An exploration of a mindfulness intervention with 7 and 8-year-old children

A thesis submitted to the University of Manchester for the degree of Doctorate in Educational and Child Psychology in the Faculty of Humanities

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List of abbreviations

DCSF – Department for Children, Schools and Families
DfES – Department for Education and Skills
EP – Educational Psychologist
EPS – Educational Psychology Service
LA – Local Authority
LLA - Longfield Local Authority (pseudonym)
MBCT – Mindfulness-based cognitive therapy
MBI – Mindfulness based intervention
MBSR – Mindfulness-based Stress Reduction
MBT – Mindfulness-based therapy
SEBD – Social, emotional and behavioural difficulties
TEP – Trainee Educational Psychology Service
Abstract

An Exploration of a Mindfulness intervention with 7 and 8-year-old children

University of Manchester
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Mindfulness has been defined as having three core aspects: active attention which leads to awareness, a regard for the present rather than the future or the past and an approach that is non-judgemental and accepting (Hooker and Fodor, 2008). Mindfulness has been used to treat adults and children in a clinical setting with presenting issues such as anxiety and difficulties related to poor self-regulation. The current research aimed to explore the effect of mindfulness on self-regulation and the feasibility of using mindfulness in a mainstream primary setting as a preventative, universal measure.

The research used an exploratory, mixed methods design and included a comparison group. The intervention was developed collaboratively by the researcher and class teacher and included mindfulness activities taken from Mindfulness for Schools (Cattley and Lavelle, 2009). The children in the intervention group took part in a mindfulness activity 3-4 times a week for 8 weeks, in 10 – 15 minute sessions, straight after lunch.

The qualitative data was obtained using semi-structured interviews and researcher observations. The semi-structured interviews, which were transcribed and analysed using thematic analysis, provided information on the pupils’ and teacher’s perceptions of the intervention. Meanwhile, the researcher observations triangulated data on participant engagement as well as providing information on the fidelity of the intervention and formative feedback for the teacher. Observations and semi-structured interviews were also completed with the comparison class to establish the comparability of the two classes.

Quantitative data was gathered using a self-regulation measure developed from questionnaires cited in Bandy and Moore (2010). The questionnaire was administered to both classes before and after the 8 week intervention to explore changes in self-regulation within and between groups. The data is reported using descriptive statistics and inferential parametric statistics.

Both teacher and pupil interviews highlighted increased feelings of calm and levels of attention immediately following mindfulness activities. Data from the pupil interview suggested that the children involved in the intervention enjoyed many of the activities and were able to suggest times when they might find mindfulness activities useful. Information gathered from the interviews with the class teacher suggested that the development and delivery of mindfulness activities was appropriate and feasible in a mainstream, primary setting.
While changes on the self-regulation scale could be considered positive, in that there was an overall decrease in mean scores in the intervention group, the decrease was not significant and so likely to be due to chance.

In summary, the qualitative data indicated that mindfulness activities had a small but positive impact on the emotional, behavioural and cognitive awareness in a group of year 3 children in a mainstream primary setting. However, adapting mindfulness activities to make delivery feasible for a teacher in a mainstream primary setting may reduce the effectiveness of the intervention. Recommendations for EPs and future research are discussed.
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“Feelings come and go like clouds in a windy sky. Conscious breathing is my anchor.”
— Thich Nhat Hanh, Stepping into Freedom: Rules of Monastic Practice for Novices
Preface

Prior to this project, the author conducted a piece of research in year 1 of the programme. This piece of work was an evaluation of the impact of the Aimhigher Associates Scheme (AAS) on a group of prospective 6th formers. The AAS was a national initiative, funded by the Higher Education Funding Council for England (HEFCE) with the aim to widen participation to Higher Education. Thus the goal was to motivate and encourage students from the lowest socio-economic groups who had the capacity and intellectual ability to benefit from higher education.

The evaluation used a mixed methods approach to explore whether the intervention impacted on the students’ self-concept, resilience and motivation to apply to FE and HE and which activities within the scheme were perceived to be most effective. Self-concept was measured through Beck, Beck and Jolly’s (2001) Beck Youth Inventories of Emotional and Social Impairment (self-concept scale only), while resilience was measured using Prince-Embury’s (2007) Resilience Scales for Children and Adolescents (mastery scale only). The individual levels of motivation to apply for FE and HE were measured through a questionnaire and focus group. The study found that there were no significant changes to self-concept, resilience or motivation to apply for FE / HE following the intervention. However, the evaluation of the scheme highlighted many positive aspects and there was a strong desire by the learners to have more sessions. Thus the study concluded that AAS benefits students by providing a forum for information sharing and gathering as well as supportive discussion.

The author first developed an interest in mindfulness in 2011. Since then the author has practised mindfulness in her own time and begun to use it in aspects of her work as a TEP.
Chapter 1: Introduction

This chapter will introduce the context in which the research took place and provide a rationale for the type of intervention used. It will begin with a brief summary of research into the mental health of children at both a national and international level. An overview of the local context and level of need will then be provided. The focus on mental health in schools over the last 10 years will then follow in which the ‘3 wave approach’ (DCSF, 2008) will be considered. The chapter will conclude with a brief description of mindfulness and the possible applications of this approach as a universal intervention, in a mainstream, primary setting.

1.1 Children’s mental health and well-being

As stated in Bradshaw (2011) the study of child well-being is not new and papers documenting such research have dated back to the 1940s. However, there has been a shift from deficit, survival and basic needs to positive indicators of mental health and well-being. It has also been acknowledged that well-being is multi-dimensional and while indicators such as family, friendships and health are important, there are many other factors that are influential (Repetti, Taylor and Seeman, 2002).

In the last 10 years, the International Alliance for Child and Adolescent Mental Health (Intercamhs) and the Global Consortium to Advance Promotion and Prevention of Mental Health (GCAPP) have worked collaboratively to promote mental health policies, practices and therapies at an international level (Weist and Murray, 2007).

The Mental Health Foundation (1999) defined children who are mentally healthy as able to: develop psychologically, emotionally, intellectually and spiritually; initiate, develop and sustain mutually satisfying personal relationships; use and enjoy solitude; become aware of others and empathise with them; play and learn; develop a sense of right and wrong; and resolve and face problems. Thus this description identifies a range of areas that could be developed to support children’s mental health and well-being.

In 2007, UNICEF completed an evaluation into the well-being of children in economically advanced nations. While the Netherlands heads the table in terms of
overall child well-being, European countries dominate the top half of the table. However, the UK and US find themselves in the bottom third of the rankings in 5 of the 6 dimensions, including family and peer relationships, educational well-being, risk-taking behaviours and subjective well-being, indicating that these are all areas for improvement.

Meltzer, Gatward, Goodman and Ford’s (2000) national evaluation indicated that 10% of 5 – 15 year olds were experiencing a ‘mental disorder’ which is the term that they use to refer to clinically diagnosed mental health issues. 5% had a clinically significant conduct disorder, while 4% were experiencing emotional disorders such as anxiety and depression and 1% were rated as hyperactive. It was found that children suffering from mental disorders were more likely to be boys, living in a lower income household, in social sector housing with a lone parent. Children with a mental disorder were also more likely to experience a learning difficulty, problems socialising with their peers and partake in drug taking behaviours. Ford, Hamilton, Meltzer and Goodman (2007) completed a follow up study using groups that they had identified during the national evaluation. They found that those identified with mental health difficulties in the initial study went on to have contact with a range of public sector services, not only those relating to mental health. Thus they concluded that mental health is ‘everybody’s business’ (DoH, 2004) and that services need to communicate with each other as well as trying to intervene early.

In 2002 Weare and Gray completed a study into the development of children’s social and emotional competence and well-being at a national and local level. They gathered information from 5 local authorities and completed a literature review, case study and interviews with professionals working in those areas. Key to their findings was that the UK evidence base was not well-developed. Moreover they reported the need for a range of improvements including the involvement of parents and the community, early intervention, the introduction of explicit teaching and learning programmes and the promotion of teachers’ competence and well-being.

1.1.2 Summary

Before training to be an Educational Psychologist, the researcher was a teacher. Thus the researcher has an awareness of the importance of empowering teaching staff but
also the types of barriers that may prevent the uptake of a new intervention such as
time and resource constraints and competing classroom demands. A consideration of
the practicalities of implementing a new, universal intervention to improve the mental
health and well-being of pupils is a key focus of the current study. The current
research explores the development of self-regulation as a key mechanism to mental
health. Moreover the research aims to add to the database of evidence-based
therapies which promote positive mental health.

1.2 Local Context

Between 2011 and 2013, the researcher undertook a 2 year placement at the Longfield
Local Authority (LLA) as a Trainee Educational Psychologist (TEP). The LLA had a
population which had declined slightly over the previous ten years (Anonymous LA,
2011a). In 2011 21.8% of people were out of work in LLA which was significantly higher
than the national average of 12.2% (Anonymous, 2011a). Thus LLA had a higher
percentage of people who claimed job seekers allowance than the national average
(6.8% compared to 3.7%) (Anonymous, 2011a). The majority of people in work were
employed in the public sector (30.1%), which was higher than the national average of
21.7%, whereas those employed in the private sector was slightly lower (69.9%
compared to 78.3%) (Anonymous, 2011a). This meant that the working population
was vulnerable to job losses and cuts to welfare in the 2011 / 2012 government
austerity measures (Anonymous, 2011b).

19.5% of LLA’s working age residents had no formal qualifications, however the gap
between national averages at GCSE had closed and the percentage of young people
from LLA who achieved 5 or more GCSEs (A*-C) was 81.8% in 2009 which exceeded the
national average of 75.4% (Anonymous, 2011b). Nevertheless, when these GCSEs
include English and Maths, the percentage was slightly lower: 53.0% compared to the
national average of 53.4%.

Low income families, families at risk of unemployment and those who have
experienced unemployment are more likely to suffer from mental health problems
(Eriksson, Agerbo, Mortensen and Westergaard-Nielsen, 2010). Moreover, recent
figures show that at least one in four people will experience a mental health problem
at some point in their life (McManus, Meltzer and Brugha, 2009). Furthermore, an
individual’s mental health issues are likely to affect those around them, therefore mental health is ‘everyone’s business’ (DoH, 2004).

1 in 10 children aged between 5 and 16 has a mental health problem and many continue to have mental health problems in adult life (Green, McGinnity and Meltzer, 2005). Moreover three quarters of those who have a mental health problem experience symptoms before their mid twenties (Kessler and Wang, 2007). However, many mental health difficulties are preventable (Wells, Mance, Tirmazi and Gone, 2010). Thus a programme that aimed to build resilience and prevent mental health problems in the long term was likely to be advantageous for many young people in LLA.

The school in which the programme was implemented reflected the demographics of the area with the proportion of children eligible for free school meals being well above average (Pye, 2011). Pye’s (2011) Ofsted report also detailed how the learners in year 3 were discussing their emotions and the antecedents to these. This indicated that social, emotional and behavioural issues had already been an area identified for improvement and that some action had been taken.

The current research aimed to evaluate a programme of work that could be used at the universal level, as a preventative measure. This supported government recommendations of a focus on early intervention (DFE, 2011), Weare and Gray’s (2002) findings that more research into mental health intervention is required, as well as the Improving Access to Psychological Therapies (IAPT) Implementation Plan, where the investment of 173 million aimed to build capacity and increase choice (Turpin, Richard, Hope and Duffy, 2008). The research also supported priorities in the LLA Educational Psychology Service’s (EPS) development plan which included a focus on early intervention, empowering service users and the promotion of emotional well-being and resilience (Anonymous EPS, 2011).
1.3 Mental Health Interventions in Schools

Over the last 10-20 years, researchers in the US have highlighted the critical role that the integration of mental health services into schools can play in recognising, assessing and supporting children’s mental health difficulties (Teich, Robinson and Weist, 2007).

Targeted Mental Health in Schools (TaMHS) was a UK £60 million programme funded by DCSF between 2008 and 2011. Its aim was to work quickly and preventatively to tackle mental health concerns in 5 – 13 year olds (DCSF, 2008) and it complemented other universal interventions such as the Healthy Schools Programme and Social and Emotional Aspects of Learning (SEAL). TAMHs had an ecological approach in that it considered children’s strengths and areas of need within the contexts that the individuals existed (DCSF, 2010).

In 2008 25 pathfinders were set up to develop locally informed evidence based models of practice which involved strategic integration of service and evidence based practice, with a key focus on ‘what works’. Following its success many other local authorities implemented TaMHs Projects (DCSF, 2008)

The ‘3 waves’ model below was made familiar to schools during the primary literacy and numeracy strategies and it includes the SEAL intervention.

Fig. 1 Summary of the 3 waves of intervention (DCSF, 2008).
While SEAL has been used widely in schools, the effects have been variable (Humphrey et al., 2008; Humphrey, Lendrum and Wigelsworth, 2010; Lendrum, Humphrey, Kalambouka and Wigelsworth, 2009). Thus there is an identified gap in universal preventative interventions to promote children’s mental health and well-being. The current study will focus on a possible intervention at wave one of this model. The researcher’s experience as a teacher was in a mainstream primary setting where universal interventions such as SEAL were utilised. Therefore it seemed appropriate to build on this knowledge and experience to see if a slightly different intervention could be beneficial.

1.4 Overview of Mindfulness

Mindfulness had been a personal interest to the researcher since the summer of 2011. The researcher had both practised specific activities and read around the subject to investigate the current uses as a therapeutic intervention with adults and children. The researcher’s experience as a teacher together with experience as a TEP had developed her awareness of the importance of mental health and well-being in the classroom. Moreover the researcher had developed an interest in the promotion of mental health and well-being in the therapeutic field, at the universal, preventative level.

Germer (2005, p. 6) described mindfulness as ‘paying attention to what is salient in the present moment’. Germer’s (2005) paper describes it as remembering, but not dwelling, on memories and recognising or noticing feelings and emotions, but instead of worrying about them, letting them go. Mindfulness requires intention and will not happen incidentally. The individual must intentionally ‘disentangle from their reverie and fully experience the moment’ (Germer, 2005, p. 6). Mindfulness focuses on changing individuals’ responses to thoughts and feelings and ensuring that people are in contact with their emotions ‘so that they can behave more effectively’ (Bishop, Lau, Shapiro, Carlson, Anderson and Carmody, 2004, p. 20). Therefore mindfulness shares objectives with other therapeutic approaches such as cognitive behavioural therapy (CBT), as the aim is for the individual to have a greater control over their thoughts and cognitions.
There are a number of studies that have been completed with children in a clinical setting using Mindfulness-Based Cognitive Therapy (MBCT). Results have shown reductions in anxiety (Semple, Reid and Miller, 2005), reductions in aggressive behaviours in children diagnosed with conduct disorder (Singh et al., 2007) and reduced symptoms of ADHD (Zylowska et al., 2008).

However as Kabut-Zinn (2003) states, mindfulness is not simply an approach but a ‘way of being’ (p148). Furthermore many advocates of mindfulness report that mindfulness could and should be practised by everyone and anyone in a wide range of everyday situations.

The current piece of research seeks to explore this premise further. Considering that 1 in 4 people are reported to suffer from a mental health problem at some stage in their life (McManus et al., 2009) and, as stated above, mindfulness has been successfully used to reduce the symptoms of a wide range of mental health difficulties such as anxiety (Semple et al., 2005) and aggressive behaviour (Singh et al., 2007), it is proposed that mindfulness is a worthwhile and relevant intervention. Moreover mindfulness practice has been used successfully as a preventative measure, particularly for depression (Baer, 2003). Thus, teaching children and young people the skills to be mindful and develop their awareness of their emotions is ethical in terms of providing individuals with a personal method that they can employ themselves. Furthermore as stated in DoH (2004), mental health is ‘everybody’s business’ and so a universal, preventative measure could have far greater implications to society as a whole.

Thus the current research aims to investigate the factors involved in developing and implementing a mindfulness scheme of work for a group of 26 year 3 children in a mainstream primary setting. It also aims to investigate the perceived benefits and barriers of the mindfulness scheme of work with a particular focus on self-regulation. The intervention took place over an eight week period. The intervention group and comparison class were interviewed after this eight week period and both classes completed a pre and post intervention questionnaire to measure their perceived levels of self-regulation.
1.5 Thesis overview

The literature review will focus on mental health and well-being in children and the current interventions in schools to promote positive mental health, the development and importance of self-regulation in terms of mental health and well-being and research on mindfulness interventions. It will evaluate in detail the most pertinent studies as well as identifying a gap in the literature. The expected contribution to knowledge will also be outlined.

The first part of the method will outline: the epistemological position of the author; the aims of the study; the research questions; and the mixed methods approach employed to gather and analyse information. The second part of the method will outline the process of the study in terms of developing a package, collecting and analysing the data.

The findings will report the results in terms of qualitative and quantitative data. The qualitative data will be reported in terms of the two key interviews completed with the intervention group class teacher and children. It will report the super-ordinate and subordinate themes as well as describing some of the codes that helped develop the themes. The quantitative data will follow.

The discussion will be structured in terms of the research questions. It will discuss how the findings relate to each research question. It will also discuss how the findings relate to previous research on mindfulness and why any differences may have occurred. Following this, conclusions from the findings will be drawn and the impact of the findings on future knowledge and research in the area of mindfulness in the classroom will be discussed.
Chapter 2: Literature review

This chapter will begin by describing the methods employed to complete the literature search. It will then provide an overview of children’s mental health needs which will lead on to an analysis of the literature around universal interventions to support child mental health and well-being. Within this section there will be a sub-section on programme implementation. There will then follow a description and explanation of self-regulation and its role as a key mediator to mental health. Studies that aim to improve self-regulation will also be reviewed. Finally the chapter will focus on mindfulness in terms of its meaning and relevance to the mental health of children as well as a critical review of the existing literature on programme development, implementation and efficacy of the approach. There will be a synthesis of the most relevant research which links mindfulness and self-regulation in mainstream classroom settings. Following this, the methods used in the study will be outlined.

2.1 Literature Search Strategy

The literature was gathered from a number of sources including EPS reports, books and on-line journals between October 2011 and May 2013. When searching for journals, search engines such as Google Scholar were used together with search terms and Boolean operators. Examples of search terms include:

- therapeutic interventions AND children
- self-regulation OR self-control AND children OR young people
- mindfulness AND children AND young people.

Self-regulation and self-control were at times found to be used interchangeably, thus both terms were used when searching for papers. In general papers were discarded if they were pre 2000. ‘Mindfulness AND children AND young people’ provided 18,000
results and so was further refined to papers written between 2000 and 2013 and including terms such as ‘empirical’, ‘clinical’ and ‘classroom based’ as appropriate.

2.2 The mental health and well-being of children

As stated in the introduction, traditionally the focus on research in the area of mental health has been around deficit and negative thoughts, feelings and experiences (MacLeod and Moore, 2000). In 2000, MacLeod and Moore stated that traditionally the role of the therapist was to reduce psychological distress, rather than increase happiness. Over the last 5-7 years, there has been a greater focus on mental health and well-being. Much of this stems from Seligman’s model of positive psychology, where the strengths and positive aspects of the client are drawn upon (Seligman, Steen, Park and Peterson, 2005). While the prominence and value of positive mental health and well-being has been raised significantly in the last 10 years, there are still short-comings in practice, particularly in terms of the evidence base, level of early intervention and empowerment of school staff (Weare and Gray, 2002).

This section focuses on government initiatives and findings from research on the mental health and well-being of children and teachers.

2.2.1 Prevalence of mental health needs

In 2007, in US elementary schools (which cater for 5 – 10 year olds) Teich et al. found that the most prevalent mental health needs were aggressive and disruptive behaviours, most of which were addressed through curriculum-based programmes to enhance social and emotional functioning. While the researchers found that basic mental health services were available widely in schools, school staff also reported significant competing demands and role constraints. Fundamental to these constraints were a lack of resources in terms of finances, time and training.

In 2000, Meltzer et al. noted that, 10% of boys and 6% of girls in the UK between the ages of 5 and 10 had been diagnosed with a mental disorder in accordance with the DSM IV. Similar to the US findings, the most prevalent issue was conduct disorder which involves aggressive and disruptive behaviours. However, these statistics only include children with diagnoses and this number is likely to be increased when
encompassing all of those children categorized as having social, emotional and
behavioural difficulties (SEBD).

**2.2.2 Government initiatives targeting mental health**

Healthy Lives, Healthy People (DOH, 2010) was said to be the ‘first public health
strategy to give equal weight to both mental and physical health’ (HMG/DH, 2012, p. 2). One of the key aims listed in this document was to give children the best start in
life by developing their physical and mental health and supporting them in early years’
settings and schools to develop their self-esteem so that they learn and behave better.
The document states that a shift of power from central government to local
communities including schools should encourage schools to develop and use the
strategies that best suit their children’s individual needs. However, support and
guidance to develop these strategies was also necessary and EPSs could be viewed as
ideally placed to provide such support.

The IAPT initiative has placed further emphasis on the importance of mental health
and well-being. Moreover it has promoted the importance of training more
practitioners, particularly in the low intensity psychological therapies such as CBT, so
that these therapies are accessible to a greater number of individuals (Richards and
Whyte, 2009). Currently psychological therapies tend to be delivered by clinical and
applied psychologists. However, while psychologists will continue to play a key role
here in terms of training and supervision the ‘IAPT programme envisages the
expansion of psychological therapists more generally’ (Kinderman and Tai, 2007, p.
191). Moreover Kinderman and Tai’s paper also acknowledges the move towards
more holistic care plans which encompass a range of practitioners to support
psychological therapies.

**2.2.3 The impact of mental health and well-being**

As stated by Beddington et al. (2008), mental capital (defined as cognitive ability and
flexibility and emotional intelligence and resilience) and mental well-being (defined as
an individual’s ability to develop their potential and contribute to the community) are
‘fundamental to a nation’s development, both in terms of economic competitiveness and prosperity as well as social cohesion and inclusion’ (p. 1057). While Beddington’s paper emphasises the importance of early identification and treatment of learning difficulties and mental disorders, it also mentions the need to enhance ‘mental capital and well-being for all members of the population’ (p. 1060). It later states that an area crucial to empowering people to maintain their mental capital and well-being is executive function (or self-regulation).

2.2.4 Aetiology of mental health difficulties

Social problems such as poor housing, low income and single parent families have been directly linked to stress in children and adults. Moreover, there are correlations between poor mental health in children and households that are striving rather than thriving and in families where neither parent is working (Meltzer et al. 2000). As Napoli, Krech and Holley (2005) note, when people are under stress, their emergency responses are activated through their midbrain, which controls sensory processes. When in this state of ‘flight, fight, freeze’ response, higher order cognitive processes are inactive (Badre and Wagner, 2002). Thus, meaningful learning is likely to be disrupted and reactive behaviours are likely to be observed. Moreover, children who become stressed are likely to develop into adults who suffer from stress, thus as Teich et al. (2007) note, schools can play a critical role in the integration of mental health services, particularly for those from more disadvantaged backgrounds. However, Patel, Flisher, Hetrick and McGorry (2007) also note that more research is urgently needed to improve the range of affordable and feasible interventions available to children and young people with mental health difficulties.

The aetiology of social, emotional and behavioural difficulties, which can lead to mental health difficulties is multi-dimensional and has been linked to low socio-economic status (Meltzer et al., 2000) and self-regulation (Beddington et al., 2008). Furthermore as Durlak, Weissberg, Dymnicki, Taylor and Schellinger (2011) note, ‘emotions can facilitate or impede children’s academic achievement, work ethic, commitment and ultimately school success’ (p. 405). Thus it is crucial that social and emotional issues are addressed and that children feel supported both academically and emotionally.
2.2.5 Promoting mental health in schools

While the promotion of mindfulness in schools was not the primary focus of this current thesis, an awareness of the important factors involved in the promotion of mental health strategies was crucial.

Power, DuPaul, Shapiro and Kazak (2003) recommend a move away from expert models of mental health promotion, which rely heavily on consultation with highly qualified professionals and a move towards collaborative, non-hierarchical approaches to involve all who work in schools. This is based on empowerment theory (Zimmerman, 2000) in that if school staff feel invested and can take ownership for the delivery of the intervention, they will be more likely to continue to promote and deliver sessions with enthusiasm and fidelity.

This philosophy underpins the afore-mentioned SEAL initiative (1.3) and, as previously stated, because the efficacy of the intervention varied (Humphrey et al., 2008; Humphrey et al., 2010; and Lendrum et al., 2009), a gap for a universal intervention to promote mental health and well-being is identified.

However, while it is essential to provide the teaching staff with the knowledge and skills required to deliver interventions, it is also important to consider their needs, particularly in terms of their own personal mental health and well-being.

2.2.6 The mental health and well-being of teachers

Kyriacou (2001) defines teacher stress as:

‘...the experience by a teacher of unpleasant, negative emotions, such as anger, anxiety, tension, frustration or depression, resulting from some aspect of their work as a teacher...’ (p28).

However, Kyriacou (2001) also notes that stress is a subjective entity that can relate to the demands placed on a teacher, as well as the mismatch between these demands and their ability, or even perceived ability, to cope (self-efficacy).
The prevalence of stress in teaching has been reported to be high (Hodge, Jupp and Taylor, 1994). Jacobsson, Puosette and Thylefors (2001) found that teacher stress reactions were best predicted by perceived work demands, pupil misbehaviour and negative feedback. Kyriacou (2001) also lists the motivation and attitude of students as well as the relationships with colleagues, pupils and parents as important factors for predicting stress. Moreover, the recent emphasis on the school’s role in the development of children’s psychological well-being could be perceived as yet another demand on teachers.

Wilhelm, Dewhurst-Savellis and Parker (2000) found that the majority of teachers left the profession within the first 5 years of qualifying. While ‘stress’ was only one of the factors for some of these teachers leaving, other factors such as ‘pay’, ‘student behaviour’ and ‘conflict with other teachers’ could also be associated with stress. Stress can induce fatigue and illness which can mean classroom teachers are absent due to illness. It is also proposed that stressed teachers may be less effective in the classroom as the increased activity in the midbrain will disrupt their ability to access their higher order thinking processes (McKewen, 2007). Therefore, for the well-being of students and teachers it seems important that teachers’ mental health and well-being is supported.

Dick and Wagner (2001) found that both personality and environmental factors helped in preventing potential stressors. They found that feelings of high self-efficacy and support acted as effective coping mechanisms. Moreover, Jacobsson, et al. (2001) found that a sense of mastery acted as a protective factor for stress and that these feelings were predicted by learning orientation, positive feedback and goal clarity.

Nias (1996) states, a teachers’ affectivity is of fundamental importance to their perceptions of the job and their class. This is because teachers often care passionately about the children they teach, their colleagues and their own professional competencies. The views that teachers have of themselves as professionals are often socially constructed and are a result of their underlying core values, as well as demographic and social factors. Therefore, Nias concludes that when researching the
views of teachers, both cognitions and emotions should be explored, as the two interact simultaneously and affect each other.

In summary, stress and poor mental health in teaching staff is common. While there are many reasons for stress, common themes include children’s poor behaviour, conflicting demands and lack of time (Kyriacou, 2001). The current study aimed to address some of these issues. Firstly, one of the key aims of the study was to produce an intervention that would support teachers in terms of giving them and their class some ‘breathing space’ in which they could acknowledge and accept what was happening (in terms of thoughts, feelings and behaviours) in the present, and re-focus so that they were better able to deal with classroom demands. It was also envisaged that if the intervention was successful it would impact on the children’s ability to regulate their own cognitions, emotions and behaviours, which could result in less disruptivebehaviours and greater levels of acceptance and relatedness between children. This in turn could mean that the teacher was required to intervene less in emotional altercations between peers, giving them more time to focus on other aspects of teaching. In doing this it was important that minimal demands were put on the teacher, particularly in terms of extra planning and preparation. Moreover, teachers were encouraged to take part in the intervention themselves to support their own mental health and well-being.

2.3 Therapeutic interventions

Therapeutic Interventions can occur at the individual, group, or universal level and can be targeted or preventative (Domitrovich et al., 2008). As Kaftarian, Robinson, Compton, Davis and Volkow (2004) state, children spend a large amount of time in schools, making them an ideal space for preventative interventions. Moreover, schools can be particularly useful settings for providing interventions for pupils whose difficulties do not meet diagnostic criteria (Farmer, Burns, Philips, Angold and Costello, 2003).
2.3.1 Universal interventions

As noted in the TaMHS document (DCSF, 2008), children with mental health needs are supported most effectively when there is a universal approach which promotes the mental health of all children, as well as specific and targeted intervention for the individual. Thus there is an ecological emphasis to developing children’s mental health and well-being in terms of considering the child in their wider context. The aim of SEAL was to provide a climate that would implicitly promote social and emotional aspects of learning and provide a space for them to be practised. This ecological approach was found to be beneficial, even in secondary schools, where SEAL was generally found to be less effective (Humphrey et al., 2010). From an analysis of climate data, Humphrey et al. (2010) found: ‘a significant increase in pupils’ feelings of autonomy and influence, and this was supplemented by anecdotal examples of positive changes in general outcomes (e.g. reductions in exclusion)’ (p. 3).

As stated in fig. 1 in section 1.3, the 3 wave model of intervention is familiar to schools and school practitioners are likely to be aware of SEAL, even if they have not had experience in delivering it themselves. While it is acknowledged that there are a wide range of interventions in schools at wave 2 and 3, the current thesis is concerned with interventions at the universal level only.

At the whole school or universal level interventions tend to target more widespread issues such as healthy eating and exercise (Brown and Summerbell, 2009; Doak, Visscher, Renders and Seidell, 2006; Nixon et al., 2012; Oude Luttikhuis et al., 2009); bullying (Vreeman and Carroll, 2007); the prevention of substance use and risky sexual behaviours (Fletcher, Bonell, and Hargreaves, 2008; Jackson, Geddes, Haw and Frank, 2011); and social and emotional well-being (Durlak et al., 2011).

‘Circle time’ and SEAL are two UK universal, whole school approaches (Eccleston and Hayes, 2009). As previously mentioned, while SEAL has been noted to have effective results at primary age (Humphrey et al., 2008); Humphrey et al., (2010) found that SEAL at secondary age failed to impact significantly on pupils’ social and emotional
well-being. However, both studies made recommendations for good practice when implementing social and emotional interventions. These included suitable training for teachers to enhance will and skill, a whole school approach to social and emotional well-being, engagement with parents, and suitable time and space allocated within the school day.

Evidence suggests that early intervention with children can have long lasting effects on adult health and well-being (Reynolds et al., 2007; Reynolds, Temple, Ou, Arteaga and White, 2011). Moreover, child-focused research into interventions that support healthy eating and exercise (Brown and Summerbell, 2009; Doak et al., 2006; Nixon et al., 2012 and Oude Luttikhuis et al., 2009); and those which reduce risky drug taking and sexual behaviours (Fletcher et al., 2008; and Jackson et al., 2011) found that interventions were most effective when they address multiple aspects of children and young people’s lives such as school, families and peers. Again, when planning the current therapeutic intervention, these factors were important to consider.

Spence and Shortt (2007) conducted a review of the evidence for universal interventions for the prevention of depression. They reported that evidence was limited and suggested the efficacy and effectiveness of such interventions was doubtful. Therefore widespread dissemination of the reviewed interventions was not recommended. While the results of this review appear negative, the review highlights the recurring desire for universal, preventative measures for mental health problems in children. Other criticisms for providing mental health services in schools at all levels are noted by Kutash, Duchnowski and Lynn (2006), who state that competing approaches from different theoretical models, each with their own language and set of assumptions, can be confusing for the staff expected to facilitate the intervention.

Since then, Merry et al. (2011) have conducted a review into preventative interventions for depression at the targeted and universal level and found more promising results. They found that both universal and targeted interventions, compared with no intervention, reduced clinically significant depressive episodes post-intervention and at 3 to 9 month follow-up. These effects continued with targeted programmes at 12 month follow-up. However the results at 24 and 26 months were
inconsistent and based on a small number of studies. Moreover they did not compare intervention groups with controls.

In terms of interventions which address social and emotional development, Durlak et al. (2011) found promising results from their meta-analysis of 213 universal school-based social and emotional interventions with children, from kindergarten through to high school age. They noted dramatic improvements in social and emotional skills, attitudes, behaviour, and academic performance.

Many of the universal packages focus on talking about emotions to increase emotional literacy and providing children with a safe, secure environment in which to practise their social and emotional skills. The aim is that by practising these skills in a safe environment, children will experience success which will develop their self-esteem and self concept and allow them to be more confident to practise in real life situations. The promotion of such positive emotions is based on the assumption that there are a range of emotions that are universally accepted as positive. Kitayama, Markus and Kurokawa (2000) note that these emotions include: ‘elated’, ‘relaxed’, ‘calm’ and ‘happy’. Further, there is a general assumption that people strive for such emotions both consciously and subconsciously. However, it must be noted that situations created during SEAL may not evoke these emotions in all young people.

Humphrey et al. (2010) also note some of the difficulties of evaluating a universal preventative initiative. Key aspects include: ensuring homogeneity in delivery among teachers; feasibility of evaluating in terms of time and time-table issues; difficulties finding a measure sensitive enough to measure small changes in social and emotional domains; and difficulties extrapolating the impact of the intervention over other extraneous variables. Their comments support findings from Blank et al. (2009) that it is difficult to measure the impact of whole school interventions due to a range of feasibility issues and a lack of control over extraneous variables. As a result, Blank et al. conclude that literature in this area is under-developed.
2.3.2 Programme implementation

As outlined in the TaMHS document (DCSF, 2008), where evidence based programmes do not exist, programmes need to be developed locally to meet need. Moreover, assessing how they are implemented is important to avoid concluding that the programme is ineffective when in fact it might be the implementation that is the problem. This is particularly true for interventions such as mindfulness, where programmes tend to have been developed and evaluated in clinical settings and less is known about how these programmes transfer to real world contexts.

Universal interventions are often complex, multi-faceted interventions, which can be difficult to implement. Thus it was essential to report on the factors found to be important in implementation. This section focuses heavily on the findings of Durlak and DuPre (2008), who developed the following model to describe the various aspects involved in implementation:

![Fig. 1: Ecological framework for understanding effective implementation](image)

As Durlak and DuPre (2008) note, developing effective interventions is only the ‘first step’ (p. 327) and it is often transferring the programme into real world settings that poses the greatest challenge. This process is complex and the uptake and long-term
maintenance of the programme was found to be affected by a number of factors. These factors include: community level factors such as funding, systemic initiatives and goals; provider characteristics such as: perceived need for intervention, potential benefits for intervention, self-efficacy and skill proficiency; and innovation characteristics, namely adaptability, contextual appropriateness and congruence. Domitrovich et al. (2008) also add to this list the importance of a positive classroom climate, particularly in terms of pupil-teacher relationships and peer relationships. Further, Durlak and DuPre (2008) also state that the organisational structure, be it already existing, or developed for the purpose of intervention, is also crucial to successful implementation.

A support system for teachers implementing interventions which includes initial training as well as opportunities for development through observations, reflections and meaningful discussions is another factor viewed as crucial for effective programme implementation (Domitrovich et al., 2008). McCormick and Brennan (2001) concur with this noting that support and encouragement also play a key role.

To ensure that the internal and external validity of the intervention is measured, assessment of implementation is crucial (Durlak and DuPre, 2008). Dane and Schneider (1998) provide 5 factors that affect implementation: fidelity, dosage, quality, participant responsiveness and programme differentiation. Durlak and DuPre (2008) add monitoring controls / comparisons, participant involvement and representativeness and programme modifications. The current research does not aim to measure these factors. Instead it aims to explore these factors in an exploratory investigation of an untested programme to develop a tentative implementation model for mindfulness in a mainstream primary setting.

Durlak and DuPre (2008) also discuss the levels of adaptation and fidelity necessary for an effective, yet valid and measureable intervention. They conclude that while fidelity is important, adaptation of non-core elements can lead to a better, more suitable intervention, particularly when adapted by a practitioner who is knowledgeable about their community. Moreover, researchers can learn from local practitioners about how to adapt interventions to meet more specific needs. However, it is sometimes difficult to specify and measure the exact levels of fidelity and adaptation, particularly when
programmes are at the developmental stage. It must also be noted that other factors such as the relationship that the facilitator has with the group and the beliefs and motivations of the group members will also play a role in outcome. Furthermore adaptation of core elements of established programmes is not advised as this can lead to low fidelity which may bring into question the validity and reliability of the evaluation (Durlak and DuPre, 2008).

Durlak and DuPre (2008) state that transferring successful programmes into real world settings involves 4 stages: dissemination, adoption, implementation and sustainability. Moreover these processes are complex and diverse in different settings. Durlak and DuPre considered implementation across a diverse set of interventions and settings and arrived at some common themes. One of their key findings was that reasonable implementation increased effect sizes and had other benefits for participants.

Supportive factors that Bond, Cole, Fletcher, Noble and O’Connell (2011) identified when developing and implementing a school-based motor skills intervention included the quality of external support and training and having a ‘champion’ in school. Potential threats included a lack of funding, reduced external support when the study ended and a change in priority.

In summary, previous research projects have highlighted a number of issues regarding the implementation of interventions. The current study considered many of these through both the development and implementation stage. Of particular interest was support for the key staff member, monitoring of delivery and encouragement for the staff member to take ownership and make document modifications to fit their context.

Having considered the wider issues related to mental health interventions in schools and their implementation, the next section will discuss one of the possible afore-mentioned underlying factors affecting mental health and well-being: self-regulation.

2.4 Self-regulation

The following subsection begins with a rationale for measuring self-regulation. Self-regulation is then defined through the use of the self-regulation model. It will also
consider factors associated with self-regulation such as development, gender and early experience. Research into interventions to improve self-regulation are then summarised and reviewed.

While the aetiology of mental health issues is complex and multi-dimensional, a range of risk and protective factors have been identified. Repetti et al. (2002) found that disruptions in stress-responsive biological regulatory systems often lead to poor health behaviours including substance abuse and poor mental health. Moreover Schore (2001) found that adaptive infant mental health, through secure attachment leads to flexible strategies for coping with novelty and stress in later human interactions. Meanwhile Kliewer et al. (2004) found that child emotional-regulation skill and caregiver regulation of emotion were protective against community violence. Thus there is significant evidence that self-regulation can be protective against a range of mental health difficulties including aggression.

2.4.1 Defining self-regulation

As stated by Fonagy and Target (2002), self regulation is the ‘key mediator between genetic disposition, early experience and adult functioning’ (p. 307). They argue that it is these mechanisms, underpinning early relationships that are responsible for the individual’s ability to interpret their own and others’ mental states, their reaction to stressful situations and their capacity to maintain focused attention. They argue that positive early relationships will ‘equip the individual with an information processing control system’ (p. 313). Once this regulatory system is created, it is there for life and so this is arguably one of the most important outcomes of positive early attachment.

Further, Posner and DiGirolamo (1998) postulated that the interaction between child and early caregiver is likely to train the infant to control their distress by orienting their attention away from the source using distracting activities. Fonagy and Target (2002) add to this, stating that a mother’s mindfulness towards their child, in terms of their ability to comprehend what the child might be thinking or feeling, contributes to the level of secure attachment.
As Rizzo, Steinhausen and Drechsler (2010) state, there is considerable overlap between the concept of self-regulation and the neuropsychological construct of executive function (EF). However, EF tends to refer to a wider range of cognitive functions such as: inhibiting actions, attending selectively, planning, organising and memory. Furthermore EFs are often described as the planning and decision making processes that require one to stop, think and analyse, rather than act (Singer and Bashir, 1999). Meanwhile self-regulation focuses the ability to monitor and modify one’s own emotional and behavioural actions and reactions (Murtagh and Todd, 2004) and is a result of the reciprocal influences of personal process, the environment and one’s own behaviour (Singer and Bashir, 1999). As Zimmerman (1995) states, it involves self-observation, self-judgement and self-reaction, all of which relate to a developed awareness of oneself.

Boekaerts, Prinrich and Zeidner (2005) explain that self-regulation is important in various areas of psychology such as personality, clinical, organisational, social, developmental, educational, health and community. Veenman, Van Haut-Wolters and Afflerbach (2006) state that self-regulation involves a motivational and social-emotional process. Baumeister and Vohs (2007) add that self-regulation can greatly increase adaptability and it allows humans to adjust their behaviour to meet a range of social and situational demands. They also note the importance of motivation in successful self-regulation, a concept that is ignored in many models of self-regulation. While Zimmermann and Kitsantas (2005) describe self-regulation as part of social cognitive theory and state it is self-directed and feedback controlled, Demetriou, Kazi and Georgion (1999) add a developmental perspective and describe the importance of self-monitoring in the development of self-regulation.

The term self-regulation was chosen in the context of this thesis for several reasons. First, as Baumeister and Vohs (2003) state, it is ubiquitous and involved in a huge variety of human actions. Moreover, as noted by Baumeister, Schmeichel and Vohs (2007), many of the social and personal problems that affect people in modern Western society are a result of failures in self-regulation. Thus, while improved self-regulation will not solve all societal problems, it may give individuals enhanced efficacy over their emotional reactions and behaviours. Moreover its ubiquitous nature means
that the term ‘self-regulation’ is becoming more familiar to classroom practitioners, which is another reason it was chosen.

Due to the overlap in the literature, both ‘self-control’ and ‘self-regulation’ were included in literature searches. However, self-regulation could be considered to be a broader term than self-control, in that being able to self-regulate means being able to exert self-control, active responding and decision making (Murtagh and Todd, 2004).

