An Evaluation of the Effectiveness of the R Time Intervention and the Circle Time Intervention in Promoting Children's Emotional Literacy and Mental Well-Being

Lynne Sedgwick

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Abstract

This research study evaluated the effectiveness of the R time intervention and the Circle Time intervention to promote year 2/3 children's emotional literacy and mental well-being. Theoretical perspectives of emotional literacy and the related broader concept of mental well-being provided a framework to evaluate the development of a wide range of social and emotional skills and behaviours (Goleman's, 1996, 1998; Mayer & Salovey, 1997). The emphasis on developing child well-being in UK government agendas (e.g. DfEE, 2001) and intervention research (e.g. Weare & Gray, 2002; Adi, Killoran, Janmohamed, & Stewart-Brown, 2007), made the study of whole class interventions such as R time and Circle Time a relevant area of study. In three schools, the class teacher delivered the R time intervention (n=25), the Circle Time intervention (n=14) and normal practice (n=16) over 8 weeks to year 2/3 children. The Emotional Literacy Assessment Instrument (ELAI) and the Strengths and Difficulties Questionnaire (SDQ) measured pre- to post-test change in teacher, parent and pupil informant scores. A Multivariate Analysis of Variance (MANOVA) showed Circle Time self-awareness scores and R time and Circle Time pro-social behaviour scores significantly increased following the intervention. The results suggest Circle Time had significant positive effects on children's self-awareness compared to R time. The discussion considered the session length and duration of the interventions as possible threats to internal validity of the study. Future studies might investigate the effectiveness of the interventions implemented over a longer period and if positive gains remain at a follow up. This study suggests EPs have a role in supporting schools to implement, design and evaluate interventions in this area. In conclusion, the results of the study suggest R time effectively promoted an aspect of children's mental well-being (pro-social behaviour) and Circle Time effectively promoted an aspect of children's emotional literacy skills (self-awareness) and mental well-being (pro-social behaviour).

1. Introduction

There has been an increasing interest in the promotion of children's emotional literacy and mental well-being in recent years. In particular, the term emotional literacy appears in many journals, literature, projects and interventions relating to education and psychology in the UK (e.g. Adams, Morris, Gilmore, & Frampton, 2010; Adi, Killoran, Janmohamed, & Stewart-Brown, 2007; DfES, 2005; Mosley, 1998; Sampson, 2004).

My interest in this area developed from my previous career as a primary school teacher working in a school that prioritised teaching children social and emotional competencies. Whole class interventions were particularly useful, as all the children seemed to benefit from them. However, time to promote the children's social and emotional competencies competed with the pressure to focus on their academic achievement. Maintaining this balance was a continual challenge, even when working in a school that recognised the importance of social and emotional learning. Therefore, it was essential that as a teacher I used the time available in the best possible way.

Making an informed decision about what resources to use was difficult. Choosing teaching materials often depended on what was available in school or directed by national initiatives rolled out by the Department for Education. Often the intervention's manual was the only source of information to help decide on the suitability of an intervention, with a lack of reference to evidence in terms of its effectiveness. Evaluating the effectiveness of interventions has become a prominent role in my current career as an Educational Psychologist in training. This study provided me with an opportunity to combine my knowledge and understanding of the classroom context and interest in social and emotional aspects of learning, with research aimed at evaluating the effectiveness of whole class interventions.

R time (Sampson, 2004) and Circle Time (Mosley, 1998) are two classroom interventions already used by schools across the UK. They both claim to develop a diverse range of outcomes, which potentially develop children's emotional literacy and

mental well-being. However, there is currently little evidence to suggest that interventions used with the whole class effectively develop children's emotional literacy and mental well-being (Stevahn, Johnson, Johnson, Oberle & Wahl, 2000). Furthermore, there are very few studies evaluating the effectiveness of R time and Circle Time, despite their popularity in the UK (Hampton, Roberts, Hammond & Carvalho, 2010; Miller & Morgan, 2007). This study, therefore, intends to evaluate the effectiveness of the R time and Circle Time intervention in promoting children's emotional literacy and mental well-being.

The thesis divides into chapters. Chapter 2 begins by introducing the core concepts of emotional literacy, emotional intelligence, mental health and mental well-being, before presenting the systematic literature review and a review of relevant UK interventions. Chapter 3 outlines the methodology including research paradigms, research methods and the design of the study from a post-positivist stance. Chapter 4 outlines the approach to data analysis and presents the results of the study according to teacher, parent and pupil informants, and key findings. Finally, Chapter 5 discusses the results of the study in relation to the literature, methodological limitations, future research and the implication of the findings for Education Psychology practice.

2. Literature Review

2.1 Introduction

Chapter 2 outlines the literature review. The chapter begins by introducing the core concepts of emotional literacy, emotional intelligence, mental health and mental well-being. It goes on to presents a systematic review of research studies evaluating the effectiveness of whole class interventions aiming to promote children's emotional literacy and mental well-being. This leads on to an exploration of popular UK interventions including the Social and Emotional Aspects of Learning (SEAL) curriculum, R time and Circle Time.

2.2 The Concept of Emotional Literacy

Steiner & Perry (1997) used the term emotional literacy to describe the ability to understand your emotions, the ability to listen to others and empathise with their emotions, and the ability to express emotions productively. However, there are a number of different definitions of emotional literacy. Weare (2004) defines emotional literacy as

"*the ability to understand ourselves and other people, and in particular to be aware of, understand and use information about the emotional states of ourselves and others with competence. It includes the ability to understand, express and manage our emotions and respond to the emotions of others, in ways that are helpful to ourselves and others*" (pg2).

Weare (2004) explains the term emotional literacy by outlining key social and emotional competencies important to the individual such as:

- the importance of self-understanding;
- understanding and managing emotions;
- understanding social situations and making relationships.

Additionally, Sharp (2001) defines the concept of emotional literacy as,

'*the ability to recognise, understand, handle, and appropriately express emotions*' (pg1).

These definitions describe a cluster of competencies and not a single entity as the term may imply. Furthermore, emotional literacy can refer to the way we learn social and emotional competencies and skills (Sharp, 2001), focusing on practice and allowing for the idea that people start at different points and progress at different rates, rather than the pursuit of the end goal (Weare, 2004). This suggests a concept that is developmental and learnt, rather than one that is fixed and unchangeable. Furthermore, using the word literacy suggests that competencies can be broken into specific objectives and taught. For example, teachers could teach emotional literacy in a similar way that teachers approach teaching the subject of literacy. A background understanding of education and knowledge of teaching the subject of literacy in schools supports this understanding of the concept of emotional literacy. Although it is recognised that professionals outside education may be less familiar with this understanding of literacy. A criticism of the association with the teaching of the subject of literacy is that it suggests teachers may teach emotional literacy within an emotional literacy hour, similar to the way teachers teach the subject literacy within a literacy hour (Weare, 2004), instead of promoting the continuous development of emotional literacy.

2.3 The Concept of Emotional Intelligence

In the UK, the term emotional literacy refers to similar competencies described in the USA as relevant to the term emotional intelligence (Weare, 2004). Considering the origins to the term emotional intelligence helps understand its use and overlap with the term emotional literacy.

The word intelligence linked with emotion developed from Gardner's work on the concept of intelligence (Gardner, 1993). He understood intelligence as consisting of

multiple intelligences covering a range of different capacities, rather than a narrow set of abilities. These multiple intelligences were categorised into conventional, specialist and personal intelligences. Personal intelligences incorporate intrapersonal and interpersonal aspects. Intra-personal aspects focus on our abilities to understand ourselves and interpersonal aspects focus on our abilities to understand other people. The personal intelligences are most influential to the concept of emotional intelligence, as they focus on a general sense of self and appraisal of others.

Emotional intelligence is the umbrella term joining the intra-personal and interpersonal aspects of intelligence. Salovey & Mayer (1990) first coined the term emotional intelligence in their work, which aimed to develop a better understanding of these personal intelligences. They proposed a framework to explain the processing of emotional information, integrating early empirical studies investigating how people appraise and communicate emotion and how they use that emotion in problem solving. Salovey & Mayer's (1990) first conceptualisation of emotional intelligence included the appraisal and expression of emotion in self and others, regulation of emotion in self and others and utilisation of emotion for flexible planning, creative thinking, redirected attention and motivation. Since 1990, Salovey & Mayer have revised their original model to include perceiving and regulating emotion, plus how we think about feelings. Mayer & Salovey (1997) more recently define the concept of emotional intelligence as,

'*the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others* (Mayer & Salovey, 1997, pg10).

Mayer & Salovey (1997) continued to investigate a set of emotional intelligence abilities. Their model draws together mental processes from four related branches:
a) perception, appraisal, and expression of emotion
b) emotional facilitation of thinking
c) understanding and analysing emotions; employing emotional knowledge

d) reflective regulation of emotions to promote emotional and intellectual growth (Mayer & Salovey, 1997).

Goleman (1996, 1998) developed a journalist version of the concept of emotional intelligence that he proposed as useful for understanding the importance of Salovey & Mayer's (1990) abilities in work life. His book, '*Emotional Intelligence – why it can matter more than IQ'* (Goleman, 1996), made a significant contribution to reporting on work in the area and made the term emotional intelligence popular to a wider audience. Goleman (1998) defined the concept of emotional intelligence as,

> '*the capacity for recognising our own feelings and those of others, for motivating ourselves and for managing emotions well in ourselves and in our relationships'*
> (Goleman, 1998, pg317).

Goleman (1996, 1998) brought together a range of sources of data, asserting that emotional intelligence is significant for a wide range of personal, career and academic success, and is more influential than conventional intelligence. These claims are criticised for overstating this relationship without research evidence (Mayer, Salovey & Caruso, 2008). In spite of this, the concept of emotional intelligence led to an increased interest in the link between social and emotional learning and educational outcomes (Weare, 2004).

Goleman (1996, 1998) outlines five basic social and emotional competencies:

- Self-awareness
- Self-regulation
- Motivation
- Empathy
- Social skills

So far, definitions outline a range of different competencies important to the concept of emotional literacy or emotional intelligence. Goleman's (1996, 1998) adopts a broader

understanding of the concept of emotional intelligence including emotional skills and a range of personality characteristics, such as motivation and social skills. Weare (2004) includes social and emotional competencies in her definition. Taking these perspectives, would suggest that a disadvantage of using the word emotion in either emotional intelligence or emotional literacy means that it implies a focus on only emotional competencies and does not include social competencies.

