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An investigation of teacher well-being as a key component of creativity in science classroom contexts in England

by

SARAH TURNER

A Doctoral Thesis

Submitted in partial fulfilment of requirements

For the award of

Doctor of Philosophy

Of Loughborough University

Loughborough University

Loughborough Design School

2016

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Certificate of Originality

This is to certify that I am responsible for the work submitted in this thesis, that the original work is my own except as specified in acknowledgments or in footnotes, and that neither the thesis nor the original work contained therein has been submitted to this or any other institution for a degree.

17th January 2016

An investigation of teacher well-being as a key component of creativity in science classroom contexts in England

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Abstract

This thesis considers pupils' attitudes, teachers' (and pupils') creativity and teacher well-being. These three terms represent factors that are closely linked and have a synergistic relationship in determining learning outcomes. Research concerning these factors, and in particular the findings of action research concerning teachers' well-being, are presented through eleven publications.

This thesis, when viewed as a single piece of work, provides an insight into teachers' everyday experiences, professional lives and their responsibilities. It utilises several research methods including questionnaires (approx. 200 teachers; 150 pupils), interviews (approx. 50 trainee teachers), and diaries (N = 2).

The key findings suggest that more clarity is required concerning the meaning of creativity for all primary and secondary teachers and how it should be embedded in teachers' practice. A 'safe' classroom, one where a child can make mistakes, take risks and share their thoughts and feelings, is necessary for this to occur; teachers' understanding of this concept is considerable and broadly based; however, results suggest that teachers approach this in different ways.

Trainee teachers' well-being is affected by their school placements and therefore time for them to learn and share with their peers was found to be both necessary and important. It was also found that the trainee teachers benefited from being taught about time-management as this skill was beneficial for their role. An intervention of a 90 minute lecture addressing stress, time-management, psychology models such as Maslow's hierarchy of needs and Rogers' core conditions, was researched and proven helpful for trainee teachers (primary and secondary science). However, more discussion of the topics and models was required and therefore three workshops per academic year were trialled with the aim of creating a community of practice to normalise experiences. Questionnaire and interview data were highly positive about this intervention and evaluation of the content showed it was beneficial during school placements.

The conclusion of this work is that creative pedagogy and a teacher's well-being are related: if we want our teachers to be creative practitioners in the classroom, we

need to ensure that they are well in themselves. Although this conclusion is from a small case study, it could be generalizable to other teacher training courses and a crucial area for those working in teacher education to consider. Supporting and training trainee teachers in how to manage their professional lives so they are equipped personally and emotionally is reported in the findings as necessary for the profession.

Key words

Creativity, enthusiasm, well-being, engaging, safe classrooms, teacher training.

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Dedication

This thesis is dedicated to my family: to my wonderful husband, Simon and my two amazing daughters, Madeleine and Katherine.

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Chapter 1: Introduction

1.1 My Research Journey

'People build their experience from the spaces in which they dwell...we use our narrative knowledge to interpret and reinterpret our experience...at different times and in different circumstances....because our narratives are interconnected, authoring our lives also makes us accountable for the choices we made within our social communities' (Olsen, 1995, pp. 125-126).

My research journey and its underlying positionality stem from my own experiences as a learner and as a teacher. There have always been two essential key factors motivating my enquiries, which are based on my character. These are: the relationship between the teacher and learner with:

- 1) the emphasis being on the affective domain;
- 2) and focusing on the intellectual experience.

The affective domain can be described as caring, based on Noddings' formulation (Noddings, 1986). This caring relationship within the classroom is centralised around 'receptivity' (Goldstein, 1999); 'The experience of fully receiving the other is the catalyst for the caring encounter' (Goldstein, 1999, p. 656) and this encourages personal motivation in the learner.

The intellectual experience relies upon guidance by the teacher to the learner; Vygotsky (1978) defines the 'Zone of Proximal Development' as 'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (p. 86). This guidance, alongside independence, is crucial to support development. The mixture of the social encounter with a more knowledgeable other, and then internalising that knowledge for oneself, within feelings of being cared for, are firm foundations of my own learner experience.

It is these two fundamental ideas that formulate my thinking and practice as both a school teacher and as a teacher educator. This knowledge and understanding informs much of my reflective thinking involved in this PhD from caring about pupils' attitudes and engaging them within my science lessons, to supporting them to be

creative people in a space where they can be who they are and make mistakes yet be intellectually challenged and changed. These two threads are imperative within my well-being research with trainee teachers which emerges as necessary learning during their teacher education course.

1.2 Positionality

My interest in the area of engaging pupils in the classroom, being a creative practitioner and enabling the positive well-being of teachers, stems from my own teaching experience. Having taught science for eight years my own understanding of the complexity, demands and stressful nature of the teaching profession are derived from and embedded in my teaching through my experiences.

From a young age, my career plan was to become a teacher. I enjoyed school and learning new things. I was never quite certain of which subject to teach; I doubted my performance level in music and sport and hence decided not to teach these subjects as my identity was already in conflict between success / risk and commitments (Gilligan, 1993). When I reached University I started to realise how I learnt and recognised my own strengths and weaknesses as a learner. For example, it was evident to me that I am a visual learner who has a retentive memory and hence could design my own plans to support my learning. Despite being independent, throughout all of my life and in all of my relationships as they developed, I had a desire to be cared about (Noddings, 1986). This, coupled with life experiences such as bereavement, not responding to conflict and criticism, shaped me and was illustrated in my changing identity.

This 'new' identity transferred into my first classrooms during my PGCE; building relationships with my pupils, getting to know them and their interests and hobbies and supporting school activities with which they were involved, such as sports fixtures or concerts, was a core component of my teaching behaviour. Also at this point, the first core relationship was with my Mentor in school. I immediately respected and warmed to her as she displayed care towards me through smiling and sharing her phone number with me. We shared a passion for children and teaching, and engaged in conversations about innovative ideas used in the classroom or about pupil behaviour. The 'safety' that she provided enabled me to be confident that risk taking with new activities in the classroom was good pedagogy; these were the

beginnings of my explorations of creativity. She helped me to stop thinking of myself as a 'student teacher' and assisted in moving my identity into that as a 'teacher' (Danielewicz, 2001). She did this by supporting my reflections in the classroom and developed them into theories of actions. I developed by blending theory into practice (op.cit.) and through this understood better who I was. Therefore, in a short time, my teacher development, although based on relationships, was emerging into theory-based pedagogic practice. To support and enable me to demonstrate resilience on difficult days stemmed from being told I was a 'natural' teacher by my Mentor. This was my first encounter of realising I needed acceptance and care within a professional situation; 'The attitude characteristic of caring comes through in acquaintance...feeling free to initiate conversation and to suggest areas of interest' (Noddings, 1986, p. 20). As the student in this situation, I was receptive and responsive (the cared-for) by the one-caring teacher (my Mentor); the caring evolved from 'a natural sympathy that human beings innately feel for each other' (Owens and Ennis, 2005, p. 395). The one-caring teaching showed how to care and impacted on me in the classroom and relationships I wanted to create. Her honest positivity stayed with me and benefitted me throughout my entire teaching career; this praise was a sign of care and something that deeply affected me (Walker and Gleaves, 2016). Care was something that I always strived to provide in my classroom and this supports Mujtaba and Reiss' work (2014) of how a teacher's encouragement towards an individual is the most influential, especially on a personal level. Therefore, my own development during my teacher education year focused on my engagement with feelings of safety, being creative and the impact of these on my well-being.

My first teaching post was in an independent boarding school and as the youngest member of staff this initially brought with it struggles of loneliness. However, my teaching identity was grounded in relationships with pupils and hence the creation of a community from within my classroom was formed naturally (Connelly and Clandinin, 1999); my classroom was my space in which to teach my curriculum, in what I perceived to be a creative manner. It is necessary to include here that my own identity is that of a white, British, middle-class female from the North of England whose education and workplace commenced in the Midlands. This places a critical caution and limitation on the research as to how it could be conducted in a different

context with a different researcher and hence impact on the results which would be obtained.

During this first teaching post, I was fortunate to learn from a colleague about the importance of the teamwork dynamic in the classroom – the feeling to be portrayed from me to my pupils was ‘we’re in this together’. For me, being in the classroom was a safe space, one where I felt I could be myself, take risks and build relationships. However, I felt unsafe within the staffroom – out of the classroom.

