carr and Kimmis (2003, p.33) ‘Praxis… is informed action which, by reflection on its character and consequences, reflexively changes the ‘knowledge base’ which informs it.’ Therefore, it is suitable to be adopted in this research in conjunction with scenario planning because the aim of the research is to establish the stage of informed knowledge for the teacher-participants and incorporate narrative inquiry concept of doing research *with* people and not *on* people.

The method of scenario planning will be outlined next as it is the narrated construction of the teacher-participant's view of creativity in secondary classrooms in this research and the tool which the research is using to inform itself of the views of the teacher-participants.

Scenario Planning

The method of scenario planning in my research will be a process, which is rigorous, collaborative and creative. A group of four to six teachers from my school and other schools who volunteer to participate in the research forming the body which will develop the scenarios. The teachers are from various subject teaching experience: English Literature, Legal Studies, Humanities, Science, Maths and Religion & Society. Some of the participants have held leadership roles and all have more than ten years of experience. There were other teachers who expressed their will to participate in the research, however, in the scenario planning process it is recommended to work in a small group and the experience that the chosen teachers bring with them is of high importance for the success of the research.

The group of teacher-participants will hopefully construct five or six plausible, relevant and divergent scenarios that confront and question grounded perspectives participants hold about the future of creativity in education and its implementation in secondary schools. These scenarios can be used to examine current strategies and policies or to develop innovation in accomplishing the incorporation of creativity in secondary classrooms.

Scenarios that will manifest out of this process should not be examined against their ability to predict the future, rather their ability to invoke learning of educational establishments, communication between groups of teachers represented in the secondary school and understanding education and creativity as a whole and not as fragmented parts working to achieve the same goal. Scenario planning provides an opportunity to '…draw upon the creativity of those involved, resulting in new views and interpretations on important external developments' (Jisc, 2013).

The process of the scenario planning and the development of the scenarios in this research is described in the diagram below.

Figure 1.1 The Research Process based on Stanford (Stanford, 2016)

Similarly to the diagram above, Wright & Cains (2011) developed the eight stages of the scenario process in action :

Stage 1: Setting the Agenda

Stage 2: Determining the Driving Forces

Stage 3: Clustering the Driving Forces

Stage 4: Defining the Cluster

Stage 5: Impact/Uncertainty Matrix

Stage 6: Framing the Scenarios

Stage 7: Scoping the Scenarios

Stage 8: Developing the Scenarios (P.22)

It is considered that the research design is appropriate to investigate the research question and new knowledge has been theorised accordingly. The number of participants and the amount of scenarios they have developed is quite acceptable. Scenario planning usually take about 2-3 days to complete as can be seen in MIT Center for Transport and Logistics (MIT, 2020), Melbourne University's Business School (Melbourne University, 2020) and Saïd Business School in Oxford University (Saïd Business School, 2020). In this research the participants have met 2 times for 4 hours in face to face with intensive discussions and drawing of scenarios, and once online. There has been a week between the 2 face-to-face meetings. The participants had 2 weeks to discuss and refine their scenarios online. This allowed cycles of thinking and refining of their futuristic ideas.

While there are different approaches in scenario planning, including the technique of contrasting scenario, this was not the approach used for this

design. A particular approach to scenario planning was adopted following the literature review and previous experience of others and myself in my Master of Education by Research. Contrasting scenarios was not the technique employed in the scenario planning process in this thesis, rather the technique of positive scenarios. Positive scenarios are intellectually difficult to craft because of the challenge the scenarios face during proposed changes outlined during the drafting process.. “Negative scenarios are much easier – you just describe the demise of what you already know” (Ogilvy, 2006, p. 24).

In my view, the procedure of scenario planning is able to complement the social communicative approach put forward by Mead (1934) and Habermas (1984) when they consider language to be the paradigmatic form of communicative objectivation. The intersubjective connection participants would hopefully be involved in communicatively while taking part in the scenario planning process will enable them to communicate their predicaments.

The future of implementing creativity in secondary schools, as it would orginate from the scenarios, should set in motion change in the current position of creativity in secondary schools, as the social and personal constructivist theory would argue that ‘making inferences out of experiences constructs the wrong and right about the world, enriches experiences, changes people’s perception of right’ (Ultanir, 2012, p. 199). The connection between the teacher-participants in the scenario planning will be viewed with a praxis theory in mind, as it is the collaboration of people that fountain the new knowledge of change.

Scenario Planning and Praxis

The goal of Praxis is '…not the knowledge obtained through an end result or the production of an object, but rather the knowledge produced through action' (Tierney & Sallee, 2008, p. 676). The teacher participants will take part in communicating, discussing and exchanges of points of view about creativity in secondary classrooms in scenario planning process. Then drafting/redrafting of scenarios would be the most beneficial way to employ praxis as a way to construct a solution to a general problem (the challenge of implementing creativity in secondary schools) by using their knowledge of particular situations in the teacher's classrooms (Hemmings, 2000).

Paulo Freire (1970) saw praxis as a way to reflect, engage and act upon issues concerning the greater good. He advocated for the reflection and action through communicating and connecting people when he wrote that praxis can be done by 'reflection and action upon the world in order to transform it' (Freire, 1970, p. 51). The research strives for the scenario planning to be able to provide the space in time and place for teachers to engage in praxis, which might fountain new reality in the shape of the scenarios they would construct together. These narrative scenarios would be at the core of the research, as they will narrate the way the six teacher-participants have imagined and constructed their positive creative secondary classrooms so that creativity can be implemented. Praxis theory promotes the use of narrative research as it is about bringing theory and practice together to create a change in people's

reality, and to engage them in the process of reconstructing reality as active agents of such change (Tierney & Sallee, 2008, p. 680).

This collaborative work which will involve discussions and engagement between the teacher-participants, is the data collection for the research. It will collect the teacher-participants ideas and visions about creativity in secondary schools based on their extensive experience in various settings. Scenario planning will be the stage for the praxis players to play with their philosophical view of creativity in education in general and in secondary schools in particular. Scenario planning process allows the teacher-participants to connect, communicate, transfer ideas and shape their own view about the concept of creativity in a praxis way. Carr and Kemmis (2003, p. 122) wrote about the connection people make while engaging in praxis and pointed out that while committing to praxis people will be able to delve into relationships that will shine a light into other content areas and therefore 'our praxis becomes more relevant, and potent, to the degree that we are in tune with the voice of others'. If the teacher-participants will be able to connect on such a deep level, the research will benefit from it to the utmost.

Research Process

The research will include six teachers from the fields of: Legal studies, English Literature, Science, Humanities, Religious Education and Second Language. They are all teaching in secondary schools in Australia and have at least 10 years of teaching experience each. Four of the participants are

Victorian Certificate of Education (completion in Year 12 VCE) teachers as well as Year 7-10. The other two participants teach at the time of the research Year 7-10 students. The participants would meet three times. The participants meet twice for a four hour workshop and once they will meet online. The online session will allow the participants to adjust, comment and reflect on the scenarios during the two weeks following the face to face meetings. Throughout the face to face workshops the teacher-participants will conduct discussions in the topic of creativity through a scenario planning process. The idea for the participants to meet three times came from Dewey's two principles of experience: continuity of experience and Interaction (Dewey, 2007) which will contribute to the development of the scenarios under constructivist and pragmatism paradigm.

Qualitative research is a broad field involving a number of methodologies across knowledge disciplines and topics. It is difficult to specify preferred sample size for such a range of disparate studies. Guetterman (2015) for example conducted a survey of sampling practices in education and health sciences and noted that detail was limited. He commented that, "Simply, when considering sampling, researchers need to move beyond 'how many?' to address the questions of 'how?' and 'why?'" For this thesis, critical consideration was given to the appropriateness of the sample size and it was considered to be adequate to provide data for the research questions. The scenarios as discussed and compiled by participants enabled key points to be identified and themes to be theorised and described. Accordingly, the sample size chosen did not appear to limit data and research outcomes.

Before the first meeting, the participants were given brief readings about creativity and scenarios for the purpose of familiarise them with the research topic. These readings were 'Fostering creativity through education' by Lin (2011) and 'Scenario planning – lessons for practice from teaching and learning' by O'Brien (2004). As usual, professional reading is not to impose a predetermined point of view but to provide background reading to stimulate thinking and discussion.

The researcher is aware of the constraints teachers in secondary schools are under throughout the academic year and therefore decided that it would be most beneficial for the collection of data in the research to conduct the meetings at the end of the academic year where teachers are less time-stressed to be able to participate in an educational related research. The following table explains the process of the meetings with the participants.

Meeting	Process of Meeting	Materials and assistance
1st Meeting Duration - 4 hours	• Teacher-participants introduced themselves with one another • Initial thoughts about necessity of creativity in secondary school are shared. • Teacher-participants reacted on post-it notes to three posters on the walls around. • Discussion took place around the table with writing ideas and attaching them to the posters.	• 3 posters on the walls i) Issues impacting creativity in your teaching practice today. ii) What kind of creative classrooms can we have in 2035? iii) Drivers of change in creativity in secondary schools • Six themes chosen (1) Trusted Autonomy (2) Flexible Timetables

	• Participants cluster post-it notes around proposed themes. • 10 themes were proposed through discussion. • Six themes were finally chosen to build scenarios around. • Initial thoughts about each scenario themes are drafted.	(3) Substitution of Year 10-12 Examinations (4) Professional Learning in Creativity (5) Self-Managed Secondary Schools (6) Creativity in the Budget
2nd Meeting Duration - 4 hours	• Teacher-participants shared written thoughts they had about the last meeting • Rich discussion around the purpose of education and the purpose of creativity in education. • Scribe presented first draft of scenarios were presented by the scribe • Teacher-participants worked in rotating pairs to discuss, write and suggest further ideas about each scenario on a poster • Pairs presented their writing and ideas and wrote suggestions from other participants about the theme and the pair's ideas. • On a big screen, the scribe was writing the scenarios in accordance with the participants' writing • The teacher-participants fine-tuned ideas in each scenario.	• Pair work on posters with the scenarios themes. • Writing the scenarios on big screen.

3rd Meeting Duration - 2 weeks	• Scribe presented first final draft of scenarios on a shared online document. • Participant added their ideas about clarity of the scenarios online in the form of comments • Feedback is given to the final scenarios and comments are accounted for in the writing.	• General scenarios are completed online.

Table 2.1 Research Process and Timeline

Role of the Researcher

In qualitative research, the researcher can take a variety of roles. For example, in action research, the researcher is an active participant working alongside a group of participants as they pursue improvements in professional practice and new knowledge arising. When methods such as interviews, videos, surveys and questionnaires are involved, the researcher may be involved in semi-structured discussions to a greater or lesser extent. Each research design will need to consider when and how the voice of the researcher should be heard and the nature of the contributions that might be made. Blackmore (2013) notes that from a feminist perspective, it is important for the researcher's voice and experience to be recognised and to be incorporated into the research journey as appropriate. She comments that 'The feminist academic practice of situating oneself within the research is about recognising

the power relations between the researcher and the researched, but also making explicit the values underpinning the theoretical positions researchers brought to their analysis' (p. 3). For the purposes of this research, I will be present during planned discussions of participants, to assist if needed regarding questions about process and references, but will refrain from imposing any leading thoughts and/or directions.

There will be a final group discussion when scenarios are completed to reflect on the process and the ideas and issues that have been revealed. At this stage, I will be able to take a more visible role in discussing, challenging, referring to the literature and commenting on the research overall. My voice will also be heard during the 'specialist conversation' (see below) when meeting with the 'Project Friend' for commentary and advice.

Researcher's Diary Entries

In this research, diary entries were taken as an important part of the formation, observation and reflection on the scenario planning process and the participants' intersubjective connection which was evident in the scenario planning process. Diary entries of myself, which are a primary data source that is not contaminated by an artificial process of inquiry, will provide descriptive data for the purpose of triangulation. These diary entries were taken approximately twice a week for the duration of the research (each about 100 words), and if there were details or critical incidents to recall, I documented those as they happened. These diary entries are important data as they help

reflect on parts of the research and highlight themes which at the time might not seem of value, however, value was added to them when reflecting upon the research and analysing the data.

Specialist Conversation with a Critical Friend

A follow up conversation, with an experienced academic and researcher with knowledge of the field of qualitative research including psychology, experienced academic researcher and with interest in scenario planning and creativity will be taken. This conversation will take about one hour and its purpose was to draw upon ideas and to seek clarity if needed about the scenarios. Also, it might be a good opportunity to answer questions about the scenarios and their objective. As the scenarios generated ideas and thoughts about creativity in secondary schools, it is important to let a specialist researcher to critique and provide insight the scenarios. The conversation and critique will also give rise to aspects that were in the blind spots of the researcher and the crafting of the scenarios and were part of assisting in clarifying the data analysis process.

Data analysis

The three data sets will be examined for commonality and themes. These might be encountered in the literature. In the field of qualitative research analysis of this type would preferably require a number of cycles of investigation to refine understanding as they emerged, referenced to participants and

ongoing reconsideration of what has been theorised. Ideas that resonate from the data such as commonality and points of interest form the basis of general discussion and further development and understandings as the research proceeds. Identification of issues that require further investigation are hoped to be revealed in the scenarios.

Chapter 3 – Research Process

Introduction to research process

This research has employed a narrative inquiry to explore the question of *How could creativity in secondary schools be impacted by scenario planning?* A group of six teacher-participants took part in three meetings, two as group work and one online discussion to explore creativity through the method of scenario planning. During the face-to-face meetings, a scribe was present to take notes of the teacher-participants ideas, guide the teacher-participants through the stages of the scenario planning and to write the scenarios themselves with the guidance of the teacher-participants. Scribe use was found to be appropriate in '…studies that seek to identify common ideas or meaning' (Eaton, Stritzke, & Ohan, 2019 p. 600) and had been used in interviews and focus groups . In this research, the scribe will collect the ideas and write them into scenarios so that the teacher-participants will be able to engage in the conversation and this will not interfere with the flow of conversation and carving of concepts into scenarios in the group.

The rationale behind using a scribe lay in two main concepts:

1) The teacher-participants will be available to engage in the conversation instead of writing.
2) To neutralise the power struggle that might emerge when one of the teacher-participants will be writing the scenarios.

There was no prior relationship between the scribe and the teacher-participants, and the scribe is a professional writer who documented all comments from all participants at all times.

The teacher - participants were engaged and expressed their will to better the educational system where they work. The results, as will be discussed later in this chapter were beyond initial expectations of this research and contributed for new knowledge to emerge. The next section will give an overview of the background of the teachers-participants and later will explain the process of the meetings.

Process of scenario planning in the research

Narrative inquiry was at the centre of this research when the teacher-participants ideas developed as a group, enabling them to be narrate in six scenarios. It was important for the research that the teacher-participants develop their own scenarios from their experiences and from their view of the possible future of creativity in education. Three meetings took place, two face-to-face as a group and one meeting afterwards as an ongoing online discussion (two weeks) on a shared online document involving all six draft scenarios, to which all teacher-participants had an invitation and access to contribute, comment and propose clarifications, not to change meaning to the written scenarios.

The teacher-participants were from three different schools; one independent school, one Catholic school and one state special needs school. The schools represented versatility of components, that is: socio-economic background of the students and the teachers, availability of resources, expectations of management and parents, communication needs and practices, policies and student enrolment. These factors contributed to the flexibility of ideas that were brought up by the teacher-participants during the scenario planning process and enhanced the six scenarios they developed.

On an individual level, the teacher-participants came from various backgrounds culturally and economically. They are from Australia, South America, Asia, and European countries. Some of the teacher-participants were born overseas and some were born in Australia. Some of them taught overseas in Europe, South America and Asia and those experiences enabled them to promote various ways to perceive secondary schools and creativity. All the participants have a teaching experience of more than ten years and they have all taught at junior and senior colleges with experience at the VCE level. They all shared the passion for their profession and expressed their will to better the systems they work at in numerous opportunities throughout the sessions.

During the meetings in person, a scribe was present to navigate the discussion and minimise the researcher's influence of the scenario planning process and outcomes. The scribe took notes, outlined the teacher-participants the topics of discussion, focused the teacher-participants on the task and presented the draft scenarios to the teacher-participants in the second face-to-

face meeting, for discussion and further development of them. The work of the scribe was of a tool in the hands of the teacher-participants, where she assisted them in writing their ideas collaboratively, carve these into six scenarios for the purpose of narrating the view they formed about the plausible future of creativity in secondary schools in ten to fifteen years. The scenarios were an important instrument to amalgamate the teacher-participants proposals for change in creativity in secondary schools and their common ongoing consent throughout the scenario planning process. This ensured that the process also enriched and validated the scenarios as closely as possible narrated the participants thinking.

The researcher has employed the practice of a scribe in the research for the benefit of the research and the purity of results. The researcher did not want to influence the teacher-participants while thinking, rethinking, discussing, drafting/redrafting and finalising the scenarios. The researcher has her own ideas on creativity, however, in distancing herself from the process of scenario planning, her ideas were not present in the scenarios at all. Even when the teacher-participants were asking ‘how should we carve the scenarios?’ ‘what should we include in scenario 1?’ ‘how far are we allowed to stretch reality?’ (Meeting 1 & 2, December 2018), the researcher always answered ‘whatever you think is suitable’.

This narrative inquiry method which was employed in this research accommodated the attempt to understand what the teacher-participant experiences with creativity in secondary school were, and how do they propose

to attempt to positively change that. As was proposed by Moen (2006) the three foundations to narrative inquiry existed in the work of the teacher-participants; organisation of experiences in the world into narratives, past and present experiences appear in the narrative, multivoicedness occur in the narratives.

The next section will explain the process of the meetings and the ideas that developed during these sessions. It will also give an explanation of the formulation of the scenarios as an instrument of narration of their thinking.

The First Group Meeting

After agreeing to meet twice with a week apart from each meeting, teacher-participants met for the first time and started with an initial introduction of the teacher-participants and discussion about the necessity of creativity in secondary schools. This discussion was an important start for the session as it allowed the teacher-participants to learn about each other's views about creativity. Then the discussion naturally turned its attention to the posters on the walls.

Three posters were posted around the room and the scribe asked the participants to respond to each topic on each poster with post-it notes.
The three posters headlines were:

- Issues impacting creativity in your teaching today.
- What kind of creative classrooms can we have in 2035?
- Drivers of change -

- How will they change in 10-15 years?
- How will these change education as a whole?
- How will they change your classroom specifically?

The teacher-participants were sharing ideas around the table in response to the posters, while the scribe was adding their ideas onto each poster. This took about one hour, during which, the participants were able to familiarise themselves with each another's ideas and find many issues to agree on, such as factors in and out of school which affect their creativity in the classroom, school administration, the Australian curriculum approach to creativity and to their profession and the lack of time they have to be creative. Next, the participants were walking around the room, adding their post-it notes as they saw fit and had more private discussions about the posters and issues arising from them. Their comments around the idea of creativity included the issue of teachers' knowledge about creativity when one participant said 'I am not too sure that I know what is creativity to be able to incorporate it in my classroom' (Meeting one, December 2018). This lead the discussion of what is creativity and the need for staff to be educated in the topic of creativity and its manifestation in classrooms. This discussion among the teacher-participants guided another discussion around the questions they ask the students and the need for them to be open ended. For example, another participant asked 'If we want creativity to show itself in classrooms we need to ask questions that drive the learning and inquiry of the students instead of knowledge per-se questions' (Meeting one, December 2018). Further participant asked what those might be and the answer was 'questions of why, what and how are questions that

students will need to look for the answer not just in Wikipedia but within themselves'. Questioning their own teaching practice in this manner was positive and made the conversation flow in a productive and shared form. Another participant raised what she called 'the art of asking questions' in which she said that sometime teachers ask the questions they want answered to progress the lesson in a certain direction instead of going with the interest of the students in the matter (Meeting one, December 2018). This point led to disagreement between the participants as to the pressures teachers are working with, time allocation and their almost disability to be creative in the classroom because of these pressure elements.