In contrast, revisions to Salovey & Mayer's (1990) original definition made the concept of emotional intelligence much more specific, focusing on intelligence involving emotion (Mayer & Salovey, 1993, 1997). In their view, the term emotional intelligence focuses only on emotional aspects. In subsequent literature, Mayer & Salovey criticise Goleman's interpretation of the concept of emotional intelligence because of the lack of a theoretical underpinning to his writing (e.g. Mayer, Roberts & Barsade, 2008; Salovey, Mayer & Caruso, 2008). However, Goleman (1996, 1998) directly relates his domains of competency to Salovey & Mayer's (1990) ability model of emotional intelligence, illustrated below.

Salovey & Mayer's (1990) Abilities	Goleman's (1998) Domains
Knowing one's emotions	Self-awareness: Knowing what we are feeling in the moment, and using those preferences to guide our decision making; having a realistic assessment of our own abilities and a well-grounded sense of self-confidence.
Managing emotions	Self-regulation: Handling our emotions so that they facilitate rather than interfere with the task at hand; being conscientious and delaying gratification to pursue goals; recovering well from emotional distress.
Motivating oneself	Motivation: Using our deepest preferences to move and guide us towards our goals, to help us take initiative and strive to improve, and to persevere in the face of setbacks and frustrations.
Recognising emotions in emotions	Empathy: Sensing what people are feeling, being able to take their perspective, and cultivating rapport and attunement with a broad diversity of people.
Handling relationships	Social skills: Handling emotions in relationships well and accurately reading social situations and networks; interacting smoothly; using these skills to persuade and lead, negotiate and settle disputes, for cooperation and teamwork.

Table 2.1: A table to show the link between Salovey & Mayer's (1990) original model and Goleman's (1996, 1998) interpretation of emotional literacy.

Although it seems there is a divide between narrow and wider definitions of the two concepts, table 2.1 shows the overlap between Goleman's and Salovey & Mayer's (1990) definitions of the concept of emotional intelligence. Sharp (2001) further illustrated parallel overlaps by mapping the competencies included by different authors writing on emotional intelligence or emotional literacy in a similar way. Although it is

not precise, Mayer & Salovey's (1997) current definition also continues to overlap with Goleman's interpretation of the concept, even though Mayer & Salovey (1997) emphasise the differences. Fundamentally, Salovey & Mayer (1990) and Goleman seem to be defining the same concept but operationalizing the term in slightly different ways. Goleman's (1996, 1998) interpretation is useful because he helps to understand Mayer & Salovey's (1990, 1993, 1997) specific abilities by describing them as a set of skills.

There are subtle differences between the term ability and skill. While the terms ability and skill both refer to qualities that enable a person to achieve or accomplish something, ability suggests a focuses on the quality of being able to do something by having the power to become emotionally intelligent, whereas skill stresses a focus on acquiring emotional intelligence. Therefore, a skill suggests emotional intelligence is teachable. Understanding emotional abilities as a set of skills makes the concept of emotional intelligence more applicable to educational settings (Killick, 2006), as educational settings are more familiar with understanding the teaching of skills to support children's development.

For some authors using the term emotional intelligence has a number of disadvantages. Sharp (2001) argues that the term emotional intelligence holds connotations that the concept is fixed or stable over time and focuses attention on measurement. Additionally, using the word intelligence brings many of the criticisms associated with intelligence research. The issue of intelligence is a controversial one and much debated subject within the field of cognition. These difficulties arise from conflicting views of the concept of intelligence. Traditionally a single common factor encapsulated in the notion of 'g' (meaning general intelligence) has defined intelligence. It does not separate personal aspects of learning, questioning the validity of the concept of emotional intelligence and disputing its existence (Weare & Gray, 2002). While these debates have some relevance to the concept of emotional intelligence, it is outside the scope of this thesis to consider this debate in detail.

To avoid these criticisms researchers and practitioners often adopt the term 'emotional literacy' as an alternative to the term 'emotional intelligence' (Kelly, 1999). Weare & Gray (2002) found professionals in education were more familiar with the term emotional literacy and preferred its use compared to the term emotional intelligence. UK literature tends to use the term emotional literacy to describe this area of work. Southampton Psychology Service (2003) uses the term emotional literacy to describe the same competencies outlined in Goleman's (1996, 1998) interpretation of emotional intelligence. Sharp (2001) uses the term emotional literacy interchangeably with the term emotional intelligence. Hence, the distinction between the terms emotional literacy and emotional intelligence is blurred.

Perry, Lennie & Humphrey (2008) point out that there is not sufficient evidence that the terms emotional intelligence and emotional literacy describe different concepts. They assert that progress in the area depends upon researchers and practitioners adhering to a common language. Therefore, they also do not differentiate between the concept of emotional intelligence and emotional literacy. Similarly, Killick (2006) supports this view suggesting that in practice emotional intelligence and emotional literacy are terms describing the same general concepts.

2.4 The concept of Mental Health

The concept of emotional literacy also overlaps with recent definitions for the term mental health. Some definitions of mental health include aspects defined in emotional literacy (Goleman, 1996, 1998). For example, the Mental Health Foundation (1999) defines children who are emotionally healthy as having the ability to:

- Develop psychologically, emotionally, creatively, intellectually and spiritually
- Initiate, develop and sustain mutually satisfying inter-personal relationships
- Use and enjoy solitude
- Become aware of others and empathise with them
- Play and learn

- Develop a sense of right and wrong
- Resolve (face) problems and setbacks and learn from them

This definition of mental health includes social and emotional competencies (such as empathy), which overlap with those defined in the concept of emotional literacy (Goleman, 1996, 1998). However, this definition of mental health also includes other aspects not specifically defined within emotional literacy. This shows that the concept of emotional literacy also relates to broader concepts such as mental health, yet the definition of mental health used in this way remains distinctly different to definitions of emotional literacy.

Advantageously, definitions of mental health also consider the context. For example, the Mental Health Foundation definition (1999) identifies abilities significant to mental health that are more typical to the age of a child, e.g. play and learn. Furthermore, the definition outlines the determinants of mental health by stating what children should be able to do, e.g. develop psychologically, emotionally, creatively, intellectually and spiritually, whilst indicating what it means when young people are mentally unhealthy (Dogra, Parkin, Gale, & Frake, 2002; Gale, 2007).

The Mental Health Foundation (1999) definition of mental health provides a common starting point to consider young people's mental health. Although, it is important to recognise that good mental health is not static, it depends on several factors and changes in these factors may lead to changes in mental health. A criticism of this definition of mental health is that it implies there is an ideal state of mental health that all individuals strive to reach, presenting a simplified view of mental health (Dogra, et al, 2002). Furthermore, the definition does not consider the impact of developmental issues on children and young people's mental health or acknowledge differing cultural interpretations of what constitutes mental health (Dogra et al, 2012; Parkinson, 2012).

A major disadvantage of using the term mental health stems from the euphemism for mental illness (Weare, 2004). Consequently, the assessment of population mental

health has mainly focused on levels of psychiatric morbidity to determine prevalence of mental health problems (Stewart-Brown, 2002; World Health Organisation et al, 2004). Moreover, the term mental health continues to label services that deal with mental illness and problems in individuals, and therefore is more meaningful in a health context. The term mental health used in this way implies it is less relevant to education, a setting more relevant to the current study. Furthermore, the term mental health also carries a stigma with mental health issues that people often want to avoid (Dogra et al, 2002).

However, the concept of mental health is a relevant topic to education. There has been an increasing focus on the mental health promotion in schools. The DfEE (2001) produced government policy guidance to support teachers and professions working alongside mental health professionals to promote all children's mental health within educational settings. This helped educational settings to understand how the term mental health related to schools, rather than typical associations with defined medical conditions, which restricted the educational role to helping the identification of mental health problems needing further specialist help.

Recent research suggests that the concept of mental health consists of two dimensions: mental well-being and mental health problems (Parkinson, 2012). Therefore, mental health used in this way is an umbrella term to refer to concepts of mental well-being and mental health problems. There is a view that mental health problems and mental well-being representing opposite ends of a continuum (Dogra et al, 2002), possibly explaining why the term mental well-being is interchangeable with the term positive mental health. In contrast, there is an alternative view that mental health problems and mental well-being represent two separate continua (Parkinson, 2012). Both perspectives suggest good mental health is more than the absence of mental health problems. Consequently, there is growing recognition of the importance of the concept of mental well-being.

2.5 The Concept of Mental Well-being

NHS Scotland (Parkinson, 2012) defines the concept of mental well-being to encompass more than the absence of mental illness and consisting of two distinct components covering subjective experience (also known as emotional well-being) and psychological functioning (also known as social well-being):

- Emotional well-being relates to the subjective experience of affect and life satisfaction
- Social well-being relates to psychological functioning covering concepts such as emotional intelligence, confidence, energy, clear thinking, creativity, self-acceptance, personal growth and development, purpose in life, competence, autonomy, good relationships with others and self-realisation (Parkinson, 2012, pg 27).

Educational policies relating to mental health promotion use the term emotional and social wellbeing (DfES, 2005). The NHS Scotland definition (Parkinson, 2012) draws from work surveying population mental well-being and adopts the perspective that mental well-being changes along a continua separate to mental health problems or mental illness. Therefore, mental well-being may be present in children and young people with a mental illness diagnosis or mental health problems.

The concept of mental wellbeing refers to a range of emotional and cognitive attributes associated with a self-reported sense of wellbeing and/or resilience in the face of adversity (Parkinson, 2012). Therefore, this definition views emotional literacy as a separate concept along with a number of other psychological aspects that contribute towards mental well-being, which affects mental health. This implies it is useful to consider the concept of emotional literacy alongside the concept of mental well-being.

Mental well-being or positive mental health may also represent wellbeing (Parkinson, 2012). This is because the term mental well-being encapsulates the related term well-being. The term well-being generally describes the quality of people's lives (OECD,

2009; Rees, Bradshaw, Goswami, & Keung, 2009). Stewart-Brown (2000) defined well-being as,

> '*a holistic, subjective state which is present when a range of feelings, among them energy, confidence, openness, enjoyment, happiness, calm, and caring, are combined and balanced'* (pg32).

However, the term well-being includes a range of dimensions such as physical, emotional and social aspects. Consequently, the term well-being is very broad and a major disadvantage of using the term is that in practice it is vague and unspecific. In contrast, the use of the concept of mental well-being begins to unpack the term well-being by clearly defining the component part related to the psychological aspects of well-being i.e. social and emotional well-being, which are those of most interest to the current study. Additionally, the use of the term mental well-being and its association with the term positive mental health helps avoid the negative connotations associated with mental illness related to the term mental health.