My observations and reflections as a teacher sparked my interest and research into pupils’ attitudes. My MPhil at Loughborough University (2008) enabled me to critically assess what affects pupils’ attitudes towards science lessons in school and the findings largely referred back to the personality and skills of the teacher and the stimulation provided by their classroom environment. This concurs with Reiss’ (2004) work who reported that a teacher’s influence is crucial for a student to be engaged in science. During this research, my own professional identity changed though not due its results, but because of a colleague’s research. Due to my Year 6-7 transition role in school, I was invited to attend some therapeutic training by Margaret Braine, the school counsellor. Feeling ‘unsafe’ I was nervous of the session; however, Margaret’s therapeutic conditions that were provided right from the outset through the sharing of school experiences, made me feel cared for. ‘...feels her warmth in both verbal and body language’ (Noddings, 1986, p. 19). Again, Margaret was the one-caring and she was committed to meeting the group’s needs, understand each of her students and determine motivators to help each one of us accomplish content to connect with us (Owens and Ennis, 2005). During a group session, another member of staff who came across as very self-assured shared their lack of confidence in the staffroom. This resonated with my own insecurities, illuminated my knowledge for the necessity of feeling safe and the paramount importance of this emotional state. It changed my view of school and my job, realising others shared my feelings, which vastly improved my self-esteem and as a result of the changes generated in me during this personal professional development, my interest in well-being emerged.

I left my teaching classroom in July 2008 and life as a teacher educator commenced. The structure of the Post Graduate Certificate in Education (PGCE) course was 12

weeks in the University and 24 weeks in schools. Hence in this complex and new role, involving many time constraints, there was much pedagogy to teach new teachers. This challenge was emphasised to me by Goldstein and Lake:

‘Knowing that our preservice teachers will be faced with an emphasis on testing and standards when they begin their careers teacher educators may be tempted to lean towards efficiency – the transmission of the most knowledge and skills in the time allotted...To focus on caring relationships in this context may seem extraneous or even frivolous’ (Goldstein & Lake, 2003, p. 116).

Within my new role, their message proved to be an accurate description. I was leading a lecture on the National Curriculum and revisions to it included the new addition of ‘Creativity and Critical Thinking’. This coincided with me researching creativity as a consequence of the results from my MPhil; I was interested in what other teachers were doing in their lessons and their understanding of the term. This led me to question what trainee teachers knew about creativity and how, on the course, we might be able to develop this within them. Therefore I discussed with the Programme Director of the PGCE about adding a new session for trainee teachers on Creativity. Even within a busy timetable, it was added at the end of the course. Planning the session required much thinking. From my MPhil study, pupils stated they liked ‘fun’ and ‘engaging’ lessons. As a school teacher, I considered myself to be a ‘creative practitioner’ as I often used models or music within science lessons. My early reading on the topic, following Creativity key reports such as the National Advisory Committee Creative and Cultural Education (NACCCE) report (1999), clearly showed me that my understanding was vague and needed reshaping as it was a far deeper concept, for example, focusing on making connections and questioning, to show new teachers how they should be exploring and engaging with creative pedagogy. My enthusiasm for sharing the topic is in line with Michael Rice’s inspirational explanations of creativity:

‘The human mind is very creative but so few take advantage of it or fail to associate with other creative minds that may lead to exciting things to do, live, love and enjoy. Creativity is the joy and art of living. Reflect and recall the last

thing you accomplished that required your creativity...What emotion did you have at this time?' (Rice, 2014)

Therefore my challenge was to learn how to communicate this with trainee teachers. It was risk-taking myself; however I felt in a 'safe' environment to do this due to a supportive Programme Director and trainee teachers who respected my guidance. As O'Connor (2008) notes, a teacher's identity demonstrates a personal commitment to the profession and so will require a reflective dimension and professional philosophy. With the changing teaching role resulting from my transfer from school to University, this required me to reflect and engage in my work in a different manner, particularly in delivery of a new topic of creativity.

Once I started as a Teacher Educator, I was a pastoral tutor. In this role I was expected to support and guide a variety of different trainees: those who were less mature and experiencing difficulties settling into school due to feeling 'young', those who were mature trainees finding it difficult to adjust to learning again. The necessity of my responsibility to care was paramount. I am in agreement with Owens and Ennis (2005), teachers need to be able to care for themselves, their students and others members of staff within the school and this ability to care is more frequently assumed instead of being taught. During school visits, I rarely saw trainee teachers eat and some mentioned their tiredness. These observations, coupled with my earlier therapeutic training, led me to want to find out more about the well-being of trainee teachers. At this point, I 'adopt[ed] an ethic of caring, ... [I] base[d] [my] judgements and actions on [my] relationships with, and responsibilities to, other individuals' (Forsyth, Nye and Kelley, 2010, p. 244). My earlier experiences of having one caring for me, enabled me to take on this role.

In deliberating over my own teacher narrative experiences, three core areas emerge which are deemed imperative for this research to be fully understood: these are: safety, creativity and well-being. These areas are the significance to me of creating a safe space for children/teachers, uncovering one's potential by unlocking their creativity (both pupils and teachers) and through my duty of care, to be able to support and develop a positive well-being for teachers.

1.3 Pupils in School

The school system exists to educate pupils and teachers strive to enable the right conditions for pupil success. There have been many policy initiatives focused on the importance of children at school e.g. *Every Child Matters* (2003), ‘*help children achieve more*’ (Department for Education (DfE), 2014), but with every child being different, inclusivity to meet the variety of needs can be difficult. Every child will enjoy and achieve differently at school and will access different parts of the curriculum in a variety of ways. Much research has been undertaken to gather information on pupils’ preferred learning methods and activities at school e.g. IT use (Cox, 2010); group work (Blatchford et al., 2006); Gardner’s Intelligences (1983); Visual/Auditory/Kinaesthetic learning (Fleming, 2001); and personal support (Myers and Fouts, 1992). When we are referring to engaging pupils in classrooms we are pointing learners ‘... as close to the material content of what it is hoped they will learn as possible and then ‘doing’ something with it ...This ‘closeness’ is possible in a wide range of different ways and is sometimes referred to as ‘engagement’ (Pritchard, 2009, p. 29). This also ties in with Vygotsky’s ‘Zone of Proximal Development’ (1978); with the correct pointers from a more knowledgeable other, a child can work out a problem themselves and become engaged with it. This social constructivist approach enables a learner to interact with another to support their learning. It is therefore imperative that if any learner is to understand and take in new material, they must become involved with it; they must engage with it. Hampden-Thompson & Bennett (2013) state that engagement is a multidimensional concept; it is emotional, behavioural and/or cognitive. Pritchard (2009, p. 31) recommends five points as guidelines to encourage engagement:

- to have a clear focus and goals for the lesson, with explicit learning objectives;
- to be based on the learner’s existing knowledge;
- they need to have a specific learning context;
- there needs to be scope for social interaction and activity;
- lessons need to be planned in a way that moves the pupils’ learning forward.

Personal engagement can be explained as a root of ‘authentic education’. In order for pupils to experience ‘real’ learning, they need to be involved in how they gain

knowledge (Davis et al., 2015). Newton (2014) describes engagement as a matter of motivation; 'People generally engage willingly in an activity if it seems to offer the satisfaction of some personal need or promises to advance some valued goal' (p. 41). Engagement can be dependent upon one's mood: feeling cheerful can encourage engagement whereas sadness can make engagement reluctant (op. cit., p. 60).

In addition, teachers creating a 'safe space' for learning can ensure that pupils feel they can be themselves in their learning. There is a dearth of literature surrounding this concept and no strict definition; however, a framework of a 'safe' classroom could be positioned around a:

'...description of a classroom climate that allows students to feel secure enough to take risks, express their views honestly, and share and explore their knowledge, attitudes and behaviours; safety in this sense refers to protection from psychological or emotional harm' (Holley and Steiner, 2005, p. 50).

If teachers are to encourage their pupils to meet the Department for Education's aim of being able to '*help children achieve more*' (DfE, 2014) the creation of this 'safe' classroom is essential. A 'safe' classroom is imperative for pupils 'to grow creatively and positively in both mind and spirit' (Beamon, 2001, p. 10) which will impact on all areas of their school education.