During the third hour, the scribe asked the teacher-participants to cluster the ideas into themes which they feel they can narrate the scenarios around. Initially, ten themes were raised while the teacher-participants debated and conversed around ideas of school structure, parental expectations and assessment of learning. After long discussion, where some disagreements arise around the question of importance of concepts such as: trust, flexibility, dedication to education by students, teachers and the community; the teacher-participants agreed on the six themes they feel comfortable to expend on in their scenarios.

During the first group meeting the teacher-participants found that they share among them experience from various schools with a wide range of facilities (budget, staff, scope and community engagement) when they commented that 'the school I work in now has a third of the budget of my

previous school, however, the expectations are almost doubled.' Another participant answered to that was 'no matter what the budget is, the community is the most influential in my school and it seems to me that the school would do anything to satisfy the parents. Teachers are the last group of people they listen to.' (Meeting one, December 2018). After much discussion they agreed on six themes of which they felt were the most pressing issues to enhance creativity in secondary schools according to their experiences. These six themes included as much as possible most of the issues they raised in the initial discussion about creativity in secondary schools.

The six themes were:

1. Trusted Autonomy
2. Flexible Timetables
3. Substitution of Year 10 - 12 Examinations
4. Professional Learning in Creativity
5. Self-Managed Secondary Schools
6. Creativity in the Budget

These themes were to become the scenarios presented in the research results chapter. The teacher-participants then started drafting the scenarios according to the post-it notes associated with each theme, so the scribe can start writing the scenarios for the participants to elaborate on them at the next meeting.

The Second Group Meeting

The second meeting of the teacher-participants took place a week later and was relaxed in nature. Some of them wrote ideas and thoughts they had throughout the week with regards to the topics they spoke about in the first meeting, so during the first half hour, they shared these with each other. Thoughts were around the purpose of education with questions asked by the participants such as: 'what do we want the students to come out with at the end of their secondary schooling?' (Meeting two, December 2018) 'How do we decide what should students learn in secondary schools?' (Meeting two 08.12.2018) 'The customisation of what students should acquire when they leave Year 12' (Meeting two, December 2018) were a few of the points for discussion. The VCE issue was present when one of the participants said they thought that 'the VCE examination prevented teachers from being creative because the questions they ask are closed and students can memorise the answers from previous years' (Meeting two, December 2018). Another participant expressed the notion of 'creativity can be a vehicle for democracy, when we open our thoughts to one another but need to bear in mind that not all students are creative and creativity can be a source of anxiety for them' (Meeting two, December 2018). This rich discussion was an important step into the work the teacher-participants were going to do next as it highlighted the thoughtful investment they were involved in throughout the week, thinking about their first meeting.

The scribe went through the scenarios to check if the teacher-participants still agreed on them or if they have any reservations about them. After receiving their agreement about the themes of the scenarios and the approval that they were still current, the scribe divided the teacher-participants into pairs to work on one scenario they pulled out of a hat. The pairs were chosen from different schools so they can enrich each other. Each pair received a poster post it of which they wrote their responses, ideas and expansion of descriptions for the next 20 minutes. The conversations between the 3 pairs were flowing and clarity was emerging. This contributed to their excitement to work together and fill the posters with their writing. At the end of the 20 minutes, each pair presented their writing and view about the scenario they worked on, while the others were contributing to the scenario and expressing their agreement, disagreement and assisted in explaining their understanding of the narrative. Some of the participants comments taken directly from posters is outline below (Meeting two, December 2018):

- ‘we need more practical activities so the students will get to know the real world’
- ‘Timetable needs to be flexible and consolidate two or three subjects to create projects’
- ‘Timetable can be split to half day and half day, or the timetable can be the same for one week and different for another. This allows teachers and students create their own interest in one topic.’
- ‘We need the same teachers for one year level so we can stay in the year level for the whole day and not rush for the next class’
- ‘We need year level flexibility so it can accommodate the timetable’.

- ‘Year level will get the dedicated staff and timetable, which in itself has massive negatives as it draws away teachers from other year levels’
- ‘Flexible internal programs in the overarching structures of the school, revolving inner structure within the core structure.’

The feedback from the group to each pairs work was constructive and developed the thinking about each theme. This was documented on the posters and ended up with a rich and fascinating view of the possible future in each theme.

The teacher-participants repeated the method twice again with a rotation of the pairs until all six themes were reviewed by the different pairs. At the end of this stage, the posters were filled with ideas, the teacher-participants added their own notes beyond the posters in the form of writing on individual notepads and even made some diagrams to explain their thinking. At the end of this stage, the group reconvened and the practicality of each scenario was drafted. For example, in Scenario 1 the idea of holding town hall meetings emerged when they started looking into opening communication with the community. In Scenario 3, the practicality mapping the students’ progress in various subjects and the way the mapping would work. In Scenario 4, the practicality of creating learning development was explained by the teacher-participants as they saw it in their vision.

The Online Discussion

The final draft of the scenarios was ready for sharing online with the teacher-participants two weeks after the last session. This allowed the scribe to construct the scenarios according to her notes, the posters and the teacher-participants notes. The scenarios were raw and were explaining the thinking of the teacher-participants. The sharing of the scenarios online, allowed the teacher-participants to add their private notes, agreements and refinements of each scenario. Two weeks were allocated to this so the teacher-participants can look in depth into each scenario to make sure it is telling their story and that it is as accurate as possible to what they have envisioned in each theme.

This stage was important as it reflected each of the teacher-participants ideas when reviewed individually and they were able to add or ask for more information in each scenario.

After two weeks, the researcher wrote the final scenarios according to all the information presented in the three stages and they are outlined in the next section. All six scenarios have received the consent of all teacher-participants to their content and their outlook.

Chapter 4 - Research Results

Six Scenarios about Creativity in Secondary Schools

The following six scenarios were developed by a group of six teacher-participants who took part in two meetings in group sessions and a one two weeks ongoing online session. These are their stories and how they envision creativity in education in the future. The scenarios were compiled according to their ideas, notes and comments throughout the sessions.

Following the scenarios, a table of main themes arising from across the scenarios will be drafted to progress the thinking into creativity in secondary schools and to enhance new thinking in the field of creativity in secondary schools.

Scenario One — Trusted Autonomy

Parents of secondary school students hold expectations about various aspects of their children's schooling experience including the teachers, curriculum, classroom culture, peers, school policies and overall learning environment.

Parents' understanding of school structures is often limited as they have bounded access to the school during school hours. This gap leads to a dichotomy between parental expectations and achievable goals at individual student, classroom and whole-of-school levels.

Parents also hold certain expectations about their children; what should they achieve in school and what learning and career pathways they should take in life. Just like parents' expectations of the schooling environment, their expectations of their children's learning and career outcomes do not always match with the reality of their children's individual interests, desires, strengths and limitations.

Teachers express that parents' unrealistic expectations; including differentiating work for individual students, providing one-on-one tutorials to students experiencing challenges, and pushing students to achieve specific grades or exam results, creates undue pressure on teachers and students and hampers classroom creativity.

In this scenario, we minimise parents influence in imposing their expectations on students, teachers and schools by introducing platforms to improve parent and community engagement, collaboration and trust. However, we are attentive to the collaboration between parents and schools and appreciate parents' participation in secondary schools.

To achieve that, each school hosts four town hall meetings a year to give all voices within the community a platform to talk about their concerns, ideas, expectations and vision for the school. Town hall meetings are attended by community leaders, local business owners, parents, teachers, students, school administration and anyone from the general public who has an interest in the students and the school.

These town hall meetings are chaired by a panel which includes parent, student, teacher, school administration and community representation.

Experienced moderators mediate town hall meetings to ensure they are not used as a platform for people to air their grievances and vent about problems. Each meeting will allocate 1 hour of public discussion and 1 hour of individual discussions. School teachers and management are placed on a rotating roster to host each meeting to ensure work is fairly distributed.

All marketing and communication about town hall meetings are carefully created to set the expectation with participants that they are a collaborative forum to engage the broader community. There is a special importance to create these town hall meetings, which is to communicate as many possible aspects of the community in the secondary school life. Instead of reporting about school; a continuing conversation with the community is much preferred.

As these town hall meetings require an investment of time and effort from all parties, as well as eliminating the necessity of other aspects of reporting to and about the school, other concessions have been proposed. Parent-teacher evenings are no longer needed as there is an ongoing conversation with parents four times a year. Teachers and school management also spend less time managing constant communication from parents raising concerns. This time saving is not available for communicating with parents about their child's progress throughout the year, as long as it is needed.

To create an ongoing discussion, each school uses online platforms to allow collaboration and conversation to continue. Online platforms allow community members who find attending town hall meetings a challenge (for example, families in remote areas or community members with irregular work hours) to have their views and voices heard. These online platforms include

moderated groups and discussion forums and webinars. No anonymous users are allowed and strong rules and engaged moderators keep the conversation on track, ensuring these online platforms do not become a ground for bullying or the playing out of social politics.

It is hoped that in this way, creativity can be derived as the collaboration with the greater community can design new ways of teaching and learning, engaging students in the greater community and making learning a synergistic experience, instead of an isolated practice.

In addition to town hall meetings, end of year socialising and celebration events are hosted by schools to recognise the contributions of the whole community. In these events, creativity can be celebrated in the exhibition of students' projects with the community. Also, there might be raise funds that are funnelled back into the running of collaborative forums.

This environment of collaboration and transparency generates trust and the confidence of parents with the school. This, in turn, can lead to thriving creativity in secondary schools in a number of ways.

Parents communication with the school and its teachers is based on trust, that in-class decisions are made for the purpose of the process of learning and development needs of students. This trust was progressively built over time as parents' contributions to town hall meetings were heard and responded to. Trust was also progressively built when parents were able to see their children's creative learning outcomes progressing and their children's feedback from the school as more positive.

As teachers spend most of their time in class with the students, they are able to professionally decide how to creatively cater to the students' individual needs. To do so, teachers are now allocated more time to be in class with students. This time was substituted from time spent on parent-teacher interviews and students learning plan meetings etc. Teachers use this time to open communication with the students and their needs, find collaboration with the students through creative ways of learning, and foster the interests and creativity of the students in the learning topics.

As a result of relationships built on trust and respect, teachers spend less time managing constant communication from parents asking questions, checking on their children's progress, and making suggestions and/or demands. Teachers no longer update parents with what is going on in the classroom in minute detail, writing reports and sitting down for parent-teacher interviews. Instead, they communicate with them as needed, reporting on realistic measures of achievement and progress.

Creativity needs time to emerge. With less time spent communicating with parents, teachers have more time to undertake professional learning and develop and trial new teaching methods that foster creative classrooms. From a whole-school perspective; school management, Principals and administrative staff also spend less time and energy managing parental expectations and the dynamics between teachers and parents. As a result, they have more time and freedom to implement programs and policies that foster creativity in the classroom and support teachers and students with their creativity.

Communication that occurs between parents and teachers is open, positive and collaborative. Teachers and schools no longer report student progress according to parental expectations, instead teachers freely and openly communicate students' actual effort, strengths and challenges. Free from the single-minded focus on student achievement, an open dialogue develops between teachers and parents about how best to meet a student's learning and development needs. This open, collaborative dialogue fosters new and creative inputs from parents into the classroom environment, as teachers are equipped with a broader understanding of their students, based on these communications with parents. It allows teachers to respond to positive parental input and develop creative learning methods in the classroom to meet individual students' needs.

Parents' inherent trust in teachers not only alleviates administrative and time burdens for teachers, it also eliminates the mental pressure teachers experience ensuring that the day-to-day decisions they make in the classroom meet parental expectations.

Creativity requires flexible thinking and with teachers no longer constrained within the narrow constructs of parental judgement they are able to change their curriculum, modify their teaching methods and develop creative classroom environments that work to support the needs of students.

Teachers work in an environment of freedom to exercise their professional judgement, making decisions based on the individual needs of students. They respond in new and creative ways to the interests and strengths of students while also addressing their challenges and supporting them to

pursue realistic learning outcomes and future career pathways. For example, teachers differentiate in the classroom without being criticised or questioned by parents. They cater to students' needs as they see fit without feeling that the parents are guiding them in ways that do not align with what the teacher sees in the classroom. They might even delegate students to other teachers who are better suited to the student's learning style and needs.

Parents allow their children to have agency over their learning and development by no longer imposing expectations to achieve high grades or follow perceived prestigious career pathways. Instead, students engage in subjects according to their passions and interests. Creativity requires engagement. Students that are following their passions are engaged and excited to learn and are more creative in their thinking. Furthermore, students are more accountable for learning outcomes as these are their creative exhibits.

Without expectations clouding reality, parents have a more open attitude toward their children's achievements and appreciate their creative output. Parents respond positively to their children's excitement towards and engagement in creative outputs, for example writing a story or project proposal, learning a new mathematical concept through art or creating a model. Parents' ability to support their children's enthusiasm for creative learning creates a positive circle, resulting in engaged students and more creativity in schools and classrooms.

Better collaboration with the community also allows for creativity to flourish. Community leaders are engaged with the school and student learning outcomes and opportunities for small-scale community student programs

develop. The flexible classroom environment allows for two-week intensive alternative learning and training programs within the community to have minimal impact on formal learning. During these two weeks, students can put forward their ideas and projects, ask for some feedback from the community, learn about new and exciting ways of enhancing their creativity.

With all parties having a seat at the table and their voices heard, creativity can be an integral part of students and teachers experience in school. Parents are more trusting and their experiences are validated leaving them space to become deeply engaged with the school in meaningful ways. Teachers are given the freedom to be more creative in the classroom without the time and mental burden of parental and community expectations. Students pursue their interests and strengths, and the broader community forms an integral part of the learning journeys of students. All of these elements provide a foundation on which creativity can thrive in secondary schools and classrooms.

Scenario Two — Flexible Timetables

Busy student timetables had a major impact on classroom creativity. With up to six or seven periods in a day, both students and teachers find it challenging to focus on meaningful learning and deeply explore subjects of interest. Limited time allocation also hinders teachers' ability to develop alternative methods of learning.

In this scenario, the obstacle of rigid timetables, short periods and limited learning time was challenged for the exploration of creativity in learning by developing a new flexible timetable in secondary schools.

The new timetable includes one-half-day per week where students learn the theory and skills needed to complete their project and one-half-day per week where students and teachers engage in collaborative project development. The remaining time on these two days is broken into shorter periods of roughly 60 minutes each and the remaining three days of the week are broken into 5 smaller periods of roughly 60 minutes.

Students and teachers work to complete two projects per term, with projects covering a range of subjects. For example, students and teachers may undertake a scientific exploration of the effect of antibacterial on microbes, testing products, writing a scientific article of their findings and writing a consumer-friendly report in the style of Choice magazine. Another example for a project is conducting an Art Exhibition including creating the art or sourcing artists, planning the displays, marketing the exhibition, running the event, selling the works and donating the proceeds. Family Sports day might be another example of a project to manage, as the students will need to decide which sporting events to operate, managing roles and responsibilities, delegating tasks to teachers and parents, and managing the event on the day. This type of work encompasses knowledge and research in various fields of learning, engage students with their learning with enthusiasm and passion to succeed. It also gives the students some real-life experience in collaborating with different people and events, budgeting event and knowledge of some challenges and issues they might encounter.

By creating flexible timetables that have a strong project focus, students have the opportunity to develop skills and knowledge that are directly applicable to real life situations. This direct, practical application leads to improved engagement in various classrooms, not just in project-based lessons. Improved engagement, motivation and excitement to learn allows creativity to fountain in students learning experiences.

Project-focused lessons touch on various aspects of subjects, for example, logistics and planning, management, execution, and turning theory into practice, which allows students to explore subjects widely. Concurrently, the time allocated to project lessons allows students to explore subjects deeply. Half-day lessons provide ample time for teachers and students to delve into their interests, follow tangents and explore lines of inquiry to their conclusion. This breadth and depth of learning provide the foundation for creativity to flourish in secondary school classrooms.

In addition, the generous time allocation allows students and teachers to fully focus on the learning. Reducing the time teachers and students rush from class to class also reduces distractions. This focused learning time leads to better outcomes for students, deeper learning and space to creatively thrive.

In this environment, failure is encouraged and positively framed as an opportunity to learn. Term-based projects provide time and space for students and teachers to fail and start again, or change their thinking about their projects. Making mistakes and learning from those mistakes allows creative thoughts to flourish because all ideas are welcome and there is no pressure to get things right on the first try.

School administration begins to see the benefit in longer periods and project-based work in terms of student engagement and outcomes and gives teachers the support they need to fully plan and prepare for half-day lessons and term-based projects. Students and teachers are calmer and the school environment is of a flowing one as a result of less running around the school to get from one period to another.

Interdisciplinary team-based teaching is instituted whereby teachers from different fields partner to lead and deliver project lessons. This allows teachers to undertake planning, reflection and preparation within the allocated timetable. School administration also allocate adequate time for teacher teams to work together to plan, assess and give feedback to students about their projects.

Teachers are encouraged and supported to undertake professional development that broadens their skills and knowledge and supports creativity. Team-based teaching allows them to complete professional development within school hours because there is always one teacher available to participate in the class.

This strong focus on planning, reflection and professional development, combined with interdisciplinary team-based teaching means teachers are exposed to new subjects and can expand their horizons. Teachers become more generalist in their knowledge and focus their skill in the classroom on facilitating students' learning in combination with creativity.

Exposing teachers to new ideas and subjects shifts the dynamic in the classroom to one where students and teachers are learning and collaborating

together. Teachers are not only learning from each other but are also learning from the students who bring fresh ideas from their lifeworld.

Confident, flexible teachers who are skilled coaches and creative thinkers thrive in this environment. They share in students' excitement to learn and they have greater engagement, motivation and creativity in the classroom.

Teachers undertaking projects with students recognise that they may not have all the skills, knowledge and expertise to support students to successfully complete projects and begin to enlist help from the community. Local businesses, community leaders and key community services are engaged to support and sponsor students' learning. Half-day project periods are regularly used for students to do small scale excursions or incursions, for example, an engineer may visit the classroom to run a workshop with the students and teachers to solve a technical problem they have encountered.

Improved community engagement leads to new opportunities for students and greater collaboration. Community participants invested in student outcomes bring an outside perspective to the classroom and encourage greater creativity in approaching issues arising throughout the students learning. More work experience opportunities are available to students so that teachers and parents think more openly and creatively about future career pathways.

A strong focus is also placed on self-reflection, self-assessment and reflexivity throughout the term and at the completion of the project. Students are encouraged to raise concerns about their own outcomes and assess how reliable, trustworthy and applicable the end result is. Teachers model self-reflection by identifying ways they could improve throughout the term and

transparently and openly discussing these with students and working with them to address areas for improvement. Both students and teachers are required to detail what they would do differently if they had the opportunity to undertake the project again.