2.6. Summary of the Use of Terms

This exploration of the definitions of key terms used to describe social and emotional development and skills shows that the term emotional literacy overlaps with the terms emotional intelligence, mental health, mental well-being and well-being. However, the concept of emotional literacy is also different to broader concepts of mental health and mental well-being. The overlap in concepts and the range of terms describing the concepts means that the literature uses a range of terms to mean similar and different things. This has led to '*a bewildering array of terms and labels to describe work in this field*' (McLaughlin, 2008, pg353) resulting in a '*linguistic minefield*' (Weare, 2004, pg1). It is difficult to differentiate between the terms to explore their differences because the terms are often only subtly different. However, some authors seek to

highlight these differences. It seems there are a number of advantages and disadvantages associated with each term, and there is no ideal term (Weare, 2004).

This study makes use of the key concepts emotional literacy and mental well-being. For the purposes of this thesis, use of the term emotional literacy refers to the learning and practice of emotional and social competencies, whereas the term mental well-being refers to a broader concept encapsulating a range of social and emotional attributes including emotional literacy, which relates to the psychological aspect of well-being. This study views emotional literacy as a concept, which may contribute to the concept of mental well-being. Similarly, the concept of mental well-being may contribute to the concept of emotional literacy. However, this study treats them as separate concepts. This suggests it would be pertinent to consider interventions that aim to develop children's emotional literacy and mental well-being.

2.7 Systematic Literature Review of Whole Class Interventions

This systematic literature review aims to identify research studies investigating the effectiveness of whole class interventions promoting children's emotional literacy and mental well-being.

2.7.1 Search Process

In May 2011, the search for literature focused on internet-based strategies. The University of Nottingham portal elibrary gateway led to the identification of the PsychINFO, ERIC and ASSIA databases. The review includes studies published from the year 2000 in order to capture the current context and issues in the field of emotional literacy and mental well-being. Consequently, the databases PsychINFO, ERIC and ASSIA restricted the search to articles found within the period from the year 2000 to 2011. The review focuses on academic literature from peer reviewed journal articles. Advantageously, peer reviewed journals are reviewed by professionals within the area of interest to ensure the literature is at a specific standard before publication. The use of

peer reviewed journals prevents a reliance on literature that does not meet an academic standard. Therefore, the search restricted the results to journal articles only.
The search used the terms 'emotional literacy', 'emotional intelligence', 'mental health', or 'mental well-being', with the terms 'school based intervention', or 'school based programme' based on the key concepts of emotional literacy and mental well-being, associated concepts and intervention research. The researcher typed all possible combinations of the search terms into PsychINFO, ERIC and ASSIA. In addition, Google Scholar was searched which identified a systematic literature review study by Adi et al, (2007) with 11 studies including intervention in the classroom suitable for all children. Table 2.2 shows the search process.

Search Terms	Psych INFO	ERIC	ASSIA
'Emotional Intelligence' And 'School Based Intervention'	6	1	4
'Emotional Intelligence ' And 'School Based Programme'	0	7	6
'Emotional Literacy' And 'School Based Intervention'	8	1	7
'Emotional Literacy' And 'School Based Programme'	0	2	9
'Mental Health' And 'School Based Intervention'	369	21	211
'Mental Health' And 'School Based Programme'	7	61	247
'Mental Well-being' And 'School Based Intervention'	0	0	7
'Mental Well-being' And 'School Based Programme'	0	2	9
TOTAL Google Scholar	390	95	500 +11

Table 2.2: A table to show the systematic search strategy.

The search term mental health combined with school based intervention, and mental health combined with school based programme produced more than 50 articles. Therefore, additional terms and available database filters helped reduced the number of journals to a more manageable number for screening. PsychINFO was searched for a

second time using the combined key terms mental health, school based intervention and universal (a term used to find those studies suitable for all children), plus filters restricting articles found to English language, empirical study, quantitative study and childhood birth to 12. This produced nine results. In the ERIC database, mental health, school based programme and universal resulted in seven journals. A search of ASSIA produced ten results using the search terms mental health, school based intervention and universal. Finally, the keywords mental health and school based programme and universal resulted in 15 journals. Table 2.3 shows across all search term combinations in the three databases this now resulted in 138 articles.

	PsychINFO	ERIC	ASSIA
TOTAL	30	41	67
		TOTAL	138 + 11 from one systematic literature review found on Google Scholar

Table 2.3: A table to show number of articles found in the search.

2.7.2 Inclusion Criterion

An inclusion criterion helped to narrow the studies found in the search to those most relevant to the area of interest.

2.7.2.1 Population

The review focuses on children aged between 3-11 years in mainstream primary schools. The review included studies that spanned primary to secondary school if at least half the sample of children was from the primary school. The review included studies conducted within and outside the UK.

2.7.2.2 Intervention

The review includes studies evaluating whole class interventions. A whole class intervention is an intervention delivered through a series of curricular or non-curricular sessions in the classroom suitable for all the children. The whole class intervention must aim to develop children's emotional literacy or mental well-being. A whole class intervention developing children's emotional literacy includes those focusing on changes in key social and emotional competencies (Goleman, 1996, 1998; Weare, 2004). A whole class intervention developing children's mental well-being includes interventions such as those with a focus on disruptive behaviour, delinquency, social competence, conflict resolution, problem solving, anxiety, coping and stress management, self-concept, self-esteem or depression (Adi et al, 2007). The review includes whole class interventions plus other components, known as multi-component interventions.

2.7.2.3 Study Design

The studies must evaluate the intervention by comparing an experimental group receiving an intervention to a comparison group who did not receive the intervention. The design of the study must randomly allocate participants to an experimental group and control group. Systematic review papers may include relevant individual studies. The studies must measure and report changes in aspects of children's emotional literacy and/or mental well-being.

2.7.3 Results

The review excluded studies that did not meet the inclusion criteria outlined above by reviewing the abstracts. Out of the 149 articles, 47 of the studies were not classroom interventions, 22 of the studies did not evaluate an intervention that focused on developing children's emotional literacy or mental well-being, and 25 of the studies did not evaluate these as outcomes of the intervention. Eight were not specifically a piece of

research evaluating an intervention but descriptive papers or based on a book. 22 studies included mainly participants not in the primary school and 12 studies focused on intervention used for children identified with difficulties. The total number of papers that met the inclusion criteria was 17. However, four of these were duplicates leaving 13 different articles. Below the findings of the thirteen studies are synthesised to help find out more about research evaluating whole class interventions aiming to promote children's emotional literacy and mental well-being.

2.7.4 Studies Included

2.7.4.1 Intervention Type

The review shows there are a variety of evaluations of whole class interventions including

- Parents And Children Together (PACT) (Adams et al, 2010),
- Friends for Children (Barrett & Turner, 2001),
- Good Behaviour Game (GBG) (van Lier, Muthen, van der Sar, & Crijnen, 2004),
- Conflict Resolution Training (Stevahn, Johnson, Johnson, Oberle, & Wahl, 2000),
- Pre-K Reaching Educators Children and Parents (RECAP) programme (Han, Catron, Weiss, & Marciel, 2005),
- Seattle Social Development Project (Hawkins, Kosterman, Catalano, Hill, & Abbott, 2005),
- 4R's programme: Reading, Writing, Respect, and Resolution (Jones, Brown, Hoglund, & Aber, 2010),

- 4R's programme: Reading, Writing, Respect, and Resolution (Jones, Brown & Aber, 2011),
- INSIGHTS (McClowry, Snow, Tamis-LeMonda, 2005),
- Head Start Research-Based Developmentally-Informed (REDI) programme (Bierman et al, 2008);
- relaxation techniques (Lohaus & Klein-Hebling, 2000);
- Pre-school PATHS curriculum (Domitrovich, Cortes & Greenberg, 2007)
- Emotional disclosure (Reynolds, Brewin & Saxton, 2000).

These reviews evaluate a single intervention. However, Lohaus & Klein-Hebling (2000) investigated a range of different relaxation techniques, comparing different versions of the same intervention. The review shows that research to date has tended to focus on the evaluation of single interventions rather than comparing different interventions.

2.7.4.2 The Context of the Studies

This systematic literature review shows that very few studies took place in the UK. Of the 13 studies, eight were conducted in the USA (Bierman et al, 2008, Domitrovich et al, 2007; Han, et al, 2005; Hawkins et al, 2005; Jones et al, 2010; Jones et al, 2011; McClowry et al, 2005; Stevahn et al, 2000) and only two were conducted in the UK (Adams et al, 2010; Reynolds et al, 2000). The reliance on literature from the USA to gain a perspective of the evaluative studies in this area is a limitation of the review. This is because the results may not directly transfer to schools within the UK, due to differences in contexts such as educational systems and settings.

2.7.4.3 Focus

Table 2.4 shows that evaluations of whole class interventions mainly focus on outcomes relating to children's mental well-being. There are relatively fewer evaluations of whole class interventions aiming to develop children's emotional literacy and these tend to overlap outcomes related to mental well-being (Adams et al, 2010; Bierman et al, 2008; Domitrovich et al, 2007; Jones et al, 2010, 2011; Han et al, 2005). This indicates the use of the concepts of emotional literacy and mental well-being together in intervention research.

Study	Outcome related to emotional literacy	Outcome related to mental well-being
Adams et al, 2010	/	/
Barrett & Turner, 2001		/
van Lier et al, 2004		/
Jones et al, 2010, 2011	/	/
Stevahn et al, 2000		/
Han et al, 2005	/	/
Lohaus & Klein-Hebling, 2000		/
Reynolds et al, 2000		/
Bierman et al, 2008	/	/
Domitrovich et al, 2007	/	/
Hawkins et al, 2005		/
McClowry et al, 2005		/

Table 2.4: Table to show the focus of the outcome measures of the studies

2.7.4.4 Multi-component Studies

Table 2.5 shows that evaluations of multi-component studies provided most of the information in this review (Adams et al, 2010; Barrett & Turner, 2011; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Hawkins et al, 2005; Jones et al, 2010; van Lier et al, 2004). Multi-component studies tend to consist of a teacher and/or parent component. The teacher component included mentoring, supervision and booster training to support the implementation of the whole class component of the intervention (Domitrovich et al, 07; Han et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). These multi-component studies evaluated the additive effect of the components. A limitation of these studies is that they do not only evaluate the effectiveness of the whole class component of the intervention.