1.4 The National Curriculum for England

Since the inception of the NC in 1989 in England and Wales, following the Education Reform Act of 1988, it has been regularly reviewed and scrutinised. The initial introduction of a National Curriculum brought in prescribed content for teachers to teach (Programmes of Study) from Key Stages 1- 4 and new assessment structures at the end of each Key Stage.

For teachers, the constant changes in the NC content, assessment criteria and pressures surrounding pupil achievement, could make the teaching profession demanding. For new teachers into the profession, the large range of skills to be acquired in a short space of time could prove difficult and stressful (Wellington and Ireson, 2012; Dillon and Maguire, 2011). Office for Standards in Education (Ofsted)

inspections and school leader pressure for league table results could also be factors adding to teacher burdens (Bubb and Earley, 2004; Galton and MacBeath, 2008). Headlines surrounding teachers being stressed and their workload are not new in education; 'Stress and teaching commonly are linked in educational literature' (Borg and Riding, 1993 cited by Morton et al., 1997, p.69). The accountability and pressures on teachers are still immense in the present day (Hancock and Scherff, 2010) and certainly trainee teachers have to adjust to a new school climate quickly and, if their needs are not met, it can make the teaching practice a difficult experience (op.cit.). Also, stress begins as early as the teaching practice experience (Morton et al., 1997) and these stresses are different from one teacher to another (though more recently this has been discussed under the general well-being of teachers).

The regular revisions to the NC show that creativity is now recognised as being an important social aspect of a child's education. The skill of being creative is believed to be a necessary acquisition during education and a tool to enable society as a whole to flourish and develop. The need for creative persons to move our workforce (and society) forward is imperative for all future lives. The curriculum develops to meet society's needs and therefore creativity emerged into the NC in 2008. Creativity, as stated by Spendlove (2005), should not be an optional element of the curriculum or utilised at the expense of another educational aim, but must be interwoven so that it is clearly embedded in everyday activities. Despite this being defined as a key skill area in the NC, it is not one that is easily accepted or used by teachers due to the complex definition and understanding of how to integrate creativity successfully into their daily teaching. However, the difficulty associated with doing this, especially within an already full curriculum, creates a barrier for teachers (and therefore their pupils) to be able to fully work in this manner.

1.5 What is Creativity?

Creativity can take many forms and hence the breadth of it makes it difficult to comprehend or use to its full potential. A broad definition of creativity by the Creative Partnerships programme postulates that 'creativity is the wider ability to question, make connections, innovate, problem solve and reflect critically' (2007, p.4). However, creativity definitions can cover different aspects, for example, creative

teaching is based upon relevance, ownership of knowledge, control of learning processes and innovation' (Jeffrey, 2006, p.401); creative learning focuses on how 'creative teaching was experienced, adapted, appropriated or rejected by students and what kinds of creative agency is released through creative teaching contexts' (Jeffrey, 2006, p.401); and creative capacity is – 'the ability to 'move an idea from one state to another'' (Jackson, 2006, p.8 cited in McWilliam and Dawson, 2008, p. 635).

Hence, creativity is a complex area and this explains why it is often under scrutiny by authorities, disregarded by teachers and misunderstood by pupils. It can be considered to only be related to certain curriculum subjects such as music, art, design and technology or drama and even only relating to a small number of professionals (McWilliam and Haukka, 2008); therefore, there are a number of tensions surrounding creativity within education (Simmons and Thompson, 2008) and teachers are central to promoting and encouraging it in their classroom.

'Teachers are a source of creative capital when they develop powerful peer-to-peer engagement processes that enhance their students' learning' (McWilliam and Haukka, 2008, p.652).

Creativity is deemed important by the Qualifications and Curriculum Authority (QCA)(2007) which states that it 'improves pupils' self-esteem, motivation and achievement'. Pagano (1979) echoes this by stating that 'more creative persons have higher self-esteem' (p. 131). She continues to explain that children can only express their own ideas and their emotions where they feel secure. This could be transferred to teachers and their classroom and teaching style being a consequence of how they feel relating to the school, the class and their personal life.

Creative pedagogy has been described by Lin (2011) as having three inter-related and connected components within teaching and learning: creative teaching, teaching for creativity and creative learning. Fautley and Savage (2007) explain these strands as follows: creative teaching is based on the teacher's everyday skills such as inspiring pupils, using their imagination, carrying on being a learner, knowing your subject and stimulating curiosity. Teaching for creativity relies on the teacher to facilitate the pupils to engage and explore ideas such as being curious and inquisitive. This incorporates developing their questioning to enable pupils to be

creative, for example asking them to produce a solution, asking what something would look or sound like. It also includes getting pupils to reflect on their own thoughts, metacognition. Creative learning allows pupils the freedom to express their ideas and to explore them. This could be through cross-curricular projects or activities, learning through experiences e.g. practical activities to produce something with limited equipment, or producing a video. Allowing pupils to work together in their own 'space' and to share their talents through trial and error projects would provide a creative learning environment. 'Being creative is something learners must do for themselves' (Newton and Newton, 2009, p. 48). Teachers can provide the conditions for pupils to try and be creative but they must also be able to be creative in the absence of the teacher (op.cit.). This is maybe not always the simplest of tasks due to creativity being a difficult skill to master and placed at the top of Bloom's taxonomy (revisions by Anderson and Krawthowl, 2001).

The confusion from many teachers and educators (surrounding defining creativity due to its complexities) leads to creativity remaining 'elusive (yet an) ultimate goal of education; central to an individual's well-being' (Spendlove, 2005, p.2). This quotation starts to suggest that there is synergy between what could be perceived as two vastly different concepts, well-being and creativity. Thus, for teachers to deliver effective teaching, their personal well-being becomes an important factor to muse.

1.6 Well-being

Teacher and pupil well-being have recently been recognised as paramount within education (Galton and MacBeath, 2008; Morgan et al., 2010; Newton, 2014). From an Ofsted perspective, they judge a school on the well-being of its pupils and this links in with initiatives such as *Every Child Matters* and *Social and Emotional Aspects of Learning (SEAL)*. More focus on the well-being of teachers is also required following several key reports such as *Healthy teachers, higher marks* produced by Teacher Support (2014) and the National Association of Schoolmasters Union of Women Teachers (NASUWT)(2011) reporting the experiences and effects of Ofsted inspections on teachers. Concerns of teacher stress or retention issues are highlighted as requiring attention; it is a concern if good teachers are leaving due to their workload impacting negatively on their health and personal lives (Bubb & Earley, 2004). We cannot avoid the fact that emotions are at the heart of every

teacher's work and influence every classroom. Nias (1996) states that 'the emotional reactions of individual teachers to their work are intimately connected to the view that they have of themselves and others' (p.294). She continues to comment that 'teaching is a job which involves interactions among people ... involves intensive personal interactions' (p. 296). It is perhaps common-sense to point out that when teachers feel they are doing a good job, helping pupils to learn, handling the complexities involved in their tasks on the job then they experience feelings of joy, being excited and exhilarated and satisfaction (Nias, 1996). However, the mix of negative emotions 'like anger, desperation and fear' (Morgan et al., 2010, p.193) can be felt amongst even the most dedicated of teachers. Therefore, one definition of an emotion can be defined as '... caused by a person consciously or unconsciously evaluating an event as relevant to a concern' (Oatley and Jenkins, 1996, p.96). However, Mulligan and Scherer (2012) develop this more specifically and state that '...emotions [are] relatively short-lived, affective responses, directed at something specific, and triggered by an appraisal of information. Fear, anger and joy are examples' (cited by Newton, 2014, p. 19).

Defining well-being shows that it involves the whole person (Gordon & O'Toole, 2015) and can be considered to be broken down into three areas: emotional, physical and social well-being (Humes, 2011). This PhD focuses on the broadness of well-being as defined here; specific concepts such as efficacy (self-belief over the ability to control one's behaviour), mindfulness (one's awareness of the present moment) or emotional intelligence (to recognize our own and others' emotions) are not considered. Well-being is a complex field and specifically this PhD addresses human well-being in a teaching context. This may overlap with work in broad fields such as behavioural sciences, ergonomics, physiology, psychology, economics though not specifically addressed in this manner. Of paramount importance to this thesis are the matters surrounding emotional well-being which relate to teachers (and pupils) demonstrating sound self-esteem, a feeling of self-worth and contributing positively to their school environment as a consequence (Underdown, 2007). One paper, *Pupil well-being – Teacher well-being: Two sides of the same coin?* (Roffey, 2012) reports that there is a direct link and that teacher well-being is a valid requirement of schools to meet the needs of a number of diverse pupils. For example, both staff and students need to feel included in the school community; all

need to feel valued and respected; and there needs to be good teacher-pupil relationships. Gordon and O'Toole (2015) outline for their *Learning for Well-being* framework that each person uniquely needs to realise their own potential through their own development in physical, mental, emotional and spiritual development with regard to their own, others and environmental aspects.