Assessment of projects is based on a number of factors including completing the project on time, staying on budget and achieving the project's aims and measures for success as defined by the students and the teachers involved in the project. Constant reflexivity is exercised during the project progress and growth throughout the term and it is integrated into the teaching plan so that teachers and students have the opportunity to manage risks and issues while they impact the project.

This approach to assessment encourages both teachers and students to have ownership and accountability of learning outcomes. It builds the ability for students to become critical thinkers, to assess their own learning and performance and to be confident risk-takers in the future all of which are precursors to creativity.

Parents see their children become more independent, engaged and excited learners. Parents observe their children linking the skills they have learnt at home with the skills they learn at school. This complementary learning is supported and encouraged by parents. Parents also develop greater respect for the school and teachers, giving them space and trust to creatively explore learning pathways with their children.

Scenario Three — Substitution of Year 10 - 12 Examinations

High stakes standardised testing puts a strain on students, parents, teachers and the school system as a whole. Classroom curriculums and teaching styles are geared towards supporting students to develop the skills and knowledge needed to successfully pass NAPLAN, VCE and other high stakes standardised exams. In this rigid teaching environment learning approaches that are anachronistic to creativity flourish, for example, rote learning and memorising facts. These types of tests and learning approaches present a significant hindrance to developing classrooms that are flexible, differentiated and creative.

In this scenario, the proposal of eliminating nation- and state-wide formal, high stakes, standardised student testing in Year 10-12.

To ensure students are progressing with their learning journey, assessments are still necessary. The elimination of high stakes standardised testing in year 10-12 allows secondary schools to develop new types of assessments, including exhibitions of work, students' participation in the delivery of large-scale projects on time and on budget, skills and competency matrix mapping and reflective formative assessments. All of which, are believed to better encourage creativity and employ it in the process of the year 10-12 students.

In the skills and competency matrix, mapping the essential skills for students at a particular level are defined and each student is mapped according to their current competency with each skill. For example, in English subject

classes students are mapped to skills including use of punctuation, use of grammatically correct sentences, creative writing, and identification of graduating concepts in writing. Or in project-based lessons, the students might be mapped according to their ability to initiate ideas, lead teams, and participate in delivering outcomes.

Each step of the matrix is transparent and open, students know what is required to reach the next step and how each category is ranked. At any point in the year, teachers and students can see where they are currently positioned on the matrix and what they need to work on to improve and progress. This type of assessment allows for direct and informative feedback to both students and parents on student's learning achievements.

With skills matrix mapping, students use self-reflection and feedback from their teachers to map themselves to their essential skills. Creativity can present itself when students are fully involved in the process, understand what is involved at each level, and are able to see their progress over time. Students are more intrinsically motivated, have greater ownership of their learning journey and are more confident in their ability to learn and improve because their own creativity is involved in the learning process.

This ownership and accountability allows students to become critical, creative, confident learners. They are motivated and engaged in the classroom, providing a positive environment for creativity to flourish.

In addition to skills and competency matrix mapping, students and teachers also collaboratively undertake formative assessments throughout the year that are self-reflective and feedback-driven. Students identify their

strengths, weaknesses, interests and desires in the classroom, with feedback from the teaching staff. They then can exercise reflexivity, where they implement their understanding in the correction of their assessments.

Reflective assessments give students greater autonomy, self-direction and ownership of their achievements and learning progression. As creativity is a major part of these assessments, students are interested and engaged in their learning journey, they are able to follow pathways of interest and change direction as needed. This leads to students who are intrinsically motivated to learn and who are more confident and more creative. Reflective assessments also allow teachers to use information about individual students' strengths and weaknesses to differentiate learning for individual students.

Generalist teachers who are skilled coaches and facilitators thrive in this environment. Teachers support students to learn *how* to learn not *what* to learn. They no longer spend time in the classroom helping students to practise the skills and knowledge they need to successfully pass exams, and students are no longer rote learning facts to repeat when they sit these exams. Because of this, there is more freedom in the classroom to explore creative ways of prospective individual students' interests and meet their unique learning needs. For example, lessons now include more in-depth roleplaying, learning research skills and completing large-scale projects.

There is an increase in field trips and excursions to workplaces and community spaces that are an important part of the students' community, for example, local and county courtrooms, prisons, manufacturing facilities and construction sites, scientific labs, art workrooms etc. This leads to more

engagement from community members who are invested in students' success and who collaborate with schools to develop creative ways to inform, educate and inspire students.

Applications for higher education are now based on a combination of subjective measures. University applicants submit a portfolio which includes their formative reflective assessments, skills and competency matrices, and feedback from a range of teachers and community representatives which they collected while on excursions or practicum experiences. Applicants also complete lengthier application processes which include interviews with university representatives. In this way, universities can view the students as a whole and not just a representation of their exam results.

Parents can see their children excited to learn and able to follow their interests and this creates a culture where they are more confident and trusting in the teachers and the schooling system. Parents support creativity because they see their children achieving success as students in their own individual ways. Parents are open to hearing teachers talk about their children's challenges as students because they can see that teachers are invested in creatively exploring how to support successful learning and career pathways for their child.

Career advisors become an integral part of year 10-12 students in schools with career pathways being creatively and openly explored by students, parents and teachers. As students are engaged in a variety of experiences they collected throughout the years, they are thinking creatively about their further careers. Career advisors provide advice and diversified options as well as

support students to build their portfolio applications for higher education or work placement in their further careers.

Media interest in school achievement has shifted focus from overall scores of examinations and grading of schools, to new innovations and creatively minded people graduating from school. In this environment, school management and administration teams are more open to trying new and creative programs for students as they desire this positive Media attention. Schools are honest and transparent about programs' success or failure and finding new ways to innovate and meet students' learning needs. A positive feedback circle is created whereby the best school compete on a national stage to develop creative world-leading projects and innovations that are lauded in the media.

Scenario Four — Professional Learning in Creativity

Creative classrooms require creative teachers, teachers who are flexible, confident, agile, motivated and engaged. Creative classrooms also require teachers who understand how to support, nurture and instil creativity in their students and have the skills to build spaces that allow creativity to flourish.

To ingrain creativity in teachers, in this scenario, all teachers receive dedicated professional learning to ensure they have the skills, knowledge and motivation to be creative in the classroom.

Creativity in the classroom is immediately included as a dedicated subject in the Bachelor of Education curriculum in all universities. All new teachers graduating from these degrees have an appreciation of the importance of creativity in the classroom and are driven to foster creativity in their students as well as the physical environment. They are motivated to continue to broaden their knowledge and improve their creativity in an ongoing capacity because they hold an understanding that developing creative students and classroom environments starts with modelling creativity as a teacher.

Furthermore, to ensure creativity is an ongoing component of teachers' professional development, all schools include three pupil free days a year that is dedicated to the professional learning of developing and enhancing creativity in teachers.

As a result, a new central professional development body is formed to manage, administrate and provide creativity training to teachers. This central professional learning organisation sources a range of training options from a variety of providers and teachers pay a small annual teacher registration fee to attend these three days of learning per year within the state or territory where they reside.

In addition, teachers are given the freedom to choose the topics that best suit their individual interests and passions. They can choose to undertake practical learning covering approaches and techniques to develop creativity in the classroom, for example, techniques to develop problem-solving capacity in students, how to create activities that motivate and engage students, how to facilitate learning and coach students in self-reflection and self-directed

learning, and teaching approaches for large outdoor spaces. Alternatively, teachers can choose professional learning that is indirectly related to the classroom but works to nurture their creativity in broader ways, for example, cooking classes, horse care, drawing or learn about stand up comedy.

Teachers are free to explore what they want to learn and are supported holistically as creative individuals. Teachers are engaged and motivated to learn and dedicated professional learning fosters their creativity. As a result, they bring their enhanced creativity, motivation, enthusiasm and confidence in their day-to-day work. Teaching approaches in classrooms now include new creative techniques including scenario-based learning, role play, connections with nature, humour, and creative problem solving and inquiry. Students, parents and the broader community are exposed to these inspired and driven teachers through the professional learning days, more engaged students and project exhibition and collaboration with the community.

Teachers are accessible to open and collaborative learning during their professional learning days. They interact with colleagues from different faculties, who have varying levels of expertise. In addition, because teachers are given autonomy to choose their learning journey, they are able to broaden their skills and knowledge and explore new subject areas. As a result, more teachers are transitioning between subjects and bringing generalist and interdisciplinary knowledge and skills to their classrooms, which in turn demonstrate in creative classrooms.

Teachers in this environment have greater ownership and accountability in the classroom, they are confident in their abilities and are engaged in finding

creative ways of learning. Teachers with these characteristics are skilled at engendering motivation in their students and developing students who have increased ownership, accountability, an openness of learning, cooperation and creative thinking.

Scenario Five — Self Managed Secondary Schools

Current school management structures, policies and philosophies hinder the support of creativity in classrooms. Leaders from the Department of Education all the way to management within individual schools do not think creatively or have a future focus. Furthermore, teachers and management exist within distinct silos that are out of touch with each other. There is a misunderstanding between school management and teaching staff with regards to external pressures, support of teachers and budget management. The relationship between teachers and management is perceived as miscommunication.

In this scenario, we improve creativity in the classroom by differentiating school management. To do this, each school institutes a management team that consists of an elected council of teachers.

Secondary schools will elect as many as council members that suit the size and operations of the school, between 3-5. Elected school council members serve a five-year term. They are elected by the teachers of the school at the end of the five-year term, or during shell the need arises (retirement of council members, leave of the school etc.). No advocating is allowed and

teachers who have not been in the council will be up for election. Only teachers who have taught at the school for more than a year are allowed to vote, while teachers who have worked at the school for more than 3 years are allowed to be elected. This process is done to ensure that all teaching staff have the opportunity to sit at the council and influence the school's management. The council duties are to give advice, direction, communicate issues with teaching staff and negotiate pay, collaborate with administrative staff and strategically plan for the academic year ahead. The council is protected from underperforming council members by a transparent report of the council twice a year to the teaching staff about their activities. Council members receive special time allocation to be active in the council's operations, so they can perform for the benefit of the school, as well as a special duty pay allocation.

The elected school council manages and drives the strategic agenda for the school. At the beginning of their five-year term the council define the school's five-year strategic plan including the mission, vision and goals. They also define the business activities, resources and budget that will help the school achieve this plan. Their focus is on developing creativity in the classroom, the council members are encouraged to be risk takers who are willing to trial new ideas to generate growth in the school. It is understandable that not all ideas will be successful, however, in order for the students to be creative it is necessary for them to see that teachers are creative in their leadership of the school.

The elected school council replaces the need of a principal as it works in collaboration with teaching staff and administration staff. There can be an

operational manager who reports back to the elected council about non-teaching matters.

Ongoing meetings are done for the council to discuss progress against the plan and prioritize activities that foster creativity in the ongoing academic year. For the reason that the council has direct contact with teachers, it is able to modify and cater the academic year to the needs that continually arise throughout the year. This advantage of communication manifests itself in the collaboration of the various faculties and the administrative staff. For example, organising excursions and incursions are easier in such an environment as management is aware of what teachers need, or allocating resources and budget to projects are done seemingly and this cuts back on paperwork.

The planning process exercised by the council supports the system of decisions based on educational and pedagogical outcomes. The council undertakes extensive consultations with internal and external stakeholders including teaching staff, school administration, students, parents, community members, local businesses, local industry, and tertiary institutions. These consultations inform the development of the five-year strategic plan and the ongoing progress against that plan.

Council members are accountable to internal and external stakeholders, undertaking transparent reporting of progress against the strategic plan on a yearly basis and conducting ongoing consultation to ensure that changes within the broader community are reflected in the school's management. During the strategic planning process, and throughout the year, the council give time to

guiding teachers and supporting them. They are available to teaching staff to openly discuss concerns or clarify issues.

Each council member must also continue to be actively involved in teaching to ensure they remain in touch with the day-to-day challenges faced by teachers in the classroom. Each member is assigned teaching duties on at least one class in years seven to nine. In addition, they must work within teaching teams, contributing to discussions as a colleague and not a superior. In this way, management become more respectful of teachers and what they are doing in the classroom, they have open-minded discussions and seek clarification; they are less punitive and more communicative.

The new school council contribute to creativity by reducing the ongoing stress teachers experience when they have to communicate with management. Also, teachers are more courageous to be creative in their classrooms as they feel supported and engaged with their practices. Creativity can manifest where teachers and students feel safe and accountable for their actions. The formation of the elected school council and the transparency it exercises together with the understanding and communication it advocates for, instil the determination within teachers to foster creative classrooms.

To help teachers comprehend the work of the elected school council, “a day in the life” shadowing programs are introduced to ensure teachers understand how the school’s elected council works and the pressure council members are under. This in turn reinforces a culture of mutual respect and trust between teachers and management.

Scenario Six — Creativity in the Budget

Schools, like businesses, operate on a finite amount of funds. Within each school's allocated budget they must cover the costs of overheads, salaries, facilities, resources, marketing, administration and other operating expenses. For the purpose of developing creative classrooms, a proportion of the current budget should be given to providing the necessary resources and upskilling teachers in creative learning methodologies. However, competition for limited school resources means creativity is rarely given budgetary priority.

In this scenario, the government allocates a dedicated creativity budget to every single high school, mandating that they spend the budget directly on improving creativity in classrooms.

A leadership team is formed within each school to lead the management, governance and distribution of creativity funds. The leadership team is formed by different faculties members. The leadership team develops an overall strategic vision and detailed business plan to ensure the funds are allocated effectively and to ensure classroom creativity improves.

Each year, the leadership team conducts stakeholder consultations with students, parents, teachers, school administration and the broader community to inform the priorities for budget allocation. They also report back to these stakeholders on a yearly basis to ensure the leadership team is accountable and that the budget spending is transparent.

Initially, every school uses a portion of their available funds to improve facilities by building dedicated creative spaces, both open and closed. These spaces can flexibly meet the needs of the students and teachers.

The closed space is an area which is in a disclosed area and can be used by both teachers and students for research, drafting of ideas. It might include digital resources such as screens, software and hardware, as well as, physical resources, such as games, posters, books, motor aids, stationery, art supplies, computers and tools, 3D printers. Closed creative spaces are agile and can convert easily, for example, from presentation mode to small group learning mode, they include spaces to stand and discuss or lie down and read.

Open creative spaces are as large scale as schools can realistically accommodate. They have a range of environments, for example, natural outdoor amphitheatres, heavily treed bushland areas, open sand traps, garden beds to grow vegetables and herbs, water play features with hand pumps, sprays etc. They also include a range of physical resources, for example, sporting equipment and gardening tools.

Dedicated creative spaces provide a safe area for students to explore their creativity and imagination. They improve students' ability to work as a team and become more confident to explore their ideas and develop resilience to failure. These skills and capabilities have a flow-on effect on the day-to-day classroom environment. In the classroom, students are more dynamic, respectful, engaged, happy, cooperative and confident as they can move between open and closed learning spaces. In addition, teachers are more supportive of students and more willing to explore creative ways of learning.

Once these dedicated spaces have been created, the budget is allocated in a number of ways depending on the needs of the individual school and consultation with the community.

For example, some schools develop collaborative partnership programs with all areas of industry including, arts, trades, commerce, science, manufacturing, construction, education, business, computer, defence and agriculture. These partnerships see students visiting, exploring and interning with industry leaders to gain an education in how these sectors work. Community interest and engagement improves through these partnerships, leading to more ideas for creative projects and ways to support students to learn.

Students, in turn, are more engaged and are supported to follow their interests and passions. Students can think creatively to develop new career and learning pathways and look beyond traditional spheres of work. They bring what they learn from internships and excursions with industry partners back into the classroom and their school's dedicated creative space to explore what they have learnt in-depth and to share their experiences with other students.

Schools might make teachers professional learning in creativity a priority for budgetary spending. This professional learning includes how to develop creative classrooms and how to effectively use creative tools and spaces. This, in turn, is hoped to develop teachers who are creative and who understand how to foster creativity in the classroom while instilling creativity in their environment and their students. As it is not enough to create the open and closed spaces of creativity, it is also important to learn how to use them effectively.

Schools allocate priority budget to bringing help and support into the school, for example, to run a creative outdoor learning program in the school's dedicated outdoor space, or hire an engineer to run learning programs in solving consumer issues of the day using technical smarts. Each of these programs improves the overall creativity of both students and teachers.

Parents approval of these new creative spaces and budget allocation is well evident. Parents are more engage with schools as there are more creative spaces for them to engage with the students instead of coming to give a lecture or a talk. The allocation of budget for creativity allows parents to request materials or hiring of machinery to be brought to school for them to demonstrate their knowledge in a creative way, instead of an on-screen presentation.

Collaboration with the surrounding community is observable in various fields. The special allocation of budget to creativity allows teachers to expand their ideas about engagement with the surrounding industry and community. For example, building a futuristic mini-city within the school which will require the students to consult and seek advice from engineers, town planners, city council regulators, and checking policies. Thereafter, the students will physically build the mini-city in the creative open space and will use real materials such as concrete, gravel, wood, metal etc.

The allocation of specific creativity budget has opened new possibilities for students and teachers while granting meaningful learning with life-long advancement and progression of society.

A Table of Main Points Arising from Scenarios

	Main Points Arising
Scenario One Trusted Autonomy	• Communication with the community. • Engagement with the wider community. • Time release to become creative. • Communication between teachers and students is open and engaging. • Improved relationships between teachers-students-parents. • Professional learning. • Open communication between parents-teachers. • Engaged students
Scenario Two Flexible Timetable	• Time release to become creative. • Collaboration between teachers - students. • The motivation of teachers and students increased. • The excitement about learning increased. • Interdisciplinary team-based teaching. • Confident teachers and students. • Collaboration with the community. • Community Engagement.
Scenario Three Substitution of the Year 10 - 12 Examinations	• Ongoing assessment. • Ongoing feedback. • Ongoing reflection. • Collaboration between teachers - students. • Students ownership of learning. • Unique learning needs are met.

	• Engagement with the community. • Collaboration with the community. • A positive view held by parents about secondary school.
Scenario Four Professional Learning of Creativity	• Freedom for teachers to become creative. • Confidant creative teachers. • Broad knowledge. • Variety of learning techniques. • Open collaborative learning. • Interdisciplinary team-based teaching. • Students ownership of learning.
Scenario Five Self-Managed Secondary Schools	• Transparency of goals. • Collaboration between teachers - students. • Engagement with the community. • Collaboration with the community. • Courageous teachers and students.
Scenario Six Creativity in the Budget	• Collaboration between teachers - students. • Engagement with the community. • Collaboration with the community. • Courageous teachers and students. • Students ownership of learning. • Parents engagement with the students at school increases.

Table 4.1 Main Points Arising from Scenarios

Commentary about the Table of Main Points

The above table arranges the main points arising from the scenarios which were compiled by the teacher-participants during the scenario planning process. In analysing the main points of each scenario, a thread started to emerge and the following insights developed. Pursuing these insights led to the highlight of five key concepts with regards to creativity in secondary schools. The five key concepts are:

- Ethical
- Community
- Communication
- Autonomy
- Courage.