Study	Whole class component	Teacher training/coaching/ supervision	Parent component
Adams et al, 2010	/		/
Barrett & Turner, 2011	/	/	/
van Lier et al, 2004	/	/	
Han et al, 2005	/	/	/
Hawkins et al, 2005	/	/	/
McClowry et al, 2005	/	/	/
Bierman et al, 2008	/	/	
Domitrovich et al, 2007	/	/	
Jones et al, 2010	/	/	
Jones et al, 2011	/	/	

Table 2.5: Table to show the components of multi-component interventions

2.7.4.5 Whole Class Intervention

Of the 13 studies, just three evaluated a whole class intervention only, (Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000; Stevahn et al, 2000) showing there is limited evaluation of the contribution of this component of intervention. Additionally, only one of these studies took place in the UK (Reynolds et al, 2000). Moreover, none of these studies evaluated children's emotional literacy as operationalized by a cluster of competencies. Therefore, the evaluations of whole class interventions only currently just evaluate the effectiveness in promoting children's mental well-being. Furthermore, Stevahn et al, (2000) was the only evaluation to focus on primary school children, whereas the remaining two studies included a mix of primary and secondary school children (Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000).

2.7.4.6 Effectiveness of Multi-component Interventions

There is evidence to suggest multi-component interventions with a whole class component have positive effects on developing children's emotional literacy and well-being (Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Hawkins et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). Most of the studies were evaluations of the effectiveness of interventions (e.g. Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005). In contrast, some of these studies were evaluations of how efficient the intervention could be (e.g. Han et al, 2005; Lohaus & Klein-Hebling, 2000; McClowry et al, 2005). A strength of studies that focus on effectiveness as an outcome evaluate the intervention within the usual environment, with some or no control over the normal routine, whereas studies focusing on efficacy as an outcome often highly constrain the research environment in order to produce the best possible gains. While efficacy studies work towards highlighting the full potential of a study, they give less of an indication of how the intervention works in practice. Studies of effectiveness are advantageous because they are more likely to represent the outcomes of the intervention implemented in real world settings.

2.7.4.7 Effectiveness of Whole Class Interventions Only

Studies that measured the effectiveness of a whole class intervention only, showed positive effects on promoting children's mental well-being (Lohaus & Klein-Hebling, 2000; Stevahn et al, 2000). However, a study evaluating a whole class intervention only, lasting one week did not indicate a positive effect in developing children's well-being (Reynolds et al, 2000). Furthermore, as no studies have evaluated whole class interventions only, in developing children's emotional literacy, there is no research evidence to suggest that whole class interventions only, have a positive effect on children's emotional literacy.

2.7.4.8 Effect Sizes

The review indicates that some of the studies calculated the size of the change observed using effect size (Adams et al, 2010; Bierman et al, 2008; Lohaus & Hebling, 2000; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). Cohen (1977) classifies effect sizes as small, medium or large. A measure of the size of the change observed helps compare the effectiveness of different evaluative studies. Effect sizes resulting from multi-component interventions ranged from small (van Lier et al, 2004) to medium (Bierman et al, 2008; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). Likewise, a whole class intervention only, study by Lohaus & Hebling (2000) found effect sizes for the short-term effects of reduction in blood pressure and pulse rate, more positive judgements for mood and somatic condition, accounted for between 10% and 42% of the variance, indicating a small to medium effect size. Therefore, whole class interventions result in comparative effect sizes to multi-component interventions.

2.7.4.9 Population Group Studied

Tables 2.6 shows that the multi-component studies found evaluate children's emotional literacy and mental well-being from a range of age groups. The multi-component

studies range from evaluating a specific age group or age phase (Adams et al, 2010; Barrett & Turner, 2001; McClowry et al, 2005) to children across the entire primary phase (Hawkins et al, 2005; Jones et al, 2010, 2011) or within the early years of schooling (Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005).

Study	Early years Ages 3-4	Infants Ages 5-7	Juniors Ages 8-11	Secondary Ages 12-16
Adams et al, 2010			/	
Barrett & Turner, 2001			/	/
McClowry et al, 2005		/	/	
Hawkins et al, 2005		/	/	
Jones et al, 2010, 2011	/	/	/	
Bierman et al, 2008;	/			
Domitrovich et al, 2007		/		
Han et al, 2005	/	/		

Table 2.6: Ages of children in multi-component intervention studies

Table 2.7 shows the age groups of participants in the studies evaluating a whole class intervention only. One study included children in the infant stage of primary school only (Stevahn et al, 2000). The other two studies included children in both primary and secondary school (Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000). No studies

met the inclusion criteria that evaluated the effectiveness of a whole class intervention focusing on the junior phase of primary school or a single year group.

Study	Infants	Juniors	Secondary
Stevahn et al, 2000	/		
Lohaus & Klein-Hebling, 2000	/	/	/
Reynolds et al, 2000		/	/

Table 2.7: Ages of children in whole class intervention studies

The population evaluated varied between studies. Some studies targeted specific school populations based on factors such as economic disadvantage (Adams et al, 2010; Barrett & Turner, 2001; Hawkins et al, 2005), religious affiliation (Barrett & Turner, 2001) or crime (Hawkins et al, 2005), whereas fewer studies evaluated the general student population (Jones et al, 2010, 2011; Lohaus & Klein-Hebling, 2000). The main limitation of evaluations of targeted populations is that they do not generalise to the general population. Of the three studies evaluating children from the general population, only one evaluated a whole class intervention only (Lohaus & Klein-Hebling, 2000).

2.7.4.10 Design

The studies mainly randomly allocated children to the intervention or control group by schools (Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005). A criticism of random allocation between schools is that it does not help overcome potential differences within groups. Some studies selected experimental and control groups from the same school, by randomly allocating individual participants (Hawkins et al, 2005; Lohaus & Klein-Hebling, 2000; Stevahn et al, 2000; van Lier et al, 2004). This increases the likelihood that groups are equivalent.

In all the studies found teachers, parents or pupils completed evaluative measures. Some studies relied on one informant (e.g. McClowry et al, 2005; Stevahn et al, 2000; van Lier et al, 2004), whereas others attempted to gather data from a range of informants (Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Han et al, 2005; Jones et al, 2010; Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000). Some studies asked informants to complete different measures (Bierman et al, 2008; Domitrovich et al, 2007; Jones et al, 2010; Reynolds et al, 2000), which helps gather a range of data, but limits direct comparisons of information. Some studies used different versions of the same measure across informants, which allows a comparison of different viewpoints (Adams et al, 2010; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Reynolds et al, 2000).

Some studies used money incentives to encourage informants to return the data (Jones et al, 2010, 2011; McClowry et al, 2005). Evaluations of whole class interventions often collect a large data set because the full class or large groups of children are involved. Therefore, there is a need for an investment of time from those completing the measures. This is particularly true when asking one informant to complete measures for every child involved in a large group. A disadvantage of this approach is that motivating participations with a payment to return data may affect their responses.

2.7.4.11 Features of Whole Class Intervention

The majority of whole class interventions had a standalone lesson (Adams et al, 2010; Barrett & Turner, 2011; Han et al, 2005; Jones et al, 2010, 2011; Lohaus & Klein-Hebling, 2000; McClowry et al, 2005; Reynolds et al, 2000). Fewer interventions were a taught component that was integrated into the regular curriculum (Domitrovich et al, 2007; Stevahn et al, 2000), or both (Bierman et al, 2008). Therefore, most whole class interventions included sessions distinct from the normal curriculum. An implication of

these types of whole class interventions means that schools need to accommodate them into their regular timetables.

The intensity of whole class interventions mainly consisted of one session per week (Domitrovich, 2007; Jones et al, 2010, 2011; Lohaus & Klein-Hebling, 2000). The review found one whole class intervention with a higher frequency of two or three sessions per week (Han et al, 2005).

The duration of the evaluations varied between studies. Evaluations of multi-component studies lasted 9 months (Domitrovich et al, 2007; Han et al, 2005), 1 year (Bierman et al, 2008; Jones et al, 2010) or 2 years (Jones et al, 2011). Comparatively, whole class intervention only, evaluations were generally briefer, lasting one week (Reynolds et al, 2000), four weeks (Stevahn et al, 2000) and five weeks (Lohaus & Klein-Hebling, 2000). Evaluation of whole class interventions focusing on children's mental well-being generally occurred after five weeks or less. There are no short-term evaluative studies of whole class interventions only, focusing on developing children's emotional literacy.

The length of a session varied between interventions. The longest session lasted over 1 hour (Barrett & Turner, 2011) and the shortest session lasted 10 minutes (Lohaus & Klein-Hebling, 2000; van Lier et al, 2004). Generally, most sessions lasted around one hour (Jones et al, 2010, 2011; McClowry et al, 2005; Reynolds et al, 2000; Stevahn et al, 2000). However, a number of studies did not state this information (Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Hawkins et al, 2005). Evaluations of whole class interventions provide some evidence for the effectiveness of very brief interventions with a focus on developing children's mental well-being (Lohaus & Klein-Hebling, 2000; van Lier et al, 2004). Evaluations of whole class interventions provide some evidence for the effectiveness of interventions lasting one hour on children's emotional literacy and mental well-being (Jones et al, 2010, 2011; McClowry et al, 2005; Stevahn et al, 2000). There are no evaluations of brief whole class interventions

with a focus on developing children's emotional literacy. Therefore, it is unknown whether an intervention with a very brief session length effectively changes children's emotional literacy.

2.7.5 Summary of Systematic Literature Review

The systematic literature review shows there is limited UK research into the effectiveness of whole class interventions developing children's emotional literacy and mental well-being. There is no evidence that indicates the comparative effectiveness of whole class interventions. There appears to be a lack of evaluations of whole class interventions aiming to develop children's emotional literacy. The multi-component evaluations found in this review do not indicate whether the whole class component added to the effectiveness of the intervention and therefore, it is difficult to determine its contribution.

There is some evidence for whole class interventions only, promoting children's mental well-being, but no evidence for promoting children's emotional literacy. There are very few evaluations of whole class interventions only, especially in the junior phase of primary school or based on the general student population. So far, the studies have evaluated a combination of views using the same or different measures. Although, the review shows no study compares teacher, parent and pupil data using the same measure.

The review shows that whole class interventions generally are standalone from the regular curriculum and involve a weekly session. Whole class interventions aiming to develop children's mental well-being are effective following less than five weeks of intervention. The review shows that there is a lack of evidence for short-term whole class interventions aiming to developing children's emotional literacy. There is evidence to suggest that whole class interventions with a short session length develop children's mental well-being, however there is no evidence to suggest that they develop children's emotional literacy.

A further narrative search highlighted that there were other whole class UK interventions, which the systematic search strategy did not identify. The next section explores three relevant interventions.

2.8 UK Interventions

R time, Circle Time and Social and Emotional Aspects of Learning (SEAL) are three prominent whole class interventions, which aim to develop emotional literacy, currently in use in primary schools across the UK. For example, Local Authorities are promoting the use of R time within the UK (Hampton, Roberts, Hammond & Carvalho, 2010). Similarly, Circle Time is a popular intervention used in many primary schools (Lown, 2002) and an easily locatable resource for schools and others to use. Additionally, in 2008 approximately 80% of primary schools were said to use the SEAL curriculum resource (DCSF, 2008). The DCSF (2008) suggests that SEAL is the most widely used approach to promote children's social and emotional skills in the UK. The popularity of R time, Circle Time and SEAL make it important to consider them in more detail.