The isolated topics of creativity, safety and well-being are not essentially 'new' in education; however, linking creative pedagogy to teacher well-being and training teachers for well-being is a new aspect in this field. Table 1 reports a series of academic paper headlines over the last half a century showing the longevity of the issues and the emergence of concerns relating to teacher well-being.

Journal	Author(s)	Year	Title of Paper	Brief Content of paper
Educational Research	Kyriacou, C. & Sutcliffe, J.	1979	<i>Teacher stress and satisfaction</i>	Stress defined as a response to negative affects usually accompanied by physiological changes. These threaten the self-esteem or well-being of the teacher. Results reported that teachers consider teaching to be very stressful or extremely stressful (23.4%); a large proportion of teachers were very satisfied or fairly satisfied with the profession (72.5%). 23.5% indicated it was fairly or very unlikely they would be a teacher in 10yrs time. The intention to leave the profession is greater for female, younger and less experienced teachers.
Journal of Personality and Social Psychology	Schwarz, N. & Clore, G.L.	1983	<i>Mood, Misattribution, and Judgements of Well-Being; informative and directive functions of affective states</i>	The hypothesis was favoured that people are more motivated to seek explanations for negative than for positive moods. There is a tendency to attribute bad moods but not good moods to external sources and this could enforce feelings of well-being.
Journal of Educational Psychology	Morton, L.L., Vesco, R., Williams, N.H. & Awender, M.A.	1997	<i>Student teacher anxieties related to class management, pedagogy, evaluation and staff relations</i>	This paper reports some traits shown in trainee teachers: that personal evaluation and anxiety exists in student teachers and that teaching practice experiences increased anxiety relating to classroom management.
British Journal of Sociology of Education	Troman, G.	2000	<i>Teacher stress in the low-trust society</i>	The paper highlighted the need in teaching for close staff relationships and 'togetherness'. The stress cycle, often relating to exhaustion in staff, contributed to worsening teacher/pupil relationships. Some staff also reported feeling alienated due to breakdown in close and intimate personal

				relationships at home and work. A particular value from staff was a supportive head-teacher.
Research in Education	Rhodes, C., Nevill, A. & Allan, J.	2004	<i>Valuing and supporting teachers: A survey of teacher satisfaction, dissatisfaction, morale and retention in an English local education authority</i>	This paper reports that workload and administration are barriers to teaching. Key factors of importance to teachers are: friendliness of other staff, being recognised for their efforts, good working relationships with managers and other staff and feeling valued at the school.
British Educational Research Journal	Goddard, R., O'Brien, P. & Goddard, M.	2006	<i>Work environment predictors of beginning teacher burnout</i>	This Australian study stated that work pressure was a reliable burnout predictor of emotional exhaustion though maybe more so in second year teachers than beginner teachers due to progressive innovations in their job. In beginner teachers, high level burnout scores were seen due to high workloads.
European Journal of Teacher Education	Høiggard, R., Giske, R. & Sundsli, K.	2012	<i>Newly qualified teachers' work engagement and teacher efficacy influences on job satisfaction, burnout, and the intention to quit</i>	The findings reported research-based knowledge about work engagement; teacher efficacy and burnout should be in teacher education. This is due to the need to establish mental readiness for managing emotional and motivational challenges in the profession. Those facing job burnout would reflect on ending their teaching career and therefore school colleagues need to be prepared to know how to help provide advice on time management.
Educational Research Review	Aloe, A.M., Shisler, S.M., Norris, B.D., Nickerson, A.B. & Rinker, T.W.	2014	<i>A multivariate meta-analysis of student misbehaviour and teacher burnout</i>	The paper reports that there is a significant statistical relationship between misbehaviour and burnout (emotional exhaustion, personal accomplishment and depersonalization). The largest effect of burnout from these three factors was emotional exhaustion. It is the exhaustion that is suggested to therefore affect a teacher's ability to manage positively behaviours in the classroom.
Cambridge Journal of Education	Gordon, J. & O'Toole, L.	2015	<i>Learning for well-being: creativity and inner diversity</i>	This paper reports the links for children between creativity and well-being considering the <i>Learning for Well-being</i> framework. It concludes by bringing the two terms together and with a focus on holistic learning for children.

Table 1: Evidence of academic papers published in the field. The research for this thesis commenced in 2009 during the emergence of well-being as a term focusing on in education.

1.7 Creativity and Well-being Together

So this PhD combines the links and impact of creativity and well-being. Despite seeming two separate entities within education, these papers show that to have creative teachers we need them to have sound well-being and consequently that impacts on both these aspects of teaching are linked. Teachers and pupils are both considered throughout. My understanding (as written above) shows the terms as linked and therefore the research conducted started where I was confronted with the questions from my experience (as both a teacher and a Teacher Educator) surrounding creativity and well-being and to find out more about them in real contexts.

A starting point for the synergistic relationship between being creative and the impact on well-being is reported as an implication by Reilly et al. (2011) who state that:

'Build proficiencies in interpersonal competencies and emotional intelligence as fundamental teaching practice skills through human relations training. By increasing teachers' abilities to manage their emotions, motivate themselves, demonstrate empathy, and handle relationships, pre-service and in-service programs give teachers key tools to creatively enact the social dimensions of teaching and learning in the classroom, as well as build teacher confidence. Confident teachers are more willing to take risks, connect with their students, and plan engaging curriculum and instruction. And they are more likely to draw on their creativity to do so. With this success comes higher self-efficacy and optimism that foster resilience both in teachers and students' (Reilly et al., 2011, p.540, citing Burgstahler, 2009 and Lilly, 2010).

This clearly demonstrates that creativity and the feelings associated with a positive emotional well-being are closely interwoven. Craft (2005) also writes that with the introduction from 2003 of *Every Child Matters* into schools creativity and well-being are linked: '... a Government initiative designed to ensure the wellbeing of children and young people from birth to 19-years, by supporting them in being healthy, staying safe, enjoying and achieving, making a positive contribution and achieve economic wellbeing; an agenda which is, perhaps, all about resilience, resourcefulness and life-wide creativity' (cited in Craft, 2006, p. 338).

Spendlove (2008) outlines that emotions and creativity are inextricably linked:

‘... creativity is informed and shaped by our emotions and provides us with choices over the shaping of our future ... learners need to somehow understand how their emotions influence their thinking and behaviour and if they are engaged in creative practices; an appreciation for and underpinning of the complex emotions relating to the creative process, including uncertainty and risk taking, needs to be accommodated’ (pp. 16-17).

Therefore, this thesis draws on separate research projects which lead to greater understanding of how creativity and well-being are closely linked in education; we require our teachers and pupils to be both creative and emotionally well in order to achieve and flourish in the twenty first century. My interest in these areas started within my Teacher Educator role and the need to know more about trainee teachers’ needs so that I can best support and develop them.

Chapter 2: Aims, Objectives and Research Questions

2.1 Aims and Objectives

The aims of the research have been to understand the impact of school life on pupils' and teachers' well-being and their influence and impact on creative pedagogy. Also, to gain knowledge of what engages both pupils and teachers, to promote a safe and creative classroom. These aims will be met by working towards three objectives, which are each given a section to be explored:

Objective 1: to understand learners' emotional needs in the classroom to enhance their learning and teachers' teaching of children, with a particular focus on activities and relationships with teachers within the science classroom (papers 1-3).

Objective 2: to understand the key characteristics of an engaging classroom that can promote creativity from a teacher and pupil perspective, how teachers strive to produce these classrooms and their understanding of learning (papers 4-6).

Objective 3: to explore the significance of well-being (from teacher experiences) in enabling engaging, creative and 'safe' classrooms (papers 7-11).

2.2 Research Questions

The objectives have been met by addressing related research questions which are answered in the selected papers.