These concepts represent the field of which the data in this research suggests that all five are present in order for creativity to be successfully implemented in secondary schools. This wholesome view of creativity was noted in Cropley (2006) and in Harris (2017) as an ecological environment surrounding education and a social attitude. However, in this research the five key concepts emerged from the people who work within schools and not as a research on the educational sector. From a pragmatist point of view, the uniqueness of the key concepts lies in the way they can interweave together and complement one another. According to the main points listed in Table 4.1, they are not separated entities of which one of them can contribute more than the other. It is the combined effect that will spring from the five concepts that is

going to be greater than each of them alone. Therefore, the five concepts are equally important for creativity in secondary schools and if integrated can, in the view of this research, change the way we educate through creativity in secondary schools. In the next section, an outline of these five key concepts will be given with an ontological framework of pragmatism.

Discussion with Critical Friend about the Scenarios

Discussion with a critical friend was arranged to seek an external view on the scenarios and consideration of advice regarding any changes that might need to be taken in the language, structure and clarity of expression. The critical friend involved was a practising psychologist for many years in Australia and overseas before accepting a position as a senior lecturer in education at an Australian university. He brings broad experience and professional integrity to the issue of research and working with groups of people for mutual understanding and concern. The discussion was conducted in the context of academic scenarios which are narrating the stories of the teacher-participants for this study and which had been agreed as an accurate account of viewpoints made at group meetings. The scenarios and an abstract of the research were forwarded to the critical friend for review prior to the discussion taking place. .

The following questions were generating the conversation around the scenarios:

1. Is it clear what each scenario is about?
2. Would you require additional information to make the scenarios clear?

3. Are there any specific points that require clarification?

4. Do you find the scenarios challenging, surprising, imaginative or not?

5. What do you think about the style of writing of the scenarios in the sense of creating interest in educational futures?

In the beginning the critical friend was inquisitive about the purpose of the scenarios and the methodology put in place to gather the information. The critical friend found the process of scenario planning intriguing and was inquisitive about the method and the application of it in the research by asking the researcher ‘can you give examples as to how the teacher-participants constructed the scenarios? Did you provide them with the topics?’ (interview transcript March 2019). After explaining the process and the narrative inquiry the research employs the critical friend agreed that clarity was evident.

The critical friend commented on the flow of the scenarios and that they read well and provided the reader with a comprehensive idea of what the teacher-participants thought process were followed by his comment ‘The scenarios were not surprising to me, I’ve heard these ideas before in structured schooling meetings’ (interview transcript March 2019). He then responded to the amount of information in the scenarios which is relative to the purpose of the scenarios by commenting ‘Ok, that’s interesting (the topics of the scenarios), I wonder what questions you are going to ask me next?’ (interview transcript March 2019).

The response to the clarity and effectiveness of the scenarios was positive. The critical friend did not require any further information about the scenarios or their topics when he commented ‘The style of the writing was clear and it had everything a reader would need to have to understand what the teacher-participants thought process was’ (interview transcript March 2019). However, challenges the critical friend found in the scenarios were in the form of specific ideas within the scenarios themselves, such as townhall meetings ‘The town hall one was interesting’ (interview transcript March 2019). He commented on the audience of the scenarios in the following remarks ‘The scenarios can be useful to teacher-education program to intrigue thinking about the educational systems’ (interview transcript March 2019) and added that ‘Practicing teachers would find the scenarios engaging as they would feel that they tell their colleagues' story’ (interview transcript March 2019). The critical friend inquired about where the scenarios could be beneficial to the groups of people that are represented in the scenarios by commenting ‘Further research can be made about parents and caregivers about the scenarios to see why are they involved in this (the change proposed in the scenario) if I cannot really see a change at my school.’ (interview transcript March 2019). This comment highlighted a new perspective of the scenarios, which the teacher-participants who are all parents themselves thought through as they were able to put on the lenses of parents and teachers while constructing the scenarios.

The next comment also led to a conversation about the change proposed in the thesis: ‘Change has to speak to people, you have to bring people on board to make change happen and if change orientation is not

pitched to a particular community or particular roles in the community, I'm not sure what kinds of traction they can have.' (interview transcript March 2019) This was a good observation and it sharpened the thinking of the researcher around the different groups involved in a change of the system. In the following the comment about the groups in society which will advocate for more subject-based learning instead of something 'loose' as creativity, the critical friend commented: 'Why are we so low down on the international assessment measures, like PISA? Because kids are not getting the knowledge in the classroom that they are supposed to be getting' (interview transcript March 2019). Thinking out loud with the critical friend was an important step in forming ideas around the scenarios and their purpose, understanding how the scenarios are read in an educational context and how these raise awareness as to the possible blind spots of the associated groups in the scenarios. It was an essential step before analysing the scenarios and propose a change which would be able to incorporate and regard the communities involved and have an input in the educational system.

The conversation ended on an expression of interest of the critical friend in the research and its outcomes in commenting, 'The scenarios by themselves would not create an interest, however, I would be interested to read what you would come up with them later on'(interview transcript March 2019). This gave the researcher the motivation to examine the scenarios and draw main concepts in relation to educational systems and the way they operate and influence the communities around them. In other words, to begin the complex process of theorising practice based on data that is an accurate reflection of

teachers' lives. Secondary schools are an important part of many communities and form relationships between the people and the environment they are operating within. The critical friend was able to highlight the importance of the work to come out of the scenarios and use them as a springboard to new thinking and knowledge.

Emerging Themes

When analysing the scenarios after observing the teacher-participants work together in person and online, five themes have arisen. The investigation into the language, structure and gestures that were noted throughout the research were allocated into the following five themes; Ethical, Courage, Communication, Community and Autonomy. These elements derive from the narratives the teacher-participants wrote and during the discussions they had around the table as a group, in pairs or while they wrote together the scenarios with the help of the scribe.

From the scenarios as agreed by the teacher-participants, it can be confidently stated that the teacher-participants themselves exhibit in parts to be ethical, courageous, communicative, community minded and autonomous people who are passionate about their work with students. They expressed their frustration with the institutions they work at or with, their dissatisfaction with the communication across leadership and parents and their utmost desire to be able to dedicate themselves to their profession with respect and dignity. While observing the teacher-participants with their extensive and versatile

experience, one can only wonder about the educational journeys these teachers are engaged with every day and hope that the findings and new thinking as it will be presented next, will serve these teachers and others to the best of this research intention.

Each of the themes will be given a definition as appropriate to the research and then elaborated in the context of education and the people involved with education. Both the definitions and the elaborations have been theorised by myself as a researcher and will form the basis of new knowledge regarding creativity in schools. It is understood that theorising from qualitative data will be of necessity in order to go through various cycles in depth with the reality of time constrains. Given the uncertainty of knowledge claims at this point there is also an acceptance of their significance and the excitement of generating new understandings about the world.

Ethical

Ethical

That there is a strong commitment by teachers to work in the interest of students, the community and the greater good.

Ethics are one form of morality, and thus, its focal emphasis lies in a wide array of personal opinions of the good. These opinions can take place in the fields of happiness, authenticity, autonomy, personal excellence and self-actualisation (Haynes, 2016). These forms of human prosperity have to be tied

with one's personal commitment to the greater good and public duty for the ethics to become meaningful. Teachers, who are public servants, are placing their ethical duty to students and society at the highest of their work impetus. They want to do what is ethical for the advancement of society through the education system where they work. The argument that creativity promotes the greater good is well evident in the works of Stenberg (2010) and Moran, Moran et al (2014), which regarded creativity as an ethical act to promote students' learning in the view of teachers. However, there are questions arising from the notion that creativity is ethical. These are more pragmatic questions, such as: how do we promote creativity in secondary schools? How do we assess it to satisfy the institutions we work at as well as monitoring progress? And how do we identify creativity?

For creativity to become a method of which teachers can manifest their ethical intention to education, there is a need for a wholesome view of education, systematic, whereby other elements of the system take part in ethically incorporating creativity in secondary schools. These elements are policy makers, school management, education department as well as parents and students. It is my claim here that only with a systematic change, can creativity become ethically incorporated in secondary schools. When teachers ask students to make connections between various fragments of knowledge they ask them to be creative in their associations, and when students present their work to teachers they expect teachers to incorporate creative thinking in assessing their work so they can view the work from a different perspective – the students' perspective. And as teachers are engaging with many students

throughout the academic year, they are required to enter each of these students' perspectives which lead to creative thinking and submission of creative output. Cropley & Kaufman (2012) suggested a scale called 'Creative Solution Diagnosis Scale' which offers a rating system for teachers to use when observing students products. It can be applied when assessing a model, an interview or a piece of writing, as it provides criteria such as novelty, relevance and effectiveness, problematisation, elegance or genesis. This model can be used as an ethical tool for teachers to assess students as it allows them to incorporate many different elements in creative products.

However, teachers cannot do it all by themselves. They need the school to support their work and be given the breadth of time and place to do so. It would be, in my view, unethical, to ask teachers to use the scale without such support, as it reduces the scale from a method to a tool.

Teachers care about their profession and the ethical value of which they participate with every day. They want to do well in their profession for the advancement of education in the society they live in and not for personal advancement. This is an ethical position of which teachers are unique in perusing.

The reasoning of right and wrong in the field of the individual and the social arise from the reflexivity notion of fluidity in actions. We act, reflect, learn and apply our connection with the world around us when we act again. Teachers do that every time they encounter their students as no one lesson is

the same as another, and they go through that on a daily basis with their students.

Positive values as they are described in Sternberg (2010) include integrity, compassion, sincerity, honesty and reciprocity. These values combined will lead to an ethical practice in any system, or any ethical person. Teachers are required to contain all these values as part of their practice as they are role-models to the students they teach. A teacher with the values of integrity, compassion, sincerity, honesty and reciprocity will be able to connect with their students, will allow creativity to be present in their students' learning and their students' work and will promote ethical thinking and practice.

As Aristotle claimed, everything humans do is artistic. This artistry is well evident in the creative person who discovers the dilemma and then resolve it differently compared with others who solve dilemmas. These dilemmas might be emotional or intellectual and they might present themselves for identification in the form of social encounters or by thinking of experiences. Li and Csikszentmihalyi (2014) provided evidence that creative individuals are morally grounded and as ethics are one form of morality, teachers and students' ethical position about creativity in their teaching and learning is a founding approach to education.

Courage

Courage

That educational participants are able to overcome the fear of failure and are willing to perform with engagement, purpose and the freedom to act.

Many attempts have been made to define courage since Aristotle's description of courage in his Nicomachean Ethics Book 3.6-9 (Lacewing, 2015). Aristotle described courage as a virtue mainly in relation to war and the battlefield. A clear and concise definition of courage is difficult to find (Woodard & Pury, 2007), however, this research found that teachers are in search of the courage to manifest in the policies of the Department of Education, school management and in the classrooms. This type of courage as it was evident in the scenarios and in the work of the teacher-participants in the scenario planning process, is vital for the growth of creativity in secondary classrooms.

Courage, in an educational context, is the ability to overcome the fear of failure in a secure educational environment and to possess the knowledge that there is time for several attempts before the product of the students' thoughts represents their thinking in the most precise way. Without the security of the educational environment, students and teachers who are the main partakers of the educational journey written to them in the framework of the Department of Education and its policies (ACARA, 2015a) will find it difficult to be able to incorporate creativity in their learning.

Courageous secondary teachers are the ones that allow themselves to take risks in the classroom while they hold a good knowledge of the subject they teach and a variety of other subjects. To be able to take risks in their teaching, teachers need the safeguard of the school to be provided to them so that they will be free to act in their classrooms for the benefit of the students. However, creativity might generate uncertainty within teachers' knowledge and authority, hence it will ask them to be courageous with their communication with the school and the students, enhance their knowledge, and pursue constant self-learning. This will, in turn, provide teachers with better authority and autonomy in their teaching. Teachers can provide the purposeful stage for students to perform on with engagement if they are given the freedom to act in a creative way, without the pressure from the institution (timetable, budget, teaching time allocation) or high stakes exams (PISA).

Courageous students are the ones who are engaging their learning in pragmatist investigation which enable them to research topics from various perceptions. They can then be able to present their creative output in a way that can represent their thinking in a wholesome way. To possess the courage to do so, students need to feel safe in the classroom. This security should be noticeable in their conversations with their teacher and other students, in their initial explanation of their thinking and in the overall process of thinking and learning. If students are not feeling secure, they will rely on the safety of doing the right thing by the institution, to satisfy the goals of their learning set up not by them, but by the Department of education and the school. Accordingly, and from an Aristotelian point of view, the students would act courageously with the issues raised in the classroom such as difficulty to understand or the will to

contain the correct answer as it is a situation of balance between rashness and cowardice. In the pragmatist view students would want to learn to resolve the situation or the imbalance because they are creative human beings who strive for balance in their learning. Courageous students will lead to courageous citizens who are willing to take risks as creative human beings that are able to solve issues presented to them with engagement and for the benefit of all, not just themselves.

The system set up by the Department of education suffocates creativity and courage in education. It is an individually based system, where students compete against one another for a place in their next educational endeavour. For the Department of Education to be courageous it needs to trust teachers to deliver educational content for the purpose of learning instead of an external exam. Exams allow an external view of one's learning at a specific point in time, hence it minimises the ability of the individual learner to expose their knowledge in a creative way. The teacher-participants have suggested to rid the system of final exams and move to a portfolio exhibition of students' knowledge and experiences over time. To be able to achieve that, the Department of Education and policymakers need to be courageous enough to give students, teachers and schools the freedom to act when expressing the needs of their community. This courage will, in my view, deliver creative thinkers who see their learning as more purposeful then achieving a good result in an external exam. Teachers and students will use the courage of the Department of Education in a respectful manner as they are both ethical participants of the education system.

Communication

Communication

That the verbal and non-verbal language used internally and externally of humans is one of attention and reverence to all participants.

Communication is vital in education settings as we are sharing and constructing knowledge and ideas while giving feedback through our communication. The fluidity of language as was evident in Wittgenstein's later work (Wittgenstein & Anscombe, 1997) where the meaning of words derived from their use and context is of high importance in the educational context. The way we communicate with one another defines the way we think and perceive the other. It is not only what we say but the way we say it and the context within which we are conversing. Teachers should be masters of communication as most of their daily work is about teaching and learning in classrooms, communicating with school administration and with other teachers. In their communication they need to be indubitably clear and effective. Interpersonal interaction can assist with the growth of creativity in secondary schools as creativity can be co-produced and conveyed in positive language transaction (Carter, 2015). When students explain their ideas, share their thoughts and examine new ways of conception, the language they use incorporates their social, cultural and historical contexts. Teachers are constantly interacting with diverse ways of understanding and it is almost never just a simple transaction of information.

Therefore, when students and teachers intercommunicate, they do so to build and maintain their relationships, enhance their identities within the world they operate within, and generate a fertile ground for the manifestation of creativity.

Verbal and non-verbal communication can be found in gestures and social language. Both Mead and Wittgenstein (Mead, 1925, 1934; Wittgenstein & Anscombe, 1997) agreed that the function of language is not an individual, rather social act and it is a tool of which we use to convey messages, articulate ideas and invite the other into the thoughts of oneself. Therefore, language and communication might be the process by which students and teachers are inquiring into creativity and assist them to bring their ideas to generate creative products. This communication requires courage as we might not always understand what the other is conveying and we will need to simply say ‘I do not understand’ or ‘I do not know’. These types of responses are courageous as they allow the participants to be vulnerable and invite discussion about any matter. One-sided communication, from teacher to students, school administration to teachers, policy makers to schools is not encouraging creativity and minimises the ability of the participants in such communication to become ethical. Being ethical, as was mentioned before, is the connection in one’s perception that the greater good that is sought after has a meaningful purpose. If one cannot see the greater good, one cannot behave ethically. Therefore, when we encourage teachers and students to be engaged in secondary schools in a meaningful verbal and non-verbal communication, we cannot expect them to do so as an empty space, detached from the educational

system. Only if teachers and students see communication in the system as a whole being courageous and ethical, they will be able to adopt the same type of communication in their learning together.

To develop such communication we would need to establish a series of what Dewey called Acts and Habits (Dewey, 1922). Human acts are when we react with or on things in their own context surrounded by their conditions. These acts will generate interest and in turn will create meaning which will be naturally attached to the act. These meanings of acts will generate habits of which gradually create change. Through our meaningful acts we can generate transformation of communication and adaptation of habits that can cultivate creativity in the educational system. When Dewey writes “Habit is an acquired predisposition to ways or modes of response, not to particular acts’ (Dewey, 1922, p. 42) one can understand that he is describing the experience we carry with us into the social and linguistic interaction. Through ethical and courageous communication we will be able to acknowledge these acts as forming the basis of habits in educational systems. For the educational system to change, we would need our verbal and non-verbal communication to change from a directive communication to shared communication, from authoritarian communication to autonomous communication. Only then, will we be able to embrace creativity in a meaningful and progressive way.

Community

Community

That individual stakeholders share the environment they create with collective intentions about communal ambition.

For the community to form, there should be determination and ambition to create one by the regular participants. A community would not form around loose ideas of coming together, on the contrary, it should gather people who are committed physically and spiritually to the concept of a community. School community involves not just students and teachers, it involves parents, administrators, policymakers and the Department of Education itself. Each of these stakeholders has a varied portion of influencing, advancing and expanding the knowledge of the community.

Max Scheler regarded knowledge to be the relationship between beings who recognise what the other being is in itself (Davis & Steinbock, 2011). This knowledge is a system of connections which through time opens more layers of each being to become part of the other. The relationship between people and oneself was well noted in Mead's (1934, p. 154) work:

The organized community or social group which gives to the individual his unity of self may be called "the generalized other." The attitude of the generalized other is the attitude of the whole community. Thus, for example, in the case of such a social group as a ball team, the team is the generalized other

in so far as it enters—as an organized process or social activity—into the experience of any one of the individual members of it.

Both Scheler and Mead observe the importance of people's commitment to the community and the influence individuals are allowing other participants in the community to have on them. The responsibility each of the participants have in the community varied as they are fulfilling different aspects of the community. For example, students have the responsibility to learn, gain knowledge and improve their understanding of the world around them, while teachers have the responsibility to teach and assist students with their learning while continuing to evolve themselves. Each participant experiences the community and the individuals in it in a responsible manner if they are committed to the community. The emotional experience participants in a community would have of one another precede the knowledge they form of one another intellectually (Scheler, 1954). This is mainly due to the fact that human beings are emotional beings and the connections we make might be in different settings. However, if these connections are ongoing encounters, an emotional connection will be established. This emotional connection can manifest itself in the form of care, respect, positive language use, encouragement and support of the individuals involved in the community and understanding of others' whole world and not just in the educational context.

In the school community, where teachers and students interact on a daily basis, it is important that they would feel as if they are a part of a meaningful community which allows them to engage inspirationally. The communal

environment would be a fertile ground for creativity as it will allow both students and teachers to engage with one another as part of their emotional experience and not just on a knowledgeable level. As mentioned before, creativity will arise out of a secure learning environment, where participants are allowed to explore, make mistakes and start again their thinking and application of it. In order to achieve this meaningful learning and teaching, a sense of community will be the supportive aspect that students and teachers will use to explore and engage with creativity courageously. When people are empathic to one another, they become more ethical in their actions and more supportive of each other's ideas and work as their understanding is based mainly on knowledge but on active emotional engagement.