Another aspect of brain functioning linked to self-regulation is meta-cognition. Meta-cognition is a term that was first coined by Flavell (1979) and refers to the knowledge about and regulation of one’s own cognitive activities in the learning process. There are many aspects of meta-cognition including: meta-cognitive awareness, meta-cognitive beliefs, meta-cognitive skills, meta-cognitive experiences, meta-memory, heuristics and learning strategies (Veenman et al., 2006). While some consider self-regulation as an aspect of meta-cognition (Kluwe, 1987), others view it as subordinate to meta-cognition (Zimmerman, 1995). In the context of this thesis, meta-cognition is considered an important aspect of self-regulation and indeed mindfulness, as the ability to think about one’s own thoughts is crucial to developing self-awareness.
2.4.2 The key components of self-regulation

A social learning perspective of the self-regulation process is presented above in three cyclical phases. The first part of the cycle is forethought, which occurs before the behaviour and includes task analysis and self-motivational beliefs. Ryan and Deci (2000) would argue that these self-motivating beliefs are defined by the individual’s feelings of competence, autonomy and relatedness. The performance phase occurs during the behaviour and includes self-control and self observation, while the self-reflection phase occurs after behaviour, where focus is on self-judgement and self-reaction.

Self-regulation is based on feedback loops which can be enhanced by attention. Thus all self-regulation techniques are cultivated by attention (Shapiro and Schwartz, 2000). However the intention to which attention is directed is considered to be crucial.
Bandura (1991) states that self-regulation is affected by self-monitoring, self-diagnostic and self-motivating functions which again link to meta-cognition (Flavell, 1979). Bandura discusses the importance of firstly attending to one’s own cognitions behaviours and emotions, then analysing them for patterns. If patterns are observed by the individual and they are able to spot environmental and internal triggers themselves, they are more likely to set themselves targets to change. For Bandura, it is this discovery and sense of autonomy and self-efficacy that motivates the individual to gain control over their thoughts, feelings and behaviours and consider change.

2.4.3 The relevance of self-regulation to the classroom activities

Self-regulation underpins the success of many classroom activities and it is often seen as: ‘how students get ready for learning, stay engaged with tasks, and alter their approaches to problem-solving’ (Singer and Bashir, 1999, p226).

Self-regulation has also been linked to language (Singer and Bashir, 1999) and writing (Graham and Harris, 2000). Evidence for its impact on writing is derived from Zimmerman and Campillo’s (2003) model, as writing tends to be a task that is an intentional activity which is self-planned and self-sustained. With writing practice comes skill and skilled writing is linked to high achievement. Thus the ability to self-regulate is likely to have significant implications for academic achievement. While data gathered tends to suggest that writing becomes increasingly self-regulated with experience and maturity, self-regulation in writing can be supported by intervention (Graham and Harris, 2000).

2.4.4 The development of self-regulation in males and females

As with most cognitive functions, EF, meta-cognition and self-regulation have a developmental aspect (Kopp, 1982; Lai, 2011; and Rueda, Posner and Rothbart, 2005).

Klenberg Korkman and Lahti-Nuuttila (2001) completed a study into the developmental stages of self-regulation using age appropriate EF subtests from the NEPSY. Their sample included 400 Finnish children aged between 3 and 12 years. Each age group contained 38 - 41 participants and approximately 50% girls and 50% boys. Their findings indicated that different aspects of self-regulation were achieved at
different stages of development. Perhaps key to the current study was that maturity in focused attention was reached at age 10. This is in concurrence with Rebok et al. (1997) who found that rapid changes in several aspects of attention occurred between the ages of 8 and 10 and that changes were more gradual between the ages of 10 and 13. While this study appears to produce a neat developmental timetable of the different components of attention and EF, it must be noted that the tasks from the NEPSY used in this study are multi-dimensional and require the use of other cognitive functions.

Attentional control appears to emerge in early infancy and then develop rapidly in early childhood. Meanwhile cognitive flexibility, goal setting and information processing experience a critical period of development between 7 and 9 years of age (Anderson, 2002). Moreover these skills were found to be relatively mature by age 12. Furthermore Simonds, Kieras, Rueda and Rothbart (2007) found that efficient executive attention performance is related to higher levels of parent-reported effortful control in children. Their study also supported previous studies into the connection between effortful control and emotion regulation.

It is well documented that there are differences in levels of self-regulation between males and females, where females are generally found to have higher levels of self-regulation (Gibbs, Giever, and Martin, 1998; Keane, Maxim and Teevan, 1993; Tittle, Ward and Grasmick, 2003). Moreover, Kochanska, Coy and Murray (2001) found that committed compliance was higher in girls than boys (aged 0-4). Gibson, Ward, Wright, Beaver and Delisi, (2010) challenged this idea, hypothesising that measures of self-regulation were often biased. While they did find gender bias in the measure they investigated, they reported that the bias questionnaire items accounted for only 6% of the difference, thus males still displayed lower levels of self-regulation than females. However it must be noted that their findings were specific to their sample who were college students, the majority of whom were female (61.6 %), white (90%) and under the age of 23 (88%). Thus samples taken from other ages and demographics may differ.

There are many factors and conditions that correlate with poor self-regulation. These include: ADHD (Spencer et al., 2011); low birth weight (Lynn, Cuskelley, Gray, and
O’Callaghan, 2012); and ASD (Mazefsky, Pelphrey and Dahl, 2012); as well as other developmental factors such as poor speech and language (Lynn et al., 2012). While cause and effect is unclear, children who suffer from these conditions often display poor self-regulatory behaviours, which can lead to difficulties in learning and socialising.

However, self-regulation has been shown to have improved following therapies such as cognitive behavioural therapy (CBT) (Paquette et al., 2003) and solution focused brief therapy (SFBT) (Daki and Savage, 2010). Further studies that show positive effects of interventions that promote self-regulation in younger children include: Blair and Razza (2007); Diamond, Barnett, Thomas and Munro (2007); and Wyman et al. (2010).

Wyman et al. (2010) also found that aspects of self-regulation could be taught effectively to children who were displaying elevated social and behavioural classroom problems and further studies into effective interventions are currently being completed.

2.4.5 Summary

In summary the above studies indicate there are a range of factors that have been associated with levels of self-regulation including: development, gender and early experiences. While aspects of self-regulation, including the ability to focus attention, continue to develop up until the age of about 10 (Klenberg et al., 2001), skills in self-regulation can be taught (Wyman et al., 2010). Therefore while many of the children in the current study may have been at an earlier stage of development, in terms of their ability to self-regulate and achieve sustained attention, the positive impact that self-regulation can have on the individual’s mental health and well-being, as well as society as a whole (Baumeister, et al., 2007), meant that it was important to investigate whether their levels of self-regulation would be affected by an 8 week intervention.
2.5 Mindfulness

This section will begin by providing an overview of mindfulness as well as a rationale for choosing this intervention in terms of its links with self-regulation, mental health and well-being. The following subsections will describe and evaluate evidence from previous studies on the effectiveness of mindfulness-based interventions with adults and children in clinical and non-clinical settings. There will be a particular focus on mindfulness interventions at the universal level, in the classroom. The section will conclude with an identified gap in the literature where the current study will be introduced.

2.5.1 An introduction to mindfulness

Mindfulness has been taught and practised for thousands of years in Buddhist cultures, through the language of Buddhist Psychology (Pali). ‘Mindfulness’ is the English translation of the Pali word ‘sati’ which denotes awareness, attention and remembering (Germer, 2005).

Jon Kabat-Zinn was a founder of mindfulness-based interventions in the Western world. He states that there are 7 attitudinal features which constitute the major strands of mindfulness in the clinical setting (Kabat-Zinn, 2005). These are: non-judging, patience, a beginner’s mind, trust, non-striving, acceptance and letting go.

Table 1: Kabat-Zinn’s 7 attitudinal features (Kabat-Zinn, 2005)

<table>
<thead>
<tr>
<th>Name of feature</th>
<th>Description of feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-judging</td>
<td>‘Non-judging’ requires an acknowledgement of the fact that as people we are constantly making judgements of things; categorising them as ‘good’ or ‘bad’. This is an inherent survival technique and Kabat-Zinn (2005) does not state that the mindful individual should refrain from doing this, but simply that they should notice when they are judging and the automatic reactions that occur because of these judgements.</td>
</tr>
<tr>
<td>Patience</td>
<td>Kabat-Zinn (2005) describes ‘patience’ as a form of wisdom. He states that it can be helpful to accept our wandering minds and to be open</td>
</tr>
</tbody>
</table>
Beginners Mind

Kabat-Zinn (2005) states that everyone possesses a ‘beginner’s mind’ which is free from expectations and past experiences, though some find this more accessible than others. The beginners mind makes us receptive to new possibilities and ways of thinking and prevents us from being influenced from our own expertise. Kabat-Zinn (2005) suggests that people should bring their beginner’s mind to mindfulness practice so that they can experience thoughts and sensations in a fresh, unbiased manner.

Trust

Kabat-Zinn (2005) states that it is far better to ‘trust’ oneself, even if this means mistakes are made. He states the importance of honouring one’s own feelings and being true to oneself. He says that practising mindfulness allows the individual to practise taking responsibility for being themself and their own being. He goes on to state that trusting oneself makes it easier to trust others and to see their basic goodness.

Non-striving

Although mindfulness can take a lot of energy and work, it is essentially non-doing and so ‘non-striving’. Kabat-Zinn (2005) states that in our current society we are always striving to be better, yet in mindfulness the only goal is to be yourself and to be aware and accepting of who you are. Therefore, when practising mindfulness, if the individual is tense, focus should be on this tension and the individual should notice the many ways that it affects them. In summary, instead of striving to get rid of the tension they should simply notice and accept it.

Acceptance

When people experience traumatic life events they usually experience strong emotions of denial, sadness and anger before reaching a state of ‘acceptance’. While this is a natural part of the healing process in terms of bereavement, there are times in most people’s everyday lives when they try to deny and resist things that are already fact. Kabat-Zinn (2005) uses the example of the overweight person who has negative feelings about themselves which leads to further frustration and anxiety. In this case, he states the person has to love and accept themself for who they are before they can change. It does not mean that the individual has to feign satisfaction or put up with things that they do not like, it is instead a willingness to see things as they are and to be receptive and accepting of things as they are in the present moment.

Letting go

‘Letting go’ is the idea of non-attachment which is considered to be fundamental to mindfulness. Often, when paying attention to inner experiences, people are tempted to hold on to certain positive feelings
or situations. Conversely, when noticing something negative or painful, people may try to push these thoughts away or prevent them from entering their minds. Mindfulness practice involves intentionally putting aside the tendency to hold on to positive feelings and push out negative feelings and instead emphasises the practice of observing all feelings and sensations moment to moment. This also includes letting go of judging thoughts. However, Kabat-Zinn (2005) notes that this is difficult and that sometimes it might be useful to notice what ‘holding on’ feels like, to allow the individual to become more aware of their own attachments.

Subsequent authors have summarised these core aspects of mindfulness in different ways. For example Hooker and Fodor (2008) state that mindfulness has three core aspects: active attention which leads to awareness; a regard for the present rather than the future or the past; and an approach that is non-judgemental and accepting of external (sights, smells and sounds) and internal (thoughts, feelings and sensations) stimuli.

‘By becoming more aware of thoughts and feelings, relating to them in a wider, decentred field of awareness, and purposefully opening fully to one’s experience, dysfunctional change agendas can be abandoned and more adaptive strategies adopted’ (Bishop et al., 2004, p. 21).

While mindfulness can involve some meditative processes and can lead to a heightened feeling of relaxation, it is distinctly different from meditation and relaxation. As Hooker and Fodor (2008) state, mindfulness differs from meditation as its main goal is not to achieve a higher state of consciousness, or to become distanced from the present, but instead to increase awareness of the present moment and to observe the constantly changing internal and external stimuli (Baer, 2003). Likewise, while mindfulness can lead to feelings of relaxation, that is not its main goal. Instead, the aim is for the individual to become ‘more aware and accepting of whatever state the body and mind are in’ (Hooker and Fodor, 2008, p78). Moreover, mindfulness can be practised when walking, eating, driving or any other experience that is encountered in daily life.
Mindfulness also differs from ‘flow’ (Csikszentmihalyi, 1997), because it promotes ‘living in the moment’, rather than getting lost in the moment. Thus the mindful practitioner is acutely aware of their presence in the moment and the different thoughts and feelings that they are experiencing. However as Kee and Wang (2008) found, in their study using 182 university student athletes from a university in Singapore, those who displayed a greater level of mindfulness characteristics, also demonstrated higher flow dispositions, particularly in terms of ‘challenge–skill balance, clear goals, concentration, sense of control and loss of self-consciousness’ (p. 406). Moreover, they also demonstrated higher scores in mental skill adoption in areas such as attentional control, emotional control, goal setting and self-talk (also known as self-regulatory skills) than those in the low mindfulness cluster.

Mindfulness practice has been linked and compared to a wide number of psychological paradigms including health psychology, positive psychology, cognitive and behavioural psychology. There is also a growing body of evidence which has made links to neuropsychology (Davidson et al., 2002). Mindfulness has also been associated with constructivist therapies such as narrative therapy and acceptance-based psychotherapies as it recognises the individualism of each person and their constructs of the world (Germer, 2005). However, it is different from other constructivist therapies as it does not try to make the abstract concrete and emphasises that what we see in reality is in fact our conceptualisations of the world and not the absolute truth (Germer, 2005).

Thus while mindfulness is related to a number of psychological paradigms, key to this thesis is the afore mentioned connection between mindfulness and self-regulation. Mindfulness requires the individual to intentionally focus their attention in a variety of situations, to a wide range of stimuli. If the individual can successfully practice mindfulness activities, they are likely to be able to use mindfulness practise to help them to self-regulate. For example, when feeling anxious, the individual could focus their attention on to their breath to bring them into the present moment and prevent the mind ruminating on past events or worrying about the future.

Davis (2012) highlights the complexity of defining mindfulness and reports that it traverses the concepts of ‘method’, ‘perspective’, ‘experience’ and ‘cognitive process’.
Davis reports that it is a method because it promotes the concept of mindfulness practice, both in terms of focused attention on a specific task and being aware of internal thoughts and feelings and letting go of them. He states that mindfulness could be viewed as a perspective as it encourages the self to be a ‘witness of experience as opposed to the experience itself’ (p. 33) and promotes the observation of sensations without judgement. The subjective experience is also an important part of mindfulness as it differs in individuals. Some may experience a sense of calmness, others may experience more extreme emotive states as they are more aware. Mindfulness is also a cognitive process and relates to meta-cognition in that it involves observing one’s own internal and external processes. It is also linked to cognitive flexibility in that it encourages the viewing of situations from many perspectives. Moreover it encourages a greater level of attention which could lead to more involvement and enjoyment of tasks.

Rosch (2007) is cautionary towards mindfulness, claiming that many of the key principles of mindfulness are ‘radically different’ (p. 258) from present cultural assumptions and that these discrepancies could be detrimental to human functioning. For example ‘living in the present’ is a difficult entity to consider, let alone practise, in a world that demands that people learn from their mistakes and plan for the future. However, it could be argued that this reflects an inadequate understanding of mindfulness. Kabat-Zinn (2005) would argue that mindfulness does not require that people forget the past and ignore the future but instead be present and mindful of the thoughts, feelings and sensations that they encounter.

Rosch (2007) also states that teachers of mindfulness may be biased due to personal investment and beliefs in the therapy and their work. Thus they may project their own needs and desires for it to be effective onto their clients. She goes on to argue that the scales used to operationalise and measure mindfulness could actually be measuring other factors and that while mindfulness may play a role in the success of a number of therapeutic interventions, there are often many other interrelated aspects that are not accounted for. In summary, the paper advises that people should remain open and aware of the possibilities of different effects on different people and the idea that the positive results that have occurred in mindfulness studies, may not be due to the mindfulness practices per se.
In summary, mindfulness involves actively attending to the present in a non-judgemental manner. It includes a range of activities and is linked to a variety of psychological paradigms. Mindfulness aims to increase awareness in order to gain control of thoughts, emotions and behaviours and while feelings of relaxation can be a by-product of mindfulness practice, relaxation is not the ultimate goal.

2.5.2 Mindfulness research with adults

This section briefly describes and evaluates a series of papers focusing on mindfulness interventions with adults. The literature search identified 16,900 studies of mindfulness with adults, focusing on areas such as pain, stress and relationships. However on closer inspection, many of the studies included children. Unless the studies that involved adults and children were concerned with the adult’s relationship with their child, they were discarded. The focus of the thesis was mental health so the majority of pain studies were also discarded. Thus around 30 studies relating to the impact of mindfulness on various aspects of adults’ mental health and well-being were selected and read. Studies that demonstrate the breadth of the application of mindfulness as well as those with most empirical value, least methodological flaws and those related to mental health issues have been included in this section.

In the 1970s Jon Kabut-Zinn developed Mindfulness-Based Stress Reduction (MBSR) which involved an 8 week programme of mindfulness meditation and mindfulness practices as well as discussions about stress and possible coping strategies. MBSR has been adapted by a number of practitioners to treat a range of emotional problems such as eating disorders, anxiety, depression and substance misuse (Hooker and Fodor, 2008).

There is a strong body of evidence for the positive effects of mindfulness with adults. Positive effects of mindfulness-based therapies (MBTs) include: decreased anxiety, depression and anger (Tang, et al., 2007); improved closeness, acceptance of one another, autonomy and general relationship satisfaction (Carson, Carson, Gil, and Baucom, 2004); increased satisfaction in parenting skills and relationship with their autistic child (Bögels, Hoogstad, van Dun, de Schutter and Restifo 2008); and increased self-compassion and reduced stress (Shapiro, Astin, Bishop and Cordova, 2005).
previously stated, some studies have focused on the effect that mindfulness has on the brain. Such studies have shown: activation of areas in the brain that detect emotional cues, demonstrating heightened empathic awareness (Lutz, Brefczynski-Lewis, Johnstone and Davidson 2008); and increased activation in the region of the brain correlated with positive affect (Davidson et al, 2003).

Literature reviews of MBT studies have also highlighted promising findings. For example Hofmann, Sawyer, Witt and Oh (2010) completed a meta-analysis of studies into the effect of MBTs on anxiety and mood disorders. They used 39 studies which included 1140 adult participants who were suffering from a range of conditions including cancer, generalised anxiety disorder and depression. They found that MBT was moderately effective in reducing anxiety (Hedges’ g = 0.63) and mood symptoms (Hedges’ g = 0.59) from pre to post-treatment. Effect sizes were larger in clients suffering from anxiety and mood disorders (Hedges’ G = 0.97 and 0.95 respectively). The effect sizes were described as robust and unrelated to the number of treatment sessions or publication year. Moreover, they were maintained at the follow-up interval. Other meta-analyses have found similar positive effects (Chiesa and Serretti, 2009; Grossman, Nieman, Schmidt and Walach, 2004). Thus evidence for the effectiveness of MBT in treating anxiety, stress and mood problems in clinical and non-clinical populations is promising.

Harnett and Dawe (2012) completed a review of 24 studies on the use of MBTs with children, adolescents and families. They concluded that while MBTs had a positive impact on a range of outcome variables, a greater understanding of the mechanism of change is required. Burke (2009) came to similar conclusions after reviewing 15 studies on mindfulness interventions with pre-school, primary and secondary aged pupils in clinical and non-clinical samples. While Burke found promising evidence in terms of feasibility and acceptability, a lack of efficacy of interventions was reported. Moreover many of the studies were criticised in terms of reliance on self-reports or non-blind observations, small sample sizes and a lack of control group or randomisation.

Fjorback, Arendt, Ørnbøl, Fink and Walach (2011) completed a review of the effectiveness of MBSR and Mindfulness-Based Cognitive Therapy (MBCT), using 21
randomised controlled studies, each study with a minimum of 30 adult participants. They found medium effect sizes and concluded that MBSR improves mental health and MBCT prevents depressive relapse. However, they noted that in several studies there was a lack of an active control group and long term follow up.

Mindfulness has also been used as an intervention to support primary school teachers (Gold et al., 2010). The study involved 9 self-selected qualified teachers and two teaching assistants, aged between their late 20s and late 50s, none of whom were reported to be experiencing stress. They took part in an 8 week MBSR course, delivered by an experienced, trained facilitator. The course comprised of weekly 2.5 hour twilight sessions and one 5 hour ‘silent’ day, held on a Saturday. The course syllabus was closely linked to Kabut-Zinn’s (1990). Most participants were reported to experience reductions in stress, depression and anxiety.

2.5.3 The mechanisms of mindfulness in adults

The following section will discuss the different mechanisms of mindfulness as identified by a range of practitioners, with a particular focus on how mindfulness taps self-regulation.

Jimenez, Niles and Park (2010) measured the relationship between dispositional mindfulness and depressive symptoms through 3 types of affect regulation: emotion regulation; mood regulation; and self-regulation. Their sample included 514 US undergraduate psychology students (318 female, 196 male) 84% Caucasian, who had a mean age of 18.8. 7 items from the Freiberg Mindfulness Inventory (FMI) (Buchheld, Grossman and Walach. 2001) were used to test dispositional mindfulness. A 20 item Likert-type scale assessed depressive symptoms (CES-D, Radloff, 1977); while individuals’ perceived ability to induce a positive state or alleviate or tolerate a negative state was assessed by the 15 item Revised Attitudes Towards Feelings Scale (Catanzaro and Mearns, 1990. The modified Differential Emotions Scale (Frederickson, Tugade, Waugh and Larkin, 2003) was used to assess emotions and the Self-Acceptance subscale for the Psychological Well-being Scale (Ryff and Singer, 1996) assessed self-acceptance. They found that higher levels of dispositional mindfulness were associated with higher levels of positive emotions, mood regulation expectancies...
and self-acceptance, all of which were negatively related to depressive symptoms. The strongest mediator of mindfulness and depressive symptoms was self-acceptance. Jiminez et al. (2010) proposed that emotional regulation was fostered by an awareness of emotions which lead to accurate emotion labelling as well as flexible emotional responses through emotional acceptance. They stated that mood regulation would be promoted through the acceptance of internal and external states which would lead to a sense of efficacy in mood repair. They hypothesised self-regulation would be enhanced by self-acceptance. Thus they concluded that the study provides evidence for the regulatory role of mindfulness on depressive symptoms. A model of their findings is shown below in fig 4.

![Mindfulness Model of Affect and Depressive Symptoms](image)

**Fig. 4. Mindfulness Model of Affect and Depressive Symptoms with the variables tested in Jiminez et al.’s (2010) study (positive emotions, mood regulation expectancies and self acceptance) marked by the asterisks.**

Implicit in Jiminez et al.’s (2010) model was the notion that dispositional mindfulness and depressive symptoms are present in all individuals at varying degrees. While this assumption may be accurate, it is difficult to prove or measure and thus the validity of their findings is weakened. Furthermore, while this study used a relatively large (N=514) non-clinical sample, and the measures that they used were based on sound
psychometric principles, because an abbreviated version of the FMI was used, it is
difficult to compare results. Moreover the model was reported to be incomplete as it
did not examine the regulatory roles of attention, affect labelling, emotional
acceptance and experiential acceptance. Thus Jiminez et al. call for further
longitudinal research to investigate the effects of mindfulness in terms of onset,
duration and intensity of depressive symptoms.

2.5.4 Mindfulness and self regulation in adults

It was proposed by Carson and Langer (2006) that mindfulness practice can enable
people to make more informed choices about behaviours, rather than being driven by
impulses, habits or strong emotions. Conditions closely linked to self-regulation which
have been treated using mindfulness based approaches include eating disorders and
drug and alcohol abuse (Witkiewitz, Marlatt and Walker, 2005), obsessive intrusive
thoughts (Wilkinson-Tough, Bocci, Thorne and Herilhy, 2010) and compulsive gambling
(Lakey, Campbell, Brown and Goodie 2007).

Howell, Digdon and Buro (2010) concluded from their research into the effect of
mindfulness on: self-regulation, sleep, emotional, psychological and social well-being
in 334 undergraduate students, that mindfulness predicted more adaptive sleep
makes a direct link between the 7th core principle of ‘letting go’ and sleep. He states
that if a person is able to sleep then they have the ability to ‘let go’ and visa versa.
Thus it may be that mindfulness practice developed the students’ ability to ‘let go’.
Mindfulness practice may also have helped the students to be less judgemental of
themselves and more accepting which may also prevent dominant thoughts from
taking over and becoming worries. However, the authors do note that their findings,
while providing suitable variation on sleeping indices, may not be generalisable to
other populations. Moreover, it is not clear whether it was the mindfulness
intervention, improved self-regulation and well-being which led to more adaptive
sleep patterns or, whether more adaptive sleep patterns led to higher reports of well-
being and self-regulation, as the links between variables appear to be bi-directional.
The authors attempted to control for social desirability, however, the study relied
heavily on self-reports which may have inflated the size of relationships between variables (Cohen, Manion and Morrison, 2007).

Further evidence for the role of mindfulness in improving self-regulation includes Jha, Krimpinger and Baime (2007) who completed a study into the effects of MBSR and a programme of ‘mindfulness retreat’ on attention. They found that those involved in the MBSR training showed significant improvements on their ability to endogenously orient attention, compared to the control group. Meanwhile those on the mindfulness retreat course, who had previous experience of mindfulness training, also showed improved receptive attention skills, which facilitated exogenous alerting-related processes compared to the control group. Although there were differences in the benefits of the two groups, both were improvements, thus the authors concluded that mindfulness training appears to improve attention-related behavioural responses. However, as the authors state, while their results were reliable and significant, their sample was relatively small and the link with attention is still an emerging field and so the results should be treated with caution.

Saltzman and Goldin (2008) conducted a study into the effects of MBSR on families. They used a self-referred, non-clinical sample of 24 families (31 children and 27 parents) who were mainly high-functioning, middle class families from Stanford University. Out of the 24 families who started, 4 dropped out. There was also a control group of 8 families (8 children and 8 parents). A battery of self-report questionnaires with adult and child versions including: the Self-Compassion Scale (Neff, 2003); Children’s Depression Inventory (Kovacs, 1992); Beck Depression Inventory-II (Beck, Steer and Brown, 1996); and the Cognitive Affective Mindfulness Scale–Revised (Feldman, Hayes, Kumar and Greeson, 2003), were used along with computer administered cognitive-affective tasks including the Attention Network Task (Fan, McCandliss, Sommer, Raz, and Posner, 2002), to measure levels of functioning, pre and post mindfulness. Findings included: improved attention; less negative emotional responses to stress situations (the biggest effect being in parents); improved mood (parents only); improved self-judgement and self-compassion (both parents and children); and more compassionate and less judgemental of selves (in both parents and children). They found that the amount of practice completed at
home accounted for much of the variance in scores. This highlights the importance of the role of the adult in the practice and perseverance of mindfulness. They also report the importance of the support of significant adults: ‘One or two confused or frightened parents can end a program, or an unreceptive teacher can severely impact the children’s experience’ (p. 158). However, this study could also be criticised for a narrow demographic cohort who were already interested in the programme (they had self-referred), which means they may have been more motivated to engage with the activities and complete the course. Thus results from this cohort may be more positive than from a group who were demographically different, sceptical of the programme, or had not self-referred.

In summary, MBTs have been found to have positive effects on adults and families experiencing a range of difficulties such as depression, anxiety, relationship difficulties and pain. Such therapies target individual thought processes and promote acknowledgement and acceptance as well as ‘letting go’. MBTs appear to support patients in terms of how they process thoughts and experiences, focusing not only on the symptoms of the difficulty that they are experiencing, but also on the positive experiences that they encounter. Moreover there is a growing body of evidence to suggest that mindfulness practice can have a significant impact on the areas of the brain associated with behavioural and emotional self-regulation. Key to the effectiveness of the intervention is practice.

2.5.5 The effects of mindfulness interventions with children in clinical settings

The following section focuses on mindfulness-based interventions (MBIs) that have been used with children and young people with identified difficulties, often in clinical settings. When searching in Google Scholar, the following search terms were used: mindfulness interventions AND children AND empirical. This produced 16,300 hits. Studies that involved direct work with parents rather than children were discarded. Abstracts of around 50 studies were read and sorted in terms of relevance and around 30 were read in detail. This section of the literature review contains the studies that were deemed most pertinent to mindfulness interventions with children.
As stated by Hooker and Fodor (2008), children are likely to be naturally more mindful than adults. For example when a young toddler experiences a new food they might play with it, smell it and feel it on their face before they taste and swallow. They live through moment to moment experiences, seeing their surroundings in a fresh light. While very young children can react suddenly and emotionally to situations, they can also quickly forget these feelings and let them go, turning their attention to other stimuli. As the child grows, their executive function and planning skills develop. While this is necessary and has many benefits, it can also bring with it worries about the past and future.

As Miners (2008) notes, adolescents who are mindful, either through temperament or training, experience greater well-being and positive emotions and they also report better friendships. Weare (2012) adds to this stating that mindfulness can add to cognitive and performance skills in the young. When children and young people are able to be present, they can pay closer attention and can improve their performance, in a variety of situations.

There are a number of studies that have been completed with children in a clinical setting using MBCT. These have shown: reductions in anxiety (Semple et al., 2005); reductions in aggressive behaviours in children diagnosed with conduct disorder (Singh et al., 2007); and reduced symptoms of ADHD (Zylowska et al., 2008).

Biegel, Brown, Shapiro and Schubert (2009) completed a randomised clinical trial with 102 participants aged 14-18. The participants were all out-patients with varying psychological symptoms. The experiment group all received treatment as usual (TAU) which included individual or group psychotherapy and / or psychotropic medication as well as an 8 week programme of MBSR for 2 hours, on a weekly basis. The control group received TAU only. It must be noted that there was considerable variance of TAU in all participants. Following the intervention, the group’s psychological health and well-being was measured by clinicians. The group also completed: the Perceived Stress Scale (PSS-10; Cohen & Williamson, 1988) (a self-report measure using a 5 point Likert scale); The Hopkins Symptoms Checklist 90 (Revised) Non-Patient Adolescent Measure (SCL-90-R; Derogatis, 1977) (a measure of psychological symptoms patterns
including anxiety and depression); and the 10 item Rosenberg Self–Esteem Scale (SES; Rosenberg, 1989); as well as an MBSR evaluation form.

Over the 5 month study period, the MBSR group showed a higher percentage of diagnostic improvement and significant increases in global assessment of functioning scores, compared to controls. MBSR + TAU patients reported significant reductions in anxiety and depressive symptoms, and improved sleep quality and self-esteem, compared to TAU only. Moreover, many of the MBSR participants displayed mental health changes high enough to warrant a change in diagnosis. The findings suggest MBSR may be beneficial for out-patient mental health treatment for adolescents. The study used a relatively large sample which is encouraging in terms of reliability and measures were completed by condition-naïve clinicians which increases validity. However the study was criticised for using a largely female sample and a relatively short follow up period. Thus it would be interesting to see whether these effects continued over a longer period of time. Moreover, the variance of TAU is likely to have impacted on the findings which makes the effects of mindfulness more difficult to extrapolate and reduces the validity and reliability of the experiment. Further studies were called upon to assess the replicability and generalisability of these findings.

Semple et al. (2005) completed a 6 week trial with 5 anxious 7 – 8 year olds (3 boys, 2 girls), where the primary mechanism was the ‘self-management of attention’ (p. 380). The children took part in one 45 minute session a week for 6 weeks. The study took the form of a pre-test-post-test design using: Feely Faces (Semple et al., 2005); Child Behaviour Checklist (Achenbach, 1991); The Multidimensional Anxiety Scale for Children (March, 1997); and the State-Trait Anxiety Inventory for Children (Spielberger, Edwards, Lushene, Montuori and Platzek, 1973). The children took part in simple sensory exercises, where each session focused on kinaesthetic, visual, auditory, olfactory and tactile exercises. The concept of mindfulness was introduced and the potential benefits of mindfulness were facilitated. The children learned through instruction and in-session opportunities and were encouraged to practise at home. Teachers reported improved academic functioning or reductions in clinical symptoms for all children and all children showed improvements on at least one of the measures. Furthermore it was reported that they all understood mindfulness. However, the
study could be criticised for the small sample size. Moreover, results, particularly from teachers may have been affected by expectancy effects (Cohn et al., 2007). Also the Child Behaviour Checklist is not a rigorous measure of academic performance.

There was also a small study (N=3) conducted by Singh, et al. (2007) into the effect of MBTs on conduct disorder in children. They found a decrease in aggressive behaviour in all 3 cases and that these effects were maintained at follow up. However, maladaptive behaviours that the children chose not to modify showed no incidental change. This provides evidence for the importance of focus and attention when using MBTs. However the small sample size limits the generalisability of these findings.

The positive findings for MBIs with children provide a rationale for its effectiveness. Meanwhile the criticisms raised by Burke (2009) and Harnett and Dawe (2012) provide useful information on an identified gap in the literature and the need for more rigour.

Although these findings are promising, for the purposes of the current study it was also important to review the literature on mindfulness studies at the universal level, in classroom settings.

2.5.6 Mindfulness in the classroom

This section focuses on how MBIs have been adapted to be suitable for classroom settings. It considers the types of studies that have been completed with young people with a range of backgrounds and ages, and the effects that have been noted.

2.5.6.1 Mindfulness as a relevant tool for the classroom

As Cattley and Lavelle (2009, p. 6) note: ‘mindfulness is a modern life skill, as important as any curriculum subject’. Cattley and Lavelle (2009) go on to state that mindfulness will enable children to recognise feelings and emotions, differentiate between feelings and behaviours and lead to more skilful decision making. Thus they feel it is highly relevant to all children in all settings.

Educational philosophers have been criticising the mindlessness of many classrooms for generations, suggesting that all too often they ‘stifle creativity, curiosity and enthusiasm while nurturing passivity and superficial learning’ (Ritchhart and Perkins,
2000, p. 28). Thus, children in such classrooms are brought up not to question, just to do. While this could be regarded as beneficial in terms of compliance and control and could provide a setting where facts can be easily taught and skills and knowledge acquired, it may not be the best environment for nurturing creative thinking and problem solving. Moreover, it means that children are relying on external cues to regulate their behaviour, which is not beneficial in later life.

Ritchhart and Perkins (2000) go on to state that the educational potential of mindfulness addresses some of the more intractable problems in education, such as the transfer of knowledge into different contexts, pupil motivation and engagement and the ability to think critically and creatively, rather than raising test scores.

Ritchhart and Perkins (2000) also argue that simply teaching the skills of mindfulness, without addressing the motivation and willingness to practise will not create change. Thus they argue that for people to behave more mindfully they should adopt a mindful disposition. They state that nurturing mindfulness consists of 3 key components: teaching students the skills to think and behave mindfully (developing their ability); helping students to become aware of the value of mindfulness (nurturing inclination); and helping them to notice opportunities to practise mindfulness (encouraging sensitivity).

As Langer and Moldoveanu (2000) note, teachers are not always mindful in themselves, what they teach or the way they teach it. As previously mentioned, stress in teaching is high and teachers are under pressure for their class to achieve maximum results in a minimum time period. To ensure that information is clear and that children do not get confused, probable truths are often presented by teachers as facts to be learned and internalised. While this rigid way of learning can help a student to pass an exam, it may not provide them with all the skills that they need to deal with new situations that they come across in their daily lives. Thus, if teachers are going to teach mindfulness, they need to be practising it themselves and to have a clear notion that they may not be ‘teaching’ mindfulness, but providing a space in which the children can practise.
Beauchemin, Hutchins and Patterson’s (2008) findings suggest that mindfulness practice can also be efficacious for children with learning difficulties (LD). They conducted a pilot study using a pre-post, no-control design to examine the feasibility, as well as the attitudes toward, and outcomes of a 5-week mindfulness meditation intervention. They used 34 adolescents diagnosed with LD from 4 classes in a private residential school. All outcome measures showed significant improvement which included: decreased state and trait anxiety, enhanced social skills, and improved academic performance. The findings provide support for a cognitive-interference model of learning disability and suggest that mindfulness meditation decreases anxiety and detrimental self-focus of attention, which, in turn, promotes social skills and academic outcomes. However, it must be noted that these findings occurred when children with LD were taught together using a modified curriculum. Thus teaching mindfulness to children with LD within a mainstream setting, may be less efficacious.

2.5.5.2 Mindfulness interventions at the universal level (wave1)

While there is evidence for the use of mindfulness interventions at the targeted level (Semple, Lee, Rosa and Miller, 2010), the current thesis is focused on mindfulness as a universal intervention and so universal studies will be described and evaluated in detail in this section. Moreover, searches for mindfulness interventions often elicit interventions that have used yoga (Noggle and Khalsa, 2010). While yoga and mindfulness share some of the same principles (Teasdale, Segal, Williams, Ridgeway, Soulsby and Lau, 2000) distinctive difference can be found. Some yoga practices such as Sahaja yoga, do emphasise the importance of an awareness of the present moment, however many yoga techniques do not. Moreover, yoga is often goal-directed with the ultimate aim to achieve harmony, or a higher state of being (Strauss, 2002), whereas mindfulness promotes openness to experience as a constructive agent of change. Mindfulness is also more concrete and requires the individual to purposefully pay attention, in the present moment, non-judgementally (Hooker and Fodor, 2008). Mindfulness can also be practised while completing everyday tasks, whereas yoga requires the individual to find themselves a suitable ‘space’. However this debate has given birth to ‘mindfulness yoga’. Thus, while the literature review may include
studies which have used yoga, the key component of the study must involve mindfulness.

There has been a recent increase in the number of US studies completed on the effects of mindfulness on children. Moreover there have been some positive findings in terms of mental health and well-being. For example, Mendelson et al. (2010) completed a 12 week yoga and mindfulness-based intervention with 97 nine-eleven year olds from a deprived urban population. They used a range of self-report measures and a control group. They found reported decreases in involuntary stress responses, including lower scores on the subscales of rumination, intrusive thoughts, and emotional arousal. Meanwhile, Noggle and Khalsa (2010) completed a study with 51 sixteen - eighteen year olds, randomised to either a semester of yoga or ‘P.E. as usual’. Controls showed deterioration in tension and anxiety, negative affect, anger control, fatigue, confusion, and resilience, whereas yoga participants maintained baseline or improved on these measures. This implementation demonstrated the feasibility and acceptability of a yoga programme in US schools.

Case-Smith, Shupe Sines and Klatt (2010) interviewed 21 children aged 7 and 8 from an urban area who had participated in an 8 week yoga and mindfulness programme. In the focus group, the children reported that they perceived that following their participation, they had increased strength, attention, on-task behaviour and social emotional abilities. Moreover they were able to express how they would use these techniques in real life situations. However the study was limited as it did not extrapolate the components of the course that were most effective. Nor did it measure whether the children used the techniques after the intervention and if so, for how long.

In Australia, Joyce, Etty-Leal, Zazryn, Hamilton and Hassad (2010) conducted a study which involved training teachers at two primary schools to deliver a flexible 10 week mindfulness curriculum and optional daily mindfulness exercises to children aged 10 – 13 in 2 different schools in Melbourne. The pupils completed pre and post measures using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1977) and a modified version of the Children’s Depression Inventory (CDI; Kovaks, 2003). There were significant decreases on both inventories, and qualitative findings from teachers
supported these findings. Prior to the intervention 25.6% scored in the borderline or diagnostic category for the SDQ and 16.3% post-programme. For the CDI this was 25.8% pre-programme and 21.6% post-programme. The promising quantitative and qualitative results from this pilot study suggests the potential of more formal experimental testing of mindfulness training as an element of a whole-school mental health promotion programme. However the study was limited as it did not use a comparison group or long term follow up.

There has also been further development in research in the UK. For example Broderick and Metz (2009) found from their UK study with 120 adolescent girls from a private school (average age: 17.4) that compared to controls, the participants reported increased feelings of calmness, relaxation and self-acceptance and decreases in negative affect. They also found significant improvements in emotional regulation and decreases in tiredness and aches and pains. However the research could be criticised in terms of its homogeneous participant group and the fact they used younger children as the control group.

Huppert and Johnson (2010) delivered a short programme of mindfulness training to adolescent boys in a UK classroom setting. The mindfulness programme was delivered as a universal intervention with the aim to increase well-being. Here well-being is defined as ‘feeling good’ which includes experiencing emotions such as happiness and affection and ‘functioning well’, which includes a sense of autonomy and resilience. While their measures of mindfulness, resilience and psychological well-being failed to reach significance, there was a significant positive association between the amount of practice completed outside the classroom setting and improved psychological well-being and mindfulness. Moreover most students reported enjoying and benefiting from the project and 74% reported they would like to practise in the future.

Huppert and Johnson (2000) conclude that the key themes that emerged from their findings were: the importance of clearly stating the objective and scaffolding objectives in a way that made sense to the adolescents; the central role of ‘Calm’ in motivating young people and training their attention; the communication of ethics; and the key role of the teacher in the way that mindfulness is presented. While recognising that this may be against the principles of mindfulness, they call for more
rigorous, empirical testing. This type of research may provide more empirical evidence, however, as Groundwater-Smith and Mockler (2007) note, results gathered from a more positivist paradigm where the ‘complexities and exigencies of practice do not readily yield to laboratory conditions with their strict and carefully constructed controls’ (p. 201) can lack ecological validity and thus may be less valid.

2.5.6 Mindfulness and self-regulation in children

This section is specifically concerned with studies investigating the impact of mindfulness on self-regulation in children, which for the purposes of this study is defined as: the ability to modify one’s own emotional and behavioural actions and reactions (Murtagh and Todd, 2004).