2.8.1 Social and Emotional Aspects of Learning (SEAL)

2.8.1.1 SEAL Aims

The SEAL curriculum aims to consider five broad social and emotional aspects of learning: self-awareness, managing feelings, motivation, empathy and social skills (DfES, 2005). The SEAL curriculum is part of a Primary National Strategy outlining an explicit, structured whole-curriculum framework for developing all children's social, emotional and behavioural skills. The SEAL curriculum provides intervention materials for schools. The intervention outlines a number of individual skills within each of the social and emotional aspects of learning. The SEAL curriculum teaches to these individual skills.

2.8.1.2 SEAL Theoretical Underpinnings

The roots of the SEAL Primary National Strategy trace back to Goleman's (1996, 1998) model of emotional intelligence. As stated above, the SEAL Primary National Strategy focuses on five broad social and emotional aspects of learning to include self-awareness, managing feelings, motivation, empathy and social skills (DfES, 2005). Goleman's (1996, 1998) model of emotional intelligence also outlines these five broad social and emotional learning aspects of learning using the same terms and similar definitions. This would seem to suggest that Goleman's (1996, 1998) model of emotional intelligence was used as the theoretically underpinning for the SEAL Primary National Strategy (DfES, 2005).

2.8.1.3 Evaluation of SEAL Curriculum Impact and Outcomes

According to the SEAL curriculum, children with good SEAL, taught in a supportive environment are equipped to achieve a range of outcomes such as make and sustain friendships, deal with and resolve conflict effectively and fairly, solve problems with others or by themselves, and manage strong feelings such as frustration, anger and anxiety (DfES, 2005). These outcomes are similar to other whole class interventions only that aim to promote emotional literacy and mental well-being found in systematic searches of the literature (Adi et al, 2007).

2.8.1.4 Research Evaluating the SEAL Curriculum Resource

An evaluation of the Primary Behaviour and Attendance Pilot included a focus on the SEAL curriculum resource (Hallam, Rhamie & Shaw, 2006). The researchers gathered a range of questionnaire data and interview data from headteachers and teachers, parents, teaching assistants and children from schools in 25 Local Authorities. The researchers designed the questionnaire for the study assessing their social, emotional and behavioural skills, their perceptions of classroom and school ethos and their attitudes towards school. The research found all staff perceived a positive impact on the children's behaviour and well-being. However, a major limitation to the design was the

lack of a control group, which significantly limited the extent to which the researchers could conclusively argue the findings resulted from the pilot. Additionally, the extent of implementation of the SEAL programme in schools varied. Therefore, there was a lack of control over implementation of the intervention, which makes it difficult to compare the effectiveness of the intervention across schools. The researchers did not collect parental data at pre-test, limiting knowledge of changes from the start of the intervention. The questionnaire designed for the children was an amalgamation of questions from a range of questionnaires. Therefore, there was no evidence of reliability and validity for the selection of items.

There are a number of other evaluations of the SEAL Primary National Strategy (e.g. Humphrey, Kalambouka, Wigelsworth, & Lendrum, 2010a; Humphrey et al, 2010b), however these do not include evaluation of the whole class SEAL curriculum resource. This shows there is a lack of research evaluating the effectiveness of the whole class SEAL curriculum resource on promoting children's emotional literacy and mental well-being.

2.8.2 R time

2.8.2.1 R time Aims

The R time intervention aims to create an environment to support and enhance attainment, relationships and citizenship. R time defines the intervention as a structured approach using random pairing (Sampson, 2004). The approach follows a set process, which structures each session. R time begins each session with a random pairing activity, followed by an introduction/greeting, main activity, plenary, and finishing with a conclusion. Random pairing involves children organising themselves into random pairs at the beginning of the session using a fun non-curricular game (Sampson, 2004).

2.8.2.2 R time Theoretical Underpinnings

R time appears to be atheoretical, emerging from practice rather than from any particular theory. Sampson (2004) developed the R time intervention as a primary school headteacher, in response to a need within his school to improve the quality of relationships amongst children. Table 2.8 shows how subsequent publications of R time materials relate the R time process to the development of social and emotional skills (Sampson & Harvey, 2007).

R time Process	SEAL skill acquisition	How?
Random Pairing	Social skills	Support mechanism enabling children to be effective in their communication Share things about themselves Relaxed atmosphere
Introduction	Empathy Managing feelings	Share with others Care about others Appropriate eye contact
Activities	Motivation	Set goals Encouraged to finish what they start Working together towards a shared outcome Take safe risks to explore their own knowledge, talents and interests
Plenary	Empathy	Children share how they worked together
Conclusion	Self-awareness	Opportunity to feel good about their successful partnership Pleasant & positive parting

Table 2.8: Table to show the links Sampson & Harvey (2007) makes between the R time process and the social and emotional aspects of learning.

Sampson & Harvey (2007) further suggests that the component parts of R time create key opportunities for children to experience the social and emotional aspects of learning. He briefly describes how each component teaches self-awareness, motivation, social skills, empathy or self-regulation. The manual states that each component part mainly focuses on teaching one aspect of emotional literacy, although other components will also overlap. For example, R time states that the conclusion predominantly teaches self-awareness. However, it is possible to make other equally relevant associations between the process and the components of emotional literacy. For example, the introduction also links to the development of self-awareness. The aim of the introduction is for children to greet each other at the beginning of the session. The introductory activity encourages children to think about how they are feeling at that moment in time and communicate this by completing a given sentence starter e.g. 'this class is nice because…, I'm glad I'm with you because…'

Overall, R time focuses on teaching children positive ways to relate to other children throughout the five components by explicitly modelling the appropriate way to speak and behave. The activities are a direct opportunity for the children to practice behaving in a positive way with a partner.

2.8.2.3 Evaluation of R time Impact and Outcomes

Drawing on a sample of teachers' views Sampson, (2004) suggests that R time makes a significant contribution in a number of areas such as relationship building, enabling children to get to know each other better, respect towards others, trust building, listening skills, emotional well-being, modelling respectful behaviour, conflict resolution and co-operative working.

R time alludes to the development of emotional literacy but does not include it in the list of outcomes. Whereas, R time states that it has a focus on improving disruptive behaviour, conflict resolution and self-esteem. A weakness of these claims is that there

is no explanation of how the intervention addresses these areas of skill and difficulty. Additionally, the intervention does not validate these claims with reference to research evidence.

2.8.2.4 Research Evaluating R time

There is one study evaluating the R time intervention. Hampton, Roberts, Hammond & Carvalho (2010) conducted a preliminary research evaluation of the R time intervention considering its impact on relationships and friendships, enjoyment, and perceptions of bullying in school. A total of 149 pupils participated across 21 schools in one Local Authority. Children ranged from ages 4 to 14 in foundation stage to year 9**.** At pre- and post-intervention, the researchers gathered data using a questionnaire developed specifically for the evaluation. The questionnaire measured the child's perceptions of self, school environment, friendships, bullying and social times during the school day. Interpretation of the data involved quantitative and qualitative analysis. The results showed at post-intervention there were positive effects on relationships and friendships, and enjoyment but limited effects for reducing bullying.

There are a number of limitations in the design of Hampton et al (2010) study. Primarily, the lack of a control group means it is not possible to compare the effects of the intervention. The study also focused on the child's perspective alone. It does not give any indication of the teacher or parent's views. Outcomes are evaluated using questionnaire items developed specifically for the study. There is little or no evidence of the questionnaire's reliability and validity as a measure of these outcomes. In addition, Hampton et al, (2010) expected a wide age span of children to complete the questionnaire. Indeed, the researchers acknowledge that many younger children did not understand how the items were phrased. This raises the question whether the children sufficiently understood the questionnaire to give reliable and valid responses. Finally, the data was not analysed per year group, therefore it is unknown whether there are any differences in responses across the age range.

The methodological limitations of the study do not allow confidence in the findings. A future research study could seek to improve the methodological aspects of the design by including a control group, selecting robust measures appropriate for the age group and focusing on a specific year group.

In summary, there is a lack of research evaluating the effectiveness of R time intervention. Indeed, there is no research evaluating its impact on emotional literacy and mental well-being. As such, there is also little or no evidence on the effectiveness of R time in promoting the development of children's emotional literacy and mental well-being, which is the proposed focus of this study.

2.8.3 Circle Time

2.8.3.1 Circle Time Aims

Although there are a number of publications detailing Circle Time activities (e.g. Bliss & Tetley, 1993; Curry & Bromfield, 1994; Mortimer, 1998), Mosley's (1993, 1996, 1998) version of Circle Time seems to provide the most comprehensively described and clearly defined methodology (Miller & Moran, 2007). Therefore, from this point on the use of the term 'Circle Time' refers to Mosley's intervention, unless otherwise stated. The Circle Time approach aims to build the self-esteem, emotional literacy and relationships of the whole school community (Mosley, 1993). Circle Time in the classroom involves children sitting in a circle to consider problems and issues that they have identified. Mosley (1996) emphasises the Circle Time process, alongside the outcomes from problem solving. Circle Time has a basic structure, which includes an introductory, middle and closing phase. Activities typically take place with the whole class, although the approach is flexible to small groups such as school councils or children who need extra support.

2.8.3.2 Circle Time Theoretical Underpinnings

Mosley developed Circle Time through her career in primary, secondary and special education. The detail of the model is in the book, '*Turn your school around'* (Mosley, 1993), and later '*Quality Circle Time'* (Mosley, 1996). Theoretical explanations for the Circle Time approach are unclear. Mosley (1996) suggests the approach has connections to a range of theories and literature such as groupwork approaches (Moreno, 1934, 1946), drama approaches, self-concept development (Burns, 1979, 1982), self-confidence (Hales, 1985), person-centred philosophy (Rogers, 1951) and social learning theory (Bandura, 1977).

2.8.3.3 Evaluation of Circle Time Impact and Outcomes

Mosley (1993) suggests that regular Circle Time helps children build friendships, create trust, eliminate 'put downs', promote personal and collective responsibility, encourage self-discipline, promote better behaviour, develop personal integrity, develop empathy, teach assertiveness skills, create a sense of belonging, promote understanding, improve relationships, solve problems, improve listening skills and integrate special needs children in the class. The aims of the Circle Time approach are relevant to the concepts of emotional literacy and mental well-being. Therefore, for the purposes of this study table 2.9 is the researcher's attempt to show how the Circle Time process hypothetically relates to the five social and emotional skills within SEAL (DCSF, 2008).