Social act was described by both Scheler (1973) and Mead (1934) when they explained community. Social act according to Scheler are acts people are engaged in when they accept one another's act, only then the act becomes a social act. This social act proved, according to Scheler, that human beings are individuals behaving as members of a community or collectively. The many different types of acts within the social act demonstrate that we are both individuals and members of the community. When an act gets a reaction it will be classified by Scheler as a social act. Mead views social act as interaction between people and objects. He added the object component as human beings are relating, defining and using objects in their social encounters. Mead sees individuals as inseparable parts of society, shaping it through communication and relation to objects. These relations create a community when in place positioned the individual in the world. The community human beings create

around people and objects is a cyclical system that feeds and changes itself by the interactions among the participants.

In a secondary school context, the community is formed in circles of involvement. These circles are moulded with the impact the people in the circles have on the school community. We cannot detach one part of the school from another as they are influencing one another through the social act. Therefore, teachers and students are forming the basis of secondary schools, however, their interaction with the Department of Education through exams and supervision, shapes the learning process of the students. Likewise, teachers form the school community not in detachment from the outside world, but in constant communication with it. For example, parent-teacher communication, teachers' registration and compliance to rules and regulations and professional development requirements.

A school community can thrive if all participants are acting in an ethical manner with ongoing communication and the courage to incorporate creativity. When the learning of the students is prioritised, as well as teachers' wellbeing, the community will strive for success not only academically but as a productive producer of creative human beings.

Autonomy

Autonomy

That humans have the freedom to choose the most appropriate act in accordance to their view and the social system where they conduct themselves.

Humans are beings of choice. We manifest our desires through our choices and through our ability or lack of ability to decide what is the most appropriate act to perform in any given situation. Kant (Shell, 2009) addressed the issue of autonomy from the aspect of reason. Autonomy is an act of reason where one gives themselves the law but the law is an act of reason. This reason will affect the relationships people have with their own system of morals and their desires. The reflection one is processing upon the action one is taking, is forming the autonomy one will maintain. To be able to possess autonomy in a positive manner, a systematic self-reflection procedure would lead the person to not only understand themselves, but to understand the other as well as the impact of their actions.

This idea is immensely important in education and schools as it is the relationships teachers and students form that lead to acquiring knowledge, understanding of the world around them and building a trusted society which values these connections. It is not to say that each would do as each wishes. We are social beings who wish to keep our self-autonomy at its healthiest

condition. However, it would not be possible to maintain autonomy if we do not maintain the values of our society.

To govern people means to protect their rights and preserve them. Our rights articulate our freedom of conscience and self-fulfilment, which in turn, forms our self-autonomy. Liberal society is a society that does not compel specific interpretation of its concepts. It has rules and laws as a framework for people to govern themselves within. The rules and laws are administrative arrangements, ones that in relation to organising our way in life and not ones that are defining our goals in life (Finegan, 2015).

Schools and the people who use them on a daily basis should have the autonomy to choose how to manage themselves within the Australian Curriculum and the educational establishments. Measures of supervising put upon these establishments are undermining the ability of teachers and students to become autonomous. The people who operate in schools would be required to satisfy the supervising measures and report constantly to inform policy-makers. If we allow teachers and students to be autonomous in their function in school, we will provide them with the opportunity to find their own identity and meaning of actions. The relationships teachers and students establish and navigate with the people around them, will enable them to become autonomous (Nedelsky, 1989) as they understand the responsibility they have over their actions and the impact of such actions.

Autonomy contributes to creativity in schools as it allows students and teachers the freedom to search for novice ways to accomplish the tasks they have at hand. Creativity would support and nurture the autonomous and responsible qualities students and teachers contain in their pursuit of knowledge and understanding. Together with autonomy and creativity, students and teachers are becoming active participants in the learning process, they accept responsibility for their actions and duties, they are more likely to acquire the ability to employ new variations and generate meaning in their work. Society progress on the back of its individuals' convictions of the world around them and autonomy will provide the rich soil of which such progression can occur.

Coda

As a researcher I understand the above definitions and elaborations are complex and contain a number of additional theoretical concepts from philosophy and sociology. It has not been possible to develop these particular concepts to a greater extent, however, the following chapters do attempt to incorporate all of the ideas above in a cohesive approach to human learning including creativity. In accordance with the general principals of qualitative research, it is significant that the themes and elaborations are viewed as an integrated whole where ideas intimately connected through association.

Chapter 5 - From Creativity through Synergetics to Synergetic Creativity

Taking into account the literature, data, data analysis and the themes arising, we are now at the position to theorise a new approach to creativity in schools. The following discussion chapter is divided into three parts:

- Part 1 – Rethinking creativity. Reflection on the definition of creativity and the broad understanding of human creativity.
- Part 2 – Claims for new knowledge. Proposals regarding synergetics, creation of thoughts and elements of creative thinking.
- Part 3 - Framework for theorising creativity. Implications for research questions, considering pragmatism, qualia and subjectivity.

The discussion in this chapter below is an attempt at theorising practice and development of a number of concepts that are intended to relate to each other. This is an important step in the research process, to produce new knowledge, that is to think creatively about experience, practice and data in order to develop new understandings of the world. In the discussion below, I draw upon a number of concepts from science not to impose what might be called a scientific viewpoint but to be inspired by the range of understandings that humans have developed. While this shows that the research study has produced proposals for new knowledge that are still tentative in construct, it will also hopefully take our understandings of human subjectivity to new levels.

Part 1 – Rethinking Creativity

In this section we will revisit our original definition of creativity and expand that into a new paradigm. The five themes of Ethical, Courage, Communication, Community and Autonomy outlined in the previous section lead to new thinking about creativity and a new definition of creativity:

Creativity
Innate quality that all humans possess which can manifest itself in the productive quest to progress oneself or the society in which one lives.

The thinking around this definition saw the natural quality of creativity without estimating its personal or social value, existing in each one of us. Embracing the creative potential that each human possesses, not just for personal gain, rather for a combination of social and personal progression, was at the core of defining creativity. Sternberg (2010) spoke about three types of interests people exhibit in regards to wisdom and creativity; Intrapersonal interests, Interpersonal interests, and extrapersonal interests. Teachers, as this research observed, are ethical, communal beings and therefore, possess mostly, interpersonal interests and extrapersonal interests. The concept of these human interests to become the spring board of creativity through actions, came from the pragmatist framework. In its centre, experience and doing are the foundation for realising the world we live in and the basis for formulating social skills and social understanding. Constructivist ideas connected to

pragmatism led the researcher to think about the benefits society and individuals can gain from becoming more creative. This invitation to a person's thoughts, ideas, concepts and views can fertilise itself on the grounds of creativity as it is as my definition suggests, for the progression of the individual and society.

Creative output which is not shared is a missed opportunity for enhancement of the originator's thinking and observation of the world, the connections one makes and the interpretations one gives to social and personal encounters.

Secondary schools are a combination of a few elements. They contain teachers, students and administrative personnel. They are influenced by the Department of Education and the state and federal governments' policies. The combination of a few elements influences and affects the secondary school establishment and is vital to the understanding and implementation of creativity.

In general terms, from the literature and data in the research project, there seems to be key elements that commonly occur. The broad sense of human creativity, as the research reviewed it, involves three themes: action and reaction, reflection and discussion, creating and developing.

Action and reaction take place when we are interacting with one another or when we deliberate upon an issue. As humans we react to the environment of which we partake and constantly try to adapt the environment to our needs. These activities and responses to them are cyclical in their manner, spark new

ideas and new artefacts. In the reflection and discussion part, we refine our ideas, change them, alter their impact and reflect upon the reaction they might have through discussion about them. When we take on these measures, we create and develop the initial idea or artefact we had. The development of the artefact takes place in the recreation to the product of thought through constant reflection and discussion that are sparked from actions and reactions we encounter in the environment we are involved with. The diagram below conceptualises all of these processes as the 'human creativity funnel,' whereby human creativity is compounded and manifested.

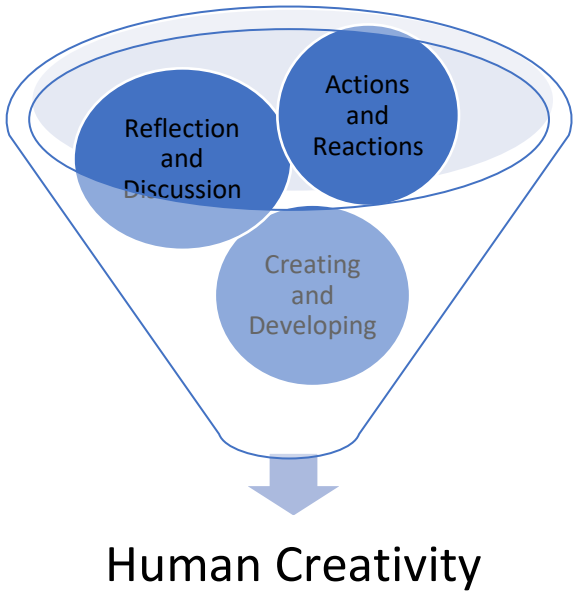

Figure 5.1 The Human Creativity Funnel

Human creativity, as the above diagram envisages the thinking in this research, is a multitude of considerations and activities. When we act upon a situation or react to a situation and we reflect and deliberate about it within ourselves or with others, we create the fertile ground for creativity. We create change as we are constantly changing and expecting our environment to

change as well. In this research, the importance of these elements in human creativity unpack in two directions; a social one and an intellect one. It is the view of this research that it is possible to broadly identify these key elements, however, the research has taken these elements and provided a much closer definition of how these elements are constituted and how they work. The significance of the Human Creativity Funnel diagram is in its consideration of all elements to channel them into the interaction that forms the basis human creativity. The funnel enables a constant stream of ideas which can be discussed, reflected, developed and reacted towards those ideas. It might be used also to consider and prioritise ideas and artefacts within some criteria and attention to the environment of which the creative artefact is intended for to generate change.

Mead (1934) advocated for change as part of his sociality idea. He explained the transformation between the 'I' and 'Me' as the time it takes to establish a systematic change. This timeframe is where humans are able to reflect and thus become aware of the systemic change. This awareness will assist in any future changes as it evolves and reshapes the environment. The creative human being is also manifesting itself in the synthesis of social and physical relativity. It is doing so in the capacity of being several things at once, when we carry characterization of the human self and human society in encounters we experience on a daily basis. Our capacity to manoeuvre between the various human selves that we possess is the creativity manifestation of which we are aware. The signs and gestures we provide in our social encounters help us evolve our human self and our social self. Therefore,

creativity is a productive action which is striving to progress both the self and the social and it cannot be apparent without one or the other. For instance, Ames (1967, p.183) suggests that 'In relations with others we become ourselves' and this evolution and progression of both self and society can harness itself in the vessel of creativity.

Part 2 – Claims for New Knowledge

When we talk about new knowledge we need to consider the other's view of what is new knowledge. In Part 2, I take our understandings of creativity, a new formulation arising from Part 1 and extend that into a new reasoning of awareness or understanding. In this section, therefore, I take the new directions and indications regarding creativity described in Part 1 and extend that into the realm of new knowledge or possibilities for new knowledge and understandings.

From Synergy to Accomplished Synergetic

According to the Oxford dictionary, the definition of synergy, in its noun form, is:

'Interaction or co-operation of two or more organisations, substances or other agents to produce a combined effect greater than the sum of their separate effects' (Stevenson, 2010).

For our purposes, we need to move beyond the definition of synergy to take account of and develop a new concept of how the different elements might interact. I am therefore suggesting the concept of synergetic.

Synergetic is an adjective, however, it does have similar meaning as the definition of synergy. Synergetic is the combination of a few elements that exist within any system to generate a greater power when working together and then to sum each of the elements' affectability when applying this totality to a reaction. In its plural form – synergetics, the significance of the concept will be discussed next drawing on its function as a field of research in science.

Synergetics presented as a new field of interdisciplinary research by Hermann Haken in 1977 (Haken,1977). He explained later that synergetics creates new links between different fields in one big sphere and that it 'is concerned with the cooperation of individual parts of a system that produces macroscopic spatial, temporal, or functional structures' (Haken, 1980, p. 121). This can be applied to brain function (Haken, 2006), the Arts and Aesthetics (Haken, 2017) Physics, Chemistry, Biology, Economy and Performative Science (Müller, Plath, Radons, & Fuchs, 2018). In education, an attempt to apply synergetics in tertiary level in Sholom-Aleichem Priamursky State University in Russia (Serezhnikova, Fishman, Abramenko, Zhoglo, & Fishbein, 2015) looked at the pedagogical, psychological view of students with a synergetics pedagogical approach. The researchers developed a scheme for 'The structural and functional model of creative development of a personality' (Serezhnikova et al., 2015, p. 153) by which they explain the elements that

contribute to the development of a creative personality within students in university studies applying the synergetics position. Their work is encouraging for this research as they showed application of the synergetics framework in education. While the position of Serezhnikova and her colleague's research (Serezhnikova et al., 2015) is of a psychological orientation, the position of my research is of a social orientation instead.

It is clear that systems theory is an active area of research and practice of which there are a range of different views such as Stacey (2003) who offers contextual information, but refers to organisations generally rather than to actors within. He wrote 'organizational change is a shift in patterns of inclusion and exclusion. It is in this process that organizational identity emerges, that is, the purposes and inspirations for carrying on being together are continually reproduced and potentially transformed, causing themselves.' (P.156)

Haken defined synergetics as 'an interdisciplinary field of research that deals with systems composed of many parts (or: components). The part may be simple but may also be system by themselves' (Haken, 2006, p. 111). To apply this definition to education is to see the educational system as what I will now call be called the 'Framing System' and within it I will define students, teachers, the community and the Department of Education as 'Subsystems.' The interaction and movement of Subsystems within the total system allows the Framing System to operate and evolve. In synergetics, the cooperation between these Subsystems is studied while taking into account the concept of self-organisation. Self-organisation is the process each of these Subsystems is

using in organising itself and the information it receives to be able to operate within the Framing System. According to Haken, 'the system is subject to fixed parameters, the control parameter.' (Haken, 2006, p. 111). The fixed parameter in the secondary school would be the Department of Education which frames, operates, writes policies and curriculum, funds schools and monitors knowledge through assessments and testing. It is the monitoring body of, in science terms, the 'energy' injection into the Framing System, whereby in this case energy can be considered as administrating more examinations, cutting budgets and the like. The notion of energy is an important concept to be considered further below.

An important part of synergetics is the observation of 'systems that can produce oscillations' (Haken, 2006, p. 112). These rhythmic movements within the Subsystems which creates the evolution of the Framing System is important in an educational context. Education in the pragmatic and constructivist view is an ongoing process which requires the participation, experiential and reflection through each stage of learning (Bentley, 2003; Bodner et al., 2001; Doolittle, 2014). This connects nicely with thoughts of Mead who was a systemic thinker who saw our encounters with others as a vital component to the progress of society as we impact on one another in various vibrations (Aboulafia, 2008; Mead, 1925, 1934).

Educational systems are synergetic in their essence as they involve many Subsystems which are adapting, evolving, contributing and progressing the Framing System. Compared to the human brain which is a synergetic

system because ‘it operates close to instabilities and achieves its activity by self-organisation which leads to the emergence of new qualities’ (Haken, 2017, p. 110), so too are secondary schools. The human brain handles a huge amount of information at any given moment and it organises this information in a process of self-organization. This process assists it with the actions and reactions to situations, reflection and application based on experience and incorporation of important information for later use. Teachers, students, parents and the community are all Subsystems in the Framing System – secondary schools that are an essential part of the vitality of the Framing System. All Subsystems are necessary for the Framing system to be appropriate. Without one of the subsystems, the Framing System would generate a new self-organisation transformation, but it would be limited in its capacity to change and respond to situations. Each of these Subsystems operates the same as the human brain. They are all dealing with large amounts of information which they need to self-organise in order to operate within the Framing System - the secondary school. A plain, yet startling and highly significant statement about information processing in the synergetics context was given by Ebeling and Feistel (2018, p.4) ‘there is no information processing without life, and there is no life without information processing’. This statement connects physical and organic human existence which is an important outcome of this research and will be discussed later in the section on subjectivity below. Secondary schools are a living organism and they are compiled of many individuals who can be grouped into Subsystems of the educational system. To look at them as living organisms, synergetics allows us to examine and propose courses of action to the Framing system as well as for the subsystems by changing their conditions.

In synergetics, the educational establishments (secondary schools in particular to this research), there are many aspects to curving the direction of the educational journey of the students and the teachers as well. For example, teachers are a Subsystem which influences the secondary school educational foundations. It is the teachers that are guiding, assisting, monitoring and evaluating students' learning. Their strength lies in their passion and dedication to teach, their ethical position towards their profession and the extensive knowledge they bring with them to the secondary school environment – the Framing System.

Students are another Subsystem in secondary schools. They are the people who shape their own understanding and learning around the knowledge offered to them by the teachers' intelligence and the Department of Education's curriculum. Students engage with their teachers on a daily basis and are the reason the secondary school exists. Students increase their involvement in learning when they are heard and taken into account in the process of educational configuration. Their strength lies in their desire and determination to learn and adopt the learning process offered to them in the secondary school. As well as their commitment to better themselves in any field of study they commence themselves in.

The Department of Education is an influential Subsystem that shapes the educational journey of secondary schools. It is the governmental body which writes, administers, monitors and evaluates schools, students and

content of studies. With this much authority over the secondary school operation, it is vital that communication and information streams regularly so both ends of the schooling journey is able to feed one another in a positive manner. The strength of the Department of Education lies in its oversight of educational establishments, its connection to international trends in education, and its ability to implement new theories in schools with the appropriate budget.

Diagram 5.2 below explains the one on one system of which teachers and students are gaining from being in constant interaction with one another. It is the way we experience experiences. As was described earlier, the Human Creativity Funnel was a way of conceptualising how humans function and what creativity is in the broad sense. The Cognitive Artefact Production diagram continues to inquire about the relationships and interactions people have in the educational environment. The Human Creativity Funnel and the cognitive artefact production are correlated in the one system of which humans partake to allow their innate quality of creativity to fountain. For greater definition, the Cognitive Artefact Production describes the interaction people are involved with every day in every environment. It is the matrix of reactions created within oneself by the interaction we have in the system we share. At this stage it is necessary to introduce the concept of particles (to be developed further below) because there is a need to distinguish between the elements of Subsystems encountered above and the components or particles that exist within Subsystems. For example, teachers constitute the particles within the Subsystem of teachers and community members constitute the particles of the Subsystem of community. The diagram explains how the particles in each

subsystem operate with one another and with other subsystems within the Framing System. Synergetics is a field we function within where different particles operate. It is a system of science which 'focuses its attention on a widespread phenomenon…the formation of structures by self-organisation' (Haken, 2018, p. 10). Haken then goes on to explain the concept of synergetics through the laser paradigm. The system of the laser paradigm produces laser light which is different than a light produced from a lamp. Haken (2018) explains that the individual atoms are excited by a light source which is an energy source and eventually a laser light is produced simultaneously with heat. The atoms in the laser beam are acting as if we were to throw a pebble in the water, whereby through a process of oscillation the amplification of the atoms become more intense. The laser light is different to the light produced from a lamp because there are different types of waves. Some oscillate slowly and some rapidly. We can think of this as involving different energies which generates different effects depending on the wave strength, in a similar way as we considered the order parameter previously having an effect on circular causality.