Research Question Number	Research Question (RQ)	Objective	Paper addressing Research Question	Brief content of paper
1	<i>What do pupils like to do in the science classroom?</i>	1	P1	Case Study results stating which school subjects pupils like and why and how this changed over the academic year. The reasons why they liked certain subjects and teachers were utilised as they highlighted that pupils like 'creative' activities and 'approachable' teachers.
2	<i>What are pupils' attitudes towards science?</i>	1	P2/P3	P2 - Results of Y2 and Y6 research focusing on pupils' attitudes towards science. Pupils' attitudes towards science are fixed in primary school. Why children liked/disliked activities at school. Large factor of liking

				<p>school was the teacher.</p> <p>P3 – The literature review of this paper explains the education structure within England and the history and development of the National Curriculum which underpins teachers' work.</p>
3	<p><i>What is meant by creativity in a classroom/education?</i></p>	2	P4/ P5	<p>P4 – This paper outlines the complex nature of creativity in schools and explores its usage in primary and secondary education. The findings report that teachers are creative and pupils respond positively to this. For more impact, teachers require more guidance on how to be creative in the classroom and how to assess their pupils when engaging in this type of work.</p> <p>P5 – This paper considers the necessary knowledge from school-based research on creativity in schools that arts/humanities academics require in order for them to be involved with creativity in all subjects with a focus on outreach opportunities. Main points emerging from the research are being aware of teacher views, subject-specific creativity and cross-curricular dimensions.</p>
4	<p><i>What is meant by a 'safe' classroom?</i></p>	2	P6	<p>Reports research conducted on a 'safe' classroom based on Boostrom's 1998 four categories. Experienced teachers referred to 'safe' as physical safety, whereas trainee teachers, post teaching practices, referred to mutual respect, happy children and pupils taking risks.</p>
5	<p><i>What are the daily impacts on a teacher? What are the key factors affecting well-being during the teacher training year?</i></p>	3	P7/P8	<p>P7 – Based on science and design and technology PGCE trainee teachers and their responses to questionnaires on their high and low points of teaching practices. Results showed that teaching practice is exhausting, stressful and challenging yet enjoyable. The most common difficulty reported was the 'dip' at the beginning of the second practice. Changes in eating habits, sleep and social life were also factors.</p> <p>P8 – a more in depth analysis of</p>

				P7.
6	<i>What is the impact of therapeutic training?</i>	3	P9	This reports research undertaken with newly qualified teachers and those in their early careers. These teachers participated in three two hour workshops comprising of therapeutic training (Berne, Rogers, Maslow). Findings revealed that physical and emotional experience was at the root of their life. The training indicated that this was useful to allow personal growth and build resilience.
7	<i>Can therapeutic training be part of teacher training?</i>	3	P10	This paper shows the impact of a 90min lecture input to PGCE primary and secondary trainee teachers covering content on their well-being, psychology, their needs, stress levels and work-life balance. Findings reported that trainees noted the importance of practical and psychological knowledge for their teaching practice survival. They felt they needed the knowledge to manage their work life balance and theories contextualising staff and pupil behaviour.
8	<i>Can a community of practice be established in this area?</i>	3	P11	This paper reports the impact of eight hours of workshop delivery with PGCE students. Findings showed that students deemed the input on professional identity, work-life balance/teacher support and well-being/psychology to be helpful and necessary. Evaluation from the feedback showed ways to develop the workshops such as longer sessions and involving Newly Qualified Teachers (NQTs).

Table 2: Research Questions linking to the objectives and the papers addressing the questions.

Chapter 3: Research Strategy and Methods

3.1 My Research Strategy

The implications of the first two research objectives are that a research strategy was required that could make a closer and deeper exploration of school life, mainly referring to pupils' experiences of their lessons and relationships with their teachers.

The issues needed to be considered for both pupils and teachers and the strategy developed encompassed both, at primary and secondary school levels. Emerging from these early studies were links to well-being (teacher mainly) and hence the research strategy for the final objective focussed on teacher well-being, and ways of addressing this.

Throughout the research, although initially the research commenced with a focus on science teaching, a logical progression has been to apply it to all subjects.

<p>P1 – RQ 1: What do pupils like to do in the science classroom?</p> <p>Key findings:</p> <ul style="list-style-type: none">• Making and doing things were liked• Certain characteristics of teachers were noted <p>Intervention contribution: teacher attributes demonstrating Rogers' core conditions of empathy, congruence and unconditional regard and teachers being creative in their approach.</p>	<p>P2 – RQ 2: What are pupils' attitudes towards science?</p> <p>Key findings:</p> <ul style="list-style-type: none">• Attitudes to science are fixed around age 9yrs• Liked activities – fun, interesting, where success is experienced. <p>Intervention contribution: variety of teaching activities required (hints towards creativity); attributes and characteristics of a 'liked' teacher.</p>
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P3 – RQ 2: The structure of the education system in England drawing on its history and development. This provides understanding of how pupils are assessed and what teachers are expected to teach within the National Curriculum.

<p>P4 – RQ3: What is meant by creativity in the classroom/education?</p> <p>Key findings:</p> <ul style="list-style-type: none"> • Creativity is a broad area and personal to the individual • Pupils responded positively to creativity in their lessons <p>Intervention contribution: for creativity, a 'safe' classroom must be provided to be ideal for risk-taking; time must be required to plan and develop resources; personal teaching styles for teachers adopted; creativity education to reduce anxiety.</p>	<p>P5 – RQ3: What is meant by creativity in the classroom/education?</p> <p>Key findings:</p> <ul style="list-style-type: none"> • Factors for academics to be aware of teacher views, subject specific and cross-curricular dimensions. <p>Intervention contribution: creativity in all subjects yet it manifests itself differently in each. Sensitive issue for teachers.</p>	<p>P6 – RQ4: What is meant by a 'safe' classroom?</p> <p>Key findings:</p> <ul style="list-style-type: none"> • Findings from trainee teachers were in line with Boostrom's 1998 categories. • More development of the term to enable this to impact on assessment. • Intervention contribution: pupils' and teachers' well-being.
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P7 / 8 – RQ5: What are the daily impacts on a teacher? What are the key factors affecting well-being during the teacher training year?

Key findings of Pilot Study:

- Exhaustion during training year
- Changed eating/sleeping/social habits
- Stressed/challenged

Intervention contribution: knowledge and application of Maslow's hierarchy of needs; work-life balance knowledge and application.

P9 – RQ 6: What is the impact of therapeutic training? Intervention 1: Embedding therapeutic training in teacher education: building resilience in teachers.

- Training was of a therapeutic nature so that teachers could experience this. Psychology training included Maslow's hierarchy of needs, Rogers' core conditions and Berne's transactional analysis ego states.
- It was reported that 6hrs of training was useful and in particular, the support network that was created due to sharing experiences and concerns with others was beneficial.
- This model could be applied to teacher training as at its earliest could be most beneficial and up taken into daily practice.

P10 - RQ 7: Can therapeutic training be part of teacher training? Intervention 2: knowledge of well-being, work-life balance in teacher training year as a 90min lecture.

- Psychological theories shared with trainees; limited time to reflect on content and their school experiences with their peers.
- Feedback reported from primary and secondary PGCE students that more time was needed on these necessary topics and earlier in the year would be helpful.

P11 – RQ 8: Can a community of practice be established in this area? Intervention 3: building on intervention 2 and having three workshops, three points in a year (8hrs total).

- The workshops were covering three areas: work-life balance, professional identity and psychology.
- The workshops created time and space for trainee teachers to reflect on their current 'self', experiences and practices and were able to share and engage within a community of practice.

Table 3: Outlining Research Questions.

3.2. Methodologies

The direction of the research is rooted within my positionality and supports the interpretivist paradigm. Woods (1996) states that '...it is chiefly through the self that one comes to understand the world...the discoveries one makes reflect back upon the self, which then feed back into research' (p. 1). This interpretivist paradigm is where both of the areas of creativity and well-being in the research fall. It comprises both ethnographically and phenomenologically oriented. The interpretative approach focuses on (relevant for this research): the individuals, small scale research, 'subjectivity', understanding meanings, human actions, personal involvement of the researcher (Cohen, Manion and Morrison, 2007, p. 33). As the research is about the

social world of schools and classrooms, the interpretivist nature of finding out more about how this world is constructed in a different way to different people, is necessary (Thomas, 2009). My own caution in conducting this type of research is that of recognising myself within the worlds I am investigating and considering if and how my own positionality is reflected within it as stated above by Woods. Thomas (op.cit.) explains that this is not necessarily a negative position, however, and that one should acknowledge it.