Ivanovski and Malhi (2007) concluded from their review of psychological and neurophysiological literature that mindfulness practices result in ‘improved attentional and perceptual processes’ and ‘have a direct impact on cognitive processes such as ruminative thinking and autobiographical memory’ (p. 88). Fontana and Slack (1997) proposed that mindfulness could be beneficial for memory. This was based on the hypothesis that if children were able to pay close attention they would be more aware of stimuli, more focused and thus better able to remember. Fontana and Slack (1997) believed this could be beneficial for both learning and sports. However, as memory is a specific aspect of EF and generally considered to be separate to self-regulation, studies that involve memory will not be further discussed.

While Brown and Ryan (2003) suggest that mindful states increase well-being and self-regulatory ability, it may be that successful self-regulation causes both mindfulness and well-being. Moreover, while Brown and Ryan (2003) propose that mindfulness promotes meta-cognitive insight, it may be that a general increase in self-regulation could be a causal link between mindfulness interventions and their benefits (Masicampo and Baumeister, 2007). Thus a child with greater skills in self-regulation initially, may report greater benefits. However, it is possible that these factors all interact and promote each other, which may mean that small increases in self-
regulation, due to mindfulness, enhance the mindfulness practices further, which promotes an increase in the positive effects associated with mindfulness. Therefore there are likely to be other factors affecting both self-regulation and the ability to be mindful, which may or may not be observable and extractable from studies.

Napoli et al. (2005) found improvement in attention and social skills and decreases in test anxiety in 228 children aged 6-11, following a 24 week program of 12 breath awareness and yoga sessions. Napoli et al. (2005) used tests for attention that have strong validity and reliability (ACTeRS; Ullmann, Sleator and Sprague, 1997; TEA-Ch; Manly et al., 2001; and the Test Anxiety Scale (TAS); Sarason, 1978) they also use a control group which strengthens their study. However they suggest that future studies would benefit from adding gender and ethnic differences and adding an a priori pre-test covariance structure to control for group differences.

Meanwhile Wall (2005) used a programme comprised of elements of MBSR and Tai Chi with a group of middle school children and found self-reported increases in levels of calm, connection to nature and improved sleep. However, while these results are promising, the methods in terms of data collection, analysis and even number of participants are not recorded in the paper and so the validity, reliability and generalisability of the study are questionable.

As Masicampo and Baumeister (2007) note, recent research has shown that engaging in self-regulation exercises on a daily basis increases an individual’s general self-regulation. Thus, due to the similarities between self-regulation and mindfulness interventions, it seems likely that mindfulness may do the same. However, Masicampo and Baumeister call for further clarification of the unique contribution of the other central aspects of mindfulness such as meta-cognition and non-attachment.

Klatt, Harpster, Browne, White and Case-Smith (2013) have recently completed a single group design study with 41 third grade pupils (mean age 8.54) in an economically deprived urban neighbourhood. They used an 8 week mindfulness-based intervention which combined movement, music and art (Move Into Learning [MIL]) in a series of 45 minute classroom-based sessions. Pre and post-test measures included the Connor’s Teacher Rating Scale-Revised [Short form] (CTRS-R:S; Conners, Sitarenios,
Parker, & Epstein, 1998) and semi-structured interviews. They found significant improvement in behaviours, such as hyperactivity, and highly significant differences in the attention-deficit/hyperactivity disorder index and cognitive/inattentiveness subscales. The teacher interview data supported these findings. While this suggests that MIL is a feasible and acceptable mindfulness intervention that can be implemented in a third-grade classroom, MIL has not been empirically tested for fidelity, validity or reliability.

Perhaps most pertinent to the current research is Flook et al. (2010) who completed a randomised controlled trial using an 8 week mindfulness awareness practices training programme with 7-9 year olds. The Inner Kids programme was taught in two 30 minutes slots each week. Teachers and parents completed the Behavior Rating Inventory of Executive Function (BRIEF; Gioia, Isquith, Guy and Kenworthy, 2000) before and after the intervention and found improvement in behavioural regulation, meta-cognition and general executive control. It is worth noting that the greatest improvements were in those who were initially screened as being less well regulated. However, Flook et al. (2010) did not attempt to find out about the children’s perceptions of the effects of the intervention which is pertinent to the underlying pedagogy of mindfulness. Moreover, for mindfulness activities to be effectively integrated into mainstream primary schools as a form of early intervention or prevention, knowledge must be gained about the enablers and barriers that affect implementation.

There has also been some research in the UK which has included young people’s perceptions (Kempson, 2012). This study incorporated the use of existing mindfulness packages including the ‘.b’ (Burnett, Cullen and O’Neill, 2011) mindfulness intervention (N=27) and ‘Opening Minds’ curriculum (N = 19). Kempson found a distinct variation in pupil perceptions which highlighted how social, psychological and functional factors impacted on the young people’s perceptions of the mindfulness interventions. However these perceptions were from teenagers taking part in existing mindfulness interventions.
Thus the gap in the literature appears to be data on the views of teaching staff and children of mindfulness activities in a mainstream primary setting, where mindfulness activities are incorporated on a regular basis into the school day.

2.5.7 Mindfulness programme development

This section will focus on findings from research about programme development. It will focus on the type of activities that have been found to be most efficacious for children as well as some further consideration of implementation factors.

Baer’s (2003) analysis of MBI showed that the majority of adults were likely to complete mindfulness courses, despite the high demands in terms of homework and that a substantial subset were likely to continue to practise mindfulness after the course had finished. This continued interest in practice may explain why the effects of mindfulness appear to be lasting. Following this there has been growing interest in the use of mindfulness in educational settings and mindfulness programmes that are accessible to children in mainstream settings have been developed (Hooker and Fodor, 2008; Kaiser-Greenland, 2010; Saltzman and Goldin, 2008).

Following the findings from their research on MBTs, as well as their first-hand experience of programme delivery, Hooker and Fodor (2008) provide advice for future practitioners:

As children’s thinking is more concrete, activities should be clear, concrete and descriptive in their instructions but also imaginative and creative. It is suggested that children begin with short bursts of activities, perhaps as short as 5 minutes so that they can experience success and enjoyment. The practice should be regular and should be encouraged independently as well as in more formal settings. They also note the importance of the teacher practising mindfulness themselves and that it is not something that is simply learned about and then passed on. Saltzman and Goldwin (2008) concur with this, stating that teaching mindfulness should come from the depths of one’s own practice. This is also recommended by Kabat-Zinn (2005) who notes the importance of the practitioner’s own mindfulness practice and states that in
terms of MBSR, the professionals delivering the programme were required to complete the same mindfulness practice schedule as the patients. Kabat-Zinn (2005) states that only when the programme facilitator is invested in the practice and believes in the fundamental aspects of the intervention, will the programme delivery be genuine.

The importance of the language used with regard to mindfulness techniques is also noted and it is suggested that if the term ‘meditation’ is used, this should be carefully explained to counter any misperceptions that the children might have about its meaning and purpose (e.g. ‘meditation is only for the religious’, or ‘meditation involves going into a trance’).

Hooker and Fodor (2008) also note that some children may experience heightened feelings of anxiety because the practices make them more aware of their emotional states. It is suggested that the child should carry on with the practices and focus on ‘letting go’. However, if the child continues to have a very negative experience of the activities, it is suggested that they discontinue.

Hooker and Fodor then go on to recommend the following exercises: mindfulness of the environment, which includes awareness of an object and awareness of self in the environment; mindfulness of the body, which includes attending to the senses through raisin meditation, awareness of movement and meditation on the breath; mindfulness meditation which includes attending to the thinking process, meditation on the bubble and visualisation meditation; finding a safe haven.

While Hooker and Fodor (2008) make many useful recommendations, it must be noted that their paper, while a good synthesis of research, does not include any original findings. This is important as many of the papers cited are pre 2000 and may have been superseded by more empirically based research.

Saltzman and Goldin’s (2008) paper also provides an outline of activities for mindfulness with children which included: seaweed practice; the baseball analogy; thought parade; watch the treasure; loving-kindness practice; flashlight exercise and home practice.
While Cattley and Lavelle (2009) emphasise the importance of the teacher in terms of enthusiasm and understanding when delivering this course, they also note that a lack of experience should not be a barrier to the delivery of this course and instead promote the idea of teaching from personal experiences in areas in which staff feel most comfortable.

Although Cattley and Lavelle’s (2009) training package is designed for teachers and teenagers in the secondary curriculum, the authors report that the resource can be useful for primary teaching as well. It includes a range of the more well-tried techniques as well as some mindfulness poems and points of thought and debate on the place of mindfulness in society. Overall the resource provides a good overview for teachers and staff as well as ideas on how to structure sessions and activities that could be considered. However, it must be noted that activities should be tailored to meet the specific needs of the cohort to which it will be delivered. Moreover, while the package is based on the author’s training in the area and activities that they have engaged in, Mindfulness for Schools has not been empirically evaluated.

Thus it was important that activities were cross referenced among a variety of sources. The researcher also used activities from: The Hawn Foundation (2011); the Inner Kids Programme, cited in Flook et al. (2010); activities from the Attention Academy Programme (APP) detailed in Napoli et al. (2005); CD resources from Alidina (2010); Saltzman and Goldin, (2008); and Hooker and Fodor (2008).

There has also been speculation over the length and number of sessions that are most effective. Carmody and Baer (2009) found from their comparison of MBSR studies which involved a range of course and session length that the correlation between mean effect size and number of in-class hours was non-significant. They concluded that this evidence supports the idea that therapy which includes less ‘class time’ could still be efficacious, particularly for those populations where time commitments could be a barrier. However, it must be noted that there is still likely to be a minimum time period for interventions to be effective and generally it is recommended that practice is little and often (Kabut-Zinn, 2005; Cattley and Lavelle, 2009).
Furthermore, it was also important to consider: issues of fidelity (Durlak and DuPre, 2008); factors that ensure intervention maintenance (Bond et al., 2011); and an approach that would reduce teacher stress.

In summary, the following aspects were considered most pertinent in effective programme development and delivery: a focus on activities which are clear and concrete, but promote an inquisitive mind; the involvement of parents to promote mindfulness practice at home; the presence of a mindfulness ‘champion’ at school; regular practice for a length of time that is suitable for the particular group depending on their stage of development.

2.6 The role of the EP in mindfulness interventions

While many MBIs have been conducted by clinicians or specifically trained mindfulness practitioners, there is growing interest in the role of the EP in mindfulness interventions and approaches. EPs core skills in counselling and therapeutic work together with their knowledge of the psychological impact of mindfulness, their position in the community and school life, their ability to select appropriate interventions and exercises for a wide range of clients, their knowledge and experience of implementing programmes with staff in school, and their ability to build relationships with their clients and role partners, means that they could be considered as ideally placed to implement this type of work. However as Davis (2012) states, while there is ‘sufficient evidence’ (p. 42) for EPs to incorporate mindfulness based approaches into their work, they should still be ‘cautious’ (p. 42) with its application.

Davis (2012) notes that mindfulness approaches can be used therapeutically with young people, in work with parents and in the development of consultation skills to be used with teachers and other professionals. The Longfield EPS demonstrated a commitment to the approach by funding an EP who showed a keen interest in mindfulness, through a 6 week course. Knowledge gained from this was then disseminated to colleagues and a research project will now follow.
With appropriate training and time, EPs could use mindfulness approaches with individuals and groups of children at both the targeted and universal level. They could use the principles of mindfulness with children and parents to enhance child–adult relationships, reduce stress, and increase objectivity, warmth, empathy and acceptance (Davis, 2012). Moreover, practising and applying the core constructs of mindfulness could improve attention, focus, acceptance and the ability to see things from different perspectives during consultations. EPs could also use their knowledge of the effects and key principles of mindfulness to train teachers. This could promote awareness, reduce self-judgment and stress, improve attention and increase trust, objectivity, warmth and acceptance in the classroom, while also giving teachers the skills and autonomy to use mindfulness practices with their classes.

2.7 Summary of literature review

In summary, the current research was prompted by government initiatives such as Healthy Lives, Healthy People (DOH, 2010) and the IAPTS initiative, as well as the identified need within the school for an intervention to support the self-regulation of children.

Literature reviewed in this field highlighted the importance of self-regulation in terms of its impact on mental health and well-being. As Baumeister et al. (2007) state, many of the social and personal problems that affect people in modern Western society are a result of poor self-regulation skills. Moreover, self-regulation is key to many classroom activities, including writing (Graham and Harris, 2000). However as Klenberg et al. (2001) note, self-regulation has a developmental aspect and a child’s ability to maintain focused attention does not mature until age 10 (Klenberg, 2001) which has implications for the current sample.

As stated above, empirical research in mindfulness is a growing field. The term first coined by Kabut-Zinn, is reported to be comprised of 7 attitudinal features: non-judging, patience, a beginner’s mind, trust, non-striving, acceptance and letting go (Kabat Zinn, 2005). Previous studies have provided evidence for the effectiveness of mindfulness in supporting a range of clinical difficulties such as stress reduction in adults (Shapiro et al., 2005) as well as children (Semple et al., 2005). Other studies have also begun to look at the use of mindfulness as a universal, preventative measure
Moreover, Flook et al. (2010) found promising findings in terms of the effects on self-regulation.

A range of factors that have been found to support effective programme delivery include the use of clear, concrete activities and support for the intervention both in and out of school (Hooker and Fodor, 2008). While previous researchers have highlighted key issues for practitioners implementing new interventions (Bond et al, 2011), the current piece of research is likely to highlight further issues in terms of EP and teacher collaboration and implementation. This is a key area of focus and has led to the development of the following research aims and questions.

2.8 Research aims and questions

The current research aimed to explore: whether the development and delivery of a mindfulness scheme of work for a year 3 class in a mainstream primary setting could be manageable for the teacher, and still be efficacious, particularly in terms of self-regulation, for the pupils. To do this, the following were explored: the feasibility of creating an efficacious, enjoyable programme of mindfulness activities; the feasibility of EP and teacher collaboration on a therapeutic intervention, incorporating the activities into the day in a mainstream primary setting; the views of pupils and teachers towards the type of activities and their effects; and the effects of an 8 week universal intervention of mindfulness activities in the classroom on children’s perceived self-regulation.

The following research questions address the above aims:

RQ 1) What are the main barriers and enablers for developing and implementing a mindfulness scheme of work with school staff in a mainstream, primary setting?

RQ 2) What are the perceived benefits and barriers of completing a mindfulness scheme of work from a pupil’s point of view?

RQ 3) To what extent does an 8 week mindfulness scheme of work impact on the perceived self-regulation and well-being of a group of year three children
The order of the questions demonstrates their importance in the study.

2.9 Expected contribution to knowledge

The current research ‘explores the experience of involvement as well as the impact of involvement’ (Cline, 2012, p. 20) of both TEP and teacher in the development and delivery of a mindfulness intervention which aims to enhance social and emotional well-being in a mainstream primary setting. The findings highlight the barriers and enablers of the collaboration of TEP and teacher on this venture. The findings demonstrate which practices were most valued by the children and teachers and which practices could be improved. Furthermore, findings from this research provide some tentative evidence for the impact of a mindfulness scheme of work on self-regulation, in the short term, in a mainstream primary school setting. This could in turn provide information about a possible universal intervention that could be used in all schools as a preventative measure.
Chapter 3: Methodology

The aim of this chapter is to outline the rationale, epistemological position, aims, design and methods used in this current piece of research. The methods will first be described and critiqued. Following this, the process of designing the intervention, gathering the data and evaluating the data will be outlined.

Groundwater-Smith and Mockler (2007) note that much practitioner inquiry has often proposed to identify what aims can be achieved, rather than what the ends should be. Thus the desired outcomes of the research were two-fold: to identify barriers and enablers involved in the development and implementation of a mindfulness intervention in a mainstream setting; and to produce empirical data on the impact of mindfulness in terms of self-regulation and pupils and teacher views.

This led to the following research questions:

RQ1) What are the main barriers and enablers for developing and implementing a mindfulness scheme of work with school staff in a mainstream, primary setting?

RQ 2) What are the perceived benefits and barriers of completing a mindfulness scheme of work from a pupil’s point of view?

RQ 3) To what extent does an 8 week mindfulness scheme of work impact on the perceived self-regulation and well-being of a group of year three children

3.1 Epistemological position

While mindfulness has been described as developing from a constructivist paradigm, the current author’s epistemological position is that of a critical realist. The critical realist perspective allows the author to accept social reality as the product of interpretations and that knowledge is derived from every day concepts and meanings that are shared by members of a society (Frauley and Pearce, 2007, p. 16). However it is underpinned by a deeper reality, thus ‘what we see is an indicator of other things that exist or require explanation’ (Frauley and Pearce, 2007, p. 17). The critical realist focuses on the ontology of whether or not mindfulness is useful at the individual and
universal level, before moving on to the epistemology of how the implementation of a mindfulness programme can be investigated.

Frauley and Pearce (2007) describe critical realists as those who use strategies to expand research questions, lines of enquiry, descriptions and explanations, emphasising human relationships and social relations. Moreover Carter (2000) describes critical realism as having an emphasis on objectivity (an empiricist concern), whilst simultaneously insisting on the crucial role of human agency in the maintenance and transformation of human structures (an interpretivist concern). This epistemological position has resulted in a mixed methods design. The researcher also reflected on her own thoughts and beliefs about the impact of research both as a classroom practitioner and as a TEP and concluded that the studies that contained both qualitative and quantitative information were viewed as most reliable.

3.2 Axiology

Axiology is concerned with the role of values in the research. In this case core values include: an ethical approach to design and delivery; a focus on the importance of children’s views; and the value of collaborative work between EPS and school.

Throughout the research, ethical guidelines and values were considered, while maintaining methodological rigour. As noted by Groundwater-Smith and Mockler (2007), if results from practitioner research are to be used to inform future policy and practice in education, it is not only ‘vital that there is a shared, recognisable language that allows vigorous and well-informed debate’ (p. 200), but also imperative that ethicality should be viewed as a dimension of quality and thus considered throughout research. Thus the research was guided by a set of ethical principles which included: considering alternative perspectives both when collecting and analysing data; testing hypotheses and gained knowledge about the area of mindfulness through practical action; ethical justification in terms of educational and human values; and the choice of research design and data collection methods that are practical, appropriate and compatible in a primary school setting (Groundwater-Smith and Mockler, 2007).

The TEP was also able to reflect on her teaching experience, particularly in terms of the different pressures that teachers face. Thus the current research was guided by a
desire to support teaching practitioners and make their involvement in universal, preventative therapies manageable and pleasurable.

As a TEP, the researcher was also committed to eliciting children’s views and perspectives. Thus the methods chosen explicitly ensure that the child’s voice is heard. While previous studies have focused solely on teacher and parent reports, the current study employs methods such as semi-structured interviews and self-reports to ensure the child’s view is present and valued (Grover, 2004).

A key focus of the study is the collaboration between TEP and teacher in development and delivery of the intervention, thus an emphasis on collaborative working is valued throughout the research.

3.3 Aetiology

While it was crucial to consider ethics throughout the methodological process, it was also vital to maintain an open-mind to the reasons of causation. This prompted the inclusion of a researcher and teacher diary as a step to ensure that possible reasons for changes in behaviour and views of the intervention were not missed. Moreover, measures were taken to ensure that experimenter bias was minimised and results of both quantitative and qualitative data were valid and reliable.

3.4 Design

The current study was an exploratory, mixed-methods, pre post design which included a comparison group.

While mindfulness has been known in Eastern cultures for thousands of years, it is relatively new to Western cultures and it almost unheard of in many UK schools. Therefore, in terms of programme development and implementation for use at the universal level in schools, mindfulness schemes of work are still at an early or ‘exploratory’ stage of development. Thus the current study aimed to explore the feasibility of developing and delivering a mindfulness curriculum and the perceived effects that this has on a year three class in a mainstream primary setting.
While the study introduces a novel set of activities, it takes place in the children’s natural setting. Thus the study provides evidence of the ecological validity of the intervention in this particular setting.

Mixed methods is a complex, multi-faceted construct which is described by Leech and Onwuegbuzie (2009) as having ‘three core dimensions: level of mixing, time orientation and emphasis of approaches’ (p272). In accordance with Leech and Onwuegbuzie’s (2009) model, the current research is a partially mixed, concurrent dominant status, mixed methods design. The research is partially mixed and concurrent as it uses both quantitative and qualitative method simultaneously at the interpretation stage in a single study. It has a dominant status, as the focus will be predominantly on the qualitative results, which will include the children’s and teacher’s views on mindfulness. There are two key reasons for this dominant status. Firstly, due to the exploratory design, the qualitative data was likely to provide the richer, more in-depth information. Secondly, due to the relatively small sample size, inferential statistics could not be used and levels of significance could not be obtained, thus it was acknowledged that quantitative data would be limited in terms of generalisability.

![Fig. 5: Mixed methods design](image.png)

The mixed methods design encompasses three core stages: research formulations, which includes determining the goal, objective, purpose and research questions; research planning stage which includes the sampling and mixed methods design; and the research implementation stage which includes data collection, analysis, validation.
and interpretation. Mixed methods research differs from mono-methods approaches as it considers how these components relate to each other (Powell, Mihalas, Onwuegbuzie, Suldo and Daley, 2008).

While the core focus of the research was on the narrative of the individuals involved, the quantitative measure added precision and measured the validity of the intervention. The mixed methods design also enabled the answering of a broader more complete range of research questions. It used the strengths of one method to overcome the weaknesses of another method; it strengthened conclusions through the convergence and corroboration of findings; it added insight and understanding; increased generalisability; and reproduced a more complete knowledge to inform theory and practice (Johnson and Onwuebuzie, 2004). Moreover, the research should be able to ‘stand up to the scrutiny of both the field of practice and the academic community’s expectation that it be systematically undertaken and theoretically robust’ (Groundwater-Smith and Mockler, 2007, p. 201).

3.4.1 Data gathering methods

This section will include a diagram to show how each of the research questions were addressed. The data gathering methods will then be discussed. Semi-structured interviews will be discussed first as this was the method used to gather data for the majority of the research questions. A description of the observation and recording methods will then follow as this helped to validate the information gathered from the semi-structured interviews. Finally there will be a description of the development of the quantitative self-regulation measure.
Research question 1

What are the main barriers and enablers for developing and implementing a mindfulness scheme of work with school staff in a mainstream, primary setting?

Data collection
• Existing literature
• Semi-structured interview with intervention group class teacher
• Researcher observations

Data analysis
• Literature review
• Analysis of transcribed interview using thematic analysis
• Triangulation of data

Research question 2

What are the perceived benefits and barriers of completing a mindfulness scheme of work from a pupil’s point of view?

Data collection
• Semi-structured interview with intervention group

Data analysis
• Analysis of transcribed interview using thematic analysis
3.4.1.1 General principles of semi-structured interviews

Semi-structured interviews are advantageous as they allow for open questioning which can produce a large amount of detail. Like focus groups, they allow the researcher to interact and clarify responses with the client. They carefully examine how respondents structure issues and the open ended questions measure their personal reactions to the phenomena being studied (Boyatzis, 1998). Moreover, they allow for discrepancies and contradictions in answers and provide a space for further exploration into these. However, semi-structured interviews provide a greater structure than focus groups and so were deemed most suitable for the participants.

Semi-structured interviews are generally considered to be flexible, sensitive and fairly easy to analyse (Learning Skills Council, 2004). However this flexibility may lessen reliability. In the present study, the TA was not present to strengthen the inter-reliability of answers (Bordens and Abbot, 2011). Moreover, the answers could have been affected by the positive relationship between the researcher and teacher and there was no guarantee that the teacher answered truthfully. While this could have
been further controlled for by using an alternative body to conduct the interview, this
may have been impractical. Moreover the current researcher had knowledge and
understanding of the information that needed to be gathered to answer the research
questions and as Krueger and Casey (2000) state ‘being there is best’ (p. 139). The
researcher also had a greater understanding of the mindfulness approach, the
development and delivery of programme and the research questions.

Semi-structured interviews, like focus groups, allow for the researcher to clarify and
interact directly with respondents (Stewart, Shadasani and Rock, 2007). As Stewart et
al. (2007) also note, answers in group situations could be influenced by any of the
following factors at varying degrees: how the individuals felt on the day, their
relationships with each other, their relationship with the researcher, polarisation to
group norms, or a dominant group member.

3.4.1.1.1 Staff interviews

The two class teachers were interviewed following the mindfulness programme. The
comparison class teacher was asked questions about general behaviour and the
helpfulness of an intervention that might improve learning behaviours to establish a
context for the research. Meanwhile the intervention group class teacher was asked
about the perceived benefits, barriers and enablers when implementing a mindfulness
scheme of work in a mainstream primary setting. Prompt and probe questions were
created (Cohen et al., 2007) and can be found in appendix 6 and 6a. The interviews
were audio recorded in preparation for analysis. Contradictory evidence and remarks
were discussed during the interview.

3.4.1.1.2 Interviews with children

A semi-structured interview method was also chosen for the children due to their age
and the need for structure to ‘stay on topic’. A group interview technique was chosen
in an attempt to make it less intimidating for the children (Cohen et al., 2007).

A focus group could have been used, however pictures and prompts would have been
needed and as the researcher was not present for all of the sessions, the pictures and
prompts used may have created bias towards certain activities. Having said this, the
lack of prompts meant that there was a high demand on long-term memory and that only the most salient of experiences were recalled.

Six children from the intervention class were selected to take part in the group semi-structured interview, where the children were encouraged to discuss the merits of the various mindfulness exercises and the process as a whole. There was the same ratio of boys to girls in each group where possible. They were asked about the parts that they enjoyed most and least and why. The group was selected with the help of the teacher and included: a child who seemed to engage well in the activities; a child who did not seem to engage / enjoy the activities; a child who began with a high score of self-regulation, a child who began with a low score of self-regulation. However on the day of the interview one of the females, who had responded well to the intervention, was absent.

The questions used in the pupil group interview were short, clear, easy to say, jargon free, open-ended and one-directional (see appendix 5). Unfortunately these questions could not be practised in a pilot group as there was not enough time to run a second mindfulness intervention at the same time, and without having received the intervention, the questions would not make sense. They were however discussed with the teacher who felt that they were suitably pitched. The opening question was designed to be very simple and positive to make the group feel comfortable before going into greater depth and clarity (Krueger and Casey, 2000).

While the researcher attempted to ensure the questions were open-ended and not leading, the children may have been affected by participant bias and provided the answers that they felt the researcher wanted to hear. They may also have been affected by: group and polarisation effects; things that their peers said; and how they felt on the day (Stewart et al., 2007)

A similar group was selected from the comparison group and they were asked questions regarding their perceived self-regulation to gain contextual information about the year group in that particular setting (appendix 5a). Again the teacher helped to create the semi-structured interview group, advising on children who met the above criteria as well as those who did / did not work well together. The parents and pupils
of both groups completed informed consent (appendix 10 and 11). One of the boys selected for the group was absent.

3.4.1.2 Observations and researcher diary

Further qualitative data gathered included a researcher diary which comprised of observations of both classes during the 8 weeks, specifically focusing on behaviour, peer relationships, concentration and self-regulation. Similarities and differences between the two classes were noted.

Observations are an important method in research and as noted by Montgomery, Wernerfelt and Balakrishnan (1989) ‘We theorise only about what has been observed and experienced’ (p. 190). However, while observations are generally regarded as having strong ecological validity, as the researcher is observing naturally occurring phenomena (Fossey, Harvey, McDermott and Davidson, 2002), observations can be affected by researcher bias, where the researcher only notices or chooses to record information that supports their hypotheses. This can be controlled for to some extent by the use of observation schedules, however these can also limit the information recorded and so these were not used.

In the current study, observations of the mindfulness sessions were conducted to measure the fidelity of the intervention and to see whether observed behaviours matched the teachers’ perceptions of behaviours. Therefore the researcher made notes on the activity used, key language utilised during the session, fidelity to the activity, general class engagement / behaviour and environmental factors e.g. the weather on that particular day. Observations were recorded in a researcher diary (appendix 21) and attempts were made to be flexible but reflective about the process (Robson, 2002).

For the purpose of fidelity, observations focused on Kabut-Zinn’s 7 attitudinal features: non-judging, patience, beginner’s mind, trust, non-striving, acceptance and letting go. The researcher looked for times when the teacher promoted these aspects and whether the children appeared to take any of these on board. Observations also focused on the general behaviour of the class, specifically, self-regulating behaviours, or the absence of them. To address the possibility of researcher bias the researcher
purposefully looked for aspects that were going well and areas for improvement in each session. The observation schedule used in the current research can be found in appendix 21.

Observations are often regarded as time consuming (Fossey et al., 2002). However in the current research, observations were done on a weekly basis for no more than an hour (total) and this was all that was necessary as they were simply aiding triangulation rather than providing core raw data. They were completed in both classes to provide a context for the children on that particular day, to see whether environmental factors such as hot weather may have been affecting the children generally. However, the focus of the study was the feasibility of the mindfulness intervention. Thus to give this analysis the depth that was required and to keep it manageable within the restraint of a doctoral programme of work, it was necessary to spend the majority of time with the intervention class, and to use the comparison class to provide contextual information only.

3.4.1.3 Teacher diary

The teacher was asked to keep a record sheet of the sessions. This was a simple record of when the mindfulness activities were completed and a quick assessment (using stars) of its success, including space to note what went well and what could be improved (see appendix 7). While this was seen to have been used in the first and second week it was not maintained and so data from it could not be used.

3.4.2 Quantitative data

3.4.2.1 Self-regulation measure

Self-control and self-regulation, have been found to be inextricably linked (Logue, 1996), thus both measures of self-regulation and self-control were considered. As Rizzo et al. (2010) note, instruments for measuring self-regulation in children have been lacking so far and it has been questioned whether younger school children are able to make accurate self-judgments of their regulatory skills. Rizzo et al. (2010)
provide a new ‘age appropriate’ self-rating scale for the assessment of self-regulatory skills in young children: the Self-Rating of Self-Regulatory Functions (Self-Reg). While this scale contains images and child friendly scenarios, the scale is still quite long and language heavy. A further analysis of self-regulation measures can be found in appendix 2.

As Dornyei (2010) states, while the ease of designing a questionnaire is its main strength, it can also be a weakness as designing a questionnaire can be viewed as ‘simple’, and so less thought is put into the question construction. Moreover, questionnaires are common and so may incur answers that have not been given much thought. To account for these weaknesses it was important that careful consideration went into the design and that a pilot study was completed to find out how the questionnaire was viewed, particularly in terms of length and understanding of the questions. This would then have implications for the validity and reliability of the questionnaires.

3.4.2.1.1 Pilot study to develop assessment tool

Following a review of questionnaires (see appendix 2), a pilot of 4 measures was carried out with a group of 6 year 3s in a mainstream primary setting, in an area of similar social deprivation to the participating school. The 4 questionnaires piloted were: an amended version of the 11 item Children’s Perceived Self-Control (CPSC) Scale (Humphrey, 1982); the 13 item Questionnaire on Self-regulation (Novak and Clayton, 2001); the 20 item Fast Track Project Child Behaviour Questionnaire (Bandy and Moore, 2010); the 33 item Child Self-Control Rating Scale (CSCRS) (Rorhbeck, Azar and Wagner, 1991). The researcher went through each questionnaire with the group. A note was made of any queries about items that occurred during the questionnaire administration. After each questionnaire, the children were asked questions as per appendix 3. They were asked to state if they thought the questionnaires were ‘too long’, ‘the right length’, or ‘not long enough’ and whether the questionnaires were ‘very easy to understand’ or ‘ok’ or ‘difficult to understand’. These results were recorded in a tally. The children were also asked if there was any way that the measure could be improved and they were encouraged to make comments on the
presentation of the questionnaires. A summary of the children’s comments can be found in the table below:

Table 2: Analysis of questionnaires

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Positive aspects</th>
<th>Negative aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 item amended version old CPSC scale (Humphrey, 1982).</td>
<td>Short (4/6 pupils thought it was ‘not long enough’), had published measures of validity and reliability.</td>
<td>Some statements were ambiguous and some constructs did not make sense. (3/6 said it was difficult to understand)</td>
</tr>
<tr>
<td>13 item Questionnaire on Self-regulation (Novak and Clayton, 2001)</td>
<td>Most questions were very clear. Wording of scale was preferred. Quite short. 4/6 reported it was their preferred questionnaire. 5/6 children preferred the wording in this measure ‘some of the time’</td>
<td>Some questions showed repetition or ambiguity. Some constructs were not clear. The questionnaire does not appear to have been measured for validity or reliability.</td>
</tr>
<tr>
<td>20 item Fast-track project child behaviour questionnaire (Bandy and Moore, 2010)</td>
<td>More comprehensive. Some statements were better explained. 4/6 children reported it was ‘the right length’, however errors were made due to number of items and confusion with item numbers.</td>
<td>Some statements needed clarifying. Quite long – greater margin for error. The questionnaire does not appear to have been measured for validity or reliability.</td>
</tr>
<tr>
<td>33 item Child Self-Control Rating Scale (CSCRS) questionnaire (Rorhbeck et al., 1991).</td>
<td>This particular group said that they liked the number of questions (but this could be due to demand characteristics). 5/6 reported it was ‘the right length, but errors were made.</td>
<td>Boxes were too small. Took a long time to complete. Lots of margin for error. Some items needed rewording. The questionnaire did not appear to have been measured for validity or reliability.</td>
</tr>
</tbody>
</table>

As none of the individual questionnaires was considered ‘perfect’, it was decided that the self-regulation questionnaire in the current study should be based on elements of all 4 questionnaires (see appendix 4). The questionnaire was completed by the children on the first and final sessions of the mindfulness programme to measure levels of perceived self-regulation before and after intervention. The items on the
questionnaire were categorised into 3 types of self-regulation (emotional, cognitive and behavioural). The emotional self-regulation items related to the frequency that children experienced emotions such as anger (items 1-6). Cognitive self-regulation items referred to the children’s perceptions of their ability to plan (items 7-8). Behavioural self-regulation items required the children to comment on the frequency of specific behaviours that they may or may not engage in (9-13).

These domains are based on those found in the questionnaire used by Novak and Clayton (2001) (cited by Bandy and Moore, 2010). While it could be argued that self-regulation involves all 3 domains concurrently, for example, emotions influence cognitions which influence behaviour; those whose self-regulation is at an earlier stage of development may find that emotions and behaviours can act on them instantly and produce a result that they may not have processed cognitively. A breakdown of the core aspects can be found in appendix 4a.

The questionnaire was weighted towards emotional and behavioural items which are observable and experiential and thus easier to identify. This was considered to be appropriate due to the participants’ developmental stage. Moreover meta-cognition is something that is still developing in children of this age (Lai, 2011) and so if the questionnaire had been given to teenagers, there may have been a greater focus on the cognitive domain.

The questionnaire was made up of 13 items in total. 10 of the items were similar to items on the Questionnaire on Self-regulation (cited in Bandy and Moore, 2010) and 3 items (q6, q7 and q13) were developed following consideration of a range of other self-regulation scales (Moilanen, 2007, Brown, Miller and Lawendowski, 1999, Kendall and Wilcox, 1979, Rizzo et al., 2000, Rohrbeck, Azar and Wagner, 1991, Ryan and Connell, 1989 and Humphrey, 1982). 5 of the items related to pupils emotional reactions, 2 of the items related to their cognitions and 6 of the items related to their awareness of their own behaviours. The questionnaire was weighted towards behavioural and emotional domains as reflection on specific, observable behaviours is a developmental precursor to reflection on cognitions. As Falvell, (1979) notes, children develop from knowing that they react in certain ways to understanding this reaction and then on to knowing what to do next. Thus with this age group, it seemed
important to focus on the more concrete and easily observable behaviours and emotions. Due to time constraints, a test of reliability could not be completed at the time. However, following the data collection the internal reliability of the questionnaire was measured using Cronbach’s alpha. This will be reported on in the results section.

3.4.2.1.2 Use of assessment tool in current study

While the combination of items from different measures reflected validity in terms of the pilot group findings, the final questionnaire has not been empirically tested for reliability or validity.

Data from the questionnaires provided quantitative information which strengthened the qualitative evidence on self-regulation, by providing triangulation and generalisability (Christensen et al, 2011). However questionnaires can produce polarisation effects: individuals may be more likely to choose a particular answer, particularly if they find the questionnaire confusing or boring (Cohen et al., 2007). It was also anticipated that the pupils could be affected by demand characteristics when answering the questionnaires (Cohen et al., 2007). To address these issues the learners were supported through the questionnaire by the researcher, who gave a quick example or explained a question if the children were unclear.

When delivering the questionnaire to the intervention and comparison group, the researcher read and explained the instructions, then read through each statement twice to ensure all the children understood the statement and answered accurately. This was to control for children with poor literacy skills (Dornyei, 2010). However, it must be noted that even though the questionnaire items were piloted and read aloud, it is still possible that there were some children who did not fully understand the meaning of all the statements.

To attempt to control for social desirability factors (Dornyei, 2010), the children were encouraged to answer truthfully and not to look at anybody else’s paper. They were also informed that their answers would only be seen by the researcher. They were
randomly assigned a number so that the answers to the questionnaires could be matched and analysed. However social desirability factors may still have been present.

The comparison group, consisting of participants from the other year 3 class at the school, completed the questionnaire at the same times as the experimental group. Again the purpose of the comparison group was to provide contextual background and to control for any natural changes in self-regulation that occurred e.g. due to maturation. The comparison group did not complete any mindfulness activities and continued with the curriculum as normal. This was monitored by the researcher during the weekly school visits. It was made clear that the other teacher must continue with the usual curriculum and not try to incorporate mindfulness activities or other practices that differ from the norm. It was agreed that if they were interested in using some of the mindfulness activities with their own class, this would be encouraged but only after the 8 week intervention and once the teacher had received further training.

In summary, while measures were taken to ensure that questionnaires were valid and reliable, it was not possible to establish a quantifiable measure of the validity and reliability of the final questionnaire due to time constraints. Moreover there was still a chance that quantitative data was affected by social desirability, the ‘halo effect’, fatigue effects and unreliable or unmotivated respondents (Dornyei, 2010).

3.4.3 Data Analysis

The following section will describe the methods used to analyse the data. It will begin with a description of thematic analysis as this was the main data analysis tool used. A section on descriptive statistics will then follow.

3.4.3.1 Thematic analysis

Thematic analysis is a relatively straightforward, flexible method, which provides rich data (Braun and Clarke, 2006). It uses the systematic element of content analysis but also involves an analysis of themes in terms of their context (Joffe and Yardley, 2004). Moreover, Boyatzis (1998) describes it as a translator between those speaking the language of qualitative and quantitative analysis.
Audio data was transcribed anonymously, read, re-read and then coded semantically (see appendices 14 to 14c for transcripts). It was important that the information was coded semantically due to the critical realist position of the author. Moreover the research questions were not concerned with the underlying messages hidden in the answers (latent analysis) but the answers themselves (Braun and Clarke, 2006). This type of coding reduced the possibility of subjectivity and thus helped to control for researcher bias.

Codes were grouped together to generate themes (see appendix 15 to 18 for examples). A coding framework was not required because the majority of the thematic analysis was inductive. As the critical realist position suggests, the aim is to access valid, reliable data that is true to the conversations held. However, it is also acknowledged, the interpretation of the data could be considered subjective, as themes are created according to the way in which the researcher views the world and infers the information. Moreover, the researcher was more sensitive to picking up on certain themes (Joffe and Yardley, 2004). This is one of the reasons why the majority of the analysis used semantic coding and inductive thematic analysis, as it is more closely linked to data and less affected by the researchers’ preconceptions (Braun and Clarke, 2006). However there were elements of deductive analysis, particularly in research question 1 where the focus on data was information directly linking to the teacher’s understanding of mindfulness. An example of this is the talk about ‘concentration’. While concentration was the main term used by the interviewee, such talk was grouped under the theme ‘attention’ as this linked directly to one of the underlying principles of mindfulness (Hooker and Fodor, 2008).

To further control for subjectivity, coding, sub-ordinate and super-ordinate themes were shared with a TEP colleague to gain inter-rater reliability. To achieve this, a transcript sample was sent to the TEP colleague to code independently. The coded transcript was then returned to the researcher and the two sets of codes were compared (these can be found in appendix 22). The number of codes that matched in terms of lexical similarities were divided by the total number of codes to provide a measure of inter-rater reliability. Following this the number of codes that had the same underlying meaning were divided by the total number of codes to provide a
measure on construct validity. Thus the following was found: inter-rater reliability = 0.73; construct validity = 0.93

The two sets of codes were discussed and those that were lexically different but semantically the same were considered a match and so amended. For example the TEP colleague reported that while she had coded ‘choice’ she had meant range and thus the original code of ‘variety’ was accepted. Other codes that varied slightly in wording e.g. ‘drawing activity engagement’ and ‘drawing activity worked well’ were also considered to be a match. Themes were then checked with the staff to ensure they truly reflected the clients’ comments. Themes were not checked with the children because of the amount of time that had elapsed between interview and analysis. It was felt that the children were likely to have forgotten what they had said and so the process was likely to be invalid.

The process for thematic analysis was thus:
While Braun and Clarke (2006) cite that thematic analysis has previously been considered to be ‘poorly demarcated and rarely acknowledged’ (p. 77) as a robust method, if fidelity to the process is high, it can be a complex yet flexible method of...
analysis which can produce detailed, in depth results. The accuracy of the interpretation of key themes was aided by the fact that the researcher was present in the data collection stage. This allowed for a first-hand experience of the discussion and the flexibility to use following questions to clarify and explore themes.

Themes that arose in the semi-structured interviews were grouped into super-ordinate themes. Themes were also compared to the data from the questionnaires and observations to confirm the validity and reliability of all three sets of data.