Circle Time Process	SEAL skill acquisition	How?
Introduction Phase: Conclusion: Rules:	Self-awareness	Opportunities to express own likes and dislikes. Opportunities to value individual contributions and successes. Decisions based on how they are feeling.
Open Forum: Closing Game:	Motivation	Sharing problems or concerns. Working together to develop an action plan. Discussing how to overcome difficulties. Setting a goal. Celebrating the successes of the session.
Introduction: Passing a turn: Open Forum: Closing Phase:	Empathy	Fun warming up game. Activities to encourage children to sit next to peers that are not their usual companions. Considering how other people are feeling and accept their perspectives in the session. Consider other children's concerns or problems. Praise the improvements or qualities they have noticed in each other.
Middle Phase: Circle Time rules	Empathy	Children are encouraged to think about the topic and share them with the group. Children must not use other children's names when they are talking about problems in a negative way.
Speaking Object:	Self-regulation	Uses of a speaking object to signal to the children when it is their turn to speak.

Table 2.9: Table to show the linking the Circle Time process and the social and emotional aspects of learning.

2.8.3.4 Research Evaluating Circle Time

Miller and Morgan (2007) evaluated the effectiveness of the circle time approach in enhancing children's self-esteem. In total, 21 teachers and 519 children, aged 10-12 years old, took part from 21 primary schools from four local authorities in the East of Scotland. The researchers collected pre- and post-measures of self-esteem from a group receiving a circle time intervention, another group receiving an alternative intervention thought to develop self-esteem and a control group. The results showed significant gains in self-esteem scores for both interventions compared to a control group. Therefore, this study provides evidence that the interventions had measurable effects on children's self-esteem. However, the lack of control over the implementation and fidelity of the circle time intervention significantly limits the interpretation of the findings. The researchers encouraged teachers to use their regular approach to circle time. This assumes that each teacher delivered the circle time intervention in a similar way. There was no attempt to define, monitor or control the circle time methodology. Therefore, it is unknown whether the teachers adhered to the basic Circle Time structure as outlined by Mosley or a different author of the approach.

Further evaluations of Circle Time target children with special educational needs and behavioural difficulties (Canney & Bryne, 2006; Kelly, 1999; Moss & Wilson, 1998), which is not as applicable to the current study. Further research also focuses on qualitative evaluations of the process (e.g. Lown, 2002). However, this study focuses on the evaluation of the effectiveness of the intervention. Therefore, the researcher acknowledges there are further studies of Circle Time but the research has not reported them in detail, as they are not relevant to the current study.

In summary, the systematic and subsequent searches identified that very few studies evaluate the effectiveness of Mosley's Circle Time intervention with a class of children. Furthermore, this study found no research literature that evaluates the effectiveness of the Circle Time in promoting children's emotional literacy and mental well-being.

2.8.4 Choosing Between Interventions

So, how do schools choose between interventions? Schools are encouraged to find an approach to teach the SEALs that fits for them (DfES, 2005). Additionally, schools can make informed decisions about the use of interventions based on research evidence evaluating their effectiveness. However, the research literature shows there is a lack of clarity and evidence about what the SEAL curriculum, R time and Circle Time contribute to the development of the social and emotional aspects of learning. This suggests it would be firstly beneficial to know whether they are effective as interventions that stand alone and secondly whether one is more or less effective than the other.

There is also a change in the priority placed on the use of the SEAL curriculum, as it is no longer a National Strategy in the UK. **A** new UK Government took office on 11 May 2010 and archived the web materials indicating that they do not reflect current Government policy. Therefore, it seems timely to carry out intervention research on a wider range of resources available to schools, and consider interventions such as R time and Circle Time as an alternative intervention to the SEAL curriculum approach.

In summary, despite the popularity of R time, Circle Time and SEAL within UK primary schools, there is a lack of an evidence base for the use of these interventions. Preliminary research suggests positive outcomes related to the interventions, but limitations in the robustness of the design of the studies means that there is a lack of confidence about the validity and reliability of these results. R time and Circle Time appear to be atheoretical but they begin to make associations with developing emotional literacy and mental well-being. This study further considers this link. The government's movement away from the national initiative SEAL suggests it is timely to investigate a range of interventions available to schools such as R time and Circle Time.

2.9 Rationale for the Current Study

This research began from an interest in developing all children's social, emotional skills and behaviour in the classroom. A review of the area of study highlights that a considerable amount of literature focuses on the development of children's emotional literacy and mental well-being. The definitions of the concept of emotional literacy commonly operationalized the term as a cluster of key social and emotional competencies including the social and emotional skills: self-awareness, motivation, social skills, empathy and self-regulation (Goleman, 1996; Weare, 2004; Sharp, 2001). Overlaps in the definition of emotional literacy to the broader concept of mental health have demonstrated the importance of this field of literature to education policy which supports schools to promote children's mental health (DfEE, 2001; DfES, 2005). However, the disadvantages of using the term mental health is that it is used as a euphemism for mental illness. Therefore, the dimension of mental health known as mental well-being, allowed for a broader consideration of a range of emotional and cognitive attributes with an emphasis on positive mental health (Parkinson, 2012). Therefore, this study intends to concentrate on the development of children's emotional literacy skills by focusing on key competencies and mental well-being by looking at the development of children's behaviour and relationships with others.

The range of studies evaluating whole class interventions demonstrating positive effects suggests whole class interventions are a worthwhile topic of research. However, the systematic review of the literature highlights that very few studies have evaluated a concept of emotional literacy according to a cluster of key competencies. Studies mainly focused on outcomes related to the broader concept of mental well-being. Furthermore, the review relied upon analysis of multi-component interventions due to a lack of studies focusing on the contribution of whole class intervention only. No studies evaluated whole class intervention whose aim was to promote children's emotional literacy. Therefore, the evidence base for the effectiveness of the whole class interventions on promoting children's emotional literacy and mental well-being is limited. What is more, although there is evaluation of a range of different interventions,

this study found no research which compared these interventions. Additionally, there were few studies from the UK, leading to a reliance on literature sourced mainly from literature from the USA.

This study therefore intends to focus on two whole class interventions that appear to have already gained some prominence in the UK called R time and Circle Time. These interventions show similarities to the features of whole class interventions reported in studies found in the systematic literature review. Notably, R time and Circle Time have a comparable feature related to their emphasis on a structured approach to teaching emotional literacy and changing behaviour, which presents an opportunity to compare the interventions. The literature review indicates that there does not seem to be a clear theoretical underpinning to R time and Circle Time, but it does appear to suggest that there are links to the concepts of emotional literacy and mental well-being. Therefore, this study intends to research how effectively R time and Circle Time develop children's emotional literacy skills and changes in mental well-being.

2.10 Research Questions

The present study addresses the research questions:-

1. What is the effectiveness of the R time intervention in promoting children's emotional literacy and mental well-being?

2. What is the effectiveness of the Circle Time intervention in promoting children's emotional literacy and mental well-being?

3. What is the comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy and mental well-being?

Chapter 3 outlines the methodology of the study.

3. Methodology

3.1 Introduction

Chapter 3 outlines the methodology of the study. The methodology begins with an account of the three main research paradigms (positivism**,** post positivism and constructivism), before outlining the researcher's rationale for adopting a post-positivism worldview of research. The methodology then considers qualitative and quantitative methods of research. The chapter continues by presenting the design, measures and pilot. Next, the methodology outlines internal and external validity and the ways the study addresses these issues. Finally, the chapter looks at important ethical considerations in the research process.

3.2 Research Paradigms

Research paradigms guide research methodology. A research paradigm is a way of viewing the world (Mertens, 2010). Positivism, post-positivism and constructivism are three major research paradigms. The purpose of introducing different research paradigms helps position the researcher's worldview of research within the context of the current study. Questions about the ontology (the nature of reality), epistemology (the nature of the knowledge and the relationships between the knower and would-be known) and methodology (how the knower can go about obtaining the desired knowledge and understanding) help define research paradigms (Guba & Lincoln, 2005). The next section considers how positivism, post-positivism and constructivism address these issues, before outlining the researcher's rationale for adopting the post-positivist paradigm.

3.2.1 Positivism

The positivist paradigm views the nature of reality according to the existence of one reality (Robson, 2002). Positivism assumes that a reality exists around us and it is the researcher's job to try to tap into this reality to understand it (Howitt & Cramer, 2008).

The paradigm assumes that this single reality follows constant, lawful and unchanging principles.

The paradigm assumes knowledge is objective and factual, therefore free from values. The positivist paradigm asserts that knowledge comes from direct experience or observations (Robson, 2002), as it derives from the link between a stimulus and response (Howitt & Cramer, 2008). Consequently, this paradigm rejects theoretical understandings of human behaviour because theories consider human experience that is not directly observable (Howitt & Cramer, 2008). The positivist paradigm assumes that knowledge is permanent and unchangeable. Therefore, research explains knowledge by relating it to a general law (Robson, 2002). A major disadvantage of this approach is the commonly held view that universal laws of human psychology are not possible or desirable (Howitt & Cramer, 2008). In the positivist paradigm, the relationship between the knower and would-be known is independent (Lincoln & Guba, 2000). The paradigm assumes the researcher can view events in the world without making any assumptions as to how they are ordered or what may explain the data (Howitt & Cramer, 2008). Hence, the positivist paradigm adopts the position that the researcher and participants do not directly influence each other, and therefore humans in the research do not influence knowledge. As the researcher uses stimulus response patterns to develop universal causal laws of human experience, the positivist paradigm assumes what is observed in the laboratory is equally applicable in the real world.

Positivists adopt experimental methods from the natural sciences (Cooligan, 2009). A focus on discovering one reality means that it is possible to fix research questions before the study begins. Quantitative methods are often associated with the positivist paradigm to confirm whether knowledge is true. However, Robson (2002) points out that there is a widely accepted "*view of the demise of positivism as a viable philosophical underpinning of research*" (pg26). The post-positivist paradigm attempts to address this dissatisfaction.

3.2.2 Post-positivism

The post-positivist paradigm shares many of the views of positivism on ontology, epistemology and methodology. Similar to the positivist paradigm, the post-positivist paradigm searches for a reality. However, in the post-positivist paradigm Maxwell (2004) uses the term critical realism to suggest that there is a reality, but there are a number of ways to view this reality. Humans distort reality because of the limitations in the way they are able to view it. Therefore, researchers can only understand reality imperfectly. Researchers following the post-positivist paradigm assume it is possible to discover reality by a probability, rather than based on fact and certainty (Mertens, 2010). Therefore, research cannot prove a theory, but it can eliminate alternative explanations in an aim of establishing a closer understanding of truth.