Phenomenological research generally concerns itself with: 'people's perceptions or meanings; people's attitudes and beliefs; people's feelings and emotions' (Denscombe, 2010, p. 94). It is focused on human experiences; however, due to the subjectivity, description and interpretative foci, a non-positivist approach, can make it a weakness (Denscombe, 2010, p. 103). Wilson (2009) describes that a phenomenologist researcher will find the person needed for the investigation. Within the eleven papers presented in this thesis, the person is a pupil, teacher or trainee teacher and through using different methods, the key features, related to the topic from the person, were identified. The research relied upon participants to honestly share their views, thoughts and understanding. Hence, as a researcher, there was focus drawn towards the person under investigation; in this research, the aim is to work hermeneutically, to find meaning from experiences and behaviours. By doing this, key ideas, practices and experiences will be illuminated to the researcher to enable the researcher to develop their practice (Thomas, 2009).

This research considers the impact of the social lives of teachers on their well-being, their creativity as teachers and how they manage their work-life balance. It touches on the demands placed on children also and expectations of them to learn and develop skills to survive in the workplace. Ethnographic research is to 'produce detailed pictures of events – descriptions which stand in their own right' (Denscombe, 2010, p. 84). It emphasises the 'importance of understanding things from the point of view of those involved' (Denscombe, 2010, pp. 80-81). However, in this research the actual observation of the teachers and pupils in their natural setting is limited, but it is allowing them to report on the setting (Bell, 2010). Having been a teacher, the settings in which I am investigating are not unfamiliar and hence there is already some knowledge and understanding as a foundation for undertaking this anthropological research (Dowling and Brown, 2010). The findings offer '...new ways

of apprehending those subjectivities, aesthetically and emotionally as well as cognitively...they enable us to appreciate better the 'art' of teaching' (Wood, 1996, p. 8). However, this approach is unlikely to be reliable and its ability to produce generalisable findings is limited. The researcher is making decisions based on reflexivity and therefore the results from the research cannot be divided from the relationship with the researcher (Pole and Morrison, 2003). Nonetheless, it provides a picture of both the lives of trainee teachers and their well-being and also of how teachers interpret and use creativity within their teaching so hence is deemed relevant to the papers in this thesis.

Once I had understood the key areas better (pupil attitudes, teacher and pupil creativity, well-being and impacts on trainee teachers) I needed to consider what could be implemented to try and solve the problems and this led to the action research, the interventions trialled.

The main purpose of action research is '...the generation of knowledge which leads to improvement of understanding and experience for social benefit' (McNiff, 2002, p. 17). All of the research papers stem from an action/practitioner research standpoint; they involve learning during action and afterwards in reflection. The creativity research considers a specific area of teaching to help develop the teacher practitioner which will also develop the pupil learner. On the other hand, the well-being research looked into the situation and then a new approach was tried in an existing system to improve it.

The design of the lecture and workshop intervention has been a result of the data gathered. This was prepared in collaboration with an external school counsellor/psychotherapist and considered key areas learnt from the literature undertaken as well as based on our experience as teacher practitioners (and mine as a Teacher Educator).

3.3 Mixed Methods

This is described as the use of qualitative and quantitative approaches in each of the small scale studies explained and described throughout this thesis. Methodological triangulation (between-methods) is used to compare the findings of contrasting

methods and look for reliability and validity in some papers or to provide the fuller picture in others.

Overall a variety of methods have been employed in the research:

1. Questionnaires (some developed by the authors and other existing ones)
2. Interviews – both group and individual
3. Diary entries
4. Observation of teachers/pupils in the classroom
5. Running a lecture and workshop for trainee teachers

These methods were deemed relevant to answer the research questions. A bricolage approach was adopted: “do-it-yourself”...reject the assumption that highly ordered methods get us somewhere in education...use [methods] what seems best for answering our research questions: there are no right or wrong methods’ (Thomas, 2009, p. 142). Bricolage qualitative research ‘...denotes methodological practices explicitly based on notions of eclecticism, emergent design, flexibility and plurality’ (Rogers, 2012, p.1). The bricoleur is on the constant look out for messages in the data and builds up structures by looking through a lens at particular events (Levi Strauss, 1962). Denzin and Lincoln (1999) interpret this to ensure that researchers immersed in bricolage research also reflect on their position and their self-awareness within the research process. However, Kincheloe (2005) points out that this human knowledge does not necessarily lead to ‘truths’ about a situation or that it can be considered a linear method. Within the research, where deemed appropriate I wrote interview questions and questionnaires alongside my co-authors so that we were able to ask specifically the questions we wanted to find out and to be able to evaluate the impact of the interventions. At some later stages, interviews and questionnaires were both used to validate each other.

3.4 Case Study

Due to the small sample sizes (due to an opportunistic sample of either pupils, teachers, trainee teachers) case studies were conducted throughout. However, this method enabled a deeper approach to be carried out and specifically helped to improve the desired settings of where the research was undertaken (Bell, 2010). This has made it difficult to generalise the findings. However, it is hoped that the

research is relatable (Bassegy, 1981) so that other teachers and teacher educators in similar situations would be able to use the conclusions drawn from the studies being presented. Miles and Huberman (1994) report that external validity of the research is an indication of the ability to transfer the work to another situation. Lincoln and Guba (1985, cited by Wilson, 2009) state that research should be reported regarding how transfer could be accomplished. Within the collection of eleven papers in this PhD, the questionnaires used are available for other researchers to use (and where possible reliability scores are stated). All interview questions are stated. The intervention content is described in order that another researcher could find the resources or models to use themselves. Therefore, although this PhD is not claiming to be transferable, rather 'relatable', transferability is possible. This ability to transfer the methods and results are based on the research having been conducted systematically and critically so it will add merit to the educational research setting. However, as identified earlier, there are limitations based on my identity as a researcher and therefore, the results as a consequence of the environment in which I teach, would be different in a different context.

The papers support the research journey undertaken and provide evidence of the critical analysis at each stage and the thinking of how to respond and react to find answers for the research.

3.5 Sampling

Throughout all of the research, I have relied on opportunistic samples due to ease of access and with knowledge of the busyness of schools and attitudes towards an unknown researcher (Wellington, 2000). As the research concerned terms such as creativity and well-being which can cause some unease or fear, it was justifiable to work with those who knew or knew of me. 'Sampling always involves a compromise.' (Wellington, 2000, p. 58) and this is apparent in this research due to small numbers and not being a true representation of the population. It is acknowledged that there will be limitations when analysing the data (Bell, 2010) due to this sampling. In the creativity research, for example, an independent school in an affluent area was used which will not be representative of the whole population. Similarly, mainly one University with trainee teachers was involved with the well-being work and this was with a relatively small PGCE cohort (ca. 35 trainee teachers). As Thomas (2009)

explains, despite being interpretative research, the aim is to provide insights in this instance, not to produce data for generalisations.

Chapter 4: Conclusion

The eight Research Questions can be concluded as follows:

RQ1 – Pupils like creative activities, practical work, to see the relevance of what they are being taught and clear explanations of scientific principles. Teacher-pupil relationships are also important and they like their teachers to be approachable.

RQ 2 – Pupils' attitudes towards science decline during primary school. They are fixed before secondary school, possibly around the age of 9yrs.

RQ 3 - Teachers support creativity. Their understanding generally surrounds the notion of variety in lessons to engage their pupils. Pupils respond positively to creativity. Creativity is interpreted differently by teachers, and therefore, how it is used within the classroom will depend on the teacher's interpretation of the term. Sensitivity whilst promoting this term is essential.

RQ 4 – A 'safe' classroom is one where there is mutual respect, pupils are confident to ask/answer questions, endorse clear routines, welcome feeling in the classroom and being creative. This strongly relates to Boostrom's categories, relating to: an isolated child comes to stand for all children, comfortable and physical space being a place to stand for social connectedness.

RQ 5 – The daily impacts on teachers are: workload (planning, marking), behaviour of pupils and administration tasks. During the teacher training year, students are exhausted, report a change in eating, sleeping and social habits, see the teaching practice as 'temporary' and report a 'dip' between the two teaching practices.