3.4.3.2 Descriptive statistics.

Due to the relatively small sample of participants, descriptive statistics were used to describe and summarise the data. While descriptive statistics are a useful method for explaining the spread of the data, they do not provide any explanation of cause and effect and they can be of limited use when analysing a small population (Coolican, 2009). Moreover, because there was no effect size, the quantitative data was less generalisable. However, this was deemed acceptable as the main focus of the research was the feasibility of implementing a mindfulness intervention into a mainstream setting, rather than the effect on self-regulation.

Descriptive statistics showed general whole class trends on overall scores on the self-regulation measure as well as the different strands of self-regulation (emotional, behavioural and cognitive). They also illustrated the differences between boys and girls scores, both before and after intervention, but did not detail individual differences on different items.

3.5 Procedure

This section will report on the process of the research including the development and delivery of the programme and the methods used to measure the effects and evaluate the programme.
3.5.1 Sampling and participant recruitment

The sample was opportunistic and taken from a school in the TEP’s patch. The school was a mixed community primary school where the vast majority of pupils were from a White British heritage. The number of pupils eligible for free school meals was ‘well above average’ (Pye, 2011, p. 3), while the number of children with Special Educational Needs was broadly average.

It was important that the sample was taken from a school where staff had shown an interest in the scheme as it required commitment from the teachers. To ensure there was democratic validity (Anderson and Herr, 1999), all stakeholders were consulted and engaged in the process. It was particularly crucial that there was a high level of ‘teacher agency’ (Groundwater-Smith and Mockler, 2007, p. 205) to ensure that the teacher felt valued and able to lead the mindfulness.

The sample consisted of 2 mixed year 3 classes, both of which had 26 pupils. As Lai (2011) states, most young people experience significant improvements in metacognition in their first 6 years of life. Therefore, while upper key stage 2 participants would have been preferable, evidence from studies such as Klenberg et al. (2001), Rebok et al. (1997) and (Anderson, 2002) indicated that children in year 3, who are 7 and 8 years old, would be developmentally able to begin to act as observers to their thoughts. For example Klenberg et al. (2001) notes, children of this age are usually in the process of developing their skills in a range of self-regulating behaviours.

The intervention class consisted of 15 girls and 11 boys, while the comparison class consisted of 18 girls and 8 boys. The two classes were considered to be comparable as they were from the same school in the same area and in the same year group. However further measures were implemented to establish this comparability. These measures included an interview with the comparison group class teacher, an interview with a sample of 6 children from the comparison class, and observations of the comparison class. The measures highlighted that there were in fact significant differences between the classes, particularly in terms of their observable behaviours. The comparison class appeared to have a relatively calm and sensible approach to learning tasks and were described by their teacher as ‘an ideal class’. Conversely, in
the intervention group there was a small group of individuals who were described as ‘immature’ and ‘disruptive’ and at times they were observed disrupting the learning of others. While these differences made the classes less comparable, this difference could not have been predicted. Moreover, it is likely that these differences could occur in other 2 form entry settings and are simply a feature of ‘naturalistic studies’ (Cohen et al., 2009, p. 148).

Once ethical approval was gained, informed consent was obtained from the teachers and pupils (see appendix 8-12). To ensure informed consent for the children was gained promptly, the school agreed to remind children and parents to return their consent forms within 2 weeks. If, after 10 days the forms had not been returned, a reminder slip was sent out (see appendix 9a). If they were still not returned, class teachers reminded the parents after school or by phone. The children in the intervention group were also required to fill in the participant consent form (appendix 8a). Parents were asked to support their children to fill this in. A mindfulness information evening was also offered to parents.

It was agreed with the school that if 10 or fewer children were withdrawn from the study or did not give consent, they would spend the 10 minutes that their class mates were practising mindfulness activities, in quiet reading in the other year 3 class. If more than 10 children were withdrawn from the intervention, the researcher would have had to have considered using a different year group in the school.

3.5.2 Training

Prior to the exploratory study, the researcher took part in an online mindfulness course, completed regular mindfulness practice and read around the subject. An introduction to mindfulness was created and delivered to both class teachers after they had shown interest in the intervention. The introductory session can be found at appendix 1. The intervention class teacher was encouraged to practice mindfulness activities in his own time. The comparison class teacher was asked to be a peer support for him. A mindfulness information evening was also offered to the parents and carers from the intervention class, however there was not any uptake. Informed consent was gained from the parents and pupils in both classes.
During the training, mindfulness was mainly promoted as a method, however, elements of mindfulness as a perspective, experience and cognitive process were also introduced. The concept of mindfulness was ‘sold’ to teachers as a method to support children to improve their attention and understanding of themselves (meta-cognition, Wells, 2011) as well as their self-regulation.

3.5.3 Development of the programme

As previously mentioned the mindfulness programme was based on: Cattley and Lavelle (2009); The Hawn Foundation (2011); the Inner Kids Programme found in Flook et al. (2010); activities from the Attention Academy Programme (APP) detailed in Napoli et al. (2005); CD resources from Alidina (2010); Saltzman and Goldin, (2008); and Hooker and Fodor (2008).

The researcher created a set of lesson plans that included 3 sessions per week. Each week had a different sensory focus. Lesson plans can be found in appendix 1a. The researcher and teacher from the intervention class went through the scheme of work, practising different activities. They then created a child friendly explanation of mindfulness and chose activities that were most appropriate for the class in terms of their maturity and the time that they had. Amendments were made and the researcher emailed the weekly lesson plans to the teacher. It was decided that this should be done week by week so that small amendments could be made following the previous week’s observation and also to ensure the teacher knew what week they were up to. These adapted lesson plans can be found in appendix 1b.

In an attempt to achieve a balance between adaptability and fidelity (Durlak and DuPre, 2008) the teacher was encouraged to try his own activities with the class. He was supported in terms of being provided with lesson plans, guidance and opportunities to reflect (Domitrovich et al, 2008). It was also important that he was observed on a weekly basis to ensure fidelity and so validity of the intervention.
Throughout the programme the intervention group teacher and researcher were in regular contact via email. The researcher sent over lesson plans and came in to observe and discuss plans on a weekly basis.

3.5.4 Initial questionnaires

The initial questionnaires (appendix 4) were completed by both classes on the same day. The researcher began in the intervention class and then went into the comparison class. The researcher read out each question verbatim and answered any questions that arose. The children were encouraged to choose the answer that ‘best fit’ and not to leave any blank. The children were asked to mark their questionnaires with their register number so that they could remain anonymous. The teacher indicated on a separate sheet which child was male and female. The questionnaires were collected in immediately and the data was entered into SPSS.

3.5.5 The intervention period

Following the completion of initial questionnaires children in the experimental group took part in 3-4 mindfulness sessions a week for 8 weeks. They were also encouraged to practise at home. Each session was planned to last roughly ten minutes. As mentioned above, the class teacher was included at the planning stage and final plans were shared with the teacher prior to the lesson. The teacher was also encouraged to make superficial adaptations to suit the class e.g. completing the session with the class on the carpet, rather than at their desks, or repeating activities that they felt worked well. Session plans can be found at appendix 1a and 1b.

The majority of the lessons were completed by the teacher and the researcher attended the school weekly to complete observations of the sessions. The observations provided formative feedback on the fidelity of session delivery as well as information regarding the pupil’s engagement in the activities. As stated previously, the observations focused on the attitudinal features of mindfulness and followed the observational schedule set out in appendix 21 and the most salient features were recorded and written up (appendix 21a). The comparison class were also observed to establish the comparability of the two classes (appendix 21b). It must be noted that the extra TEP input did not affect the EP time allocation for the school.
Following the 8 week intervention, the experimental and comparison classes repeated the self-regulation questionnaires. They were administered using the same format as was used at the ‘pre-test’ stage. The questionnaires were matched using the pupil numbers and the data was entered into SPSS. The four semi-structured interviews (comparison group teacher; experimental group teacher; selection of children from comparison group; and selection of children from experimental group) then followed. The data was transcribed and analysed as detailed in section 3.4.3.1.

The time-line and budget for the intervention process is in appendix 19. The risk analysis is available in appendix 20.

### 3.6 Critique of method and design

The following section is a critique of the method, particularly in terms of the design. The data gathering and analysis methods are not included in this section as they have been critiqued in sections 3.4.1, 3.4.2 and 3.4.3.

#### 3.6.1 Mixed methods

The mixed methods design was useful because it was able to consider a broader, more complex range of questions, using the strength of one method to overcome weaknesses in another. The quantitative data gave precision and generalisability, while the qualitative data added meaning to context and numbers (Christensen, Johnson and Turner, 2011). The mixed methods design gave an exploratory dimension to the research and ensured insight and meaning was obtained that might otherwise be missed in mono-method approaches. Moreover, by providing triangulation of data there was stronger evidence for a conclusion through enhanced ecological validity allowing more complex knowledge to be obtained to inform practice and policy (Christensen et al., 2011).

The quantitative data provided information for RQ3 in terms of whether or not there were any reported quantitative changes in self-regulation within or between groups.
This was then validated by the qualitative observations and focus groups which provided triangulation. The quantitative data was also used to provide a possible explanation for the views of the teachers regarding the impact and effectiveness of the intervention (RQ1).

Nevertheless, the mixed methods design was not without drawbacks. Firstly, it required a high skill set from researcher both in terms of session delivery and data analysis (Christensen et al., 2011). Secondly concurrent designs are demanding in terms of organisation, time resources and labour. Thirdly it is complex in relation to data collection and analysis. To control for some of these disadvantages, clear time-tables were negotiated early on and data was kept orderly so that it was easily retrievable. The researcher accessed papers and reference books to support with data collection and analysis and ensured that adequate time was made available for each section of the research. The researcher also invested in a mindfulness course to develop her own understanding of the concept and types of activities that could be used.

Although the teacher was provided with a weekly lesson plan, he was informed that it would be acceptable and preferable for him to change and adapt the plans to suit the class. While this met ethical guidelines in terms of ‘working in the best interests of the service users’ (the pupils received a curriculum of activities that were relevant, accessible and appropriate, while the teacher’s professional skills and knowledge of the class were respected), the level of fidelity could be described as largely unknown. This has implications for replication of the study as well as the validity of the programme.

The design also involved the use of a comparison group to provide contextual information on the children and staff in the school and the type of issues that were present in that particular year group, in that particular school. While comparison groups are generally considered a useful control measure (Cohen et al., 2007), in this case the comparison group was described as ‘unusually well-behaved’ (teacher interview) whereas there were a few behavioural difficulties in the intervention group. Thus the level of comparability is questionable.
3.6.2 Context

The study took place in one school in one area of the country. Results are likely to have been affected by the socio-economic status of the families who attended the school, the ethos of the school and the individual factors relating to both the teacher and the pupils. Therefore the study is limited in terms of its generalisability (Robson et al. 2002).

3.6.3 Dual role of researcher / facilitator

While the majority of the sessions were delivered by the teacher, the researcher was involved in some of the session delivery. Moreover, the training that the teacher received and the analysis of the data was completed solely by the researcher. While there was some distance from the delivery it is possible that there was still some researcher bias and a temptation to ignore the negative aspects and focus on the positive effects (Dusenbury, Brannigan, Falco and Hansen, 2003). Possible researcher bias was controlled for by encouraging the majority of programme delivery to come from the teacher, the statistical data gained, adherence to the thematic analysis method and inter-rater measures during thematic analysis.

However the dual role of the researcher may have resulted in demand characteristics from the learners during the semi-structured interview. This was addressed by asking the learners to answer honestly and letting them know that their answers were anonymous. However, some learners may still have been affected by demand characteristics, wanting to please the researcher (Cohen et al., 2007).

3.6.4 The role of parents

As previously stated, attempts were made to involve parents. This was in response to Hoagwood’s (2005) findings that involving parents enhances knowledge about mental health, self-efficacy and improved family interactions; as well as government guidance to increase the involvement of parents (DfE, 2011). However none of the parents contacted the researcher or came along to the mindfulness session after school. It
may have been that this was not at an appropriate time or that parents were not given enough information about the intervention to decide whether or not they wanted to go.

3.7 Ethics

As previously stated, ethical guidelines were considered throughout the research to ensure the researcher’s status of an ‘ethical professional’ (Groundwater-Smith and Mockler, 2007, p. 205) was maintained. Ethical protocols and processes such as gaining ‘informed consent’ (code 9, HPC, 2009) and creating a plan for the children not involved in the intervention were adhered to so that the children were involved in decision making (3.6, DfES, 2001). The researcher also aimed to be transparent by informing all parties of the intentions and aims of the study as well as checking themes with those involved once the data had been collected. The researcher worked collaboratively with the teacher in the development and administration of the scheme of work and encouraged debate and discussion with the teachers throughout the process as well as during the semi-structured interviews.

The researcher endeavoured to be transformative in approach, aiming to create ‘actionable, actioned outcomes’ (Groundwater-Smith and Mockler, 2007, p206) by offering further training and advice to other teachers, should the outcomes of the study be positive and / or other teachers showed interest. The research was deemed justifiable as the school and community did not lose any time and resources.

As Groundwater-Smith and Mockler (2007) note, it is common for teachers as practitioners and researchers to record observations of children in their care without consent. In the present study, while no informed consent was gathered for these observations, the teachers were asked to observe anonymously, simply recording if the observed behaviour was presented in a male / female and at what time of day. It was important that these observations were clarified and recorded with accuracy and honesty (codes 10 and 12, HPC 2009). Consent for weekly observations made by the researcher was gained from the teachers (appendix 12 and 12a) and was ethically approved (appendix 13).
High levels of confidentiality were ensured throughout (code 2, HPC, 2009). The quantitative and qualitative data gathered from the children was only seen by the researcher and the supervisor. All data remained anonymous and there was agreement that audio data would be destroyed after 5 years.

One of the key ethical considerations was the attempt not to put undue demands on the teacher. Coming from a teaching background, the researcher was acutely aware of the demands placed on teachers and there is much evidence to suggest that stress in teachers is often high (Kyriacou, 2001; and Jacobsson et al., 2001). Moreover, a key aim within the study was to provide a resource for teachers to help them and their class to manage their thoughts, emotions and behaviours. Therefore it was imperative that the intervention was not viewed as intense on time or resources or difficult to deliver. The researcher attempted to control for this by providing the teacher with detailed lesson plans and regular support through discussion.

The ethical considerations aimed to improve the quality of evidence, as well as ensuring that social morality, informed by personal values was maintained throughout the process (Groundwater-Smith and Mockler, 2007).

Please see appendix 13 for confirmation of ethical approval.
Chapter 4: Findings

This chapter will report the key findings in terms of qualitative and quantitative data. The chapter will begin with a summary of the key findings from the qualitative data in terms of the super-ordinate and subordinate themes that arose from each interview.

While the majority of data was analysed using inductive thematic analysis and so was data driven, there are aspects of deductive thematic analysis where phrases from the researcher’s reading on mindfulness and self-regulation are purposefully mapped onto the data to produce subordinate and super-ordinate themes that are both true to the data and influenced by theory. These two methods are used together, particularly in the teacher interviews. This occurred as the researcher was purposefully looking for evidence of fidelity to the approach and so chose to use language for the themes that mapped onto the literature, for example ‘attention’. It will be made explicit when inductive and deductive analysis has been used by the direction of the arrows.

Results from the quantitative data will include comparisons between the two groups, comparisons of scores before and after the intervention and comparisons between males and females.

4.1 Qualitative data

A mixed methods design was chosen as it was felt that qualitative information would add more detailed experiential and process aspects to the evaluation of the intervention. Moreover, because the intervention was exploratory, the researcher was aware that issues that had not been anticipated may arise and it was felt that qualitative methods would capture this data most effectively.

The qualitative information was gained through the transcription and thematic analysis of the 4 semi-structured interviews, with a particular focus on the interview with the intervention group class teacher and intervention group. The focus is on these two interviews as they are most relevant to the research questions. The information from the analysis of the comparison class group and teacher interview is described briefly at the end of this subsection to provide a background and context for the other results.
4.1.1 Data collected from the interview with the teacher from the intervention group

The purpose of the interview with the teacher in the intervention group was to establish his perceptions of the mindfulness intervention, including the practical implications and feasibility of implementation. The interview also aimed to elicit the teacher’s understanding of the concept of mindfulness as well as gaining his perceptions of the impact of the intervention on the children’s behavioural, emotional and cognitive self-regulation. The interview took place in his classroom, following the 8 week intervention and lasted for 33 minutes. Analysis of the raw data produced 4 super-ordinate themes and 20 subordinate themes. The interview addresses 3 out of the 4 research questions, thus most weight is given to this interview and a detailed analysis will follow.
Fig. 8: Subordinate and super-ordinate themes arising from the interview with the intervention group class teacher

Fig 8 provides an overview of the 4 super-ordinate themes that arose from the intervention class teacher interview. Each of the super-ordinate themes is made up of several subordinate themes. The arrows denote that both inductive (arrow pointing upwards) and deductive (arrow pointing downwards) thematic analysis was used. The following section will address each theme and will state whether it was analysed inductively or deductively. A sample of the transcript can be found at appendix 14a.

4.1.1.1 Developing an understanding of mindfulness

The subordinate themes in this group were arrived at using inductive analysis and are closely related to the raw data. These themes were grouped together as their
combination led to the teacher’s understanding of mindfulness. This super-ordinate theme arose from talk from the teacher around: his current understanding of mindfulness; the way he had applied it in his own life; the way he had delivered the activities for the children; his personal experience of mindfulness activities and his self-reflections of mindfulness.

4.1.1.1.1. Describing mindfulness

Although the teacher was not asked specifically about his understanding of mindfulness, he seemed to feel it was important to convey this understanding when answering other questions. He tended to describe mindfulness in term of focusing on ‘one thing’. He also seemed to enjoy engaging in practice:

‘... ‘cos you’re just concentrating on your breathing but it’s just that time when I can just go ‘ahhhh’ and not think about anything ... it’s like trying to get back to actually thinking about getting back to the breathing or whatever it is that we’ve been doing ...’

He also discussed how he tried to communicate his understanding of what it meant to be mindful to the children:

‘... when you’re concentrating on something and you’re being mindful of it you understand why you’re doing it and what you’re getting better at...’

4.1.1.1.2 Using and applying mindfulness

This subordinate theme arose from the comments the teacher made about how he had used and applied mindfulness in the classroom setting. The theme encompasses his descriptions of how he felt he had used the mindfulness activities and how the children had responded to them.

The teacher explained how he had used the activities as a strategy to promote calm in the classroom, by encouraging the children to notice their own behaviour. He did this by taking a photograph of them when they were lacking focus.
‘…. And I said I just want you to concentrate on the photograph, and even that, just being mindful of the photo and looking and I said if you can’t see yourself then just look at who you can see and what are they doing and what behaviours can you see that you think are unacceptable’.

He also described using it as a time-out, or behaviour strategy. He reported that he would give a timer to children who were struggling to concentrate and ask them to sit in a quiet area of the room and concentrate on their breathing which he reported improved their concentration:

‘…And so we’ve applied it that way and even though they can’t control the silly behaviour, the attention has gone up which is good’.

The teacher’s comments suggested that the children had responded reasonably well to the intervention and were interacting with him in a way that he found more positive.

‘because I only have to say now ‘you know what I’m going to say..’ and they say ‘yeah’ ... whereas before, they’d just look at me as though I was a brick wall or something but now they look at me and they’re beginning to realise and understand...’

4.1.1.1.3 Personal experiences of mindfulness

The teacher reported that he had been practising mindfulness at home to help him deal with life stresses. He stated that it had had a calming effect and had helped him to focus on one thing at a time:

‘The mindful breathing one I do quite a lot ‘cos I’ve had a quite a lot on, obviously with looking for a job and all the stress of doing that and I’ve had some issues with family and stuff and I’ve just needed something that I can do that kind of... well just made me concentrate on one thing enough to make me calm down ...

He discussed the development in awareness of his feelings and he also stated how he had identified it as a personal strategy that he knew would make him feel better. He reported that it would help him feel calm, help him to focus and also to sleep.
‘... when I need something to help me relax and so I just take myself off to the bedroom which hasn’t got a TV or any distractions and I just lie on the bed and just lie there with my eyes shut and 9 time out of 10 it does send me to sleep ...’

He also stated how there were times at school where he felt the practice would be personally beneficial to him, not just the class. Thus he demonstrated an awareness of how his feelings, thoughts and behaviours, were likely to impact on the class:

‘...and so we just stop everything and just go though one of the activities ...’

4.1.1.4 Self-reflecting / learning

The teacher used a range of talk that was considered self-reflective. This included critical reflection on the activities and the way that he delivered them as well as reflection on his thinking about mindfulness before and after the intervention process. The teacher ‘admitted’ that when he first heard about mindfulness he was a ‘sceptic’:

‘...I was thinking ‘what are they going to get from this?’’ He reported that he decided to try it because he felt that he did not have anything to lose:

‘and if it works it works and if it doesn’t, it doesn’t ... and luckily for most of them it did work’.

Moreover, he stated that he had thought that if it did work, it may be something that he could offer in a different job and so it may aid his career development: ‘... if it comes in and it works ... I can go and say ‘ooh I can do this now!’ ...’

The teacher also reflected on how he felt he had developed his skills, knowledge and understanding in mindfulness over time and through lots of practice: ‘the more times I’ve done it the better I’ve got at it and the more I’ve understood it...’

He also reflected on activities that had not gone so well: ‘...you quickly learned what didn’t work’.

He also used reflection to think and plan for the future:
‘...if I was to do it again, and obviously it depends on the class, but I think I’d get rid of the girls because ... I don’t think the girls have got a problem with it ... really focus with it on the boys because I think it really worked for some of them’.

4.1.1.2 Evaluating activities

The evaluation of the activities from the teacher’s perspective was a key part of the interview and helped to answer research question 2. This super-ordinate theme consists of ‘positive comments on activities’; ‘negative comments on activities’; ‘practicalities of implementing the intervention’; and ‘adaption and progression’. These subordinate themes were arrived at using inductive methods and so were data driven.

4.1.1.2.1 Positive comments on activities

The teacher made a range of positive comments on the activities. These included the fact that there were a variety of activities and a range of foci: ‘...it wasn’t just the same thing every week...’

Moreover he talked about the impact of the variety:

‘...it kept it fresh so it wasn’t like oh we’re just listening to this CD again for 15 minutes ... it was exciting and they did respond well’.

He also demonstrated an awareness of the sensory element to the activities:

‘...so sometimes it would be about your body, sometimes it would be about listening, sometimes it would be about touching something or feeling something, and the fact that you used all of your sense really, ...not all at the same time but at different times and with different things’.

The teacher reported that initially the CD had been effective ‘cos it was new’. When discussing the type of activities that the teacher felt were most successful (in terms of the children’s engagement) he reported that ‘the doing ones were the best ones’.

He was able to qualify what ‘quiet doing’ meant and he discussed how he repeated activities that worked:
‘...like we did observational drawing and once I knew that worked we did it a couple of times so at least once a week they’d do that kind of thing’.

The teacher was able to describe the activities and also discuss some of the effects that he felt they had on the children which made them positive. He talked particularly about activities that ensured that the children were in the present moment: ‘...the eating one definitely worked.’

4.1.2.2. Negative comments on activities

The teacher reported on some activities that were less successful. While ‘successful’ is a subjective measure, the teacher’s view on whether or not the activities were successful tended to be based around the children’s engagement and subsequent behaviour.

‘The ones where they just had to sit and listen were the ones, they found it really hard just to sit for 10 / 15 minutes’.

Further negative comments about listening to the CD included:

‘...and it was just because they just had to sit there listening to a woman that they’ve not really heard before and it just didn’t work because they just switched off’.

However, the teacher felt that this type of activity was helpful and even necessary for the beginning of the course when the children and teacher were still developing their understanding about what mindfulness was:

‘I mean it’s OK as a starter when you don’t really know anything about it but then I think once you do kind of get used to it you can think of your own activities but that one I think would be the least effective one’.

This comment also highlights the teacher’s growing confidence in the area.

4.1.2.3 The practicalities of mindfulness activities
Another key area of the research was the practicality and feasibility of implementing the activities and there were several comments made on this by the teacher.

He reported that initially it was helpful to have a CD as a prompt, to help him and the children learn about the basics of mindfulness:

‘...we thought we’l just put the CD on cos we don’t know how it’s going to go...’

He also stated that he was unsure at first: ‘... cos I was thinking “well what am I going to do?”’

However he went on to state that as he practised and became more confident with the approach the CD was no longer required and he was able to use the activities described in the lesson plans as well as developing his own activities.

He also mentioned some of the practical implications of the other activities and how he managed to adapt them so that they were suitable. For example, due to the limited classroom space, when they completed the mindful movement activity:

‘... we didn’t walk anywhere, we just stood.’

This leads on to the next theme ‘adapting / progression’.

4.1.1.2.4 Adaption / progression

Many of the teacher’s comments were about how he had adapted and adjusted activities to make them suitable for the class. He reported that this had been a result of a developing confidence in his understanding of mindfulness and his ability to deliver the activities:

‘But once we’d done a couple of sessions then it made me think “well no we can change it now.”’

He also reported that he had tried to develop certain activities, link them in to previous ones and move on from there:

‘... I ... looked at what you’d done and the ones I liked, I did, but then I kind of thought, “well I’m going to change that...” ...still mindful but something that I know I can do. So
we changed it a little bit but we kept the focus the same but maybe just changed the activity...’

He also gave specific examples of activities that he had created and used with the children. One example involved giving the children a little fluffy ball:

‘... I found that they really had to focus on what it looked like or what it felt like and I found it really worked. I just did it where the first couple of minutes we’d begin by looking at them, then we moved on to touching, you know like you do with the eating one? Just very much like that.’

Another example he discussed was giving the children a word in a foreign language to trace round with their fingers. He reported that he did the activity with them:

‘... and like I was doing it with them and I was tracing my finger round and I was thinking I’m gonna be asleep in a minute if I carry on doing this, but it was lovely’.

A third example was an activity that involved the children tracing round their hands, feeling their fingers and nails and then tracing round their partners hand. While a fourth example involved tracing something on their partner’s back. The teacher qualified the impact of this particular activity:

‘...they really started to focus on what they were doing and they couldn’t really tell what they were drawing but at least they were doing it... And those were the ones that I thought really worked well.’
4.1.1.3 Observed effects of the mindfulness intervention on behaviour, emotions and cognition

While this theme encompasses subordinate themes that arose from the text, there were also elements of deductive analysis. The super-ordinate theme focuses on the behaviour, emotions and cognitions of the children, which were the three areas that the self-regulation questionnaire focused on. Thus this super-ordinate theme can be used to triangulate evidence from the questionnaire. Moreover the current super-ordinate theme includes subordinate themes that have been influenced from the research on self-regulation (‘improved emotional awareness / control’ and ‘improved behavioural awareness / control’), as well as a subordinate theme that relates directly to one of Hooker and Fodor’s (2008) core aspects of mindfulness: ‘attention’. Thus these themes focus on research question 3.

4.1.1.3.1 Improved emotional awareness / control

As noted above, this theme is in part deductive. While it still links to the data, comments that mentioned emotional awareness were deliberately searched for as they link to the self-regulation literature on emotional self-regulation, as well as the attitudinal feature of ‘awareness’.

The teacher noted several examples that may illustrate a growing awareness of emotions and control.

He discussed how he was helping the children to use some of the principles of mindfulness when they were upset:

‘...but they will sit and breathe and calm down ...I was thinking ‘oh my god, this works!’ and you can see them doing it’.

He discussed how he encouraged them to stay with their emotions in the present:

‘...so I just let them cry it out and I’ll say when you’ve finished and when you’ve calmed down you can come and tell me... and it works.’

Moreover, he went on to explain how doing this helped them to manage their emotions:
'This has helped because it's helped them concentrate on why they feel like that...'

The teacher reported that in his class he felt that there was a big difference between the girls and boys prior to the intervention in terms of their emotional awareness. He described the girls as more ‘intuitive’ and knowledgeable about the types of things that upset them whereas the boys had less understanding of their feelings.

However, the teacher noted that since starting the mindfulness practice he had encouraged the boys to use the techniques to concentrate on their breathing and help them to calm following conflict or an argument. Moreover he stated that ‘it’s worked that way’.

He also noted that he felt some of the boys were being more honest with themselves when answering the questionnaires:

‘...and I know he gets upset easily and he put that. 4 ***** did the same and 1**** did the same.’

4.1.1.3.2 Improved behavioural awareness / control

This subordinate theme arose from comments about behaviour following the mindfulness intervention. However it is also influenced by research on the self-regulation of behaviour as well as the attitudinal feature ‘awareness’ and so this theme is in part, deductive.

The teacher began by making general comments about their behaviour since they had started using mindfulness: ‘You know they did respond well to it, there was a marked change’.

The teacher talked about how he tried to encourage increased awareness: ‘I tried to describe it as taking a picture of them when they’re not aware of it and then taking one when they are...’

He talked about the differences he had noticed between the awareness of the girls and boys in his class: ‘...the boys have become more aware and more attentive ... I think the girls have always been...’
He stated the progression that he had noticed:

‘...only very slowly and we’re only in the beginnings of it but they are kind of understanding what behaviours they’re showing and why’.

He also talked about mindfulness in terms of a behavioural strategy, to make the children more aware of themselves:

‘you’ve got this strategy ... Y’know, it’s made them more aware of what they’re doing.... and concentrating on just one thing’.

He went on to talk about the observable differences the intervention had made:

‘...all I have to stay now is ‘stop and breathe and calm down’ and they do and you can see them doing it’.

4.1.1.3.3. Behaviours that have not changed

This subordinate theme is not linked to the literature and is entirely data driven. The teacher reported that while he had seen a ‘marked change’ in some children’s behaviour, it had not had the same effect on everyone: ‘With some of the boys, not all of them’.

He went on to report some disappointment in the lack of effect for certain individuals:

‘The ones that I wanted it to work for it hasn’t really because I don’t think... to be honest, I don’t think anything will.’

He stated the difficulties that these children have with their awareness and understanding of their behaviour and the difficulties that he has supporting them:

‘I find it really hard to make them understand the difference between kind of silly behaviour and low level behaviour and make them understand that they can control it themselves’.

He also reported on the difficulties the children had transferring the skills that they learned in the session to everyday life:
‘... when we’re doing the mindfulness and we’re in it and they really are concentrating but when we try and apply it later on, it just... and no... and they just find it hard to control their behaviour and it’s just hard...’

The teacher made some suggestions about why the intervention may not have worked for one particular group of boys:

‘They’re just distracted too easily’

‘I just think it’s the fact that they’re boys and the age that they are...’

‘...they’ve not got worse but it’s not made them any better.’

4.1.1.3.4 Calm

This theme arose in both the child group interview and teacher interview and so appears to be a particularly salient effect that was noticed by those who took part. It is likely that this was a desired outcome for the teacher and his desire for calm is likely to have been communicated either consciously or subconsciously.

‘...the room just went so low and quiet and calm and you could have heard a pin drop and everyone was calm’.

He demonstrated his appreciation for calm by stating:

‘...after we’ve done it, for the next 20 minutes, it’s just lovely...’

The teacher also identified the next step was to maintain this level of calm:

‘...So it’s trying to train them now to keep it up and keep it going.’

4.1.1.3.5. Attention

A lot of the talk from the teacher was related to the attention span and level of concentration within the class. ‘Attention’ was chosen over concentration as it maps directly onto one of Hooker and Fodor’s (2008) features of mindfulness. Again while still linked to the data, analysis at this point was also deductive.
The teacher talked about the group that he had particular concerns about:

‘... they have real trouble concentrating’.

He went on to state that the intervention had supported the children’s ability to concentrate:

‘But they were focused and I think that’s what worked well’.

‘And it really helped them to concentrate’.

‘... I think those (activities) made them really concentrate when they really had to look at something’.

He reported how he felt the mindfulness practice had had an effect on whole class attention:

‘All of their attention has improved, even with the ones that I was just talking about, who don’t have very good self-control, like 1*** and 14**** and 4****, their attention span before we started this was not great, but now we have, since we’ve started mindfulness, and we’ve been practising being mindful about one thing...’

He reported that even those who were already able to concentrate for sustained periods of time could benefit from the intervention in terms of their ability to concentrate:

‘I think it’s just helped to consolidate the girls’ behaviour ... and made them realise that they can concentrate, its put a label on it if that makes sense?’

He talked about how he had adapted the focused attention to other activities:

I’ve used it quite a lot, so I’ll say ... “right you’ve got seven minutes to concentrate on that one thing”.”
4.1.3.6 Academic progress

Some questions focused around the children’s academic development. This was based on the theory that if children were able to attend better, their learning may improve. Thus this subordinate theme is theory driven and so deductive.

The teacher was asked if he felt that the mindfulness activities had benefitted the children in terms of academic progress. The answer to this was negative:

‘...I wouldn’t say it’s affected the amount of progress that they’ve made at all...I think again... if it had come sooner, then maybe...’

4.1.4. Enablers / barriers for implementing mindfulness

This super-ordinate theme arose from a range of subordinate themes related to the barriers and enablers of implementing the mindfulness intervention. The theme encompasses the more pragmatic aspects for consideration including: the timing of the intervention; the feasibility of fitting it into the school day; comments on the process; and views of collaboration between EPs and teachers, from a teacher’s point of view. It helps to answer research question 1.

4.1.4.1. Timing

This subordinate theme incorporates timing in terms of the length of the sessions, the time of the day that the sessions occurred as well as the time of year. This is an inductive theme which is wholly data driven. While it was anticipated that timing would have some relevance in terms of feasibility, the teacher identified other issues in terms of timing such as the time of year. He reported that it may have been more efficacious if it had been conducted at the beginning of the school year. He explained that:

‘.... it would’ve given them a strategy early on ...to be able to try and control their emotions, which... it’s working but I think it’s too late in the year!’
The teacher reported that he felt the arrangement of the intervention in the school day was adequate: ‘... coming in after dinner, which I think is the best time to do it’.

He went on to explain how he felt it fitted with the school expectations. The school policy was to read from 1:00pm-1:15pm and while it was important that the children did this on some days, on the days that they were not reading they were able to complete mindfulness practice.

The teacher also reported on the frequency of the intervention:

‘... we did it almost every day, unless it was days when I wasn’t in or when we’d done an activity in the morning that we’d have to carry over, but it was more or less every day’.

He later discussed how the timing and delivery could be altered, according to the need of the class.

‘... when you felt that they needed to be mindful of what they were doing, so maybe there was a fight or, you know a time in the afternoon when they were just a little bit high and you thought right, you know we’re going to bring it down and we’re going to concentrate and focus, just that kind of, to kind of to make them be more aware ...’

4.1.1.4.2. Feasibility of implementation

This subordinate theme is concerned with the feasibility for the teacher to implement the intervention. It relates to the fact that the teacher has had minimal training and there is an awareness of the stresses and time demands that are present in a mainstream primary setting. This theme was arrived at using inductive analysis and is closely linked to the data.

The teacher stated that the majority of the activities had not been an extra burden for him:

‘... I’d just come in, in the morning and I’d think ‘well what are we going to do today’ and if it was something easy like just a touching one or a drawing one I’d just get it out in the morning and put it to one side’.
While there was slightly more organisation required for mindful eating, the teacher stated it was really a question of being organised and that ‘in terms of doing it in the class, it was fine’.

He went on to state that it fitted into the day easily, however the times when they did miss practice were often out of his control.

4.1.1.4.3. Positive comments on process

This subordinate theme arose from comments made about the overall process of implementation and so was wholly data driven.

The teacher discussed the fact that it had been a positive learning opportunity for himself and the children. He reported that he used to tell the children that they should be able to control their behaviour but he did not have a tool to help them to do this. This would lead to exasperation. However the mindfulness practice gave him this tool to work through with the children and the process of doing it was described as enjoyable:

‘...I've enjoyed it, it's been interesting’.

4.1.1.4.4. Previous experience of working with an EP

This theme arose from questions from the researcher regarding the teacher’s previous involvement with EPs, to establish whether the model of joint working was known to the teacher and whether their pre-existing conceptions of an EP were confirmed or not. This theme was data driven. The teacher demonstrated that his previous work with an EP had been limited to individual casework with a child with significant behavioural difficulties.

The teacher was able to describe the process of work in terms of consultation and observation. Without prompting, the teacher drew out the positives of the interactions that he had had with the EP and stated that he had felt reassured about his own practice which he really appreciated:
‘...and he came out and he said every single thing that you told me was evident and I don’t know how you manage it...’

He stated the aspects that enabled positive working relationships which included: listening: ‘... he was very much willing to listen...’; being supportive: ‘... he came in and he said I’ll do what I can’; and sharing knowledge: ‘he made me more aware of why he was behaving like that, ... ‘cos he was looking at the psychology side of it all, he was able to tell me a bit more’.

He stated how he felt that these things combined created a positive relationship:

‘...but it was always positive, it was like the relationship that me and you have, in terms of how positive it was’.

4.1.1.4.5 Current experience of work with a TEP

This subordinate theme was data driven and helps to answer research question 2 regarding the barriers and enablers of implementing a mindfulness scheme of work. Following comments regarding his previous experience of working with an EP, the teacher was asked about the aspects that were helpful in their collaboration on the project. The teacher reported that it was all positive and ‘I don’t think there’s anything that been negative...’

He was then able to extract some specific examples which included regular communication:

‘we’ve got the two way communication going...’

He went on to describe the importance of the presence of the researcher, particularly in terms of modelling session delivery:

‘... you’ve come in and you’ve supported me and you’ve led the session and you’ve showed me what to do’.

He stated how this had been motivating for him and it had ‘... made me want to do it even more’.
He reported that if the researcher had not been present, the following may have happened:

‘I’d have probably done it once just to try and then thought... oh its half past three, we’ll just do it tomorrow, and as you know, tomorrow never comes!’

The teacher also reported on appreciating the level of positivity and flexibility offered by the researcher:

‘...you’re not critical and if I’ve told you something’s not really worked, you’ve gone, “well it’s ok, we’ll try this”...’

Having said this, the teacher implied a level of wanting to please:

‘...and I’ve found very much the days when it didn’t work, was when you were watching me and I was thinking ‘oh my god and you’re watching me’ ... cos the days that you’re not in and we’re doing it, they’re lovely and look at me like ‘oh this is great!’

4.1.1.4.6 Pressures of the job

This subordinate theme was data driven and it provides a rationale for using mindfulness with teaching staff. It is important as it provides some information about how mindfulness might help teachers to manage their own stress. Without being directly questioned about the pressures of the job, the teacher reported previous times in his career when he had found teaching difficult. These examples related specifically to pupil behaviour:

‘...it was horrible that year, I hated it that year, I hated it, I wanted to give up and everything’.

He questioned how teachers were supposed to cope, particularly when they do not know the child’s background:

‘...If you don’t have any knowledge of it and they’re coming in and displaying poor behaviour ... what are you supposed to do, you know? How do you not get angry or upset ... and every time I got like that I’d think “no, think about what his background is” but then when he’s sat there on the carpet going sir sir sir rrr rrr rrr and you just think no I can’t be doing with it any more ....’
4.1.2 Data collected from the interview with children from the intervention group

The purpose of the interview with the intervention group was to establish their views on the intervention in terms of activity preference, enjoyment and usefulness. Thus the questions for the intervention group aimed to elicit some general perceptions of the children’s behaviours as well as their perceptions of the intervention, their understanding of it and their views of the usefulness of it.

The interview was conducted following the 8 week mindfulness intervention period, in July 2012. The interview took place in an intervention room at the school. The semi-structured interview group was selected prior to the interview based on the following criteria: an even mix of gender, a mix of ability, a mix of good / poor self-regulation prior to intervention, and a mix of children whom the teacher perceived as responding well and not so well to the intervention. On the day of the interview 1 of the girls whom the teacher perceived had responded well to the intervention was absent. Therefore it could be argued that the views of females who responded well to the intervention were under-represented in this group. The interview took place with the group of 5 and lasted 20 minutes.

The focus for this semi-structured interview was on the effectiveness of the intervention, therefore the questions posed to the intervention group differ to those given to the comparison group (see method for further details).
Fig. 9: Subordinate and super-ordinate themes that arose from the intervention group interview (children)

Analysis of the interview with the children used a mixture of inductive and deductive thematic analysis. Each theme will state which method was used. A sample of the transcript can be found at appendix 14c.

4.1.2.1 Activities

This super-ordinate theme developed from the line of questioning around the children’s evaluation of the mindfulness activities, as well as the feasibility of fitting the intervention into the school day. Therefore it encompasses the subordinate themes: ‘timing’; ‘preferred activities’; and ‘negative comments about activities’.
4.1.2.1.1 Timing

This subordinate theme arose from the ‘timing’ question that the children were asked which referred specifically to the amount of time that each mindfulness activity took. The group’s answers varied widely between the right amount of time, too long and too short.

While three children reported it was the ‘The right amount (of time)’ two children reported it was ‘Too long’ and one said that they ‘... wanted it to be a bit longer’.

Some children offered alternative periods of time that they would be willing to practice mindfulness for: ‘Like 5 minutes of it’.

The children were asked to expand on why they wanted the sessions to be longer or shorter. One child who had wanted more sessions, talked about how much she had enjoyed them:

‘... you could think about your brain and stuff and what it does’.

4.1.2.1.2 Preferred activities

This theme was data driven. The children were asked about their favourite activity. 4 of the children reported excitedly that they enjoyed ‘The chocolate one!’ One child reported that ‘Mine was the first one with the fruit’.

They were then asked to elaborate on what it was about the activity that they enjoyed. This elicited further details that they remembered and tended to be based on their senses, which is what was asked of them at the time:

‘It was chocolate buttons because I liked the taste ... I liked it when it melted’. ‘Because when you look at it on your hand...and the smells lovely’.