The post-positivism paradigm upholds the significance of objectivity and observation but accepts that there are equally important parts of human behaviour that are not easily observable or subject to objectivity (Mertens, 2010). The post-positivism paradigm understands that the researcher's theories, hypotheses and background knowledge can significantly influence observations (Reichardt & Rallis, 1994). These previous experiences of the world affect understanding of knowledge (Cooligan, 2009), as our range of experiences may bias the way we interpret observations and understand this as new knowledge. Therefore, post-positivists do not assume that observations are value free. However, researchers aim to get close to reality (Howitt & Cramer, 2008) and objectivity in research remains important. Researchers that adopt this paradigm aim to avoid personal biases influencing research outcomes (Mertens, 2010), often using prescribed procedures in a bid to remain as neutral as they can.

Post-positivists have found it difficult to use experimental methods in educational and psychological research with people (Mertens, 2010). Post-positivists view science as a way of thinking that leads towards testable explanations in the world (Cooligan, 2009). Therefore, the post-positivist paradigm adopts quasi-experimental methods, which modify experimental methods by using less rigour when conducting research studies

with people to allow research beyond a stimulus and response link using quantitative methods.

3.2.3 Constructivism

The constructivist paradigm assumed reality is socially constructed (Robson, 2002). According to constructivism, there are multiple realities. Therefore, this perspective regards the search for a single reality as ineffective (Howitt & Cramer, 2008).

The constructivism paradigm understands the multiple constructions of meaning and knowledge (Robson, 2002), going beyond the directly observable to the interpretation of internal states. The researcher and participants work together to construct the reality. Data gathering involves a personal and interactive process (Mertens, 2010), looking towards confirmability of the data, rather than objectivity (Lincoln & Guba, 2000).

The constructivist paradigm predominantly uses qualitative methods such as interview and observation, which aim for multiple social constructions of reality through the interaction between the researcher and researched (Robson, 2002). The interactive process attempts to seek multiple perspectives to gain a better understanding of meaning and knowledge. Therefore, the researcher must gather a number of different perspectives from a range of different people. Information about the participants and the context of the study adds to the research (Mertens, 2010). The assumption of multiple realities means that research questions evolve and change over the researcher process. Therefore, unlike the positivist and post-positivist paradigm, the researcher does not fully establish the research questions before the study begins (Robson, 2002).

3.2.4 Rationale for adopting the Post-Positivism Paradigm

This study adopts the post-positivist paradigm as the researcher aimed to use understandings of the concept of emotional literacy and mental well-being, rather than

search for multiple constructions of the meaning of the concepts or attempt to prove a fact or general law (Robson, 2002; Howitt & Cramer, 2008).

The researcher aimed to gather knowledge about the effect of an intervention on children's emotional literacy and mental well-being by considering psychological processes using theory (e.g. Goleman, 1996, 1998; Mayer & Salovey, 1997), which means gathering data beyond what is directly observable. The post-positivist paradigm accepts theoretical understandings of human behaviour and rejects the idea that focusing on solely a stimulus and response pattern is appropriate for human study.

The researcher recognises that their previous experience of teaching and psychology background influences the research design decisions, accepting that their observations are not value free and there remains a degree of subjectivity in the interpretation of the data, as in the post-positivism paradigm (Reichardt & Rallis, 1994). Like the post-positivist paradigm, this rejects a view of research that assumes knowledge is permanent and unchangeable (Howitt & Cramer, 2008) or that the researcher and research must collaboratively collect data (Mertens, 2010). However, the awareness of personal influences means that the researcher can take steps to help avoid making assumptions about data. This stance compares with the post-positivist paradigm, which aims to overcome potential personal biases effecting research (Mertens, 2010), whilst in contrast to a view which accepts that an interaction between the researchers and researched helps to understand knowledge, as in the constructivist paradigm (Robson, 2002).

The researcher argues that it was possible to adapt experimental methods for evaluating R time and Circle Time within a classroom as in the post-positivist paradigm, whilst holding the opinion that an approach used in a scientific laboratory, upheld by the positivist paradigm, would be inappropriate due to practical and ethical reasons. Therefore, adopting a positivist approach to obtaining the desired knowledge or focusing on qualitative methods that gathered multiple constructions of reality as in the

constructivist paradigm were suitable. However, the study deemed attempts to adhere to scientific methodology through adopting quasi-experimental methods using mainly quantitative methods more appropriate, which is a view similar to the post-positivism paradigm.

3.3 Research Methods

This section introduces research methods based on the three major research paradigms. Research paradigms further consider the methodological question by asking how the knower can go about obtaining the desired knowledge and understanding using quantitative (also known as experimental) and qualitative research methods. The next section describes qualitative and quantitative research methods to help justify why this study adopted quantitative methods.

3.3.1 Qualitative Research

The qualitative approach to research is rooted in the constructivist paradigm (Robson, 2002). The approach aims to produce a detailed description of a specific program or setting to provide a more complete understanding of the subject matter of the research (Mertens, 2010; Howitt & Cramer, 2008). It studies human phenomena in its natural setting, meaning studying the aspect of interest in a setting that it is most likely to occur (Denzin & Lincoln, 2000). The method is concerned with people and their perceptions and experiences of the world (Cooligan, 2009). The qualitative approach generates new logical understandings of knowledge from the research context involving individuals to the wider application to human phenomena.

3.3.2 Quantitative/Experimental Research

The quantitative or experimental approach to research has fundamental principles based on the positivist and post-positivist paradigms (Robson, 2002; Mertens, 2010). Conceptual understanding of the phenomena of study using theory helps fix the design

before the study begins. Quantitative research typically quantifies the phenomena of interest. Experimental research can help establish cause and effect relationships between variables (Howitt & Cramer, 2008). Experimental designs usually focus on group effects rather than individual changes (Robson, 2002). While this does not capture the subtleties and complexities of individuals, experimental research identifies patterns from groups of individuals in social phenomena. This study focuses on evaluating the effectiveness of an intervention (cause) on children's emotional literacy and mental well-being (effects). Furthermore, the researcher aimed to work within the post-positivist paradigm, in an attempt to uphold the importance of experimental research methods. This led to the researcher using quantitative rather than qualitative research methods. There are two possible experimental designs: the 'true' experimental design and the quasi-experimental design.

3.3.3 'True' Experimental Designs

A 'true' experimental design is characterised by random allocation of participants to two (or more) groups of the design (Robson, 2002). Randomly allocating participants to groups increases the probability that the experimental and control groups are equivalent. This means there is more assurance that changes are not due to differences between groups due to other variables, such as the characteristics of the participants. A 'true' experiment adheres to the controlled conditions of a laboratory (Cohen, Manion & Morrison, 2007). A criticism of this approach is that it is not always possible to identify and control all the variables in a study (Cohen, Manion & Morrison 2007). Moreover, random allocation to groups can split groups that would otherwise remain intact (Robson, 2002).

3.3.4 Quasi-experimental Designs

Quasi-experimental designs are more readily applicable to real life settings as they allow the study of a variable of interest in its natural setting (Cohen, Manion & Morrison 2007). The quasi-experimental design keeps most of the elements of the

experimental design in applied research, which is consistent with the post-positivist paradigm, where the aim is to remain objective in experimentation. Quasi-experimental designs do not randomly allocate participants to groups (Robson, 2002). This means there is less control over experimental conditions or variables that are not part of the experimental manipulation (Cohen, Manion & Morrison 2007). Quasi-experimental designs acknowledge these variables as an alternative explanation of the results. The researcher can take steps to make sure the groups are equivalent such as matching characteristics of participants or selecting similar participants (Cohen, Manion & Morrison, 2007). The study of intact groups is an advantage of the design when it is necessary to consider the context in which the stimulus occurs or when trying to decide whether the stimulus has been effective. In the current study, R time and Circle time are whole class interventions that necessitate the study of the intact groups, which suggest the suitability of the quasi-experimental design.

3.4 Design

3.4.1 Research Questions

The design characterises the overall structure and strategy of the research (Cooligan, 2009). The current study aimed to answer the questions:

1. What is the effectiveness of the R time intervention in promoting children's emotional literacy and mental well-being?

2. What is the effectiveness of the Circle Time intervention in promoting children's emotional literacy and mental well-being?

3. What is the comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy and mental well-being?

3.4.2 Hypotheses

Hypotheses help objectively support or reject research finding based on probabilities (Howitt & Cramer, 2011). A null hypothesis suggests there is no relationship between the variables investigated, whereas the experimental hypothesis suggests a relationship between variables that is not reasonable to explain by chance. The study uses the Emotional Literacy Assessment Instrument (ELAI) to measure emotional literacy and the Strengths and Difficulties Questionnaire (SDQ) to measure mental well-being (see section 3.5). Below the study states the research hypotheses.

Null hypothesis 1: There will be no statistically significant difference between pre- and post-test R time and control group teacher/parent/pupil informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

Experimental hypothesis 1: There will be a statistically significant increase from pre- to post-test R time teacher/parent/pupil informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores in comparison to no significant difference in control group scores.

Null hypothesis 2: There will be no statistically significant difference between pre- and post-test Circle Time and control group teacher/parent/pupil informant ELAI of a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

Experimental hypothesis 2: There will be a statistically significant increase from pre- to post-test Circle Time teacher/parent/pupil informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores in comparison to no significant difference in control group scores.

Null hypothesis 3: There will be no statistically significant difference between pre- and post-test R time and Circle Time teacher/parent/pupil informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

Experimental hypothesis 3: There will be a statistically significant difference between pre- and post-test R time and Circle Time teacher/parent/pupil informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores. R time and Circle Time ELAI scores will be significantly different to control group scores.

Null hypothesis 4: There will be no statistically significant difference between pre- and post-test R time and control group teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

Experimental hypothesis 4: There will be a statistically significant decrease from pre- to post-test R time teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and an increase in f) pro-social behaviour scores, in comparison to no significant difference in control group scores.

Null hypothesis 5: There will be no statistically significant difference between pre- and post-test Circle Time and control group teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

Experimental hypothesis 5: There will be a statistically significant decrease from pre- to post-test Circle Time teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and an

increase in f) pro-social behaviour subscale scores, in comparison to no significant difference in the control group scores.

Null hypothesis 6: There will be no statistically significant difference between pre- and post-test R time and Circle Time teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

Experimental hypothesis 6: There will be a statistically significant difference between pre- and post-test R time and Circle Time teacher/parent/pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour scores. R time and Circle Time SDQ scores will be significantly different to control group scores.