RQ 6 – Therapeutic training provided a sense of belonging for all of the early career teachers and a safe space to share their experiences. These teachers were physically and emotionally exhausted and hence even 6hrs of training was felt by the group to help their understanding of themselves and others and provide a sense of personal growth and building some resilience.

RQ 7 – The content of managing well-being and knowledge of psychological models to promote better understanding of their own emotions and behaviours (as well as their pupils) was deemed necessary input onto a PGCE course via a lecture relating to matters of well-being.

RQ 8 – Trainee teachers responded positively to workshops to share and discuss their experiences and normalise them. Trainee teachers reported needing input on how to manage their time and personal life, time to reflect on their practice and observations and need guidance as a reminder to ensure they meet their basic needs.

The overarching theme that emerges from the research is that we require creative teachers (based on the understanding provided) and we need teachers to be effective in order to do this. In order for teachers to deliver creative lessons, they need to be emotionally well. To enable 'well' teachers, our research supported input into teacher training programmes to cover how to manage a work-life balance, how to identify and cope with their own stress and personal basic requirements. Schools need to be a 'safe' space for both staff and pupils so that all can flourish.

Chapter 5: Discussions and the Future

5.1 Discussion of Findings: an overview of the results

The lack of clarity of understanding terms such as 'safe' and 'creativity' makes implementation within the classroom difficult. Broad interpretations and tensions exist concerning such terms which could lead to a narrow application of creative teaching and learning (Simmons and Thompson, 2008) or a safe classroom being purely physically safe yet missing the emotional dimension. Personal engagement by both teachers and pupils align to 'real' learning by pupils (Davis et al., 2015) with positive emotions playing a central role (Newton, 2014). Although the research has outlined definitions for these based on data, they are still requiring a universal definition so that all can be confident in their usage for maximum potential.

Teacher training is a 'safe' space to embed teaching and exploring creativity within teaching any subject and it is beneficial for trainees to carefully reflect on not just their classroom teaching, but their personal identity to develop their self-awareness of how they act, react and interact within the school/classroom environment.

Teaching placements are seen as 'temporary', hence soft skills such as coping with pressure and decision making (National Careers Service, 2012) are required for when teachers are fully trained in the profession; this could improve retention, overall teacher well-being and absenteeism.

There is a need for trainee teachers to be cognizant of their own 'self' and an awareness and acknowledgement that this could change as a consequence of their experience and knowledge. Professional identity in teaching has been revealed as a key element of teachers learning how to manage their work load and alongside this, their own personal welfare (Bubb & Earley, 2004). Mortiboys (2012) reports the teacher's responsibilities are subject knowledge and teacher pedagogy but the emotional dimension is paramount for fostering a productive, engaging environment for students and to support a teacher's well-being. Hence, there is a need to use the research reported to support and develop teachers' well-being in order for creativity within classrooms to be established (Reilly et al., 2011).

The interventions were proven to be necessary by teachers and trainee teachers. The areas of professional identity, work-life balance and child psychology are not covered elsewhere in the PGCE programmes who participate and have shown that

the students appreciate input in these areas and require it to help them consider their own teaching self and behaviours and the needs of the children they teach. Simply supplying knowledge was deemed useful; however, the deeper impact was from workshop settings where time and space were allocated to share experiences and discussions of the issues being addressed. However, limitations of the intervention design were largely surrounding small numbers and not being able to track the impact over more time.

5.2 Implications for Teacher Education

Teacher educators should consider embedding some teaching surrounding teacher well-being, work life balance and professional identity during the training course. This knowledge has not necessarily been taught elsewhere and due to the multitude of responsibilities on the job, support must be provided. Exhaustion, poor work-life balance and poor personal self-management by teachers must be targeted to be improved to prevent burnout, stress and leaving the profession. My research shows that there is more needed in order to help and support our future teachers within their training.

5.3 Recommendations for Future Research

A longitudinal study tracking specifically teacher well-being would be beneficial to enable generalizable results to be produced. Trialling workshops within teacher training programmes and continuing these into the early years of teachers' careers would provide detail to the extent of understanding the lives of real teachers and pitching appropriate support and training. Regular questionnaire/interview feedback would provide data to determine if the impact is longer term in teaching.

Learning for Well-being framework adopted in other parts of Europe should be trialled in England. Mindfulness is also an emerging term being used in schools and consideration of this within teacher education could be beneficial for teachers and for their pupils in school.

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Chapter 7: Publications

Paper 1

Turner, S., Ireson, G., and Twidle, J. (2010). Enthusiasm, relevance and creativity: could these teaching qualities stop us alienating pupils from science? *School Science Review*, 91(337), 51–57.

The poor attitude of pupils towards science continues to be a topic of concern within secondary schools. This article considers research and highlights what we can learn as teachers to persevere in tackling the problem. Alongside this review, a case study was undertaken with a sample of year 7 pupils (ages 11-12yrs) in English schools who reported that they enjoy the practical element of science but can be distracted by the complicated facts and explanations. Pupils' suggestions to improve their engagement in science lessons were to include more experiments as well as fun tasks and a variety of activities.

This paper provides evidence for RQ 1 and demonstrates the need for teachers to engage their pupils within their science lessons.

I was lead author for this paper with writing support from my co-authors and minor contributions to the literature review.

Link to this paper via Loughborough University Institutional Repository:

<https://dspace.lboro.ac.uk/2134/8217>

Paper 2

Turner, S. & Ireson, G. (2009). Fifteen Pupils' positive approach to primary school science: when does it decline? *Educational Studies*, 36(2), 119-141.

The decline in secondary school pupils' attitudes towards science is well-documented. However, recent research has shown that pupil attitudes to science appear to become fixed during their primary school years. This study investigated end of Key Stage 1 (Yr 2 (ages six to seven years)) and end of Key Stage 2 (Yr 6 (ages 10–11 years)) pupils' attitudes to science, using Klopfer's themes (1971), through a paired activity and interview for Yr 2 pupils and a pre- and post-Test of Science-Related Attitudes questionnaire (adapted) for Yr 6 pupils. The questionnaire was analysed using the mean and chi square values and Cronbach's alpha was calculated to test reliability. The results revealed that while Yr 2 pupils exhibit a thirst for knowledge and enthusiasm for science, Yr 6 pupils' attitudes over the period of one academic year did not change: their attitude towards science was fixed from age 9yrs. This insight raises some implications and responsibilities for primary school teachers.

This paper answers RQ 2 stating that pupils' attitudes towards science are fixed in primary school; this suggests that further research into primary school science developments must be undertaken as future work.

I was lead author for this paper and my co-author was the supervisor for the study.

DOI: 10.1080/03055690903148662

Link to this paper:

<http://dx.doi.org/10.1080/03055690903148662>

Paper 3

Withey, P. & Turner, S. (2015). The analysis of SATS results as a measure of pupil progress across educational transitions, *Educational Review*, 67(1), 23-34.

This paper considers the pressures on pupils as a result of the National Curriculum Assessment Tests (commonly referred to as Standard Attainment Tests or SATs) and the competitive nature, brought about by the National Curriculum in England and Wales in 1989, between schools. This primarily focuses on primary and junior schools but comments on the primary-secondary transition¹.

My contribution to this paper, and the need for it to be included, is the literature review which outlines the background to the changes to the education system focussing from the commencement of a National Curriculum for England and Wales following the Education Reform Act of 1988. The inclusion of regular assessment points for pupils and changing from one school to another are areas of research due to the impact on pupils' well-being and also the limiting of time for creativity within teaching and learning.

I co-authored this paper and was mainly responsible for writing the literature review.

Link to this paper:

<http://dx.doi.org/10.1080/00131911.2013.826180>

¹ Primary Schools ages 5 – 11 years (Key Stage 1 (ages 5 – 7yrs) and Key Stage 2 (ages 7 – 11yrs); Junior Schools – Key Stage 2; Secondary Schools (ages 11 – 14 yrs Key Stage 3; 14 – 16 yrs Key Stage 4; 16 – 18 yrs Key Stage 5). From 2008, pupils in Yr 7 and subsequently must remain in education or training until 18 yrs of age.

Turner, S. (2013). Teachers' and Pupils' Perceptions of Creativity across different Key Stages. *Research in Education*, 89 (May), 23-40.