‘Mine was the first one because I liked the strawberries and... and you can like feel it and its good for mindfulness’.

Other children gave more general comments about enjoyment:

‘Because ... you could do it again and it was a fun one’.
4.1.2.1.3 Negative comments about activities

The children were also asked about the activities that they did not enjoy. They arrived at a range of answers, 2 of which included the eating activity with the fruit: ‘I didn’t enjoy the first one because I didn’t like the fruit’.

Another reported that they did not like the breath awareness.

They were also asked to explain why they had not enjoyed a particular activity. The pace of the activity and the child’s perception of their ability to complete the activity were important for some:

‘Because it was going too slow and I couldn’t really do it’.

Some of the children reported that they struggled with activities that were too repetitive:

‘... the CD one ‘cos we was doing it like every day and I was getting fed up of it’.

2 of the children disliked a particular activity because they recalled that it made them feel squeamish:

‘...it was like horrible. When I look at the brain it makes me go weird, it makes my eyes go funny’.

One child reported that while he enjoyed some aspects of the session, he did not like other parts: ‘I liked the chocolate But I didn’t like the lesson’.

While the other children did not agree with this comment, it is important to note that children may report that they enjoy the eating activities because they enjoy eating rather than enjoying eating mindfully.
4.1.2.2 Perceived effects of mindfulness

Key to the research was gaining the views about how the children perceived the mindfulness intervention had affected them. Therefore they were asked general questions regarding changes in their feelings, thoughts and behaviours, during and after the intervention. Their responses were grouped under the following subordinate themes: ‘Benefits of mindfulness’; ‘Changes in behaviour’; and ‘Being / keeping calm’.

4.1.2.2.1 Benefits of mindfulness

The children made both general and more specific comments about the positive effects that they felt mindfulness had on them. This theme could be described as deductive as the researcher was specifically searching for positive comments.

An example of a vague improvement that was noted following mindfulness activities was saying things were ‘better’:

‘... because it makes you feel better’. This was later qualified as ‘calmer’.

One child noted their levels of arousal and also the effect that it had on their teacher:

‘Because it makes you feel calmer and it makes Mr **** happier’.

Another child noted an effect on emotions: ‘It made me feel, like, happy ...’

Several of the children talked about the positive effects that they felt they had noticed in their thinking in different situations:

‘I think it’s good because when I work in the afternoons it makes me work better’

‘Cos when I’m in the yard, it feels like my brains going more like better’.

However several of these comments were relatively vague: ‘I think it’s made me cleverer at my literacy’.
When asked how he thought the mindfulness was helping him to improve his literacy he indicated that it might help him to concentrate: ‘Yeah concentrating’.

However, this answer came through prompting from his classmates and so should be treated with caution.

4.1.2.2.2 Changes in behaviour

The questions regarding the changes that the children observed in themselves were driven by the research, as was the analysis, and specific comments about improvements were searched for, thus it was deductive. When discussing the effects that they thought the mindfulness practice had on them, many of them talked about perceived improvements in their behaviour and they were able to provide specific examples:

‘Cos when I’m at my house I annoy me mum all the time and its making me not annoy her so much’.

There were also some comments that included reflection on their behaviour over a more extended period of time: ‘... I used to be naughty and now I’ve changed my attitude’.

When asked how he thought that mindfulness had helped him with his behaviour he reported: ‘... because it makes me calmer’.

One child identified something tangible that he felt proved his behaviour was improving: ‘I’m getting certificates’.

Another child reported that they felt they had noticed a difference in their behaviours and interactions towards others, which could relate to ‘loving kindness’:

‘I didn’t used to be helpful, but when we do mindfulness it makes me be helpful like when we do mindfulness I say please and thank you’.
4.1.2.2.3 Being / keeping calm

This subordinate theme arose from the question: ‘What does mindfulness mean to you?’ which attempted to elicit the children’s understanding of mindfulness. ‘Being or keeping calm’ was a predominant answer:

‘It means you’re being calm and its telling you about your brain’.

The children also discussed how they enjoyed this feeling: ‘It’s like nice to calm you down when you’re angry and if you’ve had a bad morning’.

Two children also stated that it had a longer lasting effect on their feelings of calm:

‘When we come in for the rest of the afternoon and we do mindfulness, sometimes it means we’re all calm for the rest of the afternoon’.

4.1.2.3 The role of mindfulness in the future

This super-ordinate theme encompasses a range of ‘intention to change’ behaviours including whether or not the children would: continue with mindfulness activities themselves; recommend the activities to a friend; and their ideas on how and when they might apply the skills that they have learned. It includes the subordinate themes ‘would recommend’; ‘would not recommend’; ‘continuing mindful practice’; and ‘doing mindfulness in everyday life’. These themes are data driven but strongly influenced by the questions that the group were asked.

4.1.2.3.1 Would recommend

The children were asked if they would recommend the mindfulness activities to a friend. There were several responses that suggested that they would.
When asked why they would suggest that their friends participated, one child reported that they might ‘enjoy it’. While another child reported they would want to tell their friends about it but not necessarily teach them, instead just make them ‘jealous’.

4.1.2.3.2 Would not recommend

Several of the children reported that they would not recommend mindfulness to a friend.

When these children were probed further on this, they reported that they felt that their friends may not like it and they might think it was ‘...boring cos they will know what’s going to happen then’.

One child reported that he would not recommend it because he had not enjoyed it himself. Meanwhile 2 others thought they might not enjoy it because they do not know enough about it and would not be ‘into it’.

One child demonstrated feelings of ownership over the intervention, suggesting that he did not want other children to share in their activity because the other children might ‘rob all your ideas’.

4.1.2.3.3 Continuing mindfulness practice

The children were asked if they would do any of the mindfulness practices again. This led to the subordinate theme of intention to continue mindfulness activities.

All 5 of the children reported that they would like to complete the eating activities again.

Two of the children were particularly enthusiastic about the course and suggested that they would like to do a great deal more mindfulness practice:

‘Cos one day, we could just do mindfulness all day’.
4.1.2.3.4 Doing mindfulness in everyday life

This subordinate theme arose from the comments that the children made about applying mindfulness in their everyday lives. This involved them thinking pragmatically about the practicalities of completing the activities.

Three comments were made about the type of setting that the children thought would be best to complete a mindfulness activity in. All three comments were about a quiet, non-stimulating environment:

‘You should go in a quiet room where no one’s around you or nothing and do it’.

One child stated a moment that had reminded them of mindfulness:

‘When we’re in the play yard and we get fruit and I like bite into the fruit it feels like the mindfulness, like what we getting in the class when you told us about closing our eyes and eating the fruit’.

Others stated potential opportunities for mindfulness practice such as the dinner hall and playground: ‘I think you could like go out on like the play-ground and feel the fresh air and do the breathing’.

Some children were able to state times when they had already successfully practised mindfulness activities outside of the classroom and it had improved their mood. One child commented about using it on the yard, while another discussed using it at home:

‘When me mum shouted at me I went upstairs and I asked me dad for a piece of fruit and I did mindfulness and it calmed me down’.
4.1.3 Contextual data gathered from comparison class

Semi-structured interviews were carried out both with the comparison class teacher and a group of children from the comparison class. This was done to provide contextual data on self-regulation in year 3 in that particular setting. Summaries of themes found are provided below. A sample transcript can be found at appendix 14b. However they will not be discussed in detail as they do not provide the same level of relevant information as the intervention group interviews.

4.1.3.1 Data collected from the interview with the teacher of the comparison group

The purpose of interviewing the comparison group teacher was to establish her views on the self-regulation of her class and year 3 in general. It was decided to focus on behavioural self-regulation as this was considered to be the most easily observed and understood by the teacher. Thus, questions for the comparison class teacher interview, transcribed in appendix 14, are mainly focused on behaviour. The interview also aimed to elicit the teacher’s views on teaching including the pressures that teachers face, her initial thoughts on the intervention and her views on whether an intervention that may help children to modify and control their own behaviour would be appropriate and useful in a year 3 setting.

The interview took place in the intervention group classroom at the end of the school day. It occurred in July 2012, at the end of the intervention period and lasted 5 minutes.
The first super-ordinate theme that arose was ‘practicalities of teaching’. This included the subordinate themes ‘the challenges of teaching’; ‘initial thoughts on mindfulness and its application to the classroom’; and ‘desired input from the EPS’. The second super-ordinate theme was ‘behaviours’ which encompassed ‘positive behaviours’ and ‘negative behaviours’.

The interview revealed that the comparison class were perceived as unusually quiet and well-behaved. This may have meant that they were fairly well-regulated, though no firm conclusions could be drawn from the qualitative data. The teacher reported that the pressures of the job were high and that an intervention that addressed behaviour would be welcomed. She stated that supportive conversations that involved clarification and verification would be of use.

The implication of these findings in terms of providing a context for the information gathered from the intervention group will be discussed in more detail in the discussion section.
4.1.3.2 Data collected from the children in the comparison group through a group semi-structured interview

The objective of the interview with the comparison group was to establish the levels of self-regulation present in a year 3 class and the types of strategies that children of that age were likely to employ to control their emotions, cognitions and behaviours. Thus the questions for the comparison group aimed to establish year 3 perceptions of their own and their peers’ self-regulation and the types of behaviours and emotions that they and their classmates experienced. It also aimed to establish what precipitating factors the children attributed to their thoughts and feelings and the methods that they employed to self-regulate.

The semi-structured interview was conducted following the 8 week intervention period towards the end of the summer term 2012. Originally 6 children were selected, however on the day of the interview, 1 of the children was absent. This child was male and was considered to be of average ability. Therefore it could be considered that views of males of average ability are under-represented in this group interview.

The interview took place in the intervention room at school and lasted 15 minutes. The themes are represented diagrammatically in figure 9 and discussed contextually in the discussion.
There were 3 super-ordinate themes that arose from the comparison class group. The first was ‘social emotional experiences in year 3’ which included: ‘triggers for emotional reactions’ and ‘friendships and relationships’. The second was: ‘problems and solutions in year 3’ which included: ‘times when things are difficult’ and ‘coping strategies’. The third was ‘reflections on behaviour’ which included: ‘behaviours perceived to be good’; ‘poor behaviour’; ‘perceived changes in behaviour’; and ‘behaviours perceived to support learning’.

The implication of these findings in terms of the research questions will be discussed in more detail in the discussion section.

Short observations were also made in the comparison class to establish general behaviour patterns in the year group.

**4.1.4 Observations**

Weekly observations of sessions were made. These focused on: the type of activity being delivered; vocabulary used that can be linked back to the 7 attitudinal features;
and observations of the behaviour of the children, prior to, during and after the intervention.

The observation schedule can be found in appendix 21, while the observation summaries can be found in appendix 21a and 21b.

In general the comparison group generally displayed ‘on-task’ behaviour and seemed engaged with the different activities that they were doing. This confirms their teacher’s reports on the high levels of positive behaviour in that particular class.

Observations varied across weeks in the intervention group. The children tended to be quite noisy and excitable when they first came in from lunch. They appeared most focused when they were engaged in the activities that involved ‘quiet doing’. They responded well when they were following a routine e.g. sitting down, eyes closed, hands on knees. On several occasions, the mindfulness practice appeared to significantly reduce excitable behaviours and an atmosphere of calm and focus was achieved.

However some of the children struggled to maintain focus at times and would become giggly. The activities seemed to be impacted by environmental factors such as the weather and a lack of space for the activity in the classroom. It must be noted that while some of the children struggled, they were a minority and many of the children were able to maintain focus during a range of activities on different days.

The most common observation was attention (Hooker and Fodor, 2008) and the majority of children showed that they were paying attention by listening, following instructions and feeding back relevant and insightful comments. However it was difficult to conclude how many of Kabut-Zinn’s (2005) 7 attitudinal features were being met. Some children appeared to show ‘patience’ when taking part in the activities, ignoring distracting stimuli and focusing on the task. While it could be concluded that the children had a ‘beginners mind’, particularly when they first began the task, once they had completed this a few times, they may have started to develop some expectations. In some respects ‘trust’ was observed, in terms of many of the children feeling safe to close their eyes, thus trusting their peers and following the instructions from the teacher or CD. However a small number struggled with this and may have felt unsafe closing their eyes. Other aspects such as ‘non-judgement’, ‘non-striving’,
'acceptance’ and ‘letting go’ are not easily observable and it was difficult to obtain information on these aspects without asking the children directly.

Adaptations were generally surface level and involved slight changes to the activities, but kept the objective of activities the same. Durlak and DuPre (2008) highlight the importance of adapting the programme to suit the needs of the individual, and thus, the level of fidelity was deemed acceptable.

While the teacher reported in the interview that things did not seem to go as well when he was being observed, there were several very positive observations and he made some very positive reflections. In week 3 he was particularly positive and reported that there had been a huge impact on behaviour and productivity in the afternoons following mindfulness. However this effect did not seem to be sustained and so may have been due to the Hawthorne effect (Cohen et al., 2007).

4.2 Quantitative information

Prior to and following the 8 week intervention period, all children from the intervention and comparison classes were given the opportunity to complete the self-regulation questionnaire (appendix 4). Each class contained 26 pupils, however prior to the intervention period 4 children from the intervention group were absent and 1 child withdrew from the study. Therefore answers to 21 questionnaires were provided. In the comparison group 3 children were absent prior to intervention and so answers to 24 questionnaires were obtained. Following the intervention, 2 children in the intervention class were absent, whereas 9 children were absent from the comparison class and so only 17 completed questionnaires from the comparison group, following intervention. While this was not ideal, due to the time of year and the time demands on the researcher the questionnaires had to be completed on that visit. Moreover, it was important that all questionnaires were completed by the children on the same day to control for environmental influences on the children and to ensure that they were given exactly the same instructions.

At the end of the questionnaire the children were allowed to ask about any of the questions that they did not understand and they could ask for them to be read again and further explanation was given where required. Of the questionnaires obtained,
several of the children missed 1 or more items on the questionnaire. The likely reasons for this were: the children missed the question by accident; the children could not decide which option to choose; they did not understand the question; they did not want to answer the question. For each class of 26 children Little’s Missing Completely at Random (MCAR) test was conducted. Little’s MCAR test: Chi-Square = 103.581, DF = 123, Sig = 0.897. As this test was not significant at the 0.05 level, the null hypothesis is accepted as the data are missing completely at random. These missed values were coded thus: 9 = no answer given; 99 = ambiguous answer (e.g. 2 or more answers were given for the same question); 999 = participant was absent.

The children were asked to rate how often their thinking, emotions and behaviour were concurrent with each statement (see appendix 4 for questionnaire). The ratings ranged from 1 – 4. A guide to the scoring procedure can be found in appendix 4a and 4b.

Table 3: Comparing the total mean scores and standard deviations (SD) on the questionnaires in both classes

<table>
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<tr>
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<th>Before</th>
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<tbody>
<tr>
<td></td>
<td>Intervention mean (SD)</td>
<td>Comparison mean (SD)</td>
<td>Intervention mean (SD)</td>
<td>Comparison mean (SD)</td>
</tr>
<tr>
<td>male</td>
<td>33.5 (6.0)</td>
<td>28.7 (7.5)</td>
<td>31.5 (3.8) - 2</td>
<td>29.4 (7.8) + 0.7</td>
</tr>
<tr>
<td>female</td>
<td>26.8 (8.8)</td>
<td>33.4 (7.7)</td>
<td>26.3 (7.0) - 0.5</td>
<td>29.7 (8.6) – 3.7</td>
</tr>
<tr>
<td>total</td>
<td>30 (8.1)</td>
<td>32.0 (7.8)</td>
<td>28.7 (6.2) – 1.3</td>
<td>29.6 (8.0) – 2.4</td>
</tr>
</tbody>
</table>

Red denotes an increase in mean score (indicating a negative shift in self-regulation), green denotes a decrease in mean score (indicating a positive shift in self-regulation).

The mean score of the intervention group decreased by 1.3 following intervention, which could suggest that the intervention positively impacted on the children’s perceived self-regulation. However the mean score following the 8 week period also decreased in the comparison group by 2.4. Thus it appears that mean scores on this measure of self-regulation was likely to change by 1-3 points regardless of
intervention. However, as this is not a standardised tool, no firm conclusions can be drawn.

Prior to the intervention there was a difference of 2 between the mean scores of the two classes, where the intervention group had the lower score. This difference was largely affected by the girls’ score. While the boys in the intervention class had a mean score that was 4.8 higher than the boys in comparison class, the girls’ mean score in the intervention class was 6.6 lower than the girls’ mean score in the comparison class.

The changes between and within groups can be found in the table. The greatest change was in the mean score of the girls in the comparison group which decreased by 3.7. This may be due to the fact that a significant number of the girls in the comparison class did not complete the questionnaire following intervention (8/18). Therefore it would be unwise to draw any firm conclusions on these scores.

A one-way ANOVA was carried out to measure the level of significance of difference in total score. The ANOVA showed that the mean total score was not significantly affected by the group (intervention / comparison) that the children were in: $F(1.0, 83) = 1.07, p>0.31$.

In summary, there do not appear to be any significant differences between classes or gender on this self-regulation measure. While mean scores were lower for the girls than the boys both before and after intervention in the intervention group, the mean scores for the girls in the comparison group were greater than the boys mean score both before and after the 8 week period. Thus the results suggest that individual differences may be responsible for differences in scores on this self-regulation measure.

While there appeared to be no global trends, information from the semi-structured interviews suggested that there had been some observable changes in behaviour, therefore it seemed appropriate to analyse the questionnaires further to see if there had been any changes in any of the individual domains which had been masked by a lack of change in other domains. Thus scores obtained on the three domains (behavioural, cognitive and emotional self-regulation) were considered and compared.
Table 4: The mean scores for the intervention group and comparison group before and after the 8 week intervention period on each domain (emotional, cognitive and behavioural)

<table>
<thead>
<tr>
<th>Domain</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intervention mean (SD)</td>
<td>Comparison mean (SD)</td>
</tr>
<tr>
<td>Emotional</td>
<td>10.8 (3.3)</td>
<td>11.6 (4.4)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>4.4 (1.8)</td>
<td>5.0 (1.5)</td>
</tr>
<tr>
<td>Behavioural</td>
<td>14.8 (5.3)</td>
<td>15.5 (4.1)</td>
</tr>
</tbody>
</table>

The greatest difference occurred on the behavioural regulation domain. Overall the mean score in the intervention group decreased by 1.5, while the comparison groups mean score decreased by 0.9 giving a difference of 0.6.

Both mean scores for the intervention group and comparison group decreased on the cognitive domain (0.1 and 0.9 respectively) which gave a difference of 0.8.

On the emotional domain, the mean score for the intervention group increased by 0.4, whereas it decreased in the comparison group by 0.7 (a difference of 0.7).

While all of these differences were small, it was important to see whether the gender differences highlighted by the teacher were apparent in the quantitative data.
Table 5: Comparing the mean scores in the 3 domains before and after the intervention period in males and females in both classes

<table>
<thead>
<tr>
<th></th>
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<th>After</th>
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<tbody>
<tr>
<td></td>
<td>Intervention mean (SD)</td>
<td>Comparison mean (SD)</td>
<td>Intervention mean (SD)</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>33.5 (6.0)</td>
<td>28.7 (7.5)</td>
<td>31.5 (3.8) -2</td>
</tr>
<tr>
<td>Emotional</td>
<td>11.2 (2.7)</td>
<td>9.7 (3.0)</td>
<td>11.8 (2.2) + 0.6</td>
</tr>
<tr>
<td>Cognitive</td>
<td>5.4 (2.0)</td>
<td>4.3 (1.7)</td>
<td>4.6 (1.2) -0.8</td>
</tr>
<tr>
<td>Behavioural</td>
<td>16.9 (4.1)</td>
<td>14.7 (4.8)</td>
<td>15 (2.8) -1.9</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>26.8 (8.8)</td>
<td>33.4</td>
<td>26.3 (7.0) -0.6</td>
</tr>
<tr>
<td>Emotional</td>
<td>10.4 (3.9)</td>
<td>12.4</td>
<td>10.6 (3.5) +0.2</td>
</tr>
<tr>
<td>Cognitive</td>
<td>3.5 (1.1)</td>
<td>5.2</td>
<td>3.9 (1.7) +0.4</td>
</tr>
<tr>
<td>Behavioural</td>
<td>12.9 (5.8)</td>
<td>15.8</td>
<td>11.8 (3.8) -1.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30 (8.1)</td>
<td>32.0 (7.8)</td>
<td>28.7 (6.2) -1.3</td>
</tr>
</tbody>
</table>

As previously stated, the greatest difference in mean occurred within the behavioural regulation domain. However while the difference between the decrease in means in males in the intervention group and the decrease in mean score in males in the comparison group was 1.8 (-1.9 and -0.1 respectively), the difference between the decrease in the mean score in females in the intervention group and the decrease in mean score in the comparison group was 0.1 (-1.1 and -1.2 respectively) which is negligible. Any differences that occurred could be because the children in the intervention group were more exposed to the language and ideas presented on the behavioural construct measures e.g. ‘concentration’, ‘distraction’ and ‘fidgeting’, or because there were a larger number of items attributed to the behavioural domain.
Conversely, the mean scores on the emotional domain rose for both males and females in the intervention group by 0.6 and 0.2 respectively. Meanwhile on the cognitive domain there was a very small overall increase in the female in the intervention group by 0.4.

Overall the difference between classes scores on the 3 domains is considered negligible.

The reliability of the self-regulation questionnaire was measured using Cronbach’s alpha (1951). The three constructs (emotional self-regulation, cognitive self-regulation and behavioural self-regulation) were measured separately.

The emotional subscale had a reliability value of .67. While this is below the general acceptability level of .7 or .8, as Kline (1999) notes, when dealing with psychological constructs, values below .7 can be expected because of the diversity of the constructs being measured. Moreover Cronbach’s analysis revealed that item 3 (I get upset easily) had a corrected total correlation of >.3. Thus if this item were deleted, Cronbach’s α would increase to .74 in this domain.

Despite being reverse scored, the cognitive domain had a reliability value of -.22. This is particularly low and is likely to be related to the very small number of items within the domain. Moreover, the relationship between the two items was not significantly correlated $r=.10, p$ (two-tailed) $<0.5$.

The behavioural domain had a reliability of .64. Again, this could be considered to be a reasonable level of reliability due to the diversity of constructs. There was also an item with poor correlation in this domain (q 10: as soon as I see something that is not working, I do something about it). The removal of this item would increase the reliability to .68.

In summary, while the behavioural and emotional domains of the questionnaire had reasonable internal reliability, the cognitive domain did not. To strengthen the internal consistency of the measure, items 3 and 10 should be removed and consideration should be made with regards the removal or development of the cognitive domain.
4.3 Summary

The qualitative information gained from the 4 semi-structured interviews provided an insight into: the challenges of teaching which provided a rationale for an intervention that supports the attention and focus of children; mindfulness activities that were enjoyed by the children; and perceived changes in the children’s emotional reactions and behaviours following a mindfulness intervention. Observations made by the research helped to triangulate this information. The findings for each research question will be discussed in depth in chapter 5.

The quantitative data demonstrated that there were no significant differences between or within groups following the mindfulness intervention. Possible reasons for this will be discussed in more detail in chapter 5.
Chapter 5: Discussion

The following chapter will explain how the results link to the research questions. It will also provide possible hypotheses for results and make links to findings from previous research. The chapter will end by considering the possible future directions for research in this field and it will make explicit links to the implications of future EP practice.

Research question 1 (What are the main barriers and enablers for developing and implementing a mindfulness scheme of work with school staff in a mainstream, primary setting?) will be addressed in three parts. Firstly there will be an evaluation of the development of the programme, with particular consideration for the fidelity, validity and reliability of the programme using themes that arose from the intervention teacher interview and the observations from the researcher’s diary. Following this, the enablers and barriers to programme implementation, highlighted by the intervention class teacher will be addressed. Contextual and community factors that may support or impede successful MBI development will then be discussed.

The second research question (What are the perceived benefits and barriers of completing a mindfulness scheme of work from a pupil’s point of view?) will be answered using themes relating to the benefits and barriers of a mindfulness intervention that arose from the intervention group semi-structured group interview.

The third research question (To what extent does an 8 week mindfulness scheme of work impact on the perceived self-regulation and well-being of a group of year three children?) will be answered through consideration of the quantitative data on self-regulation as well as the themes that arose from the 4 interviews (intervention group class teacher, intervention group children, comparison group class teacher and comparison group children). It will consider themes that link specifically to emotional, cognitive and behavioural self-regulation.
5.1 Linking the results to RQ1 (What are the main barriers and enablers for developing and implementing a mindfulness scheme of work with school staff in a mainstream, primary setting?)

This question will be answered by first discussing issues relating to the development of the scheme of work and the methods employed to maintain fidelity, validity and reliability. Following this, the delivery of the intervention will be discussed in terms of the feasibility of incorporating the approach into the curriculum. Factors that could affect the maintenance of delivery, such as community factors (Durlak and DuPre (2008), will then be discussed. The possible impact of existing literature and how the present research adds to this will also be considered along with suggestions about the relevance of mindfulness in a mainstream primary setting and the use of the term ‘mindfulness’.

5.1.1 Enablers and barriers for programme development

This section focuses on the enablers and barriers present during the programme development stage. It includes training and information on the development of the programme. In the fidelity, validity and reliability section, programme implementation is also mentioned.

5.1.1.1 Training

Kabut-Zinn (2005) suggests that practitioners learning about mindfulness should engage with an 8 week programme as well as retreats, and regular personal practice to develop a deeper understanding of the approach and a skill set to implement it further. However, similar to other ‘real world’ research, the current study was restricted by financial and time constraints. These constraints are similar to those that would be present in most mainstream primary settings. Moreover recently published materials such as Cattley and Lavelle (2009) state that a lack of training should not prohibit programme implementation and they provide resources to help such practitioners. Thus it was deemed appropriate to complete a study with a level of training that would meet these constraints, as this would provide ecologically valid information on whether a mindfulness approach could be implemented with minimal training as part of the IAPTs initiative (Richards and Whyte, 2009). Thus in the current
study, the researcher had completed an 8 week online course and the teacher had been given a 1 session introduction and the opportunity to practice in his own time and have regular discussion with the researcher.

The research could have taken place using a trained facilitator who came in once a week to deliver a longer session. However one of the key aims was to ensure the full engagement of the teacher to promote investment and empowerment (Zimmerman, 2000). This would then mean that the teacher had a skill that they could use again both personally and professionally. Moreover, Mindfulness for Schools (Cattley and Lavelle, 2009), which is where many of the activities were taken from, was purposefully designed for teacher delivery. Thus the present study aimed to investigate the feasibility and efficacy of these activities in a real world context (DCSF, 2008).

The teacher was made aware that training had been minimal and was encouraged to practise whenever possible. However, this relied on the motivation of the individual. While teachers have been the primary facilitators in universal interventions such as SEAL, they are not specifically mentioned as facilitators to deliver psychological therapies in the papers promoting IAPTS (Richard and Whyte, 2009; Kinderman and Tai, 2007). Thus the expectation on the teacher to deliver the majority of the mindfulness course may have been over-ambitious.

The teacher acknowledged that initially he did not feel confident in the approach and relied on the CD. This suggests that the training did not fully equip the teacher with the skills which he required. It also provides evidence for the importance of self-efficacy as part of the provider characteristics (Durlak and Dupre, 2008). Increasing the length of intervention may have helped to develop the teacher’s confidence, understanding and belief in the approach so that he was better able to guide the children through the activities. Moreover future practitioners may want to consider providing teachers with the opportunity to practise with the children prior to the research, and receive scheduled supervision and reflection sessions. The teacher may have also benefited from discussing lessons with a colleague and so it may be helpful if more than one teacher was using the approach (similar to Joyce et al., 2010). The lack
of formal training also raises issues regarding the fidelity, reliability and validity of the programme (Durlak and DuPre, 2008).

However, the teacher demonstrated a significant development in his understanding and investment in the approach and he went from a ‘sceptic’ to discussing times when he had used it for personal gain as well as being able to identify the effect that it had had on the children. This provides evidence for Huppert and Johnson’s (2010) observation that the frequency of practice significantly impacts on the effect of mindfulness.

5.1.1.2 Development of the programme

The programme of work, though mainly developed by the researcher, was adapted by the teacher. This was encouraged during training and weekly conversations in an attempt to achieve a balance between adaptability and fidelity (Durlak and DuPre, 2008).

Initially, the teacher was wary of this and preferred to use the resources provided such as the CD. However, by week 4 the teacher had observed some positive effects of the activities and had developed his own understanding, thus he became more adventurous and started to incorporate his own ideas. He reported that he kept the activities he liked and changed and adapted other ones, but ensured that the focus was still the same. However, the observations showed that the lessons observed did not always match the lesson objectives in the plan (see appendices 1c and 21). The teacher acknowledged this and either reported that he had not moved on to the current week’s objectives, or that he would do one he felt comfortable with. This suggested that the teacher needed longer on some of the foci before he felt confident in delivering the lessons. The researcher did not insist that the teacher kept to the plan as the main purpose of the study was to explore the feasibility of the teacher as the facilitator and this is a key feasibility issue. The fact that he did not keep to the plan demonstrates that strict, detailed plans are not always helpful for everyone. While some teachers may have liked them, this particular teacher may have preferred to adapt. Or it may have been that he had not had time to look at the plan and so he was working from ideas for activities that he had already tried. However, while the observed activities were often not in line with the week’s objectives, they tended to be
activities suggested from different weeks and so it was possibly to consider fidelity, reliability and validity.

5.1.1.3 Fidelity, reliability and validity

A lack of specialist training in mindfulness may have resulted in the fidelity, reliability and validity of the programme of work being threatened. The teacher’s descriptions of his personal mindfulness practice relate to some of Kabut-Zinn’s (2005) attitudinal features such as ‘acceptance’ and ‘letting go’ as well as Hooker and Foder’s (2008) ‘active attention which leads to awareness’. However the predominant description of mindfulness in his interview was: ‘focusing on one thing’. While this is an important part of mindfulness it is not the only aspect. This observation should inform future practitioners developing training that there is a need to focus on the facilitators understanding of mindfulness before they deliver activities to others.

The teacher was able to identify the importance of the engagement of the senses to keep the children in the present moment (Hooker and Foder, 2008), suggesting that there was some validity in the activities that he chose to complete with the children. Observations by the researcher also confirm this and he was observed using scripts such as ‘and don’t worry if your mind has wandered, just notice this and try to bring it back to your breath’. Moreover, there were sessions that were completed with the use of the CD which is a published mindfulness article, specifically mentioning ‘awareness’, ‘attention’ and ‘loving kindness’. The use of published materials increases the reliability of the intervention as they are more easily replicated (Cohen et al., 2007).

The teacher also delivered several of the sessions from Cattley and Lavelle’s (2009) programme of work. While this is helpful in terms of measuring fidelity and reliability (Cohen et al., 2007), Cattley and Lavelle (2009) had not been empirically tested. Thus although it claimed to be based on research, have the 7 attitudinal features at its core and includes practices found in other mindfulness resources, its level of validity could be considered questionable.
As the teacher became more confident in the approach, he was able to provide several detailed descriptions of the types of activities that he had developed in later weeks. However, the researcher was only able to observe 1 day a week and while the teacher’s reports suggest that the mindfulness activities had reasonable validity, this information was not triangulated. While the teacher reported that his activities had ‘worked well’ and had helped the children to: ‘focus’ or become ‘calm’, it is unclear whether he prompted self-awareness of the engagement in activities. Thus it may have been that while the children were engrossed in their activities, they were not aware of themselves and their focus and so were not thinking and behaving mindfully.

‘Awareness’ is at the very core of mindfulness, however it is hard to achieve, particularly with younger children who are still developing their skills in metacognition. Thus even though the children may not have developed their awareness of themselves in the activities, it could be argued that supporting children of this age to purposefully focus on one thing with patience, trust and loving kindness, could act as a helpful and necessary precursor to mindfulness.

However the teacher also demonstrated times when his understanding and promotion of mindfulness was questionable. For example, one of the activities that he described involved him taking a picture of the children and asking them to look carefully at the picture and pick out behaviours that they viewed as ‘unacceptable’. While he was trying to promote self-reflection and help them focus on a moment, the moment was in the past not present. Moreover the task requested the children to be judgemental and so it did not support the ‘non-judgemental’ attitudinal feature (Kabut-Zinn, 2005). Moreover, this activity may have made some of the children feel uncomfortable or embarrassed, particularly if they could see that they were doing something that they should not be.

While the teacher had obviously made considerable effort to understand, practise, adapt and deliver a mindfulness curriculum, due to the lack of training there did appear to be some short comings in his understanding of the approach in terms of what mindfulness is and what it is not. The theme ‘calm’ highlighted a possible trap for mindfulness facilitators in that it could be assumed that any calm or quiet activity demonstrates mindfulness. This is not the case as a child engaged with a calm quiet
activity may be thinking about other things or completely engrossed in the activity and in flow (Csikszentmihalyi, 1997) rather than being aware of themselves and their engagement with what they are doing.

While this summary of the level of fidelity, validity and reliability of programme development and delivery is mixed, the teacher appeared to be doing the best that he could with the resources available to him. There were very few empirically tested schemes of work available, which may be another reason why the literature advises that practitioners have a good understanding of mindfulness so that they can ensure the activities they use are as mindful as possible. However in the circumstances present, the level of fidelity to the resources that the teacher was given could be considered reasonable as he stayed close to the scripts and reported that his adaptations followed the same objectives. This in turn provides some evidence for the validity and reliability of the programme of work. Having said this, it would be interesting to compare the experiences and views of the current teacher with those of a teacher / practitioner who had experienced the full training. Moreover it would be interesting to see whether the levels of self-regulation improved with this.

5.1.2 Enablers and barriers for implementation

This section considers the enablers and barriers present during the implementation phase of the study.

5.1.2.1 Successful activities

In general, the teacher noted that the most effective practices were ones that involved ‘quiet doing’. These tended to be simple, familiar activities that required some effort from the child in terms of focused attention, but could be completed independently. Specific examples included eating and observational drawing.

General comments about the success of activities included the variety of practices which ‘kept it fresh’ and meant that the children did not get bored. The teacher also noted that the activities tapped different senses and he stated that this was engaging
for the children. This had been done purposefully and each week’s objectives focused on a different sense to make the activities concrete and meaningful for the children (Hooker and Fodor, 2008).

During the observation of mindfulness practice, the children engaged much better when they completed a preliminary routine. For example when completing the awareness of breath activity, they were first reminded to sit cross legged with their hands on their knees and their eyes closed. During week 3 of the practice the children appeared well rehearsed in this and completed it without a fuss. They were then able to engage with a short practice from the CD. This supports Flook et al.’s (2010) findings that completing a short, regular introductory practice supported the children into the lesson.

5.1.2.2 Activities that were less successful

While some of the activities were reported on very positively, some were considered to be less successful, thus the activities could be considered as both enablers and barriers to implementation.

One activity that was viewed as unsuccessful by the teacher was the chocolate button activity. This was completed on a warm day and the chocolate began to melt. The children became excitable and struggled to focus and the noise level rose. While it appeared that the children were simply over-excited and unfocused, this is one of the activities that stuck in their minds suggesting that the experience was poignant for them. Although they were not silent and some were squirming in their seats, each child was focused on their piece of chocolate and acutely aware of how the chocolate was changing. They reported that they were also aware of the smell of the chocolate and how much they wanted to put the chocolate in their mouths. Therefore, it seems plausible that the children were in fact acutely aware of their senses and present in the moment. Moreover the teacher used a breath awareness activity to calm the children afterwards and this had significant effects on their level of arousal.

However it is possible that the chocolate activity had not experienced a heightened level of awareness but simply a sense of enjoyment and that they were in ‘flow’ (Csikszentmihalyi, 2007) and the children were lost in the moment, rather than being
reflectively present. Again this highlights the issue of whether the children were at the developmental level where they were able to access such an intervention. As noted by Klenberg et al. (2001) and Rebok et al., (1997), while focused attention develops from age 7, it does not reach maturation until age 10, thus it may have been inappropriate to expect that all children in year 3 could access such an intervention. Moreover, studies that have included slightly older participants have obtained more positive results (Joyce et al., 2010). Having said this, the practice may have helped some of the children to begin to develop some of the pre-requisite skills of focused attention, as well as develop their awareness of the potential benefits of being able to focus their attention.

In general activities seemed to be less successful when the children had been affected by environmental factors such as wet play and warm weather. At these points it is possible that the teacher had also been affected by these factors or was feeling less at ease with the activities. If the children were not quiet and ready to complete the practice, the activities were less successful.

5.1.2.3 Timing

The timing of the activities within the school day was reported to be optimal in terms of feasibility. The teacher reported that settling the children after lunch was often difficult and the mindfulness activities gave the children the opportunity to re-focus. However the teacher reported that he would have preferred to have begun the year with this practice so that the children were at their freshest and were able to adopt the practice as habit.

Moreover, previous studies using children of a similar age, used less regular but longer sessions (Flook et al., 2010; Joyce et al., 2010; Napoli et al., 2005; and Semple et al., 2010) and gained more positive effects. While several of these studies were facilitated by trained outside professionals, the programme in Joyce et al.’s (2010) study was delivered by teachers. The difference here was that they used slightly older participants and completed one longer practice as well as regular shorter practices and the intervention ran for 10 weeks rather than 8.
The teacher also reported that it did not pose a problem in terms of curriculum time. The school rule was for the first 15 minutes after lunch to be a ‘calming’ period for the children, when they were either expected to read or to complete some other quiet activity. The teacher felt that he could justify the use of time for mindfulness as it would help to re-focus the children and at times impacted on their productivity for at least the next half hour, if not the whole afternoon. This is evidence for Durlak and DuPre’s (2008) findings of the importance of community factors. In this case, while the wider school community did not take on the mindfulness intervention, the systems in place were supportive of it, which enabled the intervention to go ahead.

5.1.3 Environmental and community factors

Joyce et al., (2010) stated that enabling factors included: joint teaching of the activities, involving a greater number of staff and parents; and creating the ‘right’ environment during the longer sessions, e.g. lowering the lights and using candles. Meanwhile barriers included a lack of time and a minority of students who did not engage.

As stated in Bond et al. (2011), there are a number of enabling factors that support the long-term sustainability of interventions, one of which would be a mindfulness ‘champion’ who has received training and has experienced the positive effects. While in some regards the teacher in the current study could be considered to be this ‘champion’, it could be argued that a greater level of training would have embedded him further into this role.

Another factor cited by Durlak and DuPre (2008) for successful implementation is organisational structure. In the present study, it could be argued that a micro-organisation was created within the classroom, however the impact is likely to have been greater if there had been a whole school emphasis as well as involvement from parents.

Bond et al. (2011) also mention potential threats to long-term sustainability which include a lack of funding and reduced external support once the pilot was complete. This supports comments from the teacher about the need for regular contact as well as Durlak and DuPre’s model of effective intervention.
5.1.3.1 Commitment from facilitator / EP / Class teacher

The teacher demonstrated an investment and belief in the programme of work, through the development of his own activities. Thus it could be argued that one of the enablers of the programme may have been including the teacher in the creation and delivery of the activities. This supports Kabut-Zinn (2003) and other practitioners such as Huppert and Johnson (2010) who state the importance of investment from the mindfulness facilitator; or, as stated by Durlak and Dupre, (2008) and Bond et al. (2011) a ‘champion’ in school. The teacher’s comments suggested that he grew in confidence during the process which supported his interest and motivation in the approach. He also began to practise mindfulness at home to support his own mental health and well-being. One of the main effects of this he reported was that it would send him to sleep. However, he reported that he did it to try and quieten his mind when it was feeling particularly ‘full’. This supports Durlak and DuPre’s (2008) model of effective intervention implementation in terms of provider characteristics. The above suggests that while the teacher already had an awareness of the need for intervention, as the intervention went on, he developed an awareness of the ‘potential benefits of the innovation, self-efficacy and skills proficiency’ (Durlak and DuPre, 2008, p. 336).

While this could be considered promising, it does not provide information on what would happen to the intervention if the teacher had shown less commitment. As with other therapeutic approaches, studies have found that mindfulness will not suit everyone (Joyce et al., 2010) and it is possible that other teaching staff may not engage with it as much as the current teacher. It is likely that if the teacher had not been as invested then the programme would have been delivered with less frequency and enthusiasm and thus results would have differed. While Durlak and DurPre (2008) would argue that the intervention would be less successful, the current research cannot draw any firm conclusions here.

Facilitator engagement is a factor that is difficult to control for as it cannot be forced and it is often not clear during initial meetings as without prior knowledge, they are unlikely to know themselves. Thus only offering it to school practitioners who already
show an interest in the approach will not ensure commitment as facilitators may change their minds. Moreover this has major implications for the children and could be considered unfair that children will only experience the intervention if their teacher shows interest.

Conversely this also raises the issue of child consent. In this case both children and their parents were given the opportunity to opt in and were told that they could discontinue at any point. While this may cause logistical difficulties for practitioners, it is crucial that this opt in notion is adhered to as making children complete the intervention could be considered unethical (HPC, 2009).

Using a trained professional to deliver the programme could solve some of the facilitator issues, however it would raise further barriers in terms of financial resources accessibility. Moreover some commitment would be required from the teacher in terms of supporting the approach by modelling and encouraging practice outside of the sessions. Another way to promote teacher engagement and skill is to involve the teacher in more in depth training, with colleagues and a greater number of co-delivered sessions so that they feel supported and skilled (Bond et al., 2011).