There is an order parameter which enslaves the other electrons, however, its effect is different in other electrons depending on the position and wave strength. There is an effect on circular causality which allows us to deal with complex systems at two different levels; the order parameter (Framing System) and the enslaved parameters (Subsystems). This explanation can be adapted to the secondary school system where changes to policies, student numbers, teachers allocation and community involvement and pressures are just a few of the 'light' or 'energies' that influence the reaction of other

Subsystems in the Framing System. The Subsystems are enslaved to the frame system which orders them into reaction and interaction with one another. The constant interaction between the Subsystems and within them is presented in the cognitive artefact production diagram below.

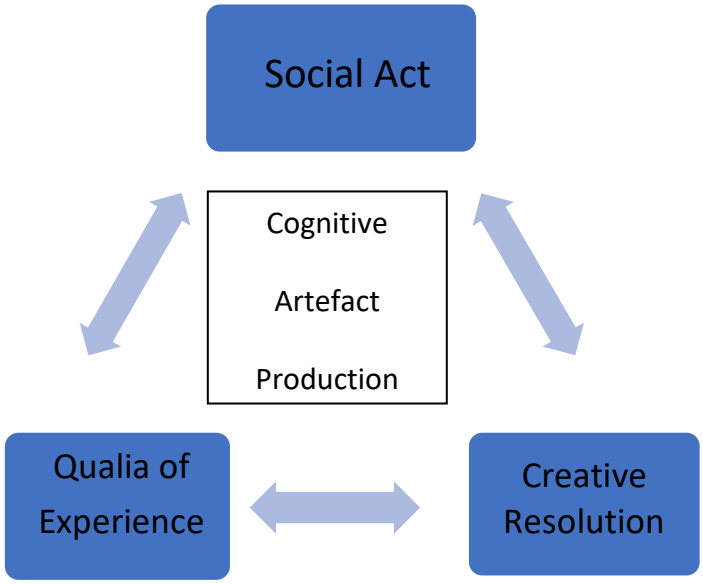

Figure 5.2 The Cognitive Artefact Production

Diagram 5.2 depicts the cognitive and educational construction of students and teachers while they interact with one another on a daily basis. The diagram is cyclical in nature as learning is an ongoing experience, including secondary schools. The social act refers to any interaction between people which carries with it meaning and established position (Gillespie, 2005). In a secondary school environment, this might manifest itself in language exchanges (context of comments, show appreciation to work, inquiring about learning etc.) and/or physical gestures (pointing to parts of texts or models, opening the door, helping carrying materials etc.). Language gestures, as Mead

saw it to be creatively powerful (Ames, 1967) allow students and teachers to exercise the authority of the Subsystem they constitute. The social act can lead to qualia of experience and generate a creative resolution. Qualia of experience is the knowledge one possesses when experiencing the external world (Dennett, 2017; Kanai & Tsuchiya, 2012). There may be two senses to qualia. 'In the first sense, qualia are properties of experience; in the second sense, qualia are properties of mind-independent properties' (Crane, 2012, p. 25). Later I will explain qualia in length, but for understanding of the diagram I would like to explain that in educational establishments and specifically in secondary schools (the interest of this research), qualia of experience is the internalisation of teachers, students and the community of what they are experiencing on a daily basis. These experiences include their interactions with others in the social act and/or observations of social acts in their environment. The qualia of experience in the diagram will generate a creative resolution or a new social act. In the practice base or pragmatist practice base of knowledge, this cyclical movement around the Cognitive Artefact Production should be at the heart of educational establishments. The Cognitive Artefact Production will present itself while participants are involved in social acts and accumulating qualia of experiences. The creative resolution of problems and issues encountered is a process that individuals are engaging through the movement of Cognitive Artefact Production. It is in this creative evolution of cognitive artefacts and objects that participation of teachers and students is manifested while learning together in secondary schools.

In synergetics, conceptually and as was described in the laser paradigm, if we provide energy to one type of particle then we can observe the reaction it has on that type of particle as well as the reaction of other types of particles in the Framing System. The amount of energy inserted into one Subsystem would undermine the other Subsystems as they did not receive that amount of energy. For example, if we were to reduce teachers workload by half (energy) the other Subsystems would be imbalanced by this as they will have less teaching staff in the schools to communicate with as well as more funds would need to be allocated to hire more teachers to fill in the gaps created in the timetable. Therefore it is important to observe the amount of energy inserted in one subsystem and insert similar energy in the others so they can all work together and have a greater combined effect than each of their individual effects summed up.

The creative component of the diagram 5.2 is vital to understanding what I propose as the synergetic creativity model for education in the next section.

Synergetic Creativity

Synergetic Creativity

Combined interactive capabilities arising from social acts to initiate the qualia or intellectual objects human beings obtain for the practice and enhancement of cognitive effect.

Following the explanation of the thinking around creativity, synergetics and the connection each has to education in general and secondary schools in particular, I will now suggest combining them together and propose a model incorporating the two to be used in secondary schools. The thinking around the incorporation of creativity and synergetics is the acknowledgment that secondary schools are a sophisticated establishment that necessitate the holistic view of its function for the purpose of the successful integration of creativity and the outcome of it.

Synergetic creativity is about becoming one powerful educational system which allows all participants to offer their effect on the people participating in it ethically and respectfully so we can benefit from creativity and creative human beings. Synergetic creativity can be applied and benefited from if it is agreed by all participants to use their autonomy in an ethical manner with courageous communication about the community they serve and engage with.

Cognitive artefact production is the new thoughts or ideas we are using to resolve issues. Students and teachers are using cognitive artefacts on a daily basis, when making sense of the world around them while they are engaged in learning new topics and through social connections and actions they take. The role of the student in a secondary school is to learn while the role of the teacher is to teach. However, that is not where their connection to the system ends. Students and teachers commit to the secondary school framework and are adjusting their reaction to actions they experience around them. It is in these reactions that creativity is best observed, as we cannot estimate what is going on in peoples' minds without inquiring about it.

An example of such reaction to the action taken in secondary school might be the following. All students want to be able to reach an understanding of their learning and the learning provided to them by teachers through questions, models and research. Students are asked to display their understanding in various ways so that teachers and other students would be aware of the learning that is undertaken and to be actively participating in the learning occurring in class. A student who is using other students' answers to make sense of their work, without understanding the path of learning to that outcome is one example to a situation (action) where the teacher needs to be courageous enough to point it out to the student in a respectful manner (reaction) so that a positive outcome can be achieved. The teacher also needs to be a positive communicator, encouraging the student to search within themselves to understand the path of learning and to assist the student reaching that inner understanding. It is the teacher's ethical commitment to their

profession and their students to encourage the autonomous learning of the student so that the student can feel part of the community of learning by right and not by merit.

The student's own understanding or engagement in deep learning can be achieved when the teacher assists the student step by step through the question, model or research to be able to solve one exercise or one stage of the required exercise. When the teacher communicates with the student their understanding and then lets the student solve some similar exercises by themselves, the teacher hs creatively, ethically and courageously transferred the knowledge of the practice of learning to the student. The student can then embark on an autonomous journey of learning within the classroom environment where creativity can take place because the foundations of it have been laid by the teachers and their practice of synergetic creativity in their teaching. This type of courageous, ethical and communicative practice, is at the heart of synergetic creativity as it promotes autonomous individuals within a community.

A human being is the sum of all her experiences combined, not separated experiences counted together. The effect of a human being on us is greater when we look at a person and take into account the amalgamation of all the adventures a person has been through than to break the person's life into separated life incidents and tally them all up to construct the person. This is what synergetic creativity is all about.

As noted above, synergy in the Oxford dictionary definition is ‘The interaction or cooperation of two or more organisations, substances, or other agents to produce a combined effect greater than the sum of their separate effects’ (Stevenson, 2010). If we translate it into a person’s life, we would find that the experiences a person is going through in life, is assembling the person we connect with at that point in time. All the encounters a person has collected in a life, until the point we meet, creates the human being we start a new experiences with. The new encounter will be interpreted into individual qualia and might be shared as collective qualia. The combined interactive capabilities that are presenting themselves when we engage in social acts (whether active or passive participation) accumulate the qualia properties of it in the human mind as experience. These properties of experience will carve themselves into the individual participant in their own subsystem or the framing system as was suggested in the synergetics terminology in the previous section about synergetic. When individuals engrave these properties in cognitive artefacts production, they are elevating the subsystem to which they belong. As in the laser example raised previously and the discussion on the concept of particles, the participants will generate a creative action from the other participants of the subsystem or participants of other subsystems that were part of the experience. This impact of processing experience into qualia and manifesting it in creative production of practice and enhancement of cognitive effect is the ‘energy’ behind the concept of synergetic creativity.

The synergetic person is also a person who acts, thinks, reflects, react and thinks again about the environment they are functioning within as they are

aware of the subsystem and the frame system they are involved with, when considering these systems as part of the social environment of which we work. This cycle of being in every encounter a human is experiencing throughout life, constructs the labyrinthine complex person we meet. No one human is the same as another, however, we share the capacity to be creative if we were given the chance. In expanding the argument that has been made before, this creativity can be revealed in ethical communication individuals in secondary school initiate, in courageous risks in sharing, and in developing ideas and be open to comments about the idea, in autonomous research and personal development of inquiry and learning and in the ongoing awareness individuals develop of the community they are engage with in secondary school and the surrounding communities.

Earlier I offered my own definition to creativity as an innate quality all humans possess, of which can manifest itself in the productive quest to progress oneself or the society in which one lives. This means, creativity lives within each and every person, it is not a talent that needs to be nurtured, nor is it a special characteristic people are asked to foster. It is in each and every human being in various levels and can manifest itself in various ways. Some creative ideas we get, some we do not. Some creative work we understand and some we do not. Some creative work arouses numerous feelings like joy, anger, hope, fear, confidence, sadness, surprise, shame, love etc. Creative work is a product of creative thinking and both are a result of an environment which fosters creativity. For such an environment to foster creativity it is never enough to nurture just one aspect of the environment or creativity, it is the combined

nurturing of all aspects of that environment that will produce an enhanced effect. This framing system is secondary schools where students and teachers think. In secondary schools, intellectual objects are constantly discussed, shared, debated about, researched and discovered. Creativity offers the elasticity of ideas to form around concepts for the purpose of progressing thinking and establishing new models of learning. At this point of the discussion it can be theorised that without creativity and the five themes identified in the research result chapter of Ethical, Courage, Communication, Community and Autonomy, concepts in secondary schools would be left as concepts only and would not have the opportunity to become artefacts of the mind to act and react upon.

As such, if we would want to truly achieve creativity in educational institutions, to truly nurture creativity within our secondary students and teachers we need to combine the various aspects of such institutions and educational system to receive a greater effect than the tally of each of these elements by themselves. Synergetic Creativity might offer such a solution.

Synergetic Creativity is the combination of ethical, courage, communication, community and autonomy within all participants in subsystems of the educational framing system. These subsystem participants can be seen as subsystems as was suggested in synergetics earlier, while the secondary school is the framing system. The adaptation of synergetics research terminology to synergetic creativity is organic in nature for this research as it provides the overlapping terms from the sciences to social science – education.

When we look at the framing system – secondary schools - and we identify the subsystems as the Department of Education, teachers, students, and the greater community, we are able to understand how the system works. It is when we combine the Department of Education, teachers, students, and the greater community to commit to creativity, we would be able to achieve Synergetic Creativity in secondary schools. It will not be enough if only one of these subsystems in the framing system would pull towards creativity or nurture creativity in its own field of operation. According to synergetics theory, it will invite a new self-organisation of knowledge of the system and the subsystem with regards to creativity. For creativity to truly manifest itself and ground for us the benefits of it, we need a dynamic integration of all the participants to display their effect for it to become greater than the individual group of interest – the subsystem.

As an illustration of the importance of all subsystems involved in educational institutions, let us look at funding. In Australia, funding usually comes to educational systems from state or federal governments. This funding is most likely specific and a linear connection is usually made between the amount of money allocated to a project or a cause and the anticipated outcome. Let us imagine that the state or federal government decides to allocate a substantial amount of money to schools to become creative. We need to engage the subsystem of teachers in the process and listen to their views and requirements in regards to creativity and its incorporation in their teachings, we need to become sensitive to the ways the subsystem of students would like to engage with creativity in their learning, we need to allow the subsystem of the

community to participate in the process of creativity and find if it can actively participate and we need to undertake challenges such that the school leadership would anticipate in regards to creativity and its integration in secondary schools. Only then any amount of money the government is going to allocate to creativity would produce the desired outcome and creativity would be able to manifest itself in all subsystems and in the frame system as well. The reason for that lays in the necessity of various subsystems which are meaningful groups participating in education; teachers, students, Department of Education and the community to function together towards a shared meaningful goal. These combined interactive capabilities that would arise from social acts the subsystems would engage with would support the embracement of creativity in secondary schools and would enable the society of which they are established within to flourish and relish on the fruits of creativity.

In synergetic creativity, I offer the ability to become more aware of one another and initiate meaningful interactions within the various subsystems in educational establishments. Synergetic in its essence is a multidiscipline notion in science representing ‘new outlook of a human on the world as well as on himself in the world’ (Knyazeva, 1999, p. 163). The inner world of a person and the outer world it is involving with are connected in the intellectual objects human beings obtain for the practice and enhancement of cognitive effect. Creativity can be the vessel of which qualia can become collective understanding of experiences. The creative product which is the end result of reflection and discussion, actions and reactions, creating and developing is a

manifestation of the meaningful interactions individuals in the subsystems have engaged in and the transformation of these into the framing system.
Through meaningful interaction between various participants in the subsystems within the framing system we can change and advance the characteristics of the participants. In the educational realm, synergetic creativity would offer a new way to interact between the subsystems of teachers, students, the community, school leadership and governing bodies.

At this stage of the discussion I can now propose some enhancements to the key issues discussed above. The new synergetic creativity interaction would be done in relation to each of these subsystems participants in the following ways:

- Ethically, as all participants are working together in the interest of the greater good of society, involved in social relations and partake in the responsibility to advance creativity in the society they live in.
- Courageously, as the communication evolves around creativity and the creative process is challenging, courage is required to be able to present new ideas and receive critique about them.
- Communicationally, as the communication between participants would be one of new thresholds of manner, encouraging each subsystem to explore, grow and share ideas involving creativity.
- Communally, as creativity is a vessel to assist and invite one another to the inner world of each other in a respectful manner and participate in an active community.

- Autonomously, as to be independent and self-governed one needs the support and conviction of the environment with which one conducts herself.

In relation to the key ideas outlined immediately above, Diagram 4 describes the relationships between the five themes and the way they feed into synergetic creativity. They are also the building blocks of synergetic creativity as they are interconnected among themselves and the transformation of ‘energy’ that transformed between them constitutes the working through of synergetic creativity.

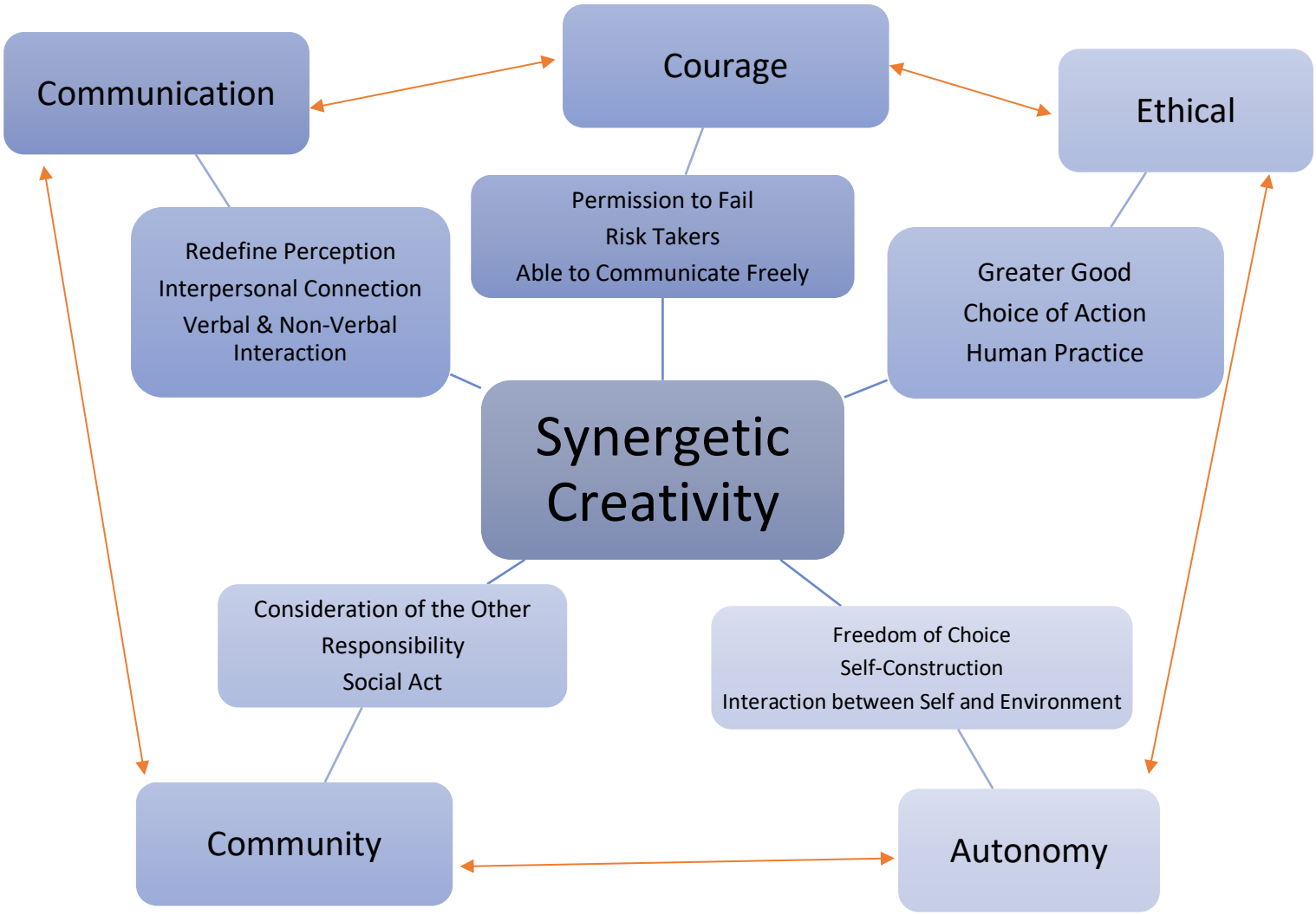

Figure 5.3 Synergetic Creativity Model

In my theory of Synergetic Creativity, each one of the subsystems needs to contain the five elements for creativity to result in a healthy, positive manner for the benefit of society. This is the connection between scenario planning and synergetic creativity. It is not enough to identify each subsystem, we need to identify the qualities each needs to contain and exhibit to create a creativity effect in secondary schools.

These elements have to display themselves in the everyday practice of education in secondary schools which is the demonstration of the individual interaction, within the individuals from the different subsystems to help the framing system to have a greater effect. For example, a teacher needs to be courageous with other teachers as well as with the students and the community. Being a courageous teacher only among other teachers or only with students hinders the possibility of creativity to become a widespread phenomenon in secondary schools. Instead it will provide a specific time and place for fewer creative outputs to take place.

In the research perspective, creativity will derive from the collaboration of all subsystems with one another because all the important elements of secondary school – its subsystems – understand their position as well as others position in the framing system.