The new Secondary Curriculum (implemented in 2008) saw greater emphasis on creativity within the National Curriculum for England. Since this term has been boldly stated, how have teachers and pupils responded to it in the classroom? This study draws on responses from group interviews with a range of pupils in different Key Stages (2 (pupils aged 7-11), 3 (pupils aged 11-14), 4 (pupils aged 14-16), and 5) who reported that creativity helped their learning and engaged them. Teachers participated by completing a questionnaire and their responses showed teachers' differing approaches to defining (and therefore showing their understanding of applying) creativity (innovative teaching, different activities for teaching and learning).

The findings attempt to start answering some of the complexities associated with RQ 3 on creativity. It concludes there is a broad understanding but a universal definition for education could be a recommendation to understand this further.

Link to this paper:

<http://dx.doi.org/10.7227/RIE.89.1.3>

Paper 5

Turner, S. (2011). *Creativity for All: Promoting Creative Learning in Schools Outreach* (Chapter 7 pages 98-111) (eds G. Baker and A. Fisher). London: Continuum.

Creativity has seen a surge of interest in education in recent years and this is coupled with an increased emphasis on creativity in society. Research from school teachers and pupils has been used to recommend to arts and humanities academics, working in school outreach, how they can consider this concept as it permeates through the curriculum.

This book chapter followed a conference presentation at the University of Nottingham.

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Link to the paper via Loughborough University Institutional Repository:

<https://dspace.lboro.ac.uk/2134/8884>

Paper 6

Turner, S., and Braine, M. (2015). Unravelling the 'Safe' Concept in teaching: what can we learn from teachers' understanding? *Pastoral Care in Education: An international journal of personal, social and emotional development*, 33(1), 47-62.

The word 'safe' is widely used in everyday education speak in phrases such as 'safe learning environment' but how do trainee and experienced teachers interpret, understand and use this word in their everyday teaching? This case study reports the use of the 'safe' concept by trainee and experienced teachers in England and uses Boostrom's (1998) 'Safe Spaces' groupings to allow categorising of the qualitative results obtained from questionnaires. The questionnaire results showed that the 'safe' concept had been used by all participants in this study but differently.

This provides evidence for RQ 4 and understanding of the term 'safe'; however, assessment in 'safe spaces' is still an area to be developed with teachers.

I was lead author on this paper and my co-author helped with the analysis of the results.

Link to the paper:

<http://dx.doi.org/10.1080/02643944.2015.1005657>

Paper 7: Pilot Study

Turner, S., Zanker, N., and Braine, M. (2009). Excitement or turmoil: the highs and lows of teaching practice, *Science Teacher Education*, 55 (November), 27–37.

This paper is included as it explains the pilot study to the main research project (the intervention) which starts exploring the emotions and impact on the well-being of teachers. Looking at the complexities of the teacher role through questionnaires and interviews this paper reports the findings from a trainee teacher's perspective that they are exhausted and have recognised changes in their sleep patterns, relationships with friends and eating.

I was lead author in this paper and was responsible for organising the research. Nigel Zanker supported the methods and collected some data; Margaret Braine conducted the interviews and analysed them. We were all responsible for designing the questionnaire.

Link to via Loughborough University Institutional Repository:

<https://dspace.lboro.ac.uk/2134/10247>

Paper 8

Turner, S., Zanker, N. and Braine, M. (2012). An investigation into Teacher Wellbeing during the Teacher Training Year. *Design and Technology Education: International Journal*, 17(2), 21–34.

For those studying for the Post Graduate Certificate in Education (PGCE), the teaching practice placement can be a daunting experience. Trainee teachers have to adjust into a new workplace and a complicated professional role which can be stressful; this can result in teachers leaving the profession in their early years if they do not equip themselves with coping strategies and display resilient behaviour. The aims of this study were to gain a deeper understanding of how a cohort of science and design and technology PGCE students settled into schools on their teaching placement and to investigate any differences between mature trainees (those who had taken at least one gap year after their undergraduate degree) and those who have continued straight through their education. Two questionnaires (pre n= 42; post n=48) and a voluntary interview (n=7) were used. Many trainees described their experience as rewarding, yet exhausting and challenging. However, the interviews highlighted there was some erosion of their personal 'self' at this early stage of their career. This resulted in, for example, changes in their sleep, eating and exercise patterns and an impact on their relationships.

I was lead author for this paper and it is a more in-depth analysis and discussion of the pilot study in paper 7. Papers 7 and 8 provide answers to RQ 5 on the factors affecting trainee teachers during the training year.

Link to via Loughborough University Institutional Repository:

<https://dspace.lboro.ac.uk/2134/10245>

Paper 9: Intervention 1

Turner, S. and Braine, M. (2013). Embedding Therapeutic Training in Teacher Education: building resilience in teachers. *Teacher Education Advancement Network (TEAN) Journal 5 (1)*. Available at: <http://bit.ly/AtMwtr>

Early career teachers are under considerable pressure and are expected to adjust quickly to the complex and demanding role of teaching. This study researched the emotional effects on the teaching and personal lives of early career teachers and was funded by Loughborough University Design Education Research Group.

We employed a mixed methods approach. A pre questionnaire ascertained early career teachers' school experiences and the consequences (if any) on their personal lives. In response to this, 44 teachers in four different schools were offered six hours of therapeutic training. A follow-up questionnaire and group interviews considered the impact of the training on practice.

Key findings indicated that therapeutic training was beneficial for normalising many of the concerns raised.

Intervention 1 showed that early career teachers benefited from the short training.

This answers RQ 6. This paper followed a presentation at the TEAN conference May 2012.

I was responsible for the literature review and the overall writing of the paper. My co-author designed and ran the training sessions in schools and helped to evaluate the impact of them.

Link to this paper via Loughborough University Institutional Repository:

<https://dspace.lboro.ac.uk/2134/15855>

Paper 10: Intervention 2

Turner, S., Braine, M. & Walsh, M. (2015). Work-life unbalance? Equipping Primary and Secondary Trainee Teachers to maintain work-life balance during their school-based placements, *Science Teacher Education*, 74 (December), 13-23.

Trainee teachers enter complex and demanding school environments and are expected to be professional and respond to diverse pupils' needs. Juggling the balance between their school work demands and their own life can be overwhelmingly impossible. A 90 minute well-being lecture was trialled with a primary and secondary cohort of PGCE trainee teachers at two different Universities to find out if content specifying models and theories to support teacher well-being and enhance understanding of difficult pupil behaviour, such as anger, would help them during their school-based training and reduce their anxiety and enable the maintenance of a healthy work-life.

The intervention showed that this area of well-being is required in teacher education; a lecture style did not enable full benefit to be gained for the trainees. RQ 7.

I organised the paper and was lead author of it. Margaret designed and led the lecture at both universities and supported the evaluation of them. Mike supported the research and writing of the paper.

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<https://dspace.lboro.ac.uk/2134/20020>

Paper 11: Intervention 3

Turner, S. and Braine, M. (2016). Embedding Wellbeing Knowledge and Practice into Teacher Education: building emotional resilience, *Teacher Education Advancement Network (TEAN)*, 8(1), 67-82. Available at: <http://194.81.189.19/ojs/index.php/TEAN/article/viewFile/289/414>

Trainee teachers' self-awareness and their developing professional identity are of crucial importance as they enter complex school environments in a role which makes intense demands of them, both personally and professionally. To enable a smooth transition into school life, trainee teachers need to be able to critically reflect on their strengths, core values and performance. This study researched the impact of three workshops covering professional identity, teaching values and psychological models during the teacher training year. A mixed methods approach was employed: a questionnaire ascertained feedback on each workshop attended (October; February and May (N=38, 35, and 31 respectively) and a final group interview (N=12) followed-up the workshops undertaken. Key findings indicated: the teacher planner was extremely useful, reassurance of work-life balance beneficial, psychology shared very helpful (e.g. Maslow's work; Erskine's relational needs; Rogers' core conditions). Key factors regularly used by trainee teachers were: using their planner, making time for others and trying to incorporate a work-life balance.

This paper reports findings on RQ 8 and alludes to the importance of 'safe' spaces and communities of practice being useful and beneficial for trainee teachers. Evaluation of the project confirms that this area is necessary in teacher training; however, larger study with some adaptations to be made in future work.

I am lead author for this paper and have designed all of the workshops on professional identity. Margaret organised two of the workshops concerning psychological theories and supported the writing of the paper.

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