5.1.3.2 The challenges for teachers

Teacher reports on the stress that occurs when pupil behaviour is poor (Kyriacou, 2001), provides a justification for implementing an intervention which seeks to promote skill in self-regulation. However other commitments and foci from schools, may work against this. For example, the comparison group teacher reported on a range of other stressors that teaching staff experience. Key to this was the overwhelming feeling of the amount and diversity of work that needed to be completed, also identified by Jacobsson et al. (2001). The comparison teacher reported that when behaviour is challenging then this becomes the biggest stressor and the primary concern. However the stressors of needing to push the children on, plan and deliver lessons and monitor and assess progress are challenges which will always be present. Thus, while the promotion of self-regulation may help to improve behaviour and so reduce stress; training, developing and delivering mindfulness could be seen as a stressor in itself.
Champions of mindfulness would argue that mindfulness practice is most relevant in these situations and being able to quieten the mind in environments that are complex and hectic can be rewarding and help individuals to refocus. Moreover, evidence from the current study along with findings from Joyce et al. (2010) demonstrates that the teachers valued it enough to continue with it, despite time demands.

5.1.3.3 Joint working with TEP

Another key enabler mentioned by the teacher was the support of the TEP. He reported that without the weekly contact with the TEP in terms of shared delivery, observations and discussions, he would have been less likely to complete the programme. This provides evidence for the importance of the training and technical assistance (Durlak and DuPre, 2008).

In this case the TEP was able to dedicate a significant amount of time to support the delivery of the intervention. However the time was allocated through research time rather than EPS time. The teacher reported on the value of having this close link with the EPS, however this is something that may not always be possible. In a climate where EPSs are increasing their traded capacity, the current intervention is likely to be something that is bought in, rather than provided through time allocation. Therefore, it is likely that schools will not only want some indication that they are buying into something that is worthwhile, but also that they will be well supported through the process with regular supervision and consultation to aid reflection and promote positive future practice.

These comments and observations suggest that it is possible for a class teacher to deliver a mindfulness scheme of work that is of a reasonable level of fidelity, however, the support of an EP/TEP in terms of supervision and providing a positive view of situations is crucial, particularly when the intervention is less familiar or less of a school priority. Nevertheless it must be noted that this information comes from the experiences of 1 class teacher and these views and experiences may vary widely according to the individual’s motivation, understanding and belief in the approach and their relationship with their trainer. Having said this, the current pilot study helps to identify ‘active ingredients’ in the process.
5.1.3.4 Robust evidence for approach

The range of clinical evidence which supports the use of mindfulness could be viewed as an enabling factor for LA investment in the development of MBIs (Cline, 2012). However, while there was some evidence to support its use at the universal preventative level, in primary schools (Flook et al. 2010; Joyce et al., 2010; Napoli et al., 2005) as well as evidence for the effectiveness of MBSR with primary school teachers (Gold et al., 2010) this is still a developing area. Therefore mindfulness as a universal, school-based intervention is not widely known and so to encourage schools to invest in the approach, a certain element of promotion is required.

It is difficult to measure the effects of a preventative measure, as future possible difficulties cannot be predicted. As Blank et al. (2009) note, the literature to support whole school interventions is not well developed and it is difficult to evaluate interventions that are curriculum-based because of the lack of control of over other factors. Further Humphrey et al. (2010) reported that whole school interventions such as SEAL were difficult to evaluate due to feasibility factors such as the availability of evaluators and facilitators. Moreover, teachers tended to have different interpretations of the SEAL curriculum and thus emphasised different components. As Humphrey et al. (2010) note, it is sometimes difficult to extrapolate which factors were already a feature of teacher practice and which were a result of the intervention. For example, in the current study, while the teacher mentioned that he used the approach when the children were upset, he may well have been doing something similar prior to the MBI.

While some of the difficulties noted by Humphrey et al. (2010) were overcome through careful time-tabling, others were very prominent. As Humphrey et al. noted, there was a difficulty measuring progress in social and emotional domains as well as disentangling the effect of the intervention from other things that were happening in school. Moreover some children may have found it difficult to access therapeutic interventions when they have not had the support at home and do not have an awareness of the importance of social and emotional well-being. Furthermore, the current intervention was not taken on by the whole school and so the intervention
group lacked the continuity, consistency and repetition of terms and mindfulness practice that were likely to have been present in the SEAL interventions.

The qualitative data from the current research, provided some positive evidence for the impact of mindfulness, which could act as an enabling factor for future classroom-based MBIs. This will be discussed further in research question three. However, quantitative data provided little conclusive evidence regarding the effects of a mindfulness scheme of work on the cognitive, emotional and behavioural self-regulation of pupils. There are multiple possible reasons for this which will also be discussed in more detail when answering research question three. However, this lack of quantifiable data could act as a barrier for future mindfulness interventions.

5.1.3.5 Value / relevance of mindfulness in the school curriculum

One way of ensuring that mindfulness has its place in the school day is promoting the relevance that it has to the curriculum. While the intervention group teacher mainly focused on the impact that it had on cognitions and emotions relating to behaviour, mindfulness could also be linked to several areas of the curriculum.

Cattley and Lavelle (2009) state that while ‘Mindfulness for Schools’ is a PSHE resource for the secondary curriculum, it has cross-curricular links with Science, P.E., R.E., Philosophy, Psychology, English and Citizenship. The activities include noticing physiological changes and developing knowledge of neurology, while also including specific literacy resources and stretches that could be used in P.E. Likewise the Mindup programme (Hawn Foundation, 2011) provides activities that include cross-curricular links with Science (learning about the brain); P.E. (tuning into the body during exercise); language arts (recording what is noticed in different forms such as poetry) and social emotional learning (developing reflective, self-regulated thinkers). The Mindup curriculum states that practice can be completed throughout the day and it can be particularly useful at transition points e.g. beginning of the day, after lunch, end of the day. Moreover it is likely that when a whole school approach is taken (as with SEAL) and it is promoted in every aspect of the school day, through assemblies,
discussions with other teachers and displays around school, effectiveness may also be improved.

Thus it could be argued that mindfulness practice can be incorporated into many aspects of the curriculum. In the current study, while a range of activities were used, explicit links between activities and areas of the curriculum were not made. However, the teacher did promote a range of skills in the activities that he used such as observational drawing, personal reflection and concentration. He also reported that he used mindfulness practices at times when he felt the class needed to re-focus. This suggests that regular practice, across the day, in a variety of subjects, may help maintain focus and increase feelings of calm.

5.1.3.6 Use of the term ‘mindfulness’

In this case there was only one child who did not have consent to participate. She was able to go to the class next door and it was not reported to be a problem, however, she may have felt isolated, left out and different from the other children.

There was no explanation given as to why her parents / carers had not permitted her to take part but it may have been regarding the connotations with Eastern religion, or simply the unknown. While it is possible that this could act as a significant barrier to implementing this type of intervention at the whole school level, previous studies have not stated that it has been a particular problem. Klatt et al. (2013) reported that 1 child’s parents withdrew them from the study citing ‘religious reasons’, which echoes the withdrawal rate from the current study. However, it may be that other studies have been prohibited due to religious reasons but that this has not been recorded. Moreover, studies such as Joyce et al. (2010) predicted phrases such as ‘meditation’ may not be well received, and so they promoted the MBI as a ‘self-awareness and relaxation programme’ (p. 20).

Even if there were only a small number of children who were withdrawn from the intervention, it poses a feasibility issue of catering for these individuals and how this withdrawal would make them feel. Moreover, if a critical number of children were
withdrawn, it would be difficult for this intervention to go ahead due to the logistical implications. However this critical number would vary in different settings.

Concern from parents / carers around the ‘unknown’ could be addressed through mindfulness awareness sessions for parents. However, as found in the current piece of research parents / carers are not always able to or willing to attend such training, thus careful consideration about when and where this should be held is required.

**5.1.4 Summary**

In summary, there are a wide range of factors that will affect the development and implementation of a mindfulness scheme of work with school teachers in a mainstream primary setting. While positive data in the current piece of research, along with previous positive findings and arguments for the relevance of mindfulness to the curriculum would support the development and implementation of MBIs, this does not mean that the approach is suitable for all and there are also ethical and logistical implications to consider. Moreover there is a lack of conclusive empirical data for mindfulness interventions with young children, particularly when a well-trained facilitator is not present.

The teacher greatly valued the variety of activities that were available in the programme and this variety inspired him to build on the ideas and produce further activities that were relevant to the learners in his setting. However, while the observed activities generally demonstrated evidence of fidelity, the level of adaptation did raise questions as to the validity and reliability of the unobserved practices.

The teacher valued mindfulness and used it to cope with his own stresses and to focus on one thing at a time. Moreover, while he may not have perceived his personal engagement as directly contributing to the effectiveness of the intervention for the children, it seems likely that his commitment and personal investment in the approach was subconsciously communicated through his enthusiasm and dedication to the delivery of the sessions. The teacher also reported positively on the feasibility of implementing mindfulness into the school day.
Many of the factors that affect development and implementation can either act as barriers or enablers. For example if teachers and schools believe that it will have a positive impact and place a strong value on it, then they are likely to commit time and money to appropriate training and ensure that it has a firm place within the school day. Conversely, where there is a lack of commitment and value, effects are likely to be diminished. Factors that might nurture the commitment from staff and parents include more rigorous findings about the effectiveness of the intervention and clear training and support to develop practitioner confidence (Bond et al., 2011).

5.2 Linking the results to RQ2 (What are the perceived benefits and barriers of completing a mindfulness scheme of work from a pupil’s point of view?)

This question is answered through reference to the themes that arose from the interview with the group of children from the intervention class. It will focus on the comments about the activities as well as considering the comments made about the effects of mindfulness practice. These comments will be structured in terms of ‘benefits’ and ‘barriers’

The themes that arose in the comparison group child interview provide a contextual background for the types of social, emotional and behavioural aspects that are relevant to year 3’s. However, it must be noted that the two classes were reported to be quite different in terms of their social, emotional and behavioural development.

The themes that arose in the comparison group indicated that friendships and relationships were important to them and that they were aware of some triggers for emotional reactions. The children were also able to identify ‘problems and solutions’, though much of their talk was problem focused rather than solution focused. They also demonstrated that they had the ability to reflect on their behaviour, though in the most part, they found it easier to reflect on a peer’s behaviour.
5.2.1 Benefits of a mindfulness scheme of work from a pupils point of view

5.2.1.1 Positive views on activities

The children identified a range of activities that they enjoyed. Activities that seemed to be enjoyed by the majority of children were the eating activities. Mindful eating is an activity that is promoted in a range of mindfulness programmes for children including Hooker and Fodor (2008), Saltzman and Goldwin (2008) and Cattley and Lavelle (2009). Mindful eating is a concrete activity that promotes attention to the external environment (Hooker and Fodor, 2008) by incorporating at least 4 of the senses (sight, touch, smell and taste). Some of the children reflected on their thinking during the activities ‘and I thought I’m going to lick it’, and their senses ‘...and it smells lovely’ and ‘...you could feel it...’ However, while they all reported that they enjoyed it, their reasons tended to be ‘because it tasted nice’. While mindfulness has links to positive psychology and aims to nurture positive feelings such as enjoyment and the appreciation of taste, the fact that the children reported that they enjoyed this activity may simply be about them enjoying the chocolate, rather than enjoying eating the chocolate mindfully, or mindfulness heightening their feelings of enjoyment. Moreover, when one of the eating activities was completed, it was done on a warm day, where the chocolate was melting and so it was difficult and messy for the children to complete the whole process slowly and mindfully.

Having said this, there were also positive reports about eating the fruit, suggesting that it was not just the taste of chocolate that they enjoyed. When observed, the children took their time with the activity, really noticing the texture and taste of each bite. This activity was also viewed positively by the teacher and so it was repeated.

Baer (2003) reported that activities should be fun, interesting and engaging and that if activities met these criteria, then they were likely to be continued following the intervention. While this continuation of the practice was not something that was planned in this particular piece of research, some children indicated that they would recommend the activities that they enjoyed and engage with these in the future. Moreover future pieces of research should promote and measure the longevity of
MBIs, as mindfulness is not a time-limited intervention but a long-term approach, or as Kabut-Zinn (2005) intended it: a way of being.

Most of the children stated that they felt the timing of activities was suitable. However there was one child who reported that she would like the sessions to be longer and another who would like them to be shorter. This is quite likely to happen with a diverse group of young people and individual differences were expected.

5.2.1.2 Noticeable improvements in cognition, emotions and behaviour

The children identified some positive changes in their emotions including reported improvements in levels of happiness and feelings of calm for themselves and their teacher. This supports findings from Huppert and Johnson’s (2010) study which found that ‘calm’ played a central role, particularly in terms of motivating young people to train their attention. Likewise, Wall (2005) found increased reports of calm. Thus, while feelings of relaxation and calm may not be the ultimate goal of mindfulness practice, they appear to be common by-products of the activity. Moreover, ‘calm’ is universally accepted as a positive, aspirational emotion (Kitayama et al, 2000).

Some children reported that they felt that it was ‘good for their brain’ and that they had noticed improvements in their behaviour and even in their academic ability. While these comments may support Fontana and Slack’s (1997) findings that mindfulness may improve memory, as well as Ivanovski and Malhi (2007) conclusions that mindfulness improved attentional, perceptual and cognitive processes, these comments were not triangulated by other data and so must be treated with caution. It is possible that the children were being affected by participant effects (Cohen et al., 2007) and providing comments that they felt the researcher wanted to hear. Moreover, the questions could be considered leading. For example, the children were asked if they had ‘noticed anything different about the way that they think’, suggesting that they should have noticed something. There was also praise in the interview. While the researcher attempted to praise contributions, rather than specific comments, it is possible that comments that were preferred were treated more positively.
A few children were able to discuss times when they had used mindfulness as a tool to keep themselves calm when they were in situations which might provoke emotional reactions. Furthermore, several of the children were able to discuss other situations when they could practise mindfulness outside of the classroom.

**5.2.1.3 Summary of benefits**

While the children were able to identify a range of benefits of mindfulness, including the enjoyment of some of the activities and some perceived positive changes in their cognitions, emotions and behaviours, they may at times have been affected by demand characteristics (Cohen et al., 2007). For example, some of the questions asked in the semi-structured interview could be interpreted as leading. For example asking the groups ‘which activities did you enjoy?’ presumably that there were some activities that they liked, when in fact there may have been some children who did not enjoy any of the activities. The children may also have been affected by group and polarisation effects (Cohen et al., 2007). For example when asked if they had noticed any improvements, one child started to talk about his work improving and another child prompted him to say ‘literacy’.

**5.2.2 Barriers of a mindfulness scheme of work from a pupil’s point of view**

**5.2.2.1 Negative views on activities**

While many of the children reported enjoying the activity where they ate fruit mindfully, there were some children in the focus group who reported that they did not enjoy this. One child stated that they did not like the taste, the other reported that ‘it made my mouth go all weird’. This statement suggests that while the child reported that he did not particularly enjoy the activity, he may have been experiencing increased attention at the point when he was eating the fruit, which could indicate success in the process, even if he did not particularly enjoy it.

There were also several negative comments about the awareness of breath activity and the session on the brain. Several of the children agreed that the pace of the breath awareness was too slow and that they practised it too frequently. While it is important to acknowledge these negative comments about one of the core activities, it
also probes the question ‘should mindfulness always be fun?’ When adults practise mindfulness they are told that while anyone can do it, it is not easy and it takes commitment. The idea is that the benefits are so great that adults will not mind investing their time and effort and sometimes feeling a little bored, if in the long term it will help them to experience more positive feelings. However, children, particularly those who struggle with aspects of self-regulation such as planning, may find it difficult to invest in something unless they receive an immediate positive effect. That is why the programme of work planned was varied and closely linked to a wide range of senses. Thus while the breath activity is an important aspect of mindfulness, adjustments need to be made when working with a group of younger children. To focus attention further, children could have completed the task lying down, with an object on their diaphragm that they could observe and feel rising and falling with their breath.

There were also some negative comments about the brain activity. However it must be noted that these came from just one child who said it made him feel squeamish. The other children did not join in with these comments and so this could be considered to be individual opinion. This confirms findings from Kempson’s (2012) work with secondary school aged pupils. Kempson found that there was distinct variability in pupils’ perceptions, which highlighted how a range of social, psychological and functional factors impacted on their experience of the curriculum. Other research which features children’s perceptions includes Case-Smith et al. (2010). However in general the inclusion of children’s perceptions of mindfulness in the literature is limited, thus this is one of the unique contributions of the current study.

5.2.2.2 Summary

There were a variety of positive comments about the intervention, despite the fact that the group may have been over-representative of children who did not respond as well to the mindfulness practices. There were a group of 5 boys / 25 children who frequently found it difficult to concentrate and would sometimes disrupt. 3 of these children were in the focus group. This effect was heightened further as one of the females who had responded well was off on the day of the focus group.
The children were able to provide anecdotal evidence for the effects of mindfulness on their cognitions, emotions and behaviour. They were also able to identify times when they could use the practice in the future.

One reason for some of the negative comments is that the children were very young and may not have all been ‘ready’ to adopt mindfulness fully. As stated by Ritchhart and Perkins (2000) nurturing mindfulness consists of 3 key components: teaching students the skills to think and behave mindfully (developing their ability); helping students to become aware of the value of mindfulness (nurturing inclination); and helping them to notice opportunities to practise mindfulness (encouraging sensitivity). While the teacher talked to the class about how it was useful and there were some lessons about the brain, they may not have been accessible for all the children. Thus the focus at this stage was developing their ability, rather than raising the awareness of the value of it.

Moreover, no therapeutic intervention is going to be suitable for all children and so it is likely that some negative comments would be made.

5.3 Linking the results to RQ3 (To what extent does an 8 week mindfulness scheme of work impact on the perceived self-regulation and well-being of a group of year three children?)

This research question is answered using data from the self-regulation questionnaires as well as information gained from the literature review and the 4 interviews.

5.3.1 Results from the self-regulation questionnaires

The self-regulation questionnaires were administered to both classes. It is worth noting here that the researcher had been invited to come and work with the particular intervention class because they were demonstrating a range of challenging behaviours. Conversely, the comparison class were described as unusually well-behaved by their class teacher. This is important as it is likely to have impacted on the data gained from the questionnaires as well as the semi-structured interviews.

While previous studies (Brown and Ryan, 2003; Flook et al., 2010; Masicampo and Baumeister, 2007; and Napoli et al., 2005) have shown significant changes in elements
of self-regulation in children and young people, there were no conclusive findings in the current study.

Although the overall mean in the intervention group decreased, indicating raised levels of self-regulation following the intervention, the mean in the comparison group also decreased, suggesting that this could be due to chance or other factors such as a social maturation.

Likewise, while the greatest change occurred with the boys on the ‘behavioural’ construct, which supports the teacher’s observations about behavioural improvements, the change was small and there was not enough data to run a test of significance. Moreover any difference could be because the children in the intervention group were more exposed to the language and ideas presented on the behavioural construct measures e.g. ‘concentration’, ‘distraction’ and ‘fidgeting’.

There are a number of possible explanations for the lack of change in the results from the questionnaires:

Firstly as Klenberg et al. (2001) found, rapid changes in focused attention occurs during the period of 7-10 years and skills in these areas do not reach maturation until age 10. Therefore while it could be argued that mindfulness could have encouraged the development of these skills, the lack of change on the self-regulation measure may indicate that the children were not at the appropriate developmental stage to successfully engage and achieve success in focused attention tasks. Certainly as Rueder et al. (2005) note, prior to seven years, children’s ability to exert effortful control to solve conflict is still developing.

While it could be argued that this is a crucial time for an intervention that promotes self-regulation, some children may be at an earlier stage of meta-cognitive development (Lai, 2011). Furthermore, the request in the current study for the children to reflect honestly and openly on their thoughts, feeling and behaviours may have been a real challenge for the group, particularly if it is something that they are not used to doing. It was predicted that the children may also have been affected by how they were feeling on the particular day that they answered the questionnaire.
The fact that the changes were small may also indicate that a child’s perceptions of their cognitive, behavioural and emotional self-regulation may be relatively fixed in their sense of self. Thus they may have needed more regular MBI including structured support with thought reflection to notice any changes in themselves.

However, other researchers have noted positive results with young children. For example Semple et al., (2005) completed a 6 week trial with 5 anxious 7 – 8 year olds (3 boys, 2 girls) and found improved academic functioning or reductions in clinical symptoms for all children. Moreover all children showed improvements on at least one of the measures (academic functioning / internalising / externalising problems). While this study could be criticised for the small sample size, perhaps children of this age need to practise mindfulness activities in smaller groups. This would support the teacher’s observation that he would have liked to have completed the intervention with the boys who struggled most, in a group by themselves.

Conversely, it may have been that because the children in Semple et al.’s (2005) study demonstrated such extreme initial symptoms, an effect was more easily achieved. It could also be that increased adult contact and addressing of their difficulties had supported these constructs. Moreover, the research used specific, standardised measures, several of which have been measured for validity and reliability: Feely Faces (Semple et al., 2005); Child Behaviour Checklist (Achenbach, 1991); The Multidimensional Anxiety Scale for Children (March, 1997); and the State-Trait Anxiety Inventory for Children (Spielberger et al., 1973).

While Napoli et al. (2005) found improvement in attention and social skills and decreases in test anxiety in N= 1st – 3rd grade children (aged 6-11), following a 24 week programme of breath awareness and yoga, it may be that the largest improvements were with the eldest children and this is not specifically stipulated. However it may also be that although the training was less regular (by-monthly), the sessions were longer (45 minutes) which may have allowed for more in depth practice.

Carmody and Baer (2009) found that the correlation between mean effect size and number of in-class hours was non-significant for both clinical and nonclinical samples using MBSR. However it may be that there is a critical minimal amount of time that is
required. Moreover, the sessions in Napoli et al.’s study were conducted by experienced mindfulness facilitators and a specific space was created where desks were pushed back and mats were placed on the floor, which may have added to the overall impact of the intervention.

Nevertheless, Flook et al. (2010) who completed a randomised controlled trial using an 8 week mindfulness awareness training programme with 7-9 year olds from 4 separate classes at an on-campus university elementary school in Los Angeles, found improvement in behavioural regulation, meta-cognition and general executive control. In this study there were 3 sequences of activities, the first a sitting awareness (3 minutes), the second, activities and games to promote the weekly learning objective and the third a body scan (5 minutes). As the weeks went on, time spent on the 1st and 3rd sequences increased while time spent on the middle sequence decreased. Again the delivery of sessions was from a trained facilitator and the children were in a special ‘space’. Thus the slightly longer sessions, delivered by a trained facilitator in a special ‘space’ may have all contributed to the positive results. While this does suggest that mindfulness could be appropriate for this age group, it must be noted that measures were completed by parents and teacher who may have been invested in the approach and subject to participant effects.

Self-regulation’s multi-faceted nature means that it is a difficult concept to provide a definition for (Boekaerts et al., 2005). This combined with the fact that young children are still developing their meta-cognition and self-regulation are likely contributing factors for the researcher’s difficulties in finding a suitable measure.

Thus negligible changes in the self-regulation questionnaire do not necessarily mean that there were no changes on these constructs. Another possible hypothesis was that the measure used was not sensitive enough to measure this change. While the measure had been piloted on a group of year threes, they were a separate group in a different setting, therefore they may not have been as representative of the target classes as was anticipated.

Another aspect to consider is the fact that some of the children may have become more aware of their behaviour. This could have meant exaggerations in positive
responses initially and more realistic responses following the intervention which could have lead to similar responses pre and post (Cohen et al. 2007).

Moreover, when considering the themes that arose from the group interview with the intervention group and intervention class teacher interview, it appears that some change in the children’s self-regulation was observed.

One of the key limitations to this study was that it was insufficiently powered due to the small sample size. The ANOVA showed that being in the mindfulness intervention class did not have a significant effect on scores on the self-regulation measure: F(1.0, 83) = 1.07, p>0.31. However, it is possible that a type two error occurred here due to the small sample size. Thus future studies may want to consider undertaking power calculations or calculating sample size on the basis of existing studies prior to undertaking the research.

5.3.2 Qualitative evidence for improved self-regulation

Qualitative data on the perceived impact of mindfulness on self-regulation was gathered through semi-structured interviews with the intervention group class and teacher. Information was also gathered from the comparison group about their self-regulating behaviours to see if they differed from the intervention group.

5.3.2.1 Teacher interviews

The class teacher in the comparison group reported that behaviour in her class was generally ‘good’, whereas the intervention group class teacher reported a range of challenging or disruptive behaviours, particularly with the boys in his class. Therefore, whilst the comparison class were similar in that they attended the same setting, lived in the same area and were taught using the same curriculum, there appeared to be significant individual differences in terms of their thoughts, feelings and behaviours, prior to intervention. It must also be noted that this is based on teacher reports, which are subjective and reflect their own personal views and constructs of behaviour.
Data from the intervention group class teacher suggested that he had noted a range of effects of the intervention on behaviour, emotions, and cognitions. This included: increases in the children’s behaviour awareness / control; increased emotional awareness; increased feelings of calm; and increased concentration. This supports findings from other studies such as: Broderick and Metz (2009); Case-Smith et al. (2010); Flook et al. (2010); Klatt et al. (2013); Huppert and Johnson et al. (2010); and Mendelson et al. (2001).

The following subordinate themes from the intervention group teacher interview provide evidence for and against the effects of mindfulness on the children’s self-regulation, mental health, and well-being.

5.3.2.1.1 Improved emotional awareness / control

This theme arose from anecdotal evidence from the teacher about how he had used the awareness of breath activity with the children when they were crying or when there had been an argument and they were frustrated. While the teacher noticed improvements in the children’s emotional awareness and control, he felt that they required guidance by him to use the skill. For example when the children were upset, he encouraged them to stay in the moment (Germer, 2005) and to ‘cry it out’ so that they could ‘let go’ (Kabut Zinn, 2005) and then discuss and move on.

Thus the teacher demonstrated development in his own emotional awareness and his ability to attune to the children’s emotions. He reported that the practice enabled him to think of more effective methods to calm the children. Thus it may be evidence for increased mindfulness in the teacher. This links to Ritchhart and Perkins’ (2000) statement that teachers should not only teach children the skills to practise mindfulness but also help them to notice opportunities to practise it.

It is also possible that the children were experiencing increased awareness and control at other times but the teacher was unaware as there were no reported problems. Thus it might have been helpful to encourage observations of the children on the
playground, prior to and following the 8 week intervention to see if there were any observable differences.

Although some of the children in the semi-structured interview offered times when they had practised mindfulness independently, fidelity to the approach could not be measured in independent practice. It also seems inevitable, due to the age and experience of the children, that they would require support in their practice. Therefore it could be argued that while the extent to which the children were successfully able to practise mindfulness independently was unclear, mindfulness practice supported the teacher’s awareness of the children’s emotions and provided him with a strategy to support them.

While it was reported that the MBI had a direct impact on the children’s emotional regulation, it could also be argued that they may not have been completing mindfulness but simply breathing deeply and slowing and stopping to think. While mindfulness requires this patience (Kabut-Zinn, 2005) and quietening of the mind, its main goal is not that of relaxation. Instead the aim is for the individual to be acutely aware of what they are doing so that they are ‘more aware and accepting of whatever state the body and mind are in’ (Hooker and Fodor, 2008, p78). However the fact that it helped them to calm suggests that it had a positive impact on their well-being.

5.3.2.1.2 Improved behavioural awareness / control

The teacher also perceived that the intervention had a positive effect on the children’s awareness of their behaviour and, for some, the ability to control or self-regulate their behaviour. This is commensurate with descriptions of mindfulness as increasing awareness of the present moment (Hooker and Fodor, 2008). However the teacher still talked about needing to guide the children through this and in general they did not seem to have internalised this as a strategy that they could use by themselves. While this appears positive, as Rosch (2007) states, it is possible that the teacher was affected by participant effects or a personal investment in the approach and so over-reported positive effects.
No observations regarding general behaviour at other points in the day were recorded. However this does not necessarily mean that no change occurred. It may simply mean that the teacher did not notice subtle changes as he was not attuned to them and he was not asked to complete specific questionnaires like in Flook et al. (2010). Conversely he may have been overtly looking for calm and focused behaviour following intervention and thus been affected by researcher effects (Cohen et al., 2007).

5.3.2.1.3 Calm

Similar to Case-Smith et al. (2010), both teachers and pupils reported increased feelings of calmness directly following mindfulness practice, although these feelings of calmness lasted for differing amounts of time.

While feelings of calm have been found to be a by-product of mindfulness practice, it is not the overall aim (Hooker and Fodor, 2008). This effect could be gained from doing relaxation and it is not specific to mindfulness per se. However, when people are calm, they are more likely to be able to function effectively and better able to exert self-control and behave reflectively which Zimmerman and Campillo (2003) state are key to self-regulation and well-being. Moreover, Huppert and Johnson (2010) found that the promotion of ‘calm’ was a motivating factor for teenagers and that they were more likely to engage in the activities if they thought this might be an outcome.

5.3.2.1.4 Concentration / Attention and Academic progress

The teacher reported that levels of concentration had increased in most of the children following intervention. As Zimmerman and Campillo (2003) state, attention focusing is an important aspect of self-control which is part of the performance phase in their model of self-regulation. While at times they were reported to remain focused for the rest of the day, at other points the effect was thought to diminish after about ½ an hour. However it must be noted that many of the teacher’s observations related to
noise level and not specifically ‘on-task’ behaviour. Thus while noise levels may have increased, some children may have managed to maintain focus.

While the teacher did not think that the mindfulness practice had any effect on the children’s academic progress, he had reported early on that concentration and productivity had improved on the afternoons when mindfulness practice had occurred. Thus it seems possible that if the intervention had continued to support attention and concentration, it may in turn affect academic progress.

5.3.2.1.5 Behaviours that have not changed

The teacher also reported that the intervention seemed to have least effect on the children whom he perceived as needing it most. While this opposes the findings from Flook et al. (2010) who found that the most significant changes occurred in those who were experiencing the most extreme difficulties initially, it confirms Joyce et al.’s (2010) findings as well as postulations from Brown and Ryan (2003) that a child with greater self-control initially may report greater benefits. Indeed, the children who struggled most with personal self-regulation, appeared to find it most difficult to focus on the mindfulness activity and were often the children who were giggly and disruptive, sometimes ‘spoiling’ it for others.

When discussing these children, it led to some negative talk from the teacher around the children’s lack of engagement and the fact that ‘nothing’ would work for that group. This may demonstrate feelings about how the behaviour challenged his professional skills and effort. He may also have been trying to justify why an intervention that he had invested in and he felt would work had not had the expected effects. It is also possible that the desired effect was large and what in fact happened was a much smaller effect, where the children started to develop their meta-cognition and began to observe other children engaging positively in mindful practice. Moreover while several of the researcher observations confirmed the teacher’s observations of a lack of engagement from certain pupils, there were times when all of the pupils were observed engaging, for example in the mindful sitting practice (appendix 21a).
The teacher also stated: ‘I just think it’s the fact that they’re boys and the age that they are’. This supports previous research into the development of self-regulation (Klenberg et al., 2001) and the fact that some 7 and 8 year olds would simply not be ready for an intervention such as this.

There are multiple reasons why these children found it more difficult to maintain concentration: they may have felt vulnerable when closing their eyes; they may have felt insecure about letting themselves ‘go’ in front of their friends; they may have perceived the activities negatively; they may have experienced difficulties concentrating; or they may have been lacking in motivation to try.

However the teacher also mentioned that the boys may have been more receptive to the intervention if they had been taught in a smaller group where they felt safer and had less of an audience. It is also possible that they would have also been more receptive to a specific mindfulness facilitator. They may have benefited from the novelty of this and the fact that in this situation the facilitator could have been more receptive to their needs. However no firm conclusions can be drawn here. While this may have been beneficial for this group, it would create logistical problems regarding: who takes the smaller group out; when this happens; and whether this might make the children feel more self-conscious, which would both be unethical and make them even less likely to engage.

**5.3.2.2 Intervention group semi-structured interview**

Perhaps most pertinent to answering this question were the themes that arose from the intervention group interview, particularly those under the super-ordinate theme ‘perceived effects of mindfulness’. The children reported a range of positive effects of mindfulness including positive effects on their emotions and behaviour. Some of them seemed to struggle to find the language to explain what had improved and simply said it made them feel better, while others reported that it made them feel calmer and happier. One child reported that it made them feel happy and another showed an awareness of the effect that the practice had on their teacher ‘...it makes Mr XXX happier’.
A few of the children talked about the effect that it had on their brain. This demonstrated that they had internalised some of the information about the effects of mindfulness and how it works. One reported that he felt it had made him get better at literacy but he was not sure how, therefore he may have been incorrectly attributing this to mindfulness.

Some of the children were able to offer specific times when they had used mindfulness out of the classroom. Examples given tended to be as a tool to calm them down, rather than just general practice. Some talked about more general changes in their behaviour and talked about the fact that they were beginning to get certificates. However, it is possible that the group were experiencing demand characteristics (Cohen et al. 2007) and that while they may have noticed improvements in their behaviour, these had happened over a longer period of time and were being incorrectly attributed to the mindfulness practice.

While previous studies have found that mindfulness: improves individual’s abilities to endogenously orient attention (Jha et al., 2007); improves attentional and perceptual processes; and has a direct impact on cognitive processes such as ruminative thinking and autobiographical memory (Ivanovski and Malhi, 2007); the evidence for such effect in the current study is inconclusive.

5.3.3 Summary

While the quantitative measure does not provide any conclusive evidence for changes in the children’s perceptions of their ability to self-regulate, many of the comments in the semi-structured interviews with the intervention group and intervention group class teacher suggest that the approach was beginning to have an effect on some of the children’s self-regulation and consequently well-being. Moreover the teacher was beginning to use it as a tool to help them to self-regulate.

The questionnaire could be criticised for its lack of reliability and validity and while the children in both classes as well as the pilot group reported that they understood the questions, it may not have been sensitive enough to tap change. Other aspects that could have limited the effectiveness of the intervention were: the lack of training
provided for the teacher; the amount of sessions that the children received; and the age of the children.

Moreover, it could be argued that while the intervention did not have any significant effect on self-regulation, the approach was encouraging cognitive processes that are pre-requisites, or even involved in the process of self-regulation such as attention control and self-reflection (Zimmerman and Campillo, 2003).

5.4 Methodological limitations

This section will now summarise the methodological limitations of the study.

5.4.1 Mixed methods

A mixed methods research design was chosen so that the short-comings of mono-method approaches would be overcome. Moreover it was hoped that quantitative evidence would be a key factor in persuading future schools that mindfulness activities were a worthwhile investment. While this may have held true if the quantitative results had been positive, the lack of a clear pattern in results provides little information on the effect of the intervention, thus in hindsight, time may have been better used with more detailed qualitative methods.

5.4.2 Programme development

The programme was developed using a number of different mindfulness exercises found in purchased packages as well as those downloaded from the internet. Many of the packages that the researcher purchased were not necessarily suitable for the group. For example Cattley and Lavelle’s (2009) package was created for teenagers; while the Mindup Curriculum (Hawn Foundation, 2011) provided longer activities with a whole school cross curricular approach that often relied on particular resources which did not fit into the 10 -15 minute slots that were available. Thus activities were cross referenced and those that were chosen for the programme were activities that were identified in multiple sources and seemed to reflect the core mindfulness practices initially developed for adults. By cross-referencing activities, it was hoped that this would improve levels of validity. However, encouraging the teacher to adapt
activities may have in turn threatened this validity. This organic, creative approach was used as the researcher wanted to explore the premise that mindfulness can be completed by anyone, at any time using a wide range of different activities. There were also logistical reasons for this approach, for example a lack of time and funding to complete an 8 week course which would have provided the practitioner with a MBI. Also the researcher wanted to avoid a dual researcher / facilitator role and to see whether it was feasible for the teacher to deliver the programme.

It may also be that 10-15 minutes was not long enough to have a significant effect. However, this was the time scale negotiated with the school that would be most manageable.

While this method of programme development appeared most logical at the time, it may have been simpler and reduced the amount of extraneous variables if a pre-existing MBI was utilised. Failing this, a more systematic approach could have been utilised in the creation of the programme. The Inner Kids Programme used by Flook et al. (2010) used the same structure for each session which included some repetitive practice such as a short, sitting breath awareness. This may have helped the children to calm and focus before moving on to the specific objective for that day. Moreover the repetition may have meant that the children felt confident in that practice. Observations showed that when the children completed a short routine, such as closing their eyes and putting their hands on their knees, before the activity, they tended to show greater engagement. Thus the introduction of this preliminary practice may have further supported this, without losing the sense of variety of activities, which the teacher reported ‘kept it fresh’

5.4.3 Semi-structured interviews

In some ways it was beneficial that the interviews were semi-structured as it meant the interviews were guided by key questions but there was some flexibility for follow up questions. The interview with the intervention class teacher provided some in depth qualitative data which was extremely useful in terms of evaluating the programme. He appeared to be open and honest in his answers and would say directly when he did not think he had seen an effect e.g. with academic progress. However, he still may have been affected by participant effects (Cohen et al., 2007) and the positive
relationship that he reported he had with the researcher may have further impacted on this.

The data obtained from the interview with the children may also have been affected by participant effects (Cohen et al., 2007). Some of the children also contradicted themselves and some seemed to be influenced by what other group members thought. This may have been because of the age of the participants, or the mix of the group, which ended up being slightly unbalanced in terms of gender and initial self-regulation scores due to an absence. Thus it may be beneficial to include more participants in interviews, or at least ensure that the group is as representative as possible. Thus the child’s voice will be reflected with validity and reliability which is key to social research (Grover, 2004).

5.4.4 Comparison class

The comparison class was included to provide a context for the type of social and behavioural issues that were important to children of that year in that school and a comparison for the quantitative data. While these functions were met, a comparison class could be used more efficaciously in future by having a stronger focus on self-regulation in the semi-structured interviews. If the children were asked more of the same questions it would have been easier to compare results. Moreover, the particular comparison group was less comparable than had been anticipated as the two classes appeared to vary widely in terms of behaviour.

5.4.5 Observations

While the observations provided some useful information, they may have benefited from being more structured, for example, specifically observing a selected group of children week by week. Observations may have been further strengthened by an independent observer. However, while this person may have been able to provide information on perceived engagement and behaviour of the pupils, the individual may not have been able to make references to attitudinal features and the observation would still be considered subjective.
5.4.6 Self-regulation measure

The lack of conclusive results suggests that questionnaires may not be effective methods for collecting data on 7 and 8 year olds perceptions of themselves. However the particular measure used had not been tested for validity and reliability thus future studies may wish to utilise more well-established measures.

The measure for self-regulation developed and used in the current piece of research had reasonable levels of internal reliability in the behavioural and emotional domains but a weak level of internal reliability in the cognitive domain. This impacted on its overall internal consistency and in turn its effectiveness as a tool. As previously mentioned, the measure could have been strengthened by the removal of item 3 from the emotional domain and item 10 from the behavioural domain. It would also benefit from further development of the cognitive domain, including the insertion of a greater number of items to accurately assess cognitive self-regulation (Field, 2009). Following this a large scale pilot study to measure the validity and reliability of the measure would be of use.

The lack of significant effects found using this questionnaire may simply reflect the short-comings of the questionnaire, rather than the lack of effect of the intervention. While future studies may benefit from the use of more robust measures, it must be noted that self-rated questionnaires may not be the most effective method for gaining a true picture of 7 and 8 year olds’ perceptions of their levels of self-regulation.

5.4.7 Focus of research

The current piece of research was exploratory and the aim was to provide a broad picture. However, the researcher may have been over-ambitious and with hindsight, it may have been more efficacious to focus on one aspect of classroom-based MBIs. This could have been: a focus on child perceptions of mindfulness, an evaluation of a specific package, a focus on the collaboration between TEP and teacher when delivering a school based intervention; or the context in which mindfulness works best.
5.5 Conclusions

This section will attempt to draw conclusions from the current research and describe the unique contribution to knowledge that has been made.

The two main aims of this exploratory pilot study: investigating the feasibility of creating a mindfulness scheme of work that could be delivered by teachers; and evaluating the impact of this scheme of work, with a particular focus on self-regulation; were, in the most part achieved by answering the research questions.

It appears that, in part, the intervention gave the children a strategy to help them to cope with their feelings and automatic responses, though they generally needed support from the teacher. The results also suggest that the teacher found it beneficial for his own practice and that there was a secondary benefit for the teacher in terms of a calmer classroom and a sense of mastery of another intervention.

The intervention class teacher interview revealed a range of positive observations regarding pupils’ emotional awareness and behaviour. Moreover, the teacher reported that he had used the intervention in his own time to help him to think, focus and relieve stress. The teacher’s comments suggested that he valued it as an approach and that he would be interested in using it again in his new school. Moreover, the comparison class teacher also said she would be interested in using the approach. However, she stated that she would require more training to develop her confidence. While the value that the teacher put on the intervention had not been anticipated, on reflection it was a necessary enabler to the effectiveness of the intervention.

While it is argued that any activity can be completed mindfully (Kabut-Zinn, 2003), as with other interventions, it is important that activities are relevant and achievable for the particular group (Durlak and DuPre, 2008). The findings indicate that many of the activities were enjoyed by the children and they were also able to identify times where they could practise mindfulness in their everyday lives. However, while there were many positive comments about the types of activities and the perceived effects of these, the intervention class interview confirmed previous findings by Joyce et al. (2010) that MBIs do not suit all children.
It could be argued that due to the wide range of positive effects found from previous MBI studies (Flook et al., 2010; Klatt et al., 2013; Napoli et al., 2005), all children should be encouraged to participate even if they find it difficult or boring. However as found in the current study it is likely that if the children do not enjoy the practice they will not engage and will not continue the practice out of the sessions. Furthermore, it could be regarded as unethical to make children engage with something that is not statutory if they do not enjoy it, and MBIs are a long way off from having a statutory place in the curriculum.