Different inhabitants of the educational system experience it differently and thus, have different perspectives of it. The various subsystem participants in the educational system satisfy the educational environment in various ways because their needs are different. The subsystem of the students' desire to gain knowledge to be able to become part of the greater community, continue their studies in further education (university or college) or to be able to obtain a profession in the community. The subsystem of the teachers wishes to teach and share knowledge, to guide students through secondary school learning challenges, and to be able to shape positively the next generation of citizens for the greater good of the community. The subsystem of the community would

like its offspring to use the educational establishment to gain the suitable strategies to become active participants in the society they are part of and to be able to accomplish their desires for their own and the greater good of the community. The subsystem of the Department of Education wants to satisfy their duty to the public and equip the children of its citizens with the required knowledge and skills of creativity to become confident members of the community, while monitoring positively the system of which it is done within.

The educational system does not operate in a vacuum and its subsystem participants are involved in many other frame systems, which involve different objective perspectives. Through the educational framing system we learn about other participants' perspective due to the use of language, social acts and creativity. The power of descriptive language is in its ability to explain experiences and perspectives to people who did not experience or contain such perspectives. Descriptive language is not at all bound to letters, sentences and paragraphs, it is the way we communicate through creative products that our perspective about the world we share with others who have different perspectives of the same object or experience the same interaction is transferred.

In summary, synergetic creativity is the shared experience humans are committed to within their specific communities, which in response creates the qualia or intellectual objects which are constantly produced and mutually distributed in the community as part of the enhancement of cognitive effect. The awareness of this effect will start the cyclical 'energy' behind synergetic

creativity again and again because our experiences never stop and so *is* our qualia.

Part 3 – Framework for Theorising Creativity

Finally, in this section, I return to the consideration of the research questions that formed the basis of this study and highlight key findings and aspects of the above discussion such as Mead's pragmatism, the philosophical notions of qualia and the concept of human subjectivity to indicate the philosophical substance of what I have done. I will return to these key subject matters of pragmatism, qualia and subjectivity to provide added definition for synergetic creativity, to suggest philosophical significance of the theorising that has been undertaken and the claims for new knowledge that have been made. What has been researched by this thesis therefore concerns the distinction between art and the creativity of experience as all humans act and experience the world. Joas (1993, p. 141) for example, points out that:

> According to Dewey, the specific nature of art lies in the fact that it takes as its goal that which in all other forms of human action can never be more than an unintentional or secondary by-product. In the creation of an artwork, roundedness and meaningfulness of experience become the immediate goals.

Joas is describing one of the key theoretical ideas of Dewey whereby what emerges from the creative act involves prior experience coming into contact with present reality in unplanned, imaginative ways, rather than fully-fashioned,

preconceived notions directing how to proceed. Exactly how the human actor goes about creating 'roundedness and meaningfulness of experience' cannot be predicted or imposed. There are many implications for teaching and learning in the classroom arising from this approach.

In relation to research question 1 (How could creativity in secondary classrooms be impacted by scenario planning?), the research has indicated that when groups of teachers undertake the process of scenario writing and planning, key themes emerge that become available for theorising by practitioners and for subsequent implementation in class. Figures 3.1 and 3.2 above illustrate this process whereby a general understanding of creativity (Creativity Funnel) can be expressed with greater definition (Creative Resolution) as the production within the educational context of cognitive artefacts (thoughts, ideas, concepts) by all participants (students, teachers). Over time therefore, scenario planning can impact on the construction of creativity in secondary schools as a systematic process of professional learning that enables the theorising of practice for teachers and the conceptualisation of changing classroom pedagogy and practices for students. In this regard, consideration of research question 2 (What are the challenges for teaching creativity in secondary schools?) means that all the factors that impinge on classroom life must permit teachers and students to investigate interesting issues and problems such that prospects for creative resolution are maximised. In the first instance, the themes identified above provide the broad features of classroom character within which the production of genuine cognitive artefacts can proceed without restriction and imposition.

The first and overarching challenge for advancing creativity in schools is recognition of the need to develop a philosophical view of learning and of knowledge from which creative acts are generated, to accept that all humans are creative as they engage the issues of daily existence. In many conservative classrooms around the world, this is a difficult challenge to accept. Accordingly, in Chapter 4, I discuss a range of practical situations and challenges involving schools and synergetic creativity where there is interaction between students, teachers, community and Department.

Support for Synergetic Creativity in Mead's Pragmatism

In pragmatist thinking and in Mead's work specifically, change is welcomed and desired (Almeder, 2015; Ansell & Torfing, 2016; Crawford, 2016). Mead advocated for change as part of his Sociality idea (Mead, 2002). It is therefore significant for this research that when Mead outlined his thinking about 'I' and 'Me' he explained that 'I' is the novel actions and reactions one has. When we are part of a situation we are called to initiate an action or to react to an action or an object in the situation. These, according to Mead, are almost never identical as the situations we are called to act within are never identical (Aboulafia, 2008; Almeder, 2015; Baert, 2013; Cronk, 2016). We are creative beings who are able to initiate actions and respond to situations (Gunter, 1990). Therefore, he concluded, these actions and reactions are novel and are the components of compiling an instinctive and creative 'I' which is a place where much activity takes place. We are not aware of the place of the 'I' as it will be acknowledged when we reflect and think about our actions in the

awareness state of mind (Fabbrichesi, 2016; Mead, 1925, 1934, 2002). This is where the position of the 'Me' takes place, according to Mead. When we reflect and internalise others' and our own actions, and when we ponder about these influences on ourselves, this is where the 'Me' subsists. The social context gives a person the awareness of their actions (Mead, 1925, 2002). It is when a person or a group of people enter into the perspective of another, they are able to understand one another as each role in the social act is directed towards a common end (Gunter, 1990). Therefore, it is the hope of this research that synergetic creativity would offer the opportunity to enter into the perspective of another in educational systems in general and secondary schools in particular.

Mead explained the transformation between the 'I' and 'Me' as the time it takes to establish a systematic change (Aboulafia, 2008; Gillespie, 2005; Gunter, 1990; Mead, 1925; Tröhler & Biesta, 2008). This timeframe is where humans are able to reflect and thus become aware of the systematic change they are experiencing. This process would be an essential part of synergetic creativity as this awareness will assist in any future changes since it evolves and reshapes the framing system, the subsystems and the individuals functioning in them.

Qualia

Qualia can be defined as raw feelings when connected to physical phenomenon. Qualia is not just the experience, but it is the connection to

something else. The notion we have to connect to is prior experience ‘either as intentional or non-intentional properties of experience’ (Crane, 2012, p. 30)

An example of that might be when a child tries to explain how does it feel when she is doing a good deed to someone else. She will start by explaining the physical sensation, the areas by which she felt the sensation going through the body after doing the good deed. The chest and the tummy areas are pointed out as the first places of warmth expanding and then it will spread throughout the body, until it will reach the eyes that start to get watery. She then looks away in an attempt to understand the gradual sensation she just felt and hide her tears away as her attachment to tears is of a sad sensation. This description, as it was given in one of my conversations with children, amplified the raw connection we make with sensations of the body with prior knowledge of the bodily function and the puzzled feeling we feel when the emotion does not match the expectation of the body reaction. For example, as noted by Kanai and Tsuchiya, ‘these experiences possess phenomenal characteristics, which can be directly accessed only from the subject having the experience’ (Kanai & Tsuchiya, 2012, p. 392).

Like the child, qualia as human response, tries to explain in very limited ability what experiences mean to us. Language and the language act as were positioned by Mead (Mead, 1934) and Wittgenstein (Wittgenstein, 1994; Wittgenstein & Anscombe, 1997) earlier in the thesis, are our means of communicating with one another. We can wonder out loud about something that we do not know, or engage in a conversation about a shared experience.

Clarence Irving Lewis (1929) who was the founder of conceptual pragmatism, expressed qualia as subjective experience which can be shared as 'looks like' because 'they are ineffable, since they might be different in two minds with no possibility of discovering that fact and necessary inconvenience to our knowledge of objects or their properties' (Lewis, 1929, p. 124). Therefore, we can locate the quale in the experience and needs no verification or judgment of it. The judgment of the quale is in relation to another. In the context of creativity, a creative output will not be judged in relation to other creative outputs, on the contrary, it would be evaluated in relation to the experience of the individual experiencing it.

Creativity is an individual output for a collective consumption. In this way, synergetic creativity is the experience others have when they experience the creative output of others. They then enjoy an invitation to others' thinking, ideas and sensations which will spark new conversations about these ideas, or start new ways of thinking about different topics.

Qualia is giving an experience a characteristic similar to feeling and to distinguish between experiences and the people who hold the experience. Kanai and Tsuhiya (2012, p. 393) have also noted 'Qualia serve a function to distinguish what is happening now in the external world and what is happening in our mind'. Qualia is intrinsic with extrinsic qualities when shared with others or when processing the experiences in our mind. Qualia allows basic senses to accumulate meaning and experiences in order for them to become a part of a person's inner world. This accumulation of experiences and senses creates the

self of which Mead was proposing and the I and Me as a reflective process of human growth.

If we were to take qualia into account in this thesis, it would be fair to say that teachers' ethical commitment to education is greatly supported by the accumulation of their experiences in schools. Teachers do develop an ethical position to their students and their profession as they are in constant communication with other individuals and are collecting these experiences into their ethical qualia. The same can be said about teachers' autonomy, which is assembled as qualia being generated while teachers are conducting themselves with students and teachers alike. Nedelsy (1989, p.12) has commented that 'what enables people to become autonomous is the relationships they have with the people around them' (Nedelsky, 1989, p. 12). They would understand and react to their sense of autonomy by experiences they accumulate in the school system. Most significantly, they will know within themselves what is offered to them as autonomy within the establishment's own limits signifies 'interpersonal or social conditions are part of the 'defining conditions' of autonomy' (Christman, 2004, p. 147). Together with the ethical sense of education, students and teachers will develop the courage to become risk takers in education and in their educational journey together. Courage in education needs a secure environment where it can manifest itself in a positive manner. When students and teachers share their education and encourage creativity to take place in their discussion of ideas, a sense of community can evolve via this type of communication.

The senses that qualia give meaning, would be able to incorporate the five concepts of synergetic creativity and give education meaning beyond the achievement scale. It would invite people into one another's senses and experiences like never before.

A constant dialogue is present between the three diagrams presented thus far, The Human Creativity Funnel, Creative Artefact Production and Synergetic Creativity. The dialogue between them is continuous on the social and the individual level. The subsystems described in secondary schools participate in the human creativity funnel while engaging the cognitive artefact production as an ongoing practice. They are inseparable as they involve the internal thinking and accumulating of human experiences to conjure new ideas as part of the human creativity funnel. We are not denying the cognitive intellectual as an important aspect of synergetic creativity. On the contrary, the 3 diagrams display the continuum process occurring in the inner and outer worlds of humans to become creative and generate creativity in society. This is a quality teachers and students will have to demonstrate when viewing, reviewing and commenting on the artefacts they produce in secondary schools. Teachers need to enhance the arrangement of creativity in educational context.

Connections between human subjectivity and creativity

Any research project is not only about the theorising of new knowledge, of collating and analysing data, or answering research questions, but reflecting on how the process of research has impacted on researchers themselves. This

is because the production of new knowledge not only generates new perspectives about the topics being researched, but, by so doing, disturbs and changes the relationship between the researchers and the world they seek to understand at more deeper levels. In the broad sense, this notion of research processes formulating a different relationship between researchers and the new knowledge created - and therefore creating new researchers as persons - can be thought of as the basis of human 'subjectivity,' or the sum total of our experiences and perceptions that enable us to make sense of what occurs around us every day. Biesta (2006, p. 70) takes this idea further when he postulates that 'What constitutes our subjectivity, what constitutes us in our subjectivity, is the way in which we - you and I as singular beings - respond.' That is, given the sum total of our experiences and perceptions, how do we make judgements and 'respond' to the events and others of encounter. Thinking about human subjectivity, or what it means to be a 'subject' rather than an 'object' of our own experience, takes us beyond the topic of particular research into the realm of what it means to be human and ultimately, to be a better human.

The definition of Synergetic Creativity that was given before is worth repeating here as a means of connecting with the concept of subjectivity: ‘Combined interactive capabilities arising from social acts to initiate the qualia or intellectual objects human beings obtain for the practice and enhancement of cognitive effect.’

This is a highly significant insight into not only the nature of knowledge but the nature of our humanness, what we understand qualia as being guides us into a broader understanding of the world. For instance, the French philosopher Bergson (1998, p.199) in a similar manner described this process in the following way:

> *Let us then concentrate attention on that which we have that is at the same time the most removed from externality and the least penetrated with intellectuality. Let us seek, in the depths of our experience, the point where we feel ourselves most intimately within our own life. It is into pure duration that we then plunge back, a duration in which the past, always moving on, is swelling unceasingly with a present that is absolutely new.*

Bergson here, although not explicitly using the concept subjectivity, paints a very clear picture of how humans contemplate their experience and therefore illustrates how human subjectivity is ever present in our actions and thoughts. My thoughts about subjectivity follow.

Subjectivity is our relation to experiences in this world. It feeds the qualia of our perception of experiences and creates an inner world rich with relations to encounters we undergo in life. Subjectivity can be thought of as the connection that gives an experience its quality which in turn describes the attitude we develop to situations, people and items in the outer world. Through subjectivity we create meaning of our responses to the ‘meetings’ we collect while we are going about in the world. These ‘meetings’ involve sensory (smell,

taste, touch, sight, sound) encounters which enable our thoughts to develop an attitude towards them. This attitude will manifest itself in our responses to future encounters. For example, if our experience of eating Vegemite (an Australia condiment) for the first time is a positive one, we might develop an attitude of positive outlook about Australian food. This developed attitude will become apparent in our reaction to further situations and it might shape the view we develop about the world we engage with on a daily basis. Subjectivity creates value and identity for our decision making by incorporating ethical considerations to our reflexive reactions. By doing so, subjectivity functions as the balancing power of our courage to be able to identify the right amount of courage to practice in situations we encounter so that we would be progressing an experience in a positive manner instead of endangering it. This is a significant concept to introduce at this stage as the notion of subjectivity remains unclear to this day. However, Burgson, Mead and others have grappled with this understanding in the same way. For example, an ethical teacher who is courageous will recognise when to apply behavioural policy available in school and when to approach the student and find out what was the reason for their misbehaviour or lack of class work.

Subjectivity charts our communication with our inner and outer world by considering what type of language to use in various conversations and with various people and what type of actions and reactions to apply while conversing. As in the example above of the ethical teacher, the language by which they use will carve the response they will receive in turn from the student and other students who are passive participants in the situation. The

communication choice of the teacher will engrave itself in the subjectivity of the students and the teacher themself as they all participate in the same situation and organise their environment accordingly.

The courage and ethics of subjectivity creates a community of which we are caring, empathic and consider one another in relation to ourselves and the community in general. Subjectivity allows people to become autonomous as through subjectivity they understand the importance of being able to make decisions and react to situations in a manner that can benefit others not just the self. Without subjectivity, the connections we make between experiences would be shallow, survival based as it is in the animal kingdom. The beauty of humanity lies in the communities we develop and the connections we create with one another. This research illustrates these connections through the Cognitive Artefact Production diagram.

The Cognitive Artefact Production discussed earlier is available because of subjectivity and the meaning we give to our experiences. This production of new thoughts, language, attitudes and feelings is the building blocks of our personal qualia as well as our collective one. When we invite an experience to leave a mark on our qualia, we are subjectively connected to the experience and value it as important enough to last for a period of time. This value can be altered, enhanced or supressed, depending on the quality we have attached to the experience, in constant movement.

In education, subjectivity is of highest importance as it creates deeper understanding and connection to the learned material and gives meaning to it.

A student can rote learn sentences in another language, equations in mathematics or prayers in a foreign language. These are relying on understanding what they say, the meaning of the equation or the purpose of the prayer. The context by which these are applied invite a subjective response instead of objectivity which disassociates the learning material from the learning process.

When teachers enter their classrooms, they should see and experience students as entirely worlds of themselves, fields of knowledge and mind, instead of titled 'students', entities who become a vessel of receiving information. Subjectivity is what separates us from the computerised world, it is the understanding of the world through our attitude to it.

In my practise as a secondary school teacher, this research has made an impact on the way I conduct myself in the class and the relationships I have developed with students. The understanding of subjectivity and its impact on my reaction to the academic world I engage with is well exemplified in the following. In my school, classrooms are organised with the teacher in front of rows of double desks. The students are sited in pairs and in each classroom there are about 12-14 desks. I used to experience this shape of the classroom as a given to the relationship I develop with the classroom and the students. However, in response to researching subjectivity and starting to understand the impact the environment has on the individuals, I have changed the seating arrangement of the classroom in a way by which students are sited in a horseshow shape, all facing each other. Also, I have allowed students to

choose where they want to sit (on a chair, on the desk, on the floor) as long as two rules are applied and practised. One, that their choice of being in the classroom is not hindering their learning and two that it does not interfere with the learning of others. This practice of giving autonomy for students to locate themselves wherever they see fit and work with whomever they see beneficial has had a tremendous impact on their learning. The students are more engaged in learning by their own choice, they understand the importance of their choice and will reflect on it with or without my help, and their joy of learning is well evident as the classroom is active. This has also had an impact on me and my understanding of my practice as a teacher. It has emphasised to me that autonomy can be given and exercised in a respectful manner if the foundations are well laid. My engagement with my students and my understanding of them and their learning has reached new frontiers. We communicate freely and respectfully and both students and myself are more courageous to try new ideas and are open to comments and responses to actions we take. All participants, students and teacher have become more aware of the issues we are considering in the classroom environment. A recognition of the importance of response has become an integral part of our learning together in the classroom. This awareness that maybe conscious or not in the group establishes new relationships with knowledge and indeed with our selves. It is this process which combines practice and theorising by all participants that ultimately produces a new self.

I have shared my experience with my colleagues and some of them adapted this as they saw fit to their classes. Some reported that it has been a

success and some saw it as an added challenge they were not able to accommodate at this point in time. Some teachers have come to observe my classes to see how it was practiced and some did not see how it could work in their classes. However, it is not only changed practice that is important for colleagues, but whether changed practice will result in changed subjective awareness as it has done for myself. That is, the importance of this deposits itself in the stimulus for thinking differently about the learning environment, the connection teachers make with students, the ability to allow students to conduct themselves autonomously in the classroom and the new conversations teachers and students have constructed. My thinking capabilities about school, students and teachers have evolved because of this research. It allowed me to think differently about my position as a teacher, my students inclinations about their schooling life and challenges faced by my colleagues as educated and passionate teachers. As I now connect with my practice, my students and my colleagues which I take to be a deeper level of subjective understanding. I allow myself to become more courageous in my teaching, apply ethical conduct beyond my own perspective of situations, communicate my ideas in an ‘open for discussion’ manner, rather than a predeterminate statement manner. Understanding and allowing the autonomy of others as an integral part of their learning or practice and promoting the community of people who share the secondary school environment on a daily basis, is at the heart of the necessary shift from humans as objects to humans as subjects, that must occur if teachers and students are to be genuine participants in the field of knowledge and mind.

Chapter 6 - Synergetic Creativity in Practise

Practising Synergetic Creativity

Implementing synergetic creativity in secondary schools is not an easy task as it requires the cooperation of all the subsystems in the process and collaboration. Building on the data arising from this research including the scenarios and themes I will outline how Synergetic Creativity across each of the 4 subsystems might be practised in practical term in secondary schools with the assistance of diagram 6.1 Synergetic Creativity in Practice.