Small observable improvements in self-regulation, highlighted in the qualitative data, demonstrate that the MBI may have supported the children in the early stages of developing a greater self-awareness. However there were no significant differences in self-regulation scores post intervention within or between groups. Therefore the extent of this change was unclear. Moreover, it is not known whether or not any effect was maintained or developed further. While this may be evidence for a lack of impact on self-regulation, it may also be because: the measure was not sensitive enough; self-reports were not the best method for accessing this data; or, that if mindfulness is going to be delivered in this way, then it will take longer to have an effect. However the lack of robust evidence means that the study cannot conclude that the effect of mindfulness significantly impacted on the children’s self-regulation and thus its impact on the wider society is questionable (Baumeister et al., 2007).

In summary, the findings suggest that the development and delivery of a mindfulness scheme of work to a year 3 group in a mainstream setting is feasible and manageable for a classroom teacher, when they are supported by the EPS. However it appears that the adjustments made to the training, development and delivery of the programme may affect the level of efficacy of the intervention.

As Cline (2012) states it is important that the flaws highlighted in the present study do not mean the MBIs in mainstream, primary settings are rejected, but instead built on. Moreover, the positive effects from the intervention suggest that mindfulness in the classroom is user-friendly and that some positive effects are likely to happen, even when the skills and ethos of MBIs are still being acquired.
5.6 Future directions

The findings could be viewed as fairly reductionist as they have focused on what works for the individuals in these circumstances (Cline, 2012). However, the knowledge gained from this piece of research could be used to inform EPs and other practitioners on what to consider when employing mindfulness activities in the classroom. It provides information on the different variables involved at the individual, group and community level and this information could be used to develop future models of practice for creating and delivering MBIs.

While the current research has produced findings which suggest that mindfulness practices are generally well regarded by teachers and pupils, the extent to which mindfulness has been embedded into the everyday practice of the teachers and pupils is questionable. Although a mindfulness open evening was scheduled for parents, no one attended. Moreover, the training with teachers was limited. Thus future research may need to have a stronger focus on further embedding the practice into the lives of children, families and multi-agency partners.

Overall it was concluded that further staff training would have been beneficial for more effective programme development and delivery. Therefore, practitioners wishing to implement mindfulness activities in the future may want to consider more in-depth mindfulness training for staff as a precursor to activities in the future. This is likely to be supported by work at the systemic level with senior management teams so that the intervention is valued and so prioritised.

It is also envisaged that the findings from this study can be used to support future mindfulness practitioners as well as facilitators in a range of other universal, preventative interventions being carried out in schools.

The research has highlighted the value of regular consultation and support from the EPS, particularly when developing or delivering a new intervention. This has wider implications for joint working with EPs and teaching staff in schools.

When completing universal, preventative MBIs in schools, many of the factors identified by Durlak and DuPre (2008) could be supportive in ensuring long-term sustainability: initial interest and enthusiasm for the intervention; in-depth training
and refresher courses; time to practise and become confident in delivery, perhaps through modelling and co-delivery; work with staff and senior management to raise the profile and value of the intervention; and external support from outside agencies such as the EPS. More specifically, findings from the current study highlighted a need for more valid and reliable self-report methods for measuring self-regulation for 7 and 8 year olds, so that the individual perceptions of children can be recorded accurately.

In terms of the programme of work, the practices included in appendix 1a and 1b could provide a starting point for practitioners wishing to develop and implement an MBI. They are closely related to many of the adult mindfulness practices and the activities aim to promote sustained, focused attention in the present moment in a non-judgemental manner. While these should be adapted to suit the needs of the community, they must not lose their focus (Durlak and DuPre, 2008).

Information gained from this study is currently informing another study which is taking place in the LA. Particularly relevant findings from this study include: the importance of embedding MBIs into daily practice; the value of focusing on one aspect of the MBI in terms of process OR effect; the importance of robust measures that are simple to deliver and understand, yet accepted by the research community; the value of measuring the long term impact of MBIs; and the inclusion of an EP in at least one stage of promotion, training, facilitation or data gathering. This last point is particularly pertinent. EPs are extremely well placed to be involved in all aspects of MBIs as they have a ‘helicopter view’ of the children and the contexts within which they exist. EPs have a sound knowledge of the psychological paradigms that mindfulness taps into as well as a good understanding of classrooms and schools as systems and the types of feasibility barriers that need to be overcome. EPs also support children and families in communities and are skilled in facilitating problem solving and supervisory conversations. Thus future research could attempt to identify the specific aspects of MBIs where EPs can make the most valuable contribution.

The current research has demonstrated that it is possible for a TEP and school teacher to collaboratively develop and deliver a mindfulness scheme of work that has some effect on children’s self-regulation and well-being. The research has demonstrated the importance of a positive relationship in this collaboration as well as highlighting the
need for a clear, well-defined focus. While the exploratory nature of the current study prompted the broad range of research questions, the research may have benefitted from being more focused by simply exploring one aspect such as pupil views or programme development. Thus, in the future the researcher will endeavour to focus on more specific aspects of problems and ensure that one area is investigated thoroughly before further avenues are pursued.
References


Freiburg Mindfulness Inventory (FMI). *Journal for Meditation and Meditation Research, 1*, 11-34.


Handbook of competence and motivation (pp. 509-526). New York: Guilford Publications.

*For the purposes of anonymity, the name of this local authority has been changed.
Appendices

Appendix 1: Mindfulness presentation for teacher training

A mindfulness presentation will be delivered to the teacher / teaching assistant prior to the development of the course. An adapted version of this presentation could also be delivered to the parents if they would like further information on the course (appendix 1a). The presentation will include some of the activities that the children will be involved in e.g. mindful eating, breathing and short body scan. The planning and ‘Mindfulness for Schools’ book will also be available for the parents. If there are any activities that the parents are not happy about, these could be negotiated in the planning.
Decrease Emotional Suffering

This is the bottom line and natural result. I often cause myself suffering or more suffering by the way I am reacting emotionally. Mindfulness helps me to let go of painful emotions (they lose their “value capacity”). Mindfulness metabolizes the painful emotion, creating an opening for other options, choices, responses.

Myths about Emotions

Statements of non-acceptance or resistance:
1. There is a right way to feel in every situation.
2. Letting others know I am feeling bad is weakness.
3. Negative feelings are bad and destructive.
4. Being emotional means being out of control.
5. Emotions can just happen for no reason.
6. Some emotions are really stupid.

Myths about Emotions

7. All painful emotions are a result of bad attitude.
8. It is hard to accept my feelings. Feeling is a judgment.
9. Others are the best judge of how I feel.
10. Painful emotions are natural; Inspector should be ignored.

Who already uses mindfulness?

- It has been used in clinical settings
- Some sports teams practicing mindfulness before a big game
- Some schools have started to use mindfulness in the classroom

Why use mindfulness in the classroom

- Theory:
  - Introducing children to mindfulness practices may increase their understanding of themselves and their emotions; help them to be more aware of their surroundings; improve their attention; increase their emotional well-being; develop the ability to self-regulate their behaviours.
  - It may also develop their resilience so that they are better able to deal with future setbacks/difficulties.

How will they learn to be mindful?

- The course will include some discussions about thoughts and feelings and will also include lots of mindfulness exercises e.g.
  - Mindful eating
  - Mindful breathing
  - Mindful walking
Principles of Mindfulness

- Non-judging—impartial observer rather than labelling everything
- Patience
- Beginner’s mind/sense of exploration—be receptive
- Trust—in self and feelings, take responsibility
- Non-striving—just watch and observe yourself
- Accepting—seeing things as they are, in the present
- Letting go—accept things as they are

Mindfulness is not...

- Trying to control or change breath
- Trying to suppress feelings
- Trying to achieve something
- It’s not passive, easy and not necessarily about relaxation

Let’s try a mindfulness activity...

Mindfulness for Schools

- We will now develop session 1 using the Mindfulness for schools book
Appendix 1a: Original course outline for children

The first 6 weeks will focus on learning the different mindfulness activities. The last two weeks will attempt to link the activities to times when they might be most helpful.

<table>
<thead>
<tr>
<th>Week</th>
<th>Introduction (including possible script)</th>
<th>Activity (including possible script)</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduce the questionnaire. Explain it is about behaviours that we all experience. State that the children should look at their papers only. This is about them, their feelings and their actions and it does not matter if they put something different to their friends. Everyone is different.</td>
<td>Each child will receive the same questionnaire with their unique number (numbers will be taken from the register so that they can be matched). Complete questionnaire as a class with support where required.</td>
<td>Remind children not to put their name on it, but make sure that their number is clear. Collect in questionnaires</td>
</tr>
<tr>
<td>1</td>
<td>Introduce Mindfulness – it is a way of being. It helps people to focus on the present rather than worrying about the past or the future. It helps concentration. Create ground rules. E.g. staying quiet, focusing on your own space, discussing ideas after the practice.</td>
<td>Eating a raisin. I’m going to ask you to look very carefully at the raisin and really notice it. Look at it as though you have never seen one before. Don’t call out answers to my questions, we can discuss later. Just notice in your head. Look at all the lines. What can you see? What does it feel like? Is it rough / smooth; shiny / dull. What does it sound like? What does it smell like? Rub the raisin on your lips, what sensations do you notice in your mouth. Finally put the raisin into your mouth, chew and swallow, what do you notice as you are doing this?</td>
<td>What did you notice?</td>
</tr>
<tr>
<td>1</td>
<td>Short discussion to share ideas from previous mindfulness session. Remind children of ground rules.</td>
<td>Eating another piece of fruit (script similar to above).</td>
<td>What did you notice? How did it make you feel?</td>
</tr>
<tr>
<td>1</td>
<td>Short discussion to share ideas from previous mindfulness session. Remind children of ground rules.</td>
<td>Eating another piece of fruit (script similar to above).</td>
<td>How do you feel?</td>
</tr>
<tr>
<td>2</td>
<td>Discuss other people that use mindfulness practices – give Mindfulness breathing exercise (possible use of CD</td>
<td></td>
<td>What did you notice about</td>
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</table>
examples of baseball players before a game. Discuss the importance of controlled breathing for sports players and ways it can help everyone in their daily lives.

/ otherwise use script from book). Bring your attention to your breath, notice where you feel it, in your mouth / nose, chest, tummy. Feel the whole breath, feel it as it moves in and out of your body. Don’t try to change your breath, just notice it.

2

What did you notice about your breathing in the last session? Has anyone been practicing?

Mindfulness breathing exercise (script similar to above).

What did you notice about your breathing? How do you feel now?

2

When could we use the breathing exercise? Has anyone used it already? if so, did it help?

Mindfulness breathing exercise (script similar to above).

How do you feel now? Can you think of a time when you might want to use this activity?

3

How often are you in silence? Let’s practice being in silence now but noticing all the sounds that you can hear.

Mindful listening – use simple music / chimes. Really focus on the sound and vibration of each note, the feelings that the music brings up within you, and other sensations that are happening “right now” as you listen. If other thoughts creep into your head, congratulate yourself for noticing, and gently bring your attention back to the current moment and the music you are hearing.

What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?

3

What do you remember from your listening practice? Has it helped you in class? With friends? Let’s have another go.

Mindful listening could use bells or listen poem or sounds in the room (script, similar to above).

What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?

3

Has anyone been able to listen mindfully? Have you notice your mind drifting and been able to bring it back?

Mindful listening (script, similar to above).

What did you notice? How did it make you feel? Can you
<p>| | | | |</p>
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<tr>
<td>4</td>
<td>When you sit in class, or on the bus, or in the car, or at home, how aware of yourself are you? What can you feel?</td>
<td>Mindful sitting practice. As you sit, really notice where your body touches another surface. Feel your feet, resting comfortably on the ground, flat and steady. Feel your legs rising up from your feet, bending at the knee. Feel the support of the seat under your legs. Feel your back being supported by the back of the chair, holding you upright...etc</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
</tr>
<tr>
<td>4</td>
<td>Did you notice anything new when you were sitting?</td>
<td>Mindful sitting practice</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
</tr>
<tr>
<td>4</td>
<td>Have you used any of the mindfulness practices this week? if so what? How have they helped?</td>
<td>Mindful sitting practice</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
</tr>
<tr>
<td>5</td>
<td>Lots of our mindful practices have been when we are still. Now that we have trained ourselves to do this, we are going to practice walking. There are lots more things going on when we are walking so I’m going to help you focus on just a few things. Remember to listen carefully. Give practicality rules / guidelines about moving round the hall / classroom</td>
<td>Mindful walking practice (could be completed in hall where there is more space)</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
</tr>
<tr>
<td>5</td>
<td>Has anyone tried practising mindful walking? How did it</td>
<td>Mindfulness walking practice (script similar to)</td>
<td>What did you notice? How</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Has anyone tried any other mindful movement? What did you notice?</td>
</tr>
<tr>
<td>6</td>
<td>Over the past few weeks we have focused on lots of different parts of our bodies when we are being mindful. It is important that we are aware of feelings in different parts of our bodies as our emotions can be felt in different parts of our bodies. For example if we are feeling nervous, we might feel butterflies in our stomach. It might help to notice these butterflies, think about why we have them and then let the feeling go.</td>
</tr>
<tr>
<td>6</td>
<td>How did the body scan make you feel last time? Did you find any parts difficult. We’re going to have another practice today.</td>
</tr>
<tr>
<td>6</td>
<td>Has anyone practiced the body scan at home? When? How did it make you feel?</td>
</tr>
<tr>
<td>7</td>
<td>Sometimes we can find activities or the things around us boring or</td>
</tr>
</tbody>
</table>
dull. This is sometimes because we are not really concentrating on them or haven't really noticed them. Really paying attention can make things more interesting because you notice more details. Let's have a go at drawing something that you see every day e.g. our pencil cases, but this time we need to really notice them. Really notice the material it is made of. Is it shiny / dull; rough / smooth etc. Sketch it just how you see it. If it goes wrong, don't worry, just start again on another part of the page. Really notice all the details. Did it make you feel? Can you think of a time when it might be helpful to practice this activity?

| 7 | Discuss how our mind interprets things and can play tricks on us. After I read each line, I want you to guess who John is: John was on his way to school... he was worried about a maths lesson... he was not sure he could control the class again today... it was not one of the caretakers' duties. Our minds are constantly having to make sense of the world around us. Sometimes our mind makes a mistake. That's okay, we just need to notice the mistake and move on. Let's practice being mindful in different stretches, noticing how our bodies change and move. Mindful stretching – follow the different stretches in the programme. Stretch with your arms – feel your muscles lengthen, then contract. Stretch out your neck, stand long and tall. What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity? |
|---|---|---|---|
| 7 | Our thoughts can affect our moods. Take this example, you are walking down the street and you see someone you know walking down the other side. You smile and wave. The person does not seem to notice. What thoughts might you have? If you think the person has ignored you on purpose, how might you feel? If you think they just didn't see you, how might this change our mood? If we are feeling worried, upset or angry about a situation, it might help if we think about the situation in a different way. Perhaps we could help each other with that this week? Let's practice noticing new things about a situation by eating mindfully. Mindful eating (script similar to previous practice). What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity? |
| 8 | When you are running around or Mindful breathing (script) What did you notice? |
even sometimes if you get angry or upset, your breathing can become irregular. It might help if you stop and notice your breathing. Notice it going in and out and as you do this, your breath is likely to slow down and become more regular and controlled.

---

| 8 | Our minds often wander when we listen and that's ok, that's natural. However it might help our learning if we simply notice that our mind has wandered and bring it back to what we were listening to. Noticing all the words being said, the rise and fall of the voice, or the notes being played. Let's practice our mindful listening from a few weeks ago. |
| Mindful listening (script similar to previous practice). |
| What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity? |

---

| 8 | When we feel angry, nervous or upset, we may notice that we can feel it in different parts of our body. we might feel a tightness in our chests, butterflies in our tummies or tingling in our feet, hands, arms or legs. These sorts of reactions are normal and happen to lots of people. When this happens you should try and notice them and think about why you are feeling like this. Are you upset? Angry? Nervous? What might help you to calm down? Talking to someone? Telling someone how you feel? Or maybe even a mindfulness activity. |
| Mindful body scan (script similar to previous practice). |
| What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity? |

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| 9 | Questionnaires, and semi-structured interviews |
Appendix 1b : Developed weekly lesson plans for week 2 - 8

<table>
<thead>
<tr>
<th>Week 2 Session 1: 8.05.2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain presentation (SG)</td>
</tr>
<tr>
<td>Listening activity</td>
</tr>
<tr>
<td>As children to close their eyes and encourage them to listen very carefully to all he sounds, both inside and outside</td>
</tr>
<tr>
<td>Children to record / discuss all the sounds they heard</td>
</tr>
<tr>
<td>Repeat</td>
</tr>
<tr>
<td>Do they notice any sounds that they did not hear before?</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Session 2: 09:05.2012</th>
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<tbody>
<tr>
<td>Remind children of the principles of mindfulness (focusing on the activity, noticing their thoughts, not judging themselves or others etc.)</td>
</tr>
<tr>
<td>Explain that they will be doing some more mindful listening</td>
</tr>
<tr>
<td>Collect a range of instruments / sounds making materials</td>
</tr>
<tr>
<td>Ask the children to close their eyes / face the other way (so that they can't see the sound source)</td>
</tr>
<tr>
<td>Make the different sounds</td>
</tr>
<tr>
<td>At the end ask the children what sounds they heard, which sounds stood out, which they liked, which were long /short, high / low etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 3: 10.05.2012</th>
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</thead>
<tbody>
<tr>
<td>Ask the children to close their eyes and listen very carefully to the music</td>
</tr>
<tr>
<td>Play a famous piece of classical music (all available on Youtube) e.g. Pachelbel’s Canon in D / Tchaikovsky Dance of the Sugar Plum Fairy / Mike Oldfield Tubular Bells <a href="http://www.youtube.com/watch?v=8At8zfhu3E">http://www.youtube.com/watch?v=8At8zfhu3E</a></td>
</tr>
<tr>
<td>Remind them that when their minds wander they should try to notice this and bring their attention back to the music</td>
</tr>
<tr>
<td>At the end of the session the children could discuss in partners:</td>
</tr>
<tr>
<td>What they liked about the music</td>
</tr>
<tr>
<td>What instruments they thought they heard</td>
</tr>
<tr>
<td>How the music made them feel</td>
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<tr>
<td>They should then feedback as a group</td>
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</tbody>
</table>
### Week 3: sitting, breathing, thoughts and feelings

<table>
<thead>
<tr>
<th>Date</th>
<th>Introduction</th>
<th>Resources</th>
<th>Review</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.05.2012</td>
<td>When you sit in class, or on the bus, or in the car, or at home, how aware of yourself are you? What can you feel? (An idea for a script in case the CD isn’t suitable.) Mindful sitting practice. As you sit, really notice where your body touches another surface. Feel your feet, resting comfortably on the ground, flat and steady. Feel your legs rising up from your feet, bending at the knee. Feel the support of the seat under your legs. Feel your back being supported by the back of the chair, holding you upright...etc</td>
<td>Track 4</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
<td>Choose something that you do every day e.g. brushing your teeth / putting your socks on. Try to really pay attention – you don’t have to slow down, or even enjoy it but just notice all the details. E.g. brushing you teeth – notice the texture of the brush against your teeth and cheek, notice the taste of the toothpaste and the wetness in your mouth. Notice how the forth forms and grows.</td>
</tr>
<tr>
<td>16.05.2012</td>
<td>Do you remember how we learned about 3 different parts of the brain last week? The pre-frontal cortex (the clever bit that we use to plan and work things out); the hippocampus (the bit that remembers stuff); the amygdala (the bit that gives us a fight / flight / freeze, or emotional response). Show the brain. What bit does the thinking? Where do the feelings come from? Can you think of a time that you felt angry or upset? What happened? What part of your brain was taking over? What was the outcome? Could it have been better? How could you calm your amygdala to help your pre-frontal cortex to function?</td>
<td>Track 4</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
<td></td>
</tr>
<tr>
<td>17.05.2012</td>
<td>Have you used any of the mindfulness practices this week? If so, what? How have they helped? Have you noticed anything about your emotions? Have you noticed any signs that you are starting to get angry / sad? Has anyone got any strategies to help them?</td>
<td>Track 4</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
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**Notes:**

- Mindful sitting practice.
- Mindfulness of breath.
- Thoughts and emotions.
### Week 4: mindful breathing, looking and exploring

<table>
<thead>
<tr>
<th>Date</th>
<th>Introduction</th>
<th>Resources</th>
<th>Review</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.05.2012</td>
<td>Who has practised the Mindfulness of breath activity? When have you done this? What did you notice?</td>
<td>Track 5</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
<td>Have a go at mindful looking. Find an object, preferably a natural one e.g. plant, flower, food or stone / rock. Try to really notice it. Take in all the lines and contours, bumps and dents. Look at the different shades with curiosity and interest. See where the light hits the object and where the shadows fall. Turn the object in your hand and examine further</td>
</tr>
<tr>
<td>16.05.2012</td>
<td>Do you remember how we learned about 3 different parts of the brain last week? The pre-frontal cortex (the clever bit that we use to plan and work things out); the hippocampus (the bit that remembers stuff); the amygdala (the bit that gives us a fight / flight / freeze, or emotional response). Show the brain. What bit does the thinking? Where do the feelings come from? Can you think of a time that you felt angry or upset? What happened? What part of your brain was taking over? What was the outcome? Could it have been better? How could you calm your amygdala to help your pre-frontal cortex to function? Mindful sitting. Thoughts and emotions</td>
<td>Track 4</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
<td>Track 4, Track 8</td>
</tr>
<tr>
<td>17.05.2012</td>
<td>Have you used any of the mindfulness practices this week? If so, what? How have they helped? Have you noticed anything about your emotions? Have you noticed any signs that you are starting to get angry / sad? Has anyone got any strategies to help them?</td>
<td>Track 4</td>
<td>What did you notice? How did it make you feel? Can you think of a time when it might be helpful to practice this activity?</td>
<td>Track 8</td>
</tr>
</tbody>
</table>
### Week 5: mindful looking and exploring

<table>
<thead>
<tr>
<th>Date</th>
<th>Introduction</th>
<th>Resources</th>
<th>Review</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.05.2012</td>
<td>Sometimes we can find activities or the things around us boring or dull. This is sometimes because we are not really concentrating on them or haven’t really noticed them. Really paying attention can make things more interesting because you notice more details. Let’s have a go at drawing something that you see every day e.g. our pencil cases, a flower – whatever is accessible but this time we need to really notice them. Notice the texture, the colour, the shades of light and dark.</td>
<td>Paper, pencils, an object to draw</td>
<td>What did you notice? How did it make you feel? What part of the brain do you think you have been using?</td>
<td>Have a go at some mindful drawing / art at home. You could create an emotion or simply draw what you see.</td>
</tr>
<tr>
<td>29.05.2012</td>
<td>As yesterday but perhaps using a different medium e.g. pastels / paints. Really focus on what you are doing. No need to judge, if you go wrong, don’t worry. You might just want to focus on a tiny part of the object and get as much detail in as possible</td>
<td>Paper, pencils, other medium if appropriate</td>
<td>What did you notice? Have you managed to add any more detail than yesterday?</td>
<td></td>
</tr>
<tr>
<td>30.05.2012</td>
<td>What emotion are you feeling right now? It might be calm, it might be happy, angry or sad. Use the resources to create that emotion – it might be personified into e.g. a little red devil for anger / aggression</td>
<td>Play-dough / plasticine or paper and colours</td>
<td>Show to your partner, explain the detail to them.</td>
<td></td>
</tr>
</tbody>
</table>

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### Week 6: mindful movement

<table>
<thead>
<tr>
<th>Date</th>
<th>Introduction</th>
<th>Resources</th>
<th>Review</th>
<th>Homework</th>
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</thead>
<tbody>
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<tr>
<td>Date</td>
<td>Introduction</td>
<td>Resources</td>
<td>Review</td>
<td>Homework</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>12.06.2012</td>
<td>Follow the instructions from the Breathworks package. Make sure that the movement follows the breath, not the other way round. Opening / closing hand, Prayer hands, Opening and closing fingers.</td>
<td>Planning sheets - Breathworks</td>
<td>How do you feel?</td>
<td>Practice some mindful stretching at home.</td>
</tr>
<tr>
<td>13.06.2012</td>
<td>Complete some mindful stretching (taken from Mindfulness for Schools resource – lesson 7).</td>
<td>Mindfulness for schools – lesson 7</td>
<td>What did you notice?</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Introduction</td>
<td>Resources</td>
<td>Review</td>
<td>Homework</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 18.06.2012 | Positive thoughts<br>  The brain – recap - what do the different parts of the brain do? Complete sheet with partner.  
  Close your eyes and concentrate on your breath, feel it going in and out. Put your hand where you can feel your breath inside you – is it in your chest / stomach. If it is in your chest continue to breathe deeply so that it moves down to your stomach. Now that we are all in a calm, focused state, I’d like you to think of a happy memory. It might be something that you did with your family / friends. It might be something that happened at school. Try and get a really clear picture of what happened in your head. Think about what happened first then try and play this memory like a film in your head. Really try and picture yourself in that memory and remember how you felt. If it is a really happy memory, you might find that you are starting to smile now.  
  Now open your eyes and tell your partner about your memory, then listen to them tell you about theirs | Brain powerpoint presentation | How do you feel?          | Practice your positive thoughts at home. Remember, no one is happy all the time, but thinking about positive experiences can help you feel happy. You could encourage your friends / family to play a positive mind movie |
<table>
<thead>
<tr>
<th>Being optimistic: An optimistic frame of mind allows a mindful approach to stressors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is your glass half empty or half full? Discuss why people might see it different ways</td>
</tr>
<tr>
<td>What is the difference between optimism / pessimism – illicit positive / negative</td>
</tr>
<tr>
<td>Complete a optimistic / pessimistic or positive / negative thoughts sheet</td>
</tr>
<tr>
<td>Discuss the following</td>
</tr>
<tr>
<td>Read these statements aloud (or create your own examples). Have students give a thumbs-up if they think the statement is optimistic and a thumbs-down if they think it is pessimistic.</td>
</tr>
<tr>
<td>“I’ve never done this, so it will be an adventure.”</td>
</tr>
<tr>
<td>“I’ve never done this before. I don’t want to. I might get scared.”</td>
</tr>
<tr>
<td>“Our picnic is ruined! It’s going to rain all day.”</td>
</tr>
<tr>
<td>“So what if it’s raining? We’ll have our picnic inside!”</td>
</tr>
<tr>
<td>How could you turn a negative thought into a positive thought – use your chart</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sugar paper / pens</th>
</tr>
</thead>
<tbody>
<tr>
<td>How could you turn a negative thought into a positive thought</td>
</tr>
<tr>
<td>Try to think about things in an optimistic way. Change your Negative Automatic Thoughts (NATs) to Positive Automatic Thoughts (PATs)</td>
</tr>
<tr>
<td>Acts of kindness and appreciation</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
</tbody>
</table>
| Remind the children about their knowledge of the brain. Explain that when we do something kind, a chemical called dopamine is released in the brain and this makes us feel happy. This also happens when we do kind things for others. Today we’re going to practice that Breathing practice.  
Once focused ask the children to pick a card from the middle of the table. Each card has got someone else’s name on it. If you pick your own, try and swap with someone.  
Then write down a compliment. This might be e.g. David is really helpful in maths, or Kelly is good fun to play with. Make sure the compliment is about their personality and not what they look like or what they own. Take it in turns to guess who said what and then say thank you to that person and tell them how the compliment made you feel. |
| Cards with each child’s name on it |

20.06.2012

224
Being grateful / expressing gratitude

This also releases chemicals such as dopamine which make us feel happy and calm.

Thank You” Practice

As you engage in Core Practice at the start of class, ask students to recall one or two times recently when they said “thank you.” Have a few volunteers share what they were thankful for and the person they thanked. As students share, ask the class to think about the types of things their classmates are thankful for. On chart paper, write down any categories students suggest, such as polite gestures (e.g., saving a seat), kind acts and words (sharing a lunch with someone who forgot his or hers), giving a gift or something needed (giving a birthday gift), spending time or giving attention (playing a game with someone), and so on.

Discuss: Are there things you are grateful for that you can’t buy in a store? Look at the colors of the items on your list. What are you most likely to say thank you for? Are there things you might be thankful for that you don’t usually say thank you for?
<table>
<thead>
<tr>
<th>Date</th>
<th>Introduction</th>
<th>Resources</th>
<th>Review</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mindful listening</td>
<td>Computer, internet - youtube</td>
<td>What did you notice?</td>
<td>Practice at home</td>
</tr>
<tr>
<td>25.06.2012</td>
<td>Ask the children to close their eyes and listen very carefully to the music</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Play a famous piece of classical music (all available on Youtube) e.g.</td>
<td></td>
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<tr>
<td></td>
<td>Pachelbel’s Canon in D / Tchaikovsky Dance of the Sugar Plum Fairy</td>
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<tr>
<td></td>
<td><a href="http://www.youtube.com/watch?v=8At8zfho3E">http://www.youtube.com/watch?v=8At8zfho3E</a></td>
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<tr>
<td></td>
<td>Mike Oldfield Tubular Bells</td>
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<tr>
<td></td>
<td><a href="http://www.youtube.com/watch?v=8At8zfho3E">http://www.youtube.com/watch?v=8At8zfho3E</a></td>
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<tr>
<td></td>
<td>Remind the children that when their minds wander they should try to notice</td>
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<tr>
<td></td>
<td>this and bring their attention back to the music. At the end of the session</td>
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<td></td>
<td>the children could discuss in partners: What they liked about the music.</td>
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<td></td>
<td>What instruments they thought they heard. How the music made them feel.</td>
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<tr>
<td></td>
<td>They should then feedback as a group</td>
<td></td>
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<tr>
<td>26.06.2012</td>
<td>Mindful noticing, touching and looking</td>
<td>Play-dough / plasticine or paper and colours</td>
<td>Show to your partner, explain the detail to them.</td>
<td></td>
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<tr>
<td></td>
<td>What emotion are you feeling right now? Close your eyes and try to picture</td>
<td></td>
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<tr>
<td></td>
<td>that emotion. It might be calm, it might be happy, angry or sad. Really try</td>
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<tr>
<td></td>
<td>to see that emotion. What shape is it? What colour? Is it like a person</td>
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<td></td>
<td>Use the resources to create that emotion – it might be personified into</td>
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<td></td>
<td>e.g. a little red devil for anger / aggression</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Materials</td>
<td>Questions</td>
<td></td>
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<td>------------</td>
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<td>---------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>27.06.2012</td>
<td>Mindful touching</td>
<td>Shoe boxes with objects, Mindfulness CD</td>
<td>Was it hard to tell what the objects were? What did you notice about texture?</td>
<td></td>
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<tr>
<td>27.06.2012</td>
<td>Mindful smelling</td>
<td>Smelling pots</td>
<td>How strong did the smells seem? Did you notice anything that you haven’t noticed before?</td>
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</tr>
<tr>
<td>28.06.2012</td>
<td>Mindful eating</td>
<td>Chocolate mindfulness for schools book</td>
<td>What did you notice? What sensations? Do you think you were able to concentrate on it more this time round?</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2: Consideration of different self-regulation / self-control scales

The scales have been put in order in the table by those considered to be the least relevant (at the top), to those considered to be the most relevant (at the bottom).

N.B. some questionnaires, found through harvesting could not be accessed e.g. Short and Very short forms of Children’s behaviour questionnaire (Putnam and Rothbart, 2006)

<table>
<thead>
<tr>
<th>Name of measure and author / reference</th>
<th>Description</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire on Self-Regulation Novak, S.P., &amp; Clayton, R. R. (2001). The influence of school environment and self-regulation on transitions between stages of cigarette smoking: A multilevel analysis. Healthy Psychology, 20, 196-207.</td>
<td>This is a 13-item questionnaire used to assess children’s ability to regulate negative emotions and disruptive behavior, and to set and attain goals. Respondents rate how true each item is for them, ranging from 1 (never true) to 4 (always true). After reverse coding items 1, 2, 3, 4, 5, 8, 10, 11, 12 and 13, higher scores represent the child’s ability to regulate his/her emotions (items 1, 2, 3, 4, 5), behavior (items 9, 10, 11, 12), and cognitions (items 6, 7, 8).</td>
<td>Likert scale – sensitive to change Child friendly</td>
<td>No further information on reliability / validity Could not access scale</td>
</tr>
<tr>
<td>Fast Track Project Child Behavior Questionnaire <a href="http://sanford.duke.edu/centers/child/fasttrack/allmeasures.htm">http://sanford.duke.edu/centers/child/fasttrack/allmeasures.htm</a></td>
<td>This 20-item questionnaire is designed to measure the self-regulation skills of children and adolescents. After reverse coding items 4, 5, 7 and 19, lower scores indicate ability to self-regulate.</td>
<td>Likert scale – sensitive to change Quite short Child friendly language</td>
<td>Could not access scale or find further information on scale</td>
</tr>
<tr>
<td>Moilanen, K. L. (2007). The Adolescent Self-Regulatory Inventory: The development and validation of a questionnaire of short-term and long-term self-regulation.</td>
<td>Adolescent Self-Regulatory Inventory This is a 36-item questionnaire used to measure the self-regulation of teens. Respondents rate how true each item is for them, ranging from 1 (not at all true for me) to 5 (really true for me). A sum or average of the items should be calculated. After reverse coding items 1, 2, 5, 6, 7, 8, 12, 13, 14, 15, 16, 18, 19, 21, 34, 35, higher scores indicate ability to self-regulate.</td>
<td>Likert scale – sensitive to change Child friendly language</td>
<td>Used with adolescents – not normed on 7 year olds. Quite long. No data on reliability / validity found</td>
</tr>
<tr>
<td>Journal of Youth and Adolescence, 36, 835-848.</td>
<td>Self-Regulation Questionnaire (SRQ). (Brown, Miller, &amp; Lawendowski, 1999)</td>
<td>5 point likert scale; reliability and construct validity considered strong.</td>
<td>Mainly used with adults; too long; reliability and validity scores taken from adults with alcohol problems</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>This questionnaire uses a 63-item scale to measure the self-regulation of youth. The questionnaire includes seven subscales, which measure seven steps of self-regulation: receiving, evaluation, triggering, searching, formulating, implementing, and assessing. The SRQ was developed as a first attempt to assess these self-regulatory processes through self-report. They did not know whether people could reliably and accurately report their own self-regulatory capabilities. Items were developed to mark each of the seven sub-processes of the Miller and Brown (1991) model, forming seven rationally-derived subscales of the SRQ. Subsequent analyses of the instrument have suggested that the scale contains one principal component, rather than specific factors corresponding to the rational subscales. If this is confirmed in further studies, the SRQ could be reduced to a short form that would reliably measure the underlying principal component.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contains 33 items related to self-control. The SCRS is administered by an observer who rates the child. The SCRS is based on a cognitive behavioural model of self-control. Considered to be reliable and valid.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Control Rating Scale (Kendall and Wilcox, 1979)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The questionnaire contains 7 areas: emotional control; motivation; motor activity; inhibition; speed of processing; distractibility; and sustained attention. Each area has 4 questions about scenarios which include a level of self-regulation. E.g. for emotional control: Pascal, Joel and Tim play “Connect 4” at Pascal’s home. Pascal is the first to have placed all four figures in the goal. 1. Joel gets angry and throws all figures all over the playground. 2. Tim thinks “It’s a pity I lost”, but keeps calm. What about you? Do you keep calm if you</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SelfReg (Rizzo et al, 2000)</td>
<td>Appears quite child friendly as has pictures and gives children specific example to relate to.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has only 2 possible options for behaviour which may not fit the individuals response. May not be sensitive enough to detect small changes following intervention. Is not a self-report form. Is quite long.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Child Self-control Rating Scale (CSCRS)</strong> (Rohrbeck, Azar and Wagner, 1991)</td>
<td>The CSCRS is a measure intended to supplement traditional teacher and/or parent perspectives on children's self-control. This 33-item scale was modelled after the teacher and parent Self-Control Rating Scale (SCRS; Kendall &amp; Wilcox, 1979). It shows high internal consistency and test-retest reliability. In a validation study of 103 normal third and fifth-grade students, the CSCRS correlated significantly with teacher ratings on the SCRS and child ratings on the Nowicki-Strickland Internal-External Locus of Control Scale for Children. The CSCRS was designed to parallel an often-used, reliable, and valid parent-teacher self-control rating scale, The Self-Control Rating Scale (SCRS; Kendall and Wilcox, 1979). The CSCRS items were reworded to make them more suitable for children. CSCRS can be administered by either teachers or parents. Designed for 8-11 year olds. Delivered to groups / individuals. Number of items = 33. Likert scale.</td>
<td>The CSCRS appears to be a reliable and valid self-report measure of self-control; it contains a 4 point scale so should be more sensitive to change.</td>
<td>It is quite a long measure (33 items); measured conduct problems specifically – possibly not suitable for mainstream. Age range – only as young as 8.</td>
</tr>
</tbody>
</table>
| **Self-regulation questionnaires** (Ryan and Connell, 1989) | Assesses domain specific areas of motivation and regulation. They state that there are 4 areas of regulation: external regulation, introjected regulation, internalised regulation and integrated regulation. The questionnaires most relevant to this piece of research would be:  
- Academic self regulation  
- Pro-social self regulation  
The others (religion and health) would not be relevant | Four point likert scale, child friendly language, | The scale focuses on motivation for behaviours |
The Children’s Perceived Self-Control Scale (CPSC) (Humphrey, 1982) is an 11 item instrument that measures self-control from a cognitive behavioural perspective. It measures 3 aspects of self-control: interpersonal self-control (ISC); personal self-control (PSC) and self-evaluation (SE).

It was normed on 4th and 5th graders (372 boys and 391 girls).

While it was important for the scale to have reliability and validity, the main objective was that it was easy to administer and for the children to understand, the CPSC was chosen.

**Appendix 3: Questions for pilot**

**Questions for pilot:**

(For the teacher and pupils)

Was this questionnaire ‘too long’, ‘the right length’ ‘not long enough’

How easy were these questions to understand?  Very easy  Ok  Hard

Were there any questions that you did not understand?

Did you understand the scale (1,2,3,4,5)

How could this measure be improved?
Appendix 4: Self-regulation measure

Date: 01.05.2012  Pupil Number:

Please circle or tick the box that best describes how often these statements are true for you.

<table>
<thead>
<tr>
<th>Question</th>
<th>None of the time</th>
<th>Some of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I find it difficult to control my temper</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2 I get so angry and frustrated I feel ready to explode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3 I get upset easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4 I lose control over my feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5 I slam doors and bang things when I am angry</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6 I can concentrate on one activity at a time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7 I think about what will happen before I act</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8 Once I have a goal, I make a plan to reach it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9 I get distracted by little things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10 As soon as I see that something is not working, I do something about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11 I get fidgety after a few minutes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12 I find it difficult to sit still during important tasks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13 When I want something, I’m patient when waiting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Emotional reactions: 1-5; cognitions: 7-8; awareness of behaviours 6, 9, 10, 11, 12 and 13
Appendix 4a: Description of measure

The questionnaire attempts to define these 3 core aspects of self-regulation by asking the young person to consider specific statements. Here, emotional self-regulation is characterised by feelings and instant emotional reactions e.g. crying. Items 1, 2, 3, 4 and 5 are considered to measure emotional self-regulation. Cognitive self-regulation is defined as the child’s ability to self-reflect, plan and think ahead and is measured by items 7 and 8 on the questionnaire. Items 6, 9, 10, 11, 12 and 13 measure behavioural self-regulation. These items focus on behaviours such as fidgeting and the ability to concentrate or attend to stimuli for a sustained period of time. It also involves a ‘pro-active’ item which measures the child’s likelihood to act when they see something that needs doing. The behavioural domain could be linked to ‘paying attention’ which is one of the attitudinal features of mindfulness.

Appendix 4b: Scoring guidance for self-regulation measure

(1 = none of the time, 2 = some of the time; 3 = most of the time; 4 = all of the time). If a child marked 1 or 2 to items 1, 2, 3, 4, 5, 9, 11 and 12 this indicated reasonable self-regulation. Thus, items 6, 7, 8, 10 and 13 were reversed scored so that a low score on all items would indicate reasonable self-regulation. Therefore if the child had circled 3, on items 6, 7, 8, 10, or 13, this would become a 2 and if they had marked 4, this would become a 1 and visa-versa. If the children had answered 1 or 2 on all of the questions (none of the time or some of the time, respectively), the minimum score obtained would have been 13, the maximum 26. If they had scored 3 or 4 (most of the time and all of the time, respectively) the minimum score would have been 39, the maximum 52. The children were unlikely to be completely consistent and so the difference between the maximum low score and minimum high score was split. Therefore a child was considered to have reasonable self-regulation if they obtained a score of 32 or less. A child was considered have poor self-regulation if they obtained a score of 33 or above. The mean score from both classes were compared to see if there were any differences before and after the intervention period. These class means are also split into male and female to see if there were any differences here.
Appendix 5: Semi-structured interview questions (intervention group – children)

Which activities did you enjoy most and why?

Which activities did you enjoy least and why?

Did you think there were enough / too many / not enough sessions?

Did you think the sessions were the right length of time / too long / too short?

What does being mindful mean to you?

Do you think any of the activities helped you to be more mindful?

Do you think mindfulness activities can help you in any way in your daily life?

Do you feel more or less aware of your emotions since completing the course?