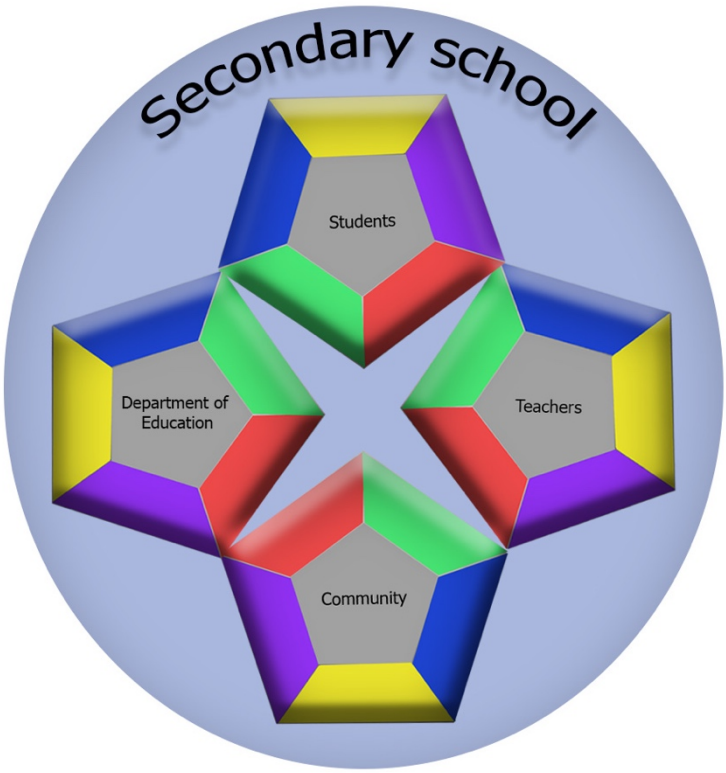

Figure 6.1 Synergetic Creativity in Practice

The above diagram visualises the concept of synergetic creativity in practice. The Framing System - secondary school – contains the 4 subsystems each involving the 5 elements of Synergetic Creativity. Each colour in the subsystem pentagon shape represent each of the five elements discussed in length in chapter 3. The five element are:

- Ethical – represented by the colour yellow
- Courage – represented by the colour blue
- Communication – represented by the colour red
- Community – represented by the colour purple
- Autonomy – represented by the colour green

(The colours were chosen for illustration purposes only)

The four pentagon subsystems are in constant interaction in the Framing System on all levels of ethical, courage, communication, community and autonomy. These elements are inseparable as together they form the subsystem and influence the Framing System. If the diagram could have been animated a constant movement in the circle would have been seen on many sides of the pentagon. These movements of the subsystems in an atom like manner, reflects the origin of the synergetics theory put forward by Haken (1980). The movements in the Framing System is described by Haken as oscillations produced by the subsystems in a regular, more or less regular manner. And he adds ‘On a microscopic level these oscillations can be brought about either by cooperation of subsystems that are by themselves oscillatory that can synchronize’ (Haken, 2006, p. 112). Creativity will gain from these

oscillations when the Department of Education, teachers, students and the community will synchronize themselves to interact their capabilities which arise from social acts they are continually engage with as subsystems. These social acts will involve the qualia initiated in people as part of their experience in the world they live in generating the intellectual objects they will possess to enhance their cognitive effect on their actions. As creativity was defined earlier in the research as an innate quality all humans possess, the practice of this quality can be made beneficial if it is done in a systematic manner. For the purpose of further explaining how synergetic creativity can be practiced in action, the following section will outline the way the research views each subsystem contribution, operation and interaction within the framing system.

The theorising around synergetic creativity is significant in this research as it allows us to view secondary schools in a different perspective in the context of creativity. When teachers and students enter the classroom, they should hold a view of creativity that can be seen in what they produce – the artefact of all sorts. It is also where the artefacts originate from and the connections they have to the others who share the educational environment with them. Teachers need to have a view that is conceptually understandable of what is happening in the classroom while learning occurs. There are certain features that are important, such as social feature. However, it is also important for teachers and students to understand what they think and how they think, if they are to make sense of their social and educational environment. We might never have a whole understanding of this but we can certainly have a go at trying to describe it.

Envisaging Subsystem 1 - The Synergetic Creative Department of Education

The Department of Education administers the school curriculum in all levels of learning. (It should be noted that the term Department of Education is used for convenience, recognising that in various jurisdictions different structures exist. That is to say, a Minister of Education supported by a Department of Education). The secondary school curriculum is the framework of which each school needs to educate its students within. It is a centralised document which will give the schools the ability to choose subjects and year levels the school sees fit to teach the topics in conjunction with the Department ’s instructions. Currently each year level of learning between year 7-10 is divided into eight learning areas: English, Mathematics, Science, Social Science, Health and Physical Education, Technologies, The Arts, and Languages (ACARA, 2015b). In Synergetic Creativity, the Department of Education will not only provide the schools with desired outcomes of knowledge, subject matter to be learnt in each learning area, but also, and most importantly will provide the capability to allow schools to merge subjects, if necessary, that can be taught and learnt in combination which they desire and see fit for their teachers and students. An example for such combination might be Technology and Art Design, Humanities and Science or Mathematics and Languages. In combining these subjects, both teachers and students can integrate their creativity to think about topics from various perspectives. The ability to do so will originate from the initial perceived dichotomy between subjects and the fragmented treatment of subjects in schools today. However,

in Synergetic Creativity, the Department of Education will be courageous enough to allow school leadership to ethically decide of the educational journey is appropriate to their community.

The new combined subject requires teachers and students to be available to adopt various measures of assessments, learning outcomes and teaching methods, as well as, learning techniques. Teachers would transform teacher-centred teaching practice to guided teaching practice of students through concepts in smaller groups in various year levels. That said, students from senior years ten to twelve would be able to learn together towards a shared outcome. Synergetic Creativity allows the Department of Education to view the framing system – secondary schools – as systems which incorporate and consist of various subsystems. This self-awareness of the Department as a subsystem as well as awareness of the other subsystems is creative in its essence as it requires the Department to start thinking of itself as a cooperative substance in one framing system instead of the current thinking of it as a regulative body of authority.

This shift requires courage and sense of security that the state is providing to its citizens what it has promised – educated teens which will be able to advance society in a positive way when they become adult citizens. To build this security a flow of communication should be instituted so that secondary schools and the Department will ensure the transparency in their theory and practice. This transparency as a praxis approach to creativity and education can assist in enhancing the autonomy, community and ethics of secondary schools and the Department of Education. To achieve that, a series

of reports and evidence of learning outcomes will be compiled by schools and reviewed by the Department of Education. School visits will take place regularly allowing for appropriate monitoring and support purposes but also, for learning from the experience of one school and transferring that information to another. In this way, the Department of Education becomes the central depository of knowledge about secondary schools' practice and student learning which can be shared at any time by any school in the framing system.

The Department will receive at the end of each academic year a comprehensive report compiled by the school with examples and evidence of students' outcomes. From this the Department of Education will be able to catalogue the education provided to students, evaluate students' achievements and challenges, provide teachers with support and professional learning in the field of creativity and other subject matters, and share this information among other schools and communities. The report will outline issues about implementing the Australian curriculum, strengths of the curriculum and suggestions for changes. It will also contain demonstrations of unique experiments of creativity in teaching and learning practices.

These reports are a continuum of ongoing meetings and visits the Department will have with the schools where it is aware of the main challenges and achievements identified by the secondary school. These meetings will take place at school so that representatives of the Department can witness the learning and teaching under this new framework. In this way, the Department can gain the security it needs in the secondary school practices to be able to provide the community the Department obligation to education.

Funding to schools will be equal with variations of needs based funding. Some funding is for purpose - based like specific creative projects (materials, time allocation, excursions and incursions); some funding is for student and teacher creativity professional learning as extra curricula courses (creative thinking, creative projects, visits at creative community spaces) and some is for structured creativity development (buildings and learning spaces). Some funding might be based on achievements and ideas such as trialling new concepts in school for the promotion and cultivating of creativity (creative products and creative models of products). Collaborating with the schools will see the Department and the schools in a constant stream of communication about subjects learnt in one way in one school and another way in another school. Therefore, the funding to each school varies in accordance to the need arising in the specific school. The funding will be directed to these goals instead of a blanket goal of creativity.

It is vital that the Department acknowledges that not all funding will see an immediate result and some might not see any physical outcome. Creativity takes time and needs its space in mind and in physicality to form. Therefore, schools will be able to contrive a timeline for the teaching and learning within the global timeline given by the Department – the academic year.

Secondary schools have the freedom to choose the appropriate topics in the Australian curriculum. The school's focus is the development of creative teachers and students, hence, choosing topics it sees fit for the human material it has in its community. The school leadership is made of teaching practitioners who are undertaking active teaching in years seven to twelve instead of

business minded people. This will strengthen the commitment and understanding of leadership of its educational mission. The school is autonomous in its selection of creative purposed projects and it puts the teachers and students and the height of its creative educational mission.

Envisaging Subsystem 2 - The Synergetic Creative Teacher

In light of the proposed synergetic Department of Education, it is now possible to look into the synergetic creative teacher. For teachers to become synergetic creative teachers it is important to reduce their workload in the face to face time manner. The rationale behind it is to enable teachers to prepare, think, act, reflect and react in a creative manner. A good proportion would be 40 percent of their time is face to face (in classroom teaching) and 60 percent of the time is allocated to individual meetings with students, developing creative projects and ideas, and connecting with the community and the school leadership to strengthen the communication and understanding of their position to creativity. Teachers are autonomous practitioners who hold a wide array of knowledge in many fields of scholarship. They bring this knowledge with them to their classroom, their conversations with students and their understanding of enhancing creativity. They are confident practitioners who are allowed to offer their wisdom and their perplexed ideas in the creative process of student learning in the school. Their combined interactive capabilities arise from these social acts that they are now having the time to engage in. These social acts in the secondary school initiated by the teachers are ethical acts which initiate the

qualia of students and teachers involved. Their dynamic communicational skills are exhibits in and out of the classrooms. That leads to the enhancement of cognitive effect which would assist creativity to confidently presenting itself in the students learning and outcomes.

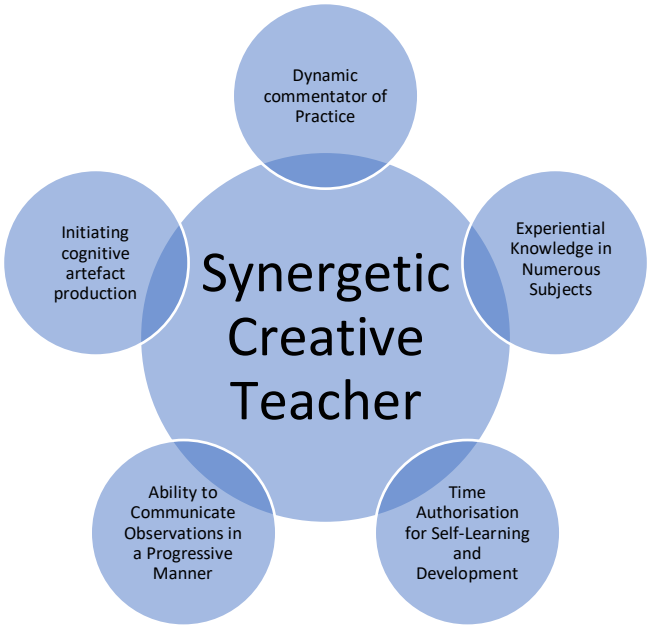

Figure 6.2 The Synergetic Creative Teacher

Figure 6.2 of the synergetic teacher is a broad representation of the many facets synergetic teachers possess in their everyday professional practice. Teachers need to experience creativity by themselves to be able to teach through it and with it. Without this qualia or intellectual object, creativity would not be recognised or practiced in secondary schools.

Envisaging Subsystem 3 - The Synergetic Creative Students

As Synergetic Creativity is aimed at the learning and knowledge construction of students, it is important to design the view of the Synergetic Creative students. Synergetic creative students are confident individuals who enjoy the freedom to choose their interdisciplinary curriculum. They are engaged and creative because the school leadership as well as the Department of Education and the teachers are providing the supportive environment for creativity to flourish. Developing ideas, sharing concepts, refining projects and communicating with their teachers and fellow students is done with courage and confidence alongside the awareness of the impact of their ideas and creative process on the other students and teachers. The link between the synergetic creative students and the greater community is strong as they spend time in the community via community projects, work experience, excursions and incursions in a wide array of themes to enhance their thinking and understanding of the world around them. Learning through experience is at the core of the synergetic creative system, therefore, experiences with multiple subjects, areas and people is encouraged by all subsystems in the frame system. Teachers collaborate with students and the community in a flowing manner, meaning to say, they ethically conduct themselves to amplify creativity in and out of their classrooms. On the account of the proposed 40/60 time allocation in the synergetic creative teachers section, teachers have the time and desire to engage in projects outside of the classroom, in collaboration with others which requires the time to organise such collaborations in a meaningful

way. They are encouraging the synergetic creative students to practice and enhance their cognitive effect in learning at a secondary school setting.

Creative synergetic students are encouraged by the efforts of the teachers, the funding of the Department of Education and the collaboration of the school leadership to trial new ideas, to seek new creative solutions to issues they reveal, to obtain qualia of experience through their research and communication and collaboration with teachers and other students, as well as the greater community. The synergetic creative students understand and act upon challenges in a creative manner because they can identify the interaction and cooperation of the subsystems in the Framing System to achieve a greater creative effect on their learning. They are not passive but subjective learners; they perceive their learning as an autonomous practice supported by the Framing System and the subsystems. This acknowledgment endorses the courage required to practice creativity and reinforces the connection the students feel to their community. The courage and community manifested in the synergetic creative student will support the evolution of their ethical position in themselves as they see themselves as active participants of society and that their actions matter to other involved participants in the same or other subsystems in the Framing System. Creativity contributes to the students becoming aware of their subjective environment through the communication they maintain around their creative production. Figure 4.2 below represents the synergetic creative student as was explained throughout this section.

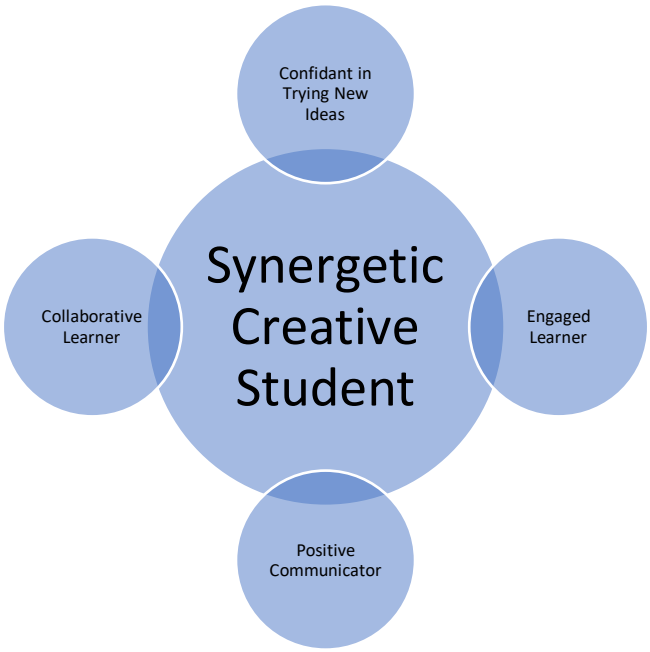

Figure 6.3 The Synergetic Creative Student

Again, diagram 6.3 is a broad compilation to exhibit my thinking around the concept of synergetic creative student, recognising as always that it is a complex and integrated mix of interactions. We also need to constantly remind ourselves that we are considering a mix of subsystems as well.

Envisaging Subsystem 4 - The Synergetic Creative Community

As the Department of Education provides its service to the community and teachers and students are part of that community, it is essential to describe the role of the synergetic creative community.

The synergetic creative community within which the school performs its function and engages with, is taking an active role in the school. This can be achieved when communication is flowing between the community, teachers,

students and school leadership to collaborate with the community. The community is welcomed to participate, initiate and collaborate with the school on manifold themes. The community offers its issues and challenges to creativity learning processes and outcomes in quarterly meetings with school representatives and suggests ways to incorporate these. The community is listened to and appreciated as a subsystem by the other subsystems. The many facets of the subsystem of the community can ethically participate in school based projects, invite teachers and students to join community based project and launch collaborative projects in other areas of interest to the community. The subsystem of the community needs to be courageous and open to invite teachers and students to be an educational part of the greater community. It will involve the courage to perceive critiques from the community about the way it conducts itself (environmental issues) and the way it creatively solicited teachers and students to participate in the community (advertising). For the subsystem of the community to address these issues in a synergetic creative manner, it requires collaborative intentions about communal ambitions. That said, the creative synergetic teacher and the synergetic creative student will be able to identify and provide the synergetic creative community with new ways to view and contribute to the advancement of society as a whole.

Final Thoughts and Conclusion

The significance of this study is in its macro view as well as its micro view of secondary schools in the way that it has conceptualised human thinking and interaction regarding synergetic creative learning environments. It has allowed teachers from various schools, backgrounds and experiences to envisioned how creativity can be best incorporated in their practice and understandings of creativity, through the scenario planning process. They saw the education system as a whole and envisioned themselves in it as an integral part of the structure of secondary schools, and their dynamic role within that. The scenarios they developed together started the thinking about creativity as a vessel by which the secondary schools can utilize in an ethical courageous manner. Scenario planning allowed the teacher-participants as well as the researcher to be creative in our thinking about creativity. This playful thinking led to a more in-depth consideration of creativity and its character to successfully be an integral part of secondary schools in Australia. A comprehensive understanding of these requirements directed the thinking in recognising five themes: Ethical, Courage, Communication, Community and Autonomy as the stepping stones of successful implementation of creativity in a secondary school establishment. This is the engine room of the vessel of creativity in secondary school, as I see it now. The notion of theorising has become clearer to me as the research was established and consolidated and understanding continues to develop around synergetic creativity. As a teacher and a bilingual coordinator in a secondary school, I have and will continue to practice awareness around the importance of creativity. Sharing this

understanding with my colleagues and my school's leadership is important as I believe in the praxis of ideas. After being involved in this research for some years, it is clearer how one cycle of my understanding is completed while another cycle is opening to new ventures in Synergetic Creativity.

The significance of the research to the educational community is in its offer of new thinking about integrating creativity in secondary school through the synergetics thinking. This new knowledge and its practicality, as was outlined in the research, can become a starting point for change in the relationships between the subsystems in the framing system by educational practitioner-theorists acknowledging the importance and the validity of each of these subsystems. A particular and somewhat unexpected outcome of the research has been my journey into the concept of human subjectivity. This has contributed markedly to the understanding of creativity that has emerged and integrates a number of key philosophers who have grappled with the same question for many years. This fresh perspective – Synergetic Creativity - which has never been offered before, is the pinnacle of this research.

In saying that, further research and application of the synergetic creativity model is required to be able to experience this new knowledge. This would be a new pinnacle in understanding the way Synergetic Creativity is able to manifest itself in reality. The application of new knowledge with regards to creativity will complement Mead's writing, when he states: 'A person is a personality because he belongs to a community, because he takes over the

institutions of that community into his own conduct' (Mead, 1934, p. 162). This research highlighted that this can be achieved through Synergetic Creativity.

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