Do you think mindfulness activities can help you to deal with any of your emotions? If so which ones?

Have you noticed any differences in the way you think since completing this mindfulness course?

Have you noticed any differences in your behaviour since completing this mindfulness course?

What activities would you practice again?

Would you recommend mindfulness activities to a friend?

Appendix 5a: semi-structured interview questions for comparison group (children)

What do you think make a good learner?

What makes a good friend?

Have you noticed any changes in your learning behaviour this term?

Have you noticed any changes in your friendships?

Have there been any changes in the class’ behaviour / learning this term?
Appendix 6: Semi-structured interview questions for intervention group (teacher)

What did you like about the mindfulness scheme of work?

Which activities were the children most engaged in?

Which activities best promoted mindfulness?

Which activities do you think the children found least engaging? Were these activities less effective?

How easy was it to fit into the school day?

How manageable was the level of planning that you had to do?

Do any children in the class appear more / less aware of their emotions? If so how can you tell?

Have you noticed any difference in your class’

- self-control / self-regulation
- attention
- any other behavioural change
- any other academic change

What were the main barriers to delivering this course?

Would you like to teach mindfulness again?

Do you intend to practice mindfulness activities yourself?

What did you like about working collaboratively with a trainee educational psychologist?

What factors were supportive in your collaborative working? What factors did you value most?

How could collaborative working be improved?

Overall, would you say the collaborative work was beneficial or not and why?

Do you feel confident in delivering the scheme independently?

Has the collaboration supported your feelings of confidence?
Appendix 6a: Semi structured interview questions for comparison group (teacher)

What is the behaviour in your class like?

What behaviours cause the most disruption / difficulty

Do the class display any behaviours linked to poor self-regulation e.g. difficulties waiting their turn?

For you, what is ‘ideal’ behaviour?

What does ‘ideal’ behaviour look like?

What are the biggest challenges that you face as a teacher?

What are your first impressions of mindfulness?

Would you be interested in completing mindfulness activities with your class following the intervention period?

What is your previous experience of working with an Educational Psychologist?
## Appendix 7: Teacher diary for sessions

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<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<td></td>
<td>Length of session</td>
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<td></td>
<td>How well did it go (*, **, ***), any other comments</td>
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<td>Length of session</td>
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<td>How well did it go (*, **, ***), any other comments</td>
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<td>How well did it go (*, **, ***), any other comments</td>
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</table>
Appendix 8: Parent / carer consent form (intervention group)

Dear parent / carer

__________ class have been selected to take part in a piece of research into the effects of mindfulness activities.

Mindfulness activities aim to help children to focus on what they are doing in the present moment, be it eating, walking, drawing or simply breathing. There is evidence to suggest that if people are able to be more ‘mindful’, they are better at: concentrating; understanding their own emotions; and self-regulating their thinking and behaviour.

The aim of this piece of research is to see whether practising mindfulness activities has any effects on the children’s perceptions of their self-control; whether they enjoy taking part in the activities and whether they notice any other improvements in their ability to concentrate in class.

If your consent is given, the class will take part in mindfulness exercises for 10 minutes 3-4 times a week. These activities will include mindful breathing, mindful eating and mindful movement. While the children will be encouraged to practice these exercises in their own time, this is not a requirement. The sessions are designed to fit into the school day and will cause minimum disruption to the curriculum.

The children will be asked to complete a short questionnaire called Children’s Perceived Self-Control Scale. The questionnaire is comprised of 11 questions regarding their perceptions of their self-control. It should take about 15 minutes to complete and will be completed in class, during the school day. If children find any of the questions hard to read or understand, they will be supported appropriately. Following mindfulness programme, the pupils will complete the questionnaire again. The children will not put their names on the questionnaires but they will be given a unique number so that the questionnaires can be matched.

Following the intervention, some children will also take part in a small group semi-structured interview (made up of 5 or 6 class members) to find out about their thoughts and feelings about the mindfulness activities. Further consent letters will go out to the families of the children selected closer to the time.

All of the names of the children will be changed so that they remain anonymous. All the data gathered from the class will be anonymous and will only be seen by myself (the researcher) and my supervisor. The anonymised results will be used in a variety of academic outputs e.g. doctoral thesis. You will also receive a summary of the results.

If you do not give consent, your child will spend the 10 minutes quiet reading in the other year three class.

An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting. Parent / carer consent form (intervention group)
This research project is supported by the University of _______, the Longfield Educational Psychology Service and Little Lane Primary School.

If you would like to find out more about the group sessions, I will be available at the end of the school day on __________ when I will be running a mindfulness workshop to give you the opportunity to try some of the mindfulness activities for yourself and to ask any questions that you might have. If you cannot make this time but want to discuss this further you can contact me by telephone on Tuesdays or Wednesdays on __________.

Please complete the slip below and state whether or not you would like your child to be involved in this piece of research. Please send completed forms back to school by __________.

Your child has the right to withdraw from this study at any time and he / she is not required to give a reason.

If you give consent for your child to participate, please could you help them to fill out their participant consent form attached.

Yours faithfully

XXXXXX

(Trainee Educational Psychologist)

Consent form (intervention group). If you are happy for your child to participate in this study please complete this form and return it within two weeks

I (parent /carersname)________________________________________________________

Give consent / do not give consent (please circle) for:

__________________________________________________________________________ (child’s name)

to take part in the research project ‘An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting’.

I understand that this will involve my child:

- Answering a questionnaire
- Taking part in some Mindfulness activities
- Taking part in a semi-structured interview

I am also aware that all data will be confidential and that my child has the right to withdraw
Appendix 8a: Participant information and consent (intervention group)

Participant information sheet.

Hi, my name is XXXX and I am a trainee Educational Psychologist.

Educational Psychologists are interested in how children think, behave and learn. They like to help you with things that you find difficult.

As part of my training I am doing an investigation into something called Mindfulness. Mindfulness activities have already been used with lots of other adults and children. I want to see if Mindfulness activities can help children to concentrate in class and remain calm when they are in situations that might normally make them worried, angry or upset.

If you agree to be part of my study, you will take part in learning some different Mindfulness activities that have been tried by other children.

Here is a list of some of the activities that you may complete:

- Mindful eating
- Mindful movement
- Mindful breathing

Your teacher will teach you how to do these activities and you will be given time to practice them for 10 minutes, 3 or 4 times a week. You may also want to practice these activities at home or at times when you are feeling worried, angry or upset - it may help you to stay calm. I will come in each week to see how you are getting on.

At the end of the 8 weeks, I will be coming in to speak to about 6 of you to find out what you thought of the exercises. If you are chosen to be part of this discussion group you will receive another letter closer to the time.

All of the information that you give us will be confidential. That means that nobody outside of the group will know what you have put in your questionnaire.

You do not have to take part. If you decide not to then you will spend the 10 minutes quiet reading in the other year 3 class. If you want to take part but half way through find that there is something that you are not enjoying or finding very difficult, please tell your parent / carer or teacher.

If you would like to take part in this piece of research, please could you complete the ‘participant consent form’.

You have the right to withdraw from this study at any point and you will not be asked to give a reason.
I look forward to working with you.

Yours faithfully

XXXX

Trainee Educational Psychologist

If you are happy to participate please complete and sign the consent form below and return within 2 weeks.

1. I have read the Mindfulness information sheet and I understand what I will need to do to be part of the project.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

3. I agree that any data collected may be passed to other researchers.

4. I agree that any data collected may be published in anonymous form in academic books or journals.

5. I agree to take part in the above project.

Name of participant ______________________ Date ____________________ Signature ____________________

Name of person taking consent ______________________ Date ____________________ Signature ____________________
Appendix 9: Parent / carer letter of consent (comparison group)

Dear parent / carer

[Class name] class have been selected to act as a comparison group for a piece of research into the effects of an 8 week programme of Mindfulness activities.

If you give permission for your child to be involved, they will be required to complete a short questionnaire called Children’s Perceived Self-Control Scale. The questionnaire is comprised of 11 questions regarding their perceptions of their self-control. It should take about 15 minutes and it will be completed in class, during the school day. If children find any of the questions hard to read or understand, they will be supported appropriately. The children will then continue with their usual curriculum.

They will be asked to complete the same questionnaire about 9 weeks later. Again this will be completed in class, during the school day. The two questionnaires will be matched using a number and compared for any differences. All the data gathered from the class will be anonymous and will only be seen by myself (the researcher) and my supervisor. The findings from the questionnaires will be used in an anonymous way to produce a variety of academic outputs e.g. a doctoral thesis.

Your child has the right to withdraw from this study at any time and he / she is not required to give a reason.

This research project is supported by the University of [University name], the Longfield Educational Psychology Service and Little Lane Primary School.

To give permission for your child to complete the Children’s Perceived Self Control Scale, please complete the slip below and send back to school by [Date].

Yours faithfully

[Name]
(Trainee Educational Psychologist)

Consent form (comparison group). If you are happy for your child to participate in this study please complete this form and return within two weeks.
I (parent / carers name)_______________________________________________________

Give consent / do not give consent (please circle) for

__________________________________________________             (child’s name)

To take part in the research project ‘An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting’.
Appendix 9a: Parent / carer reminder slip

REMININDER:

Our records show that you have not yet returned the consent form for the Mindfulness intervention research.

Please find attached letter and return as soon as possible.
Appendix 10: Parent / carer consent form for intervention group semi-structured interview

An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting.

Dear parent / carer

Your child has been selected to take part in a group semi-structured interview to evaluate the mindfulness intervention.

The group will comprise of 6 children who will discuss the intervention for no longer than 30 minutes during the school day. The children will be asked to discuss what they liked about the mindfulness scheme of work and how they think the activities might help them as well as being asked about how they think it could be improved.

The interview will be audio recorded and transcribed anonymously. Once it has been transcribed, the audio data will be deleted. The data gathered from the interview will be used anonymously for a variety of academic outputs e.g. a doctoral thesis.

Your child has the right to withdraw from this study at any time and he / she is not required to give a reason.

If you give consent for your child to participate in the interview, please complete the form below.

Yours faithfully

XXXX
(Trainee Educational Psychologist)

Consent form (intervention semi-structured interview group). If you are happy for your child to participate in this part of the study please complete this form and return within two weeks.

I (parent / carers name)________________________________________________________________________

Give consent / do not give consent (please circle) for (child’s name)

________________________________________________________________________

to take part in a semi-structured interview for the research project ‘An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting’.

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Appendix 11: Parent / carer letter of consent for the comparison group semi-structured interview

Dear parent / carer

Your child has been selected to take part in a group semi-structured interview to discuss their perceptions of their emotions and self-regulation.

The group will comprise of 6 children who will discuss their feelings and how they manage them for no longer than 30 minutes during the school day.

The interview will be audio recorded and transcribed anonymously. Once it has been transcribed, the audio data will be deleted. The data gathered from the group will be used anonymously for a variety of academic outputs e.g. a doctoral thesis.

Your child has the right to withdraw from this study at any time and he / she is not required to give a reason.

If you give consent for your child to participate in the interview group, please complete the form below.

Yours faithfully

XXXX

(Trainee Educational Psychologist)

Consent form for semi-structured interview. If you are happy for your child to participate in this part of the study please complete this form and return within two weeks.

I (parent / carers name)__________________________________________

Give consent / do not give consent (please circle) for (child’s name) :

__________________________

to take part in a semi-structured interview for the research project ‘An exploratory investigation into the impact of a mindfulness scheme of work in a mainstream primary setting’.
1. I have read the Mindfulness information sheet and I understand what I will need to do to be part of the project.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

3. I understand that the interviews will be audio recorded and I consent to this.

4. I agree to the use of anonymous quotes.

5. I agree that any data collected may be passed to other researchers.

6. I agree that any data collected may be published in anonymous form in academic books or journals.

7. I agree to take part in a semi-structured interview which will last no longer than 30 minutes.

If you are happy to participate please complete and sign the consent form below and return within 2 weeks I agree to take part in the above part of the project.
Appendix 12: Intervention group class teacher information sheet

Dear teacher

Thank you very much for your interest in taking part in a piece of research into the effects of mindfulness activities.

Mindfulness activities aim to help children to focus on what they are doing in the present moment, be it eating, walking, drawing or simply breathing. There is evidence to suggest that if people are able to be more ‘mindful’, they are better at: concentrating; understanding their own emotions; and self-regulating their thinking and behaviour.

The aim of this piece of research is to see whether practising mindfulness activities has any effects on the children’s perceptions of their self-control; whether they enjoy taking part in the activities and whether they notice any other improvements in their ability to concentrate in class.

The class will take part in mindfulness exercises for 10 minutes 3-4 times a week. These activities will include mindful breathing, mindful eating and mindful movement. While the children will be encouraged to practice these exercises in their own time, this is not a requirement. I will support you with the planning of these sessions and we will use some ready made resources that have been designed to fit into the school day and will cause minimum disruption to the curriculum.

I will be available on a weekly basis to support with the planning and delivering of the sessions. I would like to observe at least one mindfulness session a week so that I can keep a diary of the children’s responses to the exercises. The weekly observations will last no longer than 30 minutes. I would also appreciate it if you could keep a record of when you delivered the sessions and how they went (I will provide a sheet for this and it should take no longer than 10 minutes per week for no longer than 2 months).
The children will be asked to complete a short questionnaire called Children’s Perceived Self-Control Scale. The questionnaire is comprised of 11 questions regarding their perceptions of their self-control. It should take about 15 minutes to complete and should be completed in class, during the school day with your help. If children find any of the questions hard to read or understand, they should be supported appropriately. Following the mindfulness programme, the pupils will complete the questionnaire again. The children will not put their names on the questionnaires but they will be given a unique number so that the questionnaires can be matched.

Following the intervention, some children will also take part in a small semi-structured interview (made up of 5 or 6 class members) to find out about their thoughts and feelings about the mindfulness activities. Further consent letters will go out to the families of the children selected closer to the time.

I will also be asking you to take part in a semi-structured interview about the sessions which will take no longer than 2 hours.

All of the names of the children will be changed so that they remain anonymous. All the data gathered from the class will be anonymous and will only be seen by myself (the researcher) and my supervisor. The anonymised results will be used in a variety of academic outputs e.g. doctoral thesis. You will also receive a summary of the results.

If parents do not give consent to take part, XXXX suggested that they spend the 10 minutes quiet reading in the other year three class.

I will run a mindfulness workshop to give parents the opportunity to try some of the mindfulness activities for themselves and to ask any questions that they might have. If they cannot make this time but want to discuss this further they can contact me by telephone on Tuesdays or Wednesdays on ____________.

If you could remind the children to bring in the consent forms as soon as possible that would be greatly appreciated.

You have the right to withdraw from this research at any point and you are under no obligation to give a reason.

This research project is supported by the University of ________, the Longfield Educational Psychology Service and Little Lane Primary School.
Yours faithfully

XXXX

1. I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

3. I understand that the interviews will be audio recorded and I consent to this.

4. I agree to the use of anonymous quotes.

5. I agree that any data collected may be passed to other researchers.

6. I agree that any data collected may be published in anonymous form in academic books or journals.

   I agree to weekly observations from the researcher of no longer than ½ hour.
I agree to keep a simple record of the sessions I deliver

I agree to take part in a semi-structured interview following the 8 week intervention and I understand that it will last for no longer than 2 hours

(Trainee Educational Psychologist)

If you are happy to participate please complete and sign the consent form below and return within 2 weeks

I agree to take part in the above part of the project

Name of participant ___________________________ Date ___________ Signature ___________________________

Name of person taking consent ___________________________ Date ___________ Signature ___________________________

__________________________

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Dear teacher

Thank you very much for your interest in taking part as a comparison group for a piece of research into the effects of an 8 week programme of Mindfulness activities.

The children in your class will be required to complete a short questionnaire called Children’s Perceived Self-Control Scale. The questionnaire is comprised of 11 questions regarding their perceptions of their self-control. It should take about 15 minutes and it will be completed in class, during the school day. If children find any of the questions hard to read or understand, they should be supported appropriately. The children will then continue with their usual curriculum.

I will be in school on a weekly basis to observe a mindfulness session. I would be very greatful if you would agree to a short weekly observation of the children in your class (no longer than 15 minutes) to see if there are any observable differences between the classes.

The children will be asked to complete the same questionnaire about 9 weeks later. Again this will be completed in class, during the school day. The two questionnaires will be matched using a number and compared for any differences. All the data gathered from the class will be anonymous and will only be seen by myself (the researcher) and my supervisor. The findings from the questionnaires will be used in an anonymous way to produce a variety of academic outputs e.g. a doctoral thesis.

6 children will also be involved in a semi-structured interview

This research project is supported by the University of ___________, the Longfield Educational Psychology Service and Little Lane Primary School.

You have the right to withdraw from this research at any point and you are under no obligation to give a reason.
If you could encourage the children to return their consent slips as quickly as possible, this would be greatly appreciated.

Yours faithfully

XXXX
(Trainee Educational Psychologist)

If you are happy to participate please complete and sign the consent form below and return within two weeks

Please Initial
Box

I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

I understand that the interviews will be audio recorded and I consent to this

I agree to the use of anonymous quotes
I agree that any data collected may be passed to other researchers

I agree that any data collected may be published in anonymous form in academic books or journals.

I agree to a short weekly observation by the researcher of no longer than 15 minutes

I agree to take part in the above part of the project

Name of participant ______________________ Date ___________ Signature ______________________

Name of person taking consent ______________________ Date ___________ Signature ______________________

Appendix 13: confirmation of ethical approval

Dear XXXX
Ref: PGR-7707335-A1
I am pleased to confirm that your ethics application has been approved by the School Research Integrity Committee (RIC) against a pre-approved UREC template.
If anything untoward happens during your research then please ensure you make your supervisor aware who can then raise it with the RIC on your behalf
Regards
Gail Divall
PGT & Quality Assurance Administrator
School of Education
Tel: +44(0)161 275 3390
Working Week: Tues - Fri
http://www.education.manchester.ac.uk
http://www.education.manchester.ac.uk/intranet/
Appendix 14: Interview with comparison group class teacher

5mins

R: Ok, to start with just a couple of questions about your class. How would you describe the general behaviour of your class?

T: The general behaviour of my class is good. There can be some girls who tell tales on each other and things like that but generally the behaviours quite good in my class.

R: Ok and would you say that’s sort of… have you had year three before?

T: Yes. It’s unusual to have such a well-behaved class. The classes in the past have been very erm…boisterous.

R: Yeah, I can imagine! So would you say they’re sort of calmer?

T: Yeah, yeah

R: So what behaviours do present the biggest problems in your class?

T: Erm… telling tales on each other, shouting out without putting their hand up or coming over to me and following me around, trying to get my attention without asking, putting their hand up and things like that or waiting.

R: So a lot of that is sort of self-regulation, you know, sort of waiting and things.

T: Yeah, things like that I mean there’s no sort of like fights and things like that really

R: No

T: So just things like that.

R: So is there a child in your class who displays ideal behaviour and if so what does that look like?

T: Yeah, there’s quite a few who are really you know perfect

R: Yes

T: They listen really well when I’m talking they give eye contact all the time, they’re not turning around and being distracted. They are looking out for each other, they’re kind to each other, they look after their friends, erm, they’re concerned about each other, if someone’s hurt or upset and just generally really nice to everybody and get on with things and make life easy!

R: Yeah, nice to have around!

T: Definitely!

R: What are the biggest difficulties that you face as a teacher?
T: What behaviour wise?

R: Just sort of generally like with the job, is it managing time or planning? Or stress?!

T: Yeah! Managing to do several hundred things at once. Trying to remember everything that you’ve got to do really is probably the most challenging thing, and time management, like you said.

R: Mmm.

T: Prioritising what’s important.

R: Yeah.

T: But then, when you’ve got a really badly behaved class, that takes priority over everything else and that becomes the most challenging thing, so it depends what your class is like, where the challenges are.

R: Yeah, OK so for this year, for you with a well-behaved class, what do you think have been the biggest challenges for you? Is it the time management?

T: Yeah, time management and pushing them on as much as you can, cos they are quite high ability so keeping the learning going forward.

R: Ok brilliant. So we talked a bit about the mindfulness right at the beginning, with the strawberries and everything. Would you consider using mindfulness practices yourself?

T: For me or for?

R: Yeah for you

T: You know since we did that I have noticed myself... like today I’ve got a really bad headache and I was telling myself I’ve just got to focus on... I knew you were in (laughs) and I was thinking, I’ve just got to focus on one thing at a time! (laughs)

R: (laughs) yeah its easier said than done.

T: But yeah, I have thought about things that you’ve said when it was in the um first meeting, when you told us about what it means and things like that. So I have thought about it but I don’t think I’ve put it into practice really.

R: Yeah but I suppose with time and prioritising and stuff it’s going to go quite low down really isn’t it? So would you consider using any mindfulness, seeing that now **** has tried it, would you consider using any mindfulness activities with the children next year?

T: Um, I would be open to doing it. I think I’d need a bit more training on how to do it or watching someone do it before doing it on my own, but yeah, I would be open for that as well?

R: Ok, great. And just a little bit about working with Ed Psychs before. Have you had much experience working with Ed Psychs?
T: No, not at all.

R: Ok, um, what would sort of the ideal practice look like? What do you want from EPs?

T: I just think support really, erm, identifying certain things erm, just um, confirming what you’re thinking like am I right in thinking this about certain children and things like that um I suppose really and advice on what to look for. Cos sometimes you don’t really know what to look for.

R: Ok so sort of working alongside them, sort of having discussions an things like that?

T: yeah, yeah.

R: Ok, brilliant, I think that’s everything so we’ll stop there.

Appendix 14a: Sample of interview with intervention group class teacher

Interview with experiment group class teacher (33 mins)

R: Ok, first question is: what did you like about the mindfulness scheme of work and activities

T: Just the fact that there was a variety of things that we did, it wasn’t just the same thing every week and there was a different focus for each one so sometimes it would be about your body, sometimes it would be about listening, sometimes it would be about touching something or feeling something, and the fact that you used all of your sense really, you know not so much all at the same time but at different times and with different things and it kept it fresh so it wasn’t like oh we’re just listening to this CD again for 15 minutes and the kids get bored and I get bored and. But it wasn’t boring, it was exciting and they did respond well. You know they did respond well to it, there was a marked change but that’s what I liked, the fact there was just a variety of things that you could do, it was very much as well you quickly learned what didn’t work, like the chocolate thing, and I know it was a hot day and on another day, like today you probably would have been fine but there was other things that I tried that I thought oh, that didn’t work very well, or I should’ve done that a bit better erm...

R: I suppose you don’t always know..

T: ...and I found that the doing ones were the best ones. The ones where they just had to sit and listen were the ones, they found it really hard just to sit for 10 / 15 minutes just to sit and listen. But if they were doing and it was quiet it was like quiet doing if that makes sense?

R: Yeah

T: But they were focused and I think that’s what worked well.
R: That’s good, I think you’ve kind of answered the next question: which activities were they most engaged in. So the kind of doing ones?

T: Yeah, the ones that I felt that worked the best were, like we did observational drawing and once I knew that worked we did it a couple of times so at least once a week they’d do that kind of thing or... If it was one where... We tried mindful movement one day.

R: Oh yeah?

T: But we didn’t walk anywhere, we just stood.

R: OK

T: And I made them move their legs and move their arms as though they were walking round, but obviously, we just did it in the class room and as you can see there’s not much room to move so we just did it in the classroom and that worked really well, erm they found it funny at first but they did kind of get it. But the drawing one worked well, and then I did an eating one with them and I brought um... over in the infants they have tiny apples so we had an apple and it was very much, it was something that they were familiar with but because it was tiny enough to hold it in their hand and to look at, they really had to look at it, they really enjoyed that, and then the next week we drew it, so I tried to link it in, what we’d done to move it on. Those were the ones that I felt worked best, when it was just the times when we were beginning and trying it and we thought we’ll just put the CD on cos we don’t know how it’s going to go and then we realised well we didn’t use the CD. And we didn’t, it’s been on my desk since the first few times we used it cos I thought well we’ve found other things that we can do that will work.

Appendix 14b: Sample of interview with comparison group (children)

Interview with comparison group (15 mins)

16, 11, 17, 21, 24

R: Ok, right first question is: what do you think makes a good learner? Ok who would like to go first? What’s your number?

11: 11. I think what makes a good learner is like a book cos its very educational

R: Ok good but what about... what sort of child is a good learner? What do you have to do to be a good learner?

17: you have to be a good listener and you have to always pay attention

R: Fantastic. And 24, what do you think?

24: well I think when you’re a good learner you have to listen very hard but you have to know and understand what they’re actually talking about so you know what work you’re going to do.
R: Great, well done, fantastic answers there. So how do you make sure you’re being a good learner? Who could answer that for me? What do you think you do? Yes

21: You might check your calculations

R: Oh right, that’s good so you might check over your work, that’s good, that’s excellent learning. So what else? Think about what you actually do, not what you should do, what you actually do.

11: Well what I actually do is well… I try to listen and I always look at what’s been written but I don’t copy.

R: Great, fantastic so you’re looking and reading over and checking and really listening as well fantastic

17: um what you do is you’ve got to pay attention and you’ve got to not copy off things you’ve just got to take bits off

R: Brilliant, well done number 17. Excellent. Right the next one is what makes a good friend.

16: You have to be nice to people or if you be nasty, they won’t be you’re friend anymore

R: Excellent so you’ve got to be nice to people otherwise they won’t want to be friends with you. What do you think number 21?

21: you have to play with them, not just play and then go off with someone else

R: Fantastic

24: Well you have to like look out for them. So if you like play with someone but then fell over you have to play with them and if you’re a good friend you have to look out for each other.

Appendix 14c: Sample of interview from intervention group (children)

Mindfulness activities Focus group (20mins)

R: First of all I want to say thank you very much for taking part in the mindfulness activities. Now I’ve got a few questions to go through. The first one is which activities did you enjoy most and why?

14: In the mindfulness?

R: Yes in the mindfulness. Right number 17

(1 interrupts) The chocolate one!

R: Hang on a minute, number 17 you had your hand up?
17: Mine was the first one with the fruit.

R: Ok eating the fruit, excellent, and really looking at it. Why did you like that so much?

17: Because ... you could do it again and it was a fun one

R: It was a fun one? And have you done it at home as well (17 nods) excellent! And what was your favourite one?

1: The chocolate button one

R: and why was that your favourite one?

14: Because when you look at it on your hand you go I’m gonna lick it.. and the smells lovely

R: Oh fantastic. So it was quite hard to stop yourself from licking it (yeah) but you managed,, so well done.

R: And what was your favourite one?

1: The chocolate one

R: great, so yours was that as well

1: It was chocolate buttons because I liked the taste and erm and I liked it when it melted

R: It did melt quite a bit didn’t it! It melted a lot that day, it was a really warm day. What was yours number 7?

7: Mine was the first one because I liked the strawberries and... and you can like feel it and its good for mindfulness.

R: Excellent, that’s really good. And what was yours (4?)

4: The chocolate one

R: And why was that one?
Appendix 15: Codes and themes for comparison group pupil interview
Appendix 16: Codes and themes for comparison group class teacher
Appendix 17: Codes and themes for intervention group interview (children)
Appendix 18: codes and themes from intervention group (class teacher)
## Appendix 19: Table 6: Timeline and budget

<table>
<thead>
<tr>
<th>Date</th>
<th>Resources required</th>
<th>Time</th>
<th>Budget</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th Jan 2012</td>
<td>Thesis proposal, RREA and SOEE forms</td>
<td>Due 6th January</td>
<td>n/a</td>
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<tr>
<td>12th Feb 2012</td>
<td>Thesis proposal</td>
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<td>20th Feb 2012</td>
<td>Thesis proposal and presentation</td>
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<td>27th Feb 2012</td>
<td>Thesis proposal, UREC, RREA and SOE ethics forms</td>
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<td>Submit revised proposal and ethics forms</td>
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<tr>
<td>April 2012</td>
<td>Thesis proposal and revised ethics forms</td>
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<td></td>
<td>Feedback from UREC</td>
</tr>
<tr>
<td>April 2012</td>
<td>Consent form</td>
<td>Two weeks</td>
<td>Printing</td>
<td>Submit amendments</td>
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<td>Travel to school /</td>
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<td></td>
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<td>postage</td>
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<tr>
<td>April 2012</td>
<td>Mindfulness resources – book and CD</td>
<td>1 hour</td>
<td>Cost of</td>
<td>Meet with teachers to plan intervention</td>
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<td>resources (£35)</td>
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<td>Travel to school</td>
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<td></td>
<td>Go over semi-structured interview questions</td>
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<td>Self-regulation questionnaires</td>
<td>30mins</td>
<td>Printing</td>
<td>Pilot of self-regulation questionnaires</td>
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<tr>
<td>April 2012</td>
<td>Mindfulness presentation, fruit, mindfulness resources</td>
<td>1 hour</td>
<td>Cost of fruit</td>
<td>Mindfulness parents evening</td>
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<td>½ an hour</td>
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<td>Travel to school</td>
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<td>Administer session 1 with teacher</td>
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<tr>
<td>May 2012</td>
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<td>Travel to school</td>
<td>Gather information regarding weeks two sessions and practices and</td>
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<td></td>
<td></td>
<td>teacher 1 hour</td>
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<tr>
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<td>Topic</td>
<td>Activity Details</td>
<td>Plan for</td>
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<td>Gather information</td>
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<td>Travel to school</td>
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<td>interview with children</td>
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<tr>
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<td>16 hours</td>
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<td></td>
<td>Analyse semi-structured</td>
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<td>interview (chn) using</td>
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<td></td>
<td>thematic analysis</td>
<td></td>
</tr>
<tr>
<td>Date/Range</td>
<td>Task Description</td>
<td>Time</td>
<td>Notes</td>
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</tr>
<tr>
<td>August 2012</td>
<td>Semi-structured interview transcription, post-its, coloured pens</td>
<td>24 hours</td>
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<td>n/a</td>
<td>Create summary report for participants / parents / school</td>
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<td>Summary report</td>
<td>1 hour</td>
<td>Travel to school / post</td>
<td>Feedback to school / parents / participants</td>
</tr>
<tr>
<td>August 2012 – May 2013</td>
<td>Results, relevant academic literature</td>
<td>80 hours</td>
<td>n/a</td>
<td>Write up thesis</td>
</tr>
</tbody>
</table>

Results, relevant academic literature 80 hours n/a Write up thesis
### Appendix 20: Operational Risk Analysis (key ethical issues)

#### Table 7: Operational Risk Analysis

<table>
<thead>
<tr>
<th>Ethical risk</th>
<th>Level of risk</th>
<th>Steps taken to manage issue / contingency plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children missing 30-40 minutes a week of curriculum time a week</td>
<td>High</td>
<td>The class often quiet read during this time or complete another calming activity. The mindfulness practice is deemed an appropriate alternative</td>
</tr>
<tr>
<td>Comparison group not receiving an mindfulness input</td>
<td>High</td>
<td>The comparison group will receive their normal curriculum and the time taken to complete the questionnaires is deemed negligible by the teacher and head teacher. If the teacher would like to practice mindfulness activities, training will be offered and can be started once data has been collected</td>
</tr>
<tr>
<td>Some families may be against the intervention due to its Buddhist roots</td>
<td>Medium</td>
<td>While the intervention stems from Buddhism, it does not discuss any religious figures of believes. Furthermore, parents have the right to withdraw their children from the scheme</td>
</tr>
<tr>
<td>Children may not enjoy the mindfulness exercises</td>
<td>Low</td>
<td>Previous research has shown that most children really enjoy the mindfulness practices and activities will be kept short in attempt to minimise boredom. However, all individuals have the right to withdraw at any time.</td>
</tr>
<tr>
<td>Children who are withdrawn will have nowhere to go during their class’ mindful practice</td>
<td>Low</td>
<td>Children who have been withdrawn from the intervention will spend the 10 minutes in the other year three class where they will quiet read</td>
</tr>
<tr>
<td>Confidentiality of data</td>
<td>Medium</td>
<td>All personal data collected will be kept on an encrypted memory pen or kept in a locked cupboard at the researcher’s house. Data will only be shared between the researcher and the supervisor. Audio data will be kept at the university and destroyed after 5 years</td>
</tr>
<tr>
<td>If there are delays in approval of the project, here may not be time to complete the 8 week programme before the summer holidays</td>
<td>Medium</td>
<td>If there are delays in approval which mean there are less than twelve weeks for the researcher to: obtain informed consent; hold an information evening; carry out the 8 week intervention; complete semi-structured interviews, then the research will not start until the September (with a new year 3 class).</td>
</tr>
</tbody>
</table>
Appendix 21

Observation schedule

Weekly observations were completed (when the researcher was not delivering the session).

Observations began as the children entered at the end of lunch. Notes on environmental information were made, e.g. the weather and the general noise level and behaviour of the class.

During the mindfulness activity the following process of observation was undertaken:

The table observations focused on the children’s engagement in the activities, their responses to the teacher, their interaction with each other, their attention and any noticeable behaviours directly linking to the 7 attitudinal features e.g. patience.

While this was intended to be a cyclic process, it was deemed important that any salient behaviours occurring on other tables, or by the teacher were noted down. In practice, this occurred frequently and thus notes were written up in terms of salient features of observations, as opposed to chronological record of observations (see appendix 21a).
<table>
<thead>
<tr>
<th>Week</th>
<th>Objective</th>
<th>Observation / diary entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Awareness of taste</td>
<td>This was delivered by the researcher. All the children listened inquisitively demonstrating attention and a beginners mind. There is limited fuss as fruit is handed out but some of the children report they don’t like it so are told they don’t need to eat it but just follow the other instructions. They follow the looking, touching and smelling activities carefully. They rub the fruit on their lips slowly and eat very slowly. After reports included: it made my mouth water; mine had funny bits on it; and it tasted really good. All of these comments suggested a heightened sense of awareness. Reflection: the majority of the children seemed interested and were able to maintain focus. However this may have been due to the novelty situation.</td>
</tr>
<tr>
<td>Week 2</td>
<td>Listening</td>
<td>I completed the brain activity and the children took part in a short listening activity, listening to internal and external sounds. Reflection: most of the children were able to engage in this process for the entire time, though there was some silly giggling behaviour from some of the boys. Perhaps it was too long for some of them? Too many distractions?</td>
</tr>
<tr>
<td>Week 3</td>
<td>17.05.2012</td>
<td>Awareness of breath</td>
</tr>
<tr>
<td></td>
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<td>All of the children were sitting on the floor, quietly and sensibly. They were reminded about how they practised yesterday and the routine that they had: hands on knees, eyes closed, imagine they are somewhere quiet, calm and safe like their bed. The teacher talked through the scripts asking them to become aware that they were breathing. At this point some started breathing more heavily but still appeared to be ‘in the moment’. Two of the boys who often mess around were quiet and sensible. Another child...</td>
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</tbody>
</table>
looked bored and did not seem to engage. At 2mins 44 of the CD the overwhelming majority of the class were quiet and focused. At 3 minutes 44, some were beginning to sigh and one began to roll her head, though still had her eyes closed.

At the end of the practice all put their hands up and reported that they felt calmer. The teacher reported that he felt calmer, happier and more relaxed. In front of the class he reported that there had been a huge improvement in behavior, particularly in that week. He stated that he had noticed the greatest difference in the afternoon session and that productivity had also increased.

Reflection: the whole atmosphere in the class was different from previous weeks. The routines seem to have worked well. The intervention appears to be having an impact on the teacher. However this may be due to the Hawthorne effect.

<table>
<thead>
<tr>
<th>Week 4</th>
<th>No observation as the teacher was off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 5 30.05.2012</td>
<td>Mindful sitting. T tells the children to relax into chair. 10 minute activity</td>
</tr>
<tr>
<td></td>
<td>A warm day. All calm throughout register. Teacher makes link to eating activity but states this time it will be looking only. Some excited chatter. Some explore, some start to bounce. Told not to touch yet, just to look. All seem focused and inquisitive arguably demonstrating a ‘beginners mind’. Some of the boys who generally struggle were doing much better and appeared engrossed in their object. The teacher kept talking them through how to look, suggesting that they might want to turn their objects, look at home the light bounced off the object and notice the fact that they are looking. Reflection: while the children were less focused this week, it must be noted that the activity appeared to have a significant effect on their level of arousal and while they were excitable at first, they calmed.</td>
</tr>
<tr>
<td>Week 6</td>
<td>Body scan</td>
</tr>
<tr>
<td></td>
<td>Wet play. Children fairly excitable. Some children squirm,</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
</tr>
<tr>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>14.06.2012</td>
<td></td>
</tr>
<tr>
<td>Week 7</td>
<td>Mindful sitting</td>
</tr>
</tbody>
</table>
appear to be calm and attentive and much less giggly than last week. After 2 minutes 1 girl started to fidget and at 6 minutes several others became distracted and opened their eyes. However they all continued to follow instructions. Once they had finished the teacher reported it was one of the best mindfulness sessions that they had had. He talked again about how their successful session made him feel (happy, calm, relaxed). The children continued to be focused into the next lesson and put their hands up to ask relevant questions.

Reflection: the boys who often become excitable were calm from the beginning. The classroom organisation was good and everyone had enough space. The teacher was able to provide positive feedback throughout which encouraged them and him. The effect lasted into the next lesson, though possibly in part due to the positive feedback at the end.

<table>
<thead>
<tr>
<th>Week 8</th>
<th>Awareness of taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.06.2012</td>
<td>A very warm day. All children on carpet. All looking at teacher with hands on knees apart from three boys who struggle who are sitting at tables, moving around on chairs. The boys are all told to find a girl to go and sit next to. The chocolate is given out and they are told not to touch it. All engage in inquisitive looking. Two boys compare size of chocolate, there is some chatting. As the teacher begins to speak the children go quiet again and listen and follow instructions. Once the chocolate is in the children’s hands it begins to melt and the noise level rises. The teacher asks them to stop and breathe which calms most but some are still excited. When the chocolate is eaten there are lots of ‘mmms’. Following this the children are asked to stop and sit with their eyes closed and concentrate on breathing. One asks if they are allowed to think about the chocolate. Another child tells them ‘no’ because they have to</td>
</tr>
</tbody>
</table>
concentrate on their breathing. This demonstrates some understanding of the process from this child. While the majority of the class appear to calm and focus, letting go of their previous thoughts, others appear to want to stay in the ‘melting chocolate moment’ laughing and giggling. One of the boys who continued to giggle was sent next door. The rest of the class calm down.

Reflection: the environment had a significant effect on the children and the chocolate may have been a little too exciting. This activity needs to be very carefully thought through (logistically) and not used until the children are truly ready.

The teacher was using the breathing activity to help the children to calm down. Moreover this appeared to be an effective method.
# Appendix 21b observations of comparison class

<table>
<thead>
<tr>
<th>Lesson / activity being undertaken</th>
<th>Observations of engagement / behaviour of children</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Week 2</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>
| **Week 3** 17.05                  | History - carpet activity  
All sat quietly. Some fidgeting but general engagement was good. Lots of hands up. All facing whiteboard. Teacher notices one child fidgeting with shoes, makes example, child stops. Some quiet calling out but generally good turn-taking and putting hands up. M 2 boys at back exchange words quietly but then back on task. Al react to dung but come back round very quickly. Hands up before task set. All listen carefully |
| **Week 4 and 5**                  | N/A                                               |
| **Week 5** 14.06.12               | Sound lesson - carousel of activities  
All focused on table activity. Though noisy, when reminded they quieten. All children follow instructions well. Some children got a little bit loud and silly with drum but when reminded they stopped. Other children looked at the loud ones nervously. Though some got loud, all were engaged in the appropriate activity. |
| **Week 7** 21.06.12               | Carpet activity  
All were sitting quietly and sensibly listening to the teacher. Hands were put up appropriately. Some calling out but stopped when reminded. Some muttering when teacher turns to board but it quickly stops. Whole class round table to observe activity. All move quietly and sensibly and find a space. Some girls push. Quickly sorted out by teacher. Children follow instructions well on independent activity. |
| **Week 8**                        | N/A                                               |
## Appendix 22 inter-rater reliability

<table>
<thead>
<tr>
<th>TEP colleague’s codes</th>
<th>My codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice (amended to variety)</td>
<td>Variety of activities</td>
</tr>
<tr>
<td>Choice (amended to variety)</td>
<td>Different focus</td>
</tr>
<tr>
<td>Use of all senses</td>
<td>Focus on different senses</td>
</tr>
<tr>
<td>Keeps interest of recipients (amended to kept it fresh)</td>
<td>Kept it fresh</td>
</tr>
<tr>
<td>Exciting</td>
<td>It wasn’t boring it was exciting</td>
</tr>
<tr>
<td>Positive response to activities</td>
<td>They responded well</td>
</tr>
<tr>
<td>Choice (amended to variety)</td>
<td>Variety</td>
</tr>
<tr>
<td>Learn as go along</td>
<td>You quickly learned what did not work</td>
</tr>
<tr>
<td>Kinaesthetic activities engagement</td>
<td>‘Doing’ ones were best</td>
</tr>
<tr>
<td>Longer tasks decreased attention X</td>
<td>Sitting and listening was hard</td>
</tr>
<tr>
<td>Use techniques regularly</td>
<td>Drawing exercise repeated</td>
</tr>
<tr>
<td>Kinaesthetic activity engagement</td>
<td>Mindful movement</td>
</tr>
<tr>
<td>Drawing activity engagement</td>
<td>Drawing one worked well</td>
</tr>
<tr>
<td>Fruit activity engagement</td>
<td>Enjoyment of eating activity</td>
</tr>
<tr>
<td>Links between lessons</td>
<td>Aimed to link it in</td>
</tr>
</tbody>
</table>

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