3.4.3 Final Design

The final study used a quasi-experimental pre-test post-test non-equivalent groups design. There were three groups. Group 1 received R time, group 2 received Circle Time and group 3 received no intervention, acting as a comparison group. The interventions lasted 8 weeks. Pre-testing occurred in all groups one week before the intervention (April 2011) and post-test immediately after the intervention (July 2011).

3.4.4 Independent and Dependent Variables

A variable is the focus of measurement in quantitative study (Cooligan, 2009; Robson, 2002**).** A study attempts to measure the effect of an independent variable on a dependent variable. In this study, the independent variables are the R time and Circle Time intervention, and the dependent variables are emotional literacy and mental well-being.

3.4.5 Selection of Participating Schools

The selection of schools took place from the researcher's patch of schools in a rural area of a northern Local Authority (LA). The researcher attempted to select schools with similar characteristics. Therefore, out of eleven mainstream schools, the study excluded five schools because they had a mixed year group classes due to the relatively low number of pupils on roll and two schools were either an infant or a junior school. This left six schools. The researcher then compared the schools according to a range of data including Index of Multiple Deprivation (IMD) (an indicators to identify the level of deprivation in an area), free school meals data (an indicator of an area's economic status) and Office for Standards in Education (OFSTED) ratings (an indicator of school performance in the UK). The study further excluded one of the six schools as it rated highly across these data fields, which made it dissimilar to the other schools. The remaining five schools received a letter inviting them to take part in the research (appendix 4). Three schools replied to indicate their interest in taking part in the study (named school 1, school 2 and school 3).

3.4.6 Allocation of Schools to the Experimental Group

School 3 expressed a preference to receive no intervention and become the control group. Therefore, the study randomly allocated school 1 and 2 to an experimental group (R time or Circle Time). However, the control group had the opportunity to receive an intervention at the end of the study, which made school 3 a waiting list control group. Table 3.1 shows the final allocation of schools to group.

School	Experimental Group
School 1	R time
School 2	Circle Time
School 3	Control/waiting list control

Table 3.1: A table to show the experimental groups

3.4.7 Contextual Information

Table 3.2 shows IMD data, free school mean percentages and number of pupils on roll indicated initial similarities between the Circle Time compared to the control school. The same data also showed some initial differences between the R time compared to the Circle Time and control school, even though the researcher selected schools from the same geographical area. However, even though R time had a lower IMD than the Circle Time and control school, all three schools were below the national average percentage of 18.5% of primary aged pupils in maintained schools known to be eligible for free school meals (DoE, 2010). Therefore, despite the differences between the R time group, compared to the Circle time and control school, the researcher considered it appropriate to include the R time school in the study. Additionally, the results chapter reports the analysis of pre-test differences between groups.

Experimental Group	Pupils on roll	IMD rank (/323)	Free school meals data (%)	OFSTED's ratings
R time	138	302th	4.4%	Satisfactory
Circle Time	190	168th	6.7%	Good
Control	244	206th	9.5%	Good

Table 3.2: Table to show contextual information by group

3.4.8 Selection of Pupil Participants

The researcher chose to evaluate the effectiveness of R time and Circle Time with participants from a whole class in year 3 of primary school. This is because there have been very few evaluations of whole class intervention only (Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000; Stevahn et al, 2000) and none of these focused on the junior phase of primary school. While R time and Circle Time have session plans suitable for all year groups within the primary phase (Mosley, 1996; Sampson, 2004), the researcher selected year 3 as it was initial interest in teaching this year group that led to the focus

of the current study. It might have been appropriate to evaluate other year groups within the junior phase of primary. A limitation of focusing on a specific year group is that the results do not generalise to other year groups. However, an evaluation of a single year group was feasible within the time constraints of the study and capacity of a lone researcher.

In total, 57 children took part in the evaluation of the interventions. Table 3.3 shows data collection took place with over 50% of the total number of pupils within each class. There was an approximately equal split of gender within each group and across the three schools.

Experimental Group	Pupils in class *N*	Consent for the child to participate *N*
R time	30 (m=16, f=14)	27 (m=15, f=12)
Circle Time	27 (m=16, f=11)	14 (m=8, f=6)
Control	23 (m=10, f=13)	16 (m=7, f=9)
Total	80 (m=42, f=38)	57 (m=30, f=27)

Table 3.3: A table to show the number of participants in the class and those involved in the evaluation of the interventions.

The number of pupil participants involved in the evaluation slightly changed at post-test due to two children in the R time group leaving the school. Table 3.4 shows the number of participants of the interventions at pre- and post-test in each group.

	Participants at pre-test *N*	Participants at post-test ***N***
R time	27 (m=15, f=12)	25 (m=13, f=12)
Circle Time	14 (m=8, f=6)	14 (m=8, f=6)
Control	16 (m=7, f=9)	16 (m=7, f=9)

Table 3.4: A table to show the number of participants by group at pre-test and post-test.

In initial discussion with the R time school, it emerged that the year 3 class included nine year 2 pupils. Table 3.5 shows the age range and mean age of participants was similar in the Circle Time and control groups. The age range was lower in the R time group. However, the R time mean age was similar to the Circle Time and the control group.

Experimental Group	Age Range	Mean Age
R time	6:9 – 8:4	7:8
Circle Time	7:10 – 8:5	8:0
Control	7:7 – 8:6	8:0

Table 3.5: Table to show age range and mean age of participants

The participants' ethnicity was white/British in all three groups. All participants spoke English as their first language. The Circle Time group included one child with a statement of special educational needs.

3.4.9 Intervention

This section outlines the R time and Circle Time interventions. R time and Circle Time emphasise the importance of the process. They both follow a set structure for each session, described in more detail below:

3.4.9.1 R time Components

R time has five component parts plus the random pairing activity (appendix 1). The random pairing activity is a game that joins the children with a random partner in the class. It aims to help the children get to know everyone.

Introduction: The introduction or greeting is when the children introduce themselves to their partner using a given positive phrase. The introduction aims to encourage the children to introduce each other politely and positively to the R time session.

Activity: There are three kinds of activities: the practical activity, the pretend activity and the talking activity. The practical activity encourages the children to share resources. The pretend activity encourages children to think exploring and relating ideas. The talking activity encourages the children to talk about a specific given subject. All the R time activities aim to encourage the children to work together in their random pairing.

Plenary: The R time plenary asks children to share with others what they have been doing. The plenary activity aims to support children to respect and consider other people's feelings.

Question: The question asks children to reflect on the activity. This involves the teacher asking supplementary questions to clarify or underline a point, or help expand the discussion. The question aims to encourage children to explore other children's contributions through questioning and discussion.

Conclusion: The conclusion encourages children to reflect on how they have worked that session and practice dialogue to express this effectively. The conclusion aims to finish the session positively.

The R time manual suggests that the teacher should establish a ground rule for each session. The R time ground rule aims to sets clear expectations for the session e.g. show good manners at all times. Sampson (2004) suggests that the rule supports children to handle their emotions according to a specific aim.

3.4.9.2 Circle Time Components

Circle Time has an introduction, middle and concluding section (Mosley, 1996) (appendix 2). The children organise themselves in a circle to begin a session.

Introduction: The introduction may include a fun warming up or meeting up game. The introduction may include a round, which is where the teacher begins a sentence that the children repeat and complete. The aim is to encourage children to sit next to peers who are not their usual companions and to help children listen to each other and warm up to speaking.

Middle Phase: The middle phase begins with an activity that encourages the children to begin thinking about a topic before the children explore the topic in an open forum of discussion. The phase aims to encourage the children to ask questions, express opinions, join in with discussions, work together, problem solve and plan action points.

Closing Phase: The Closing Phase is a game or activity that ends the session aiming to praising one another, cheering everyone up or calming everyone down.

Teachers and children must agree a set of ground rules before Circle Time begins including using a signal if they wish to speak, focusing on the positive, not to interrupt when someone else is talking, and allowing a child to say 'pass' in a round if he/she does not want to speak.

3.4.9.3 Intervention Similarities

R time and Circle Time have similar component parts and aims (appendix 3). R time randomly pairs the children, whereas Circle Time asks the children to begin by sitting in a circle followed by a game to mix the children up in the aims of encouraging the children to work with a different partner. In R time and Circle Time, an introductory activity begins the session, which generally aims to get the children ready to speak and listen. Then R time moves onto a main activity, plenary and question, which is comparable to the middle phase of Circle Time, largely aiming to encourage the children to communicate by asking questions and discussing answers. Both interventions conclude with a final game or activity aiming to finish the session positively.

Although R time and Circle Time share a number of similar component parts and aims, they differ in session length. An R time session lasts between 10-15 minutes (Sampson, 2004), whereas a Circle Time session lasts 40 minutes to an hour (Mosley, 1998). Mosley (1993) indicates that a Circle Time session length can vary depending on the number of activities in each session and the time spent on each activity. Research has found that an R time session length tends to be longer than the stated timings (Hampton et al, 2010). This shows variability in how long an R time and Circle Time session lasts in practice. Therefore, the actual difference in session length is difficult to determine.

A pilot of the sessions helped clarify the expected length of the sessions used in this evaluation (see section 3.6.1). Additionally, R time and Circle Time emphasise the importance of pace of delivery to help to keep to the manual's specified delivery time

(Mosley, 1998; Sampson, 2004). Therefore, integrity checks monitored whether the teachers deliver the intervention as the authors intended (See section 3.7.2).

A disadvantage of comparing interventions with such differences is that the differences in the length of the intervention may account for differences found between the effectiveness of R time and Circle Time. Therefore, this study acknowledges that differences in R time and Circle Time session length could create limitations in an evaluation of their comparative effectiveness. However, there is no evidence to suggest whole class interventions are more effective if session lengths are longer. The systematic review showed interventions of differing lengths were equally as effective (e.g. Barrett & Turner, 2011; Jones et al, 2010, 2011; Lohaus & Klein-Hebling, 2000; van Lier et al, 2004).

3.4.9.4 Duration of Intervention

This evaluation represents a short-term evaluation of R time and Circle Time lasting eight weeks. R time and Circle Time recommend regular evaluation (Mosley, 1998; Sampson, 2004). The R time manual suggests evaluation of the intervention every half term (Sampson, 2004). As a UK school half term can last up to eight weeks, this indicated a suitable number of sessions to evaluate. The study acknowledges that evaluation of R time and Circle Time could have lasted longer as there are a number of sessions in the interventions. The study considers the duration of the evaluation further in relation to strength of the experimental treatment posing a threat to the internal validity of the study in section 3.7.3. Chapter 5 further discusses the limitations created by the duration of the evaluation. However, a longer period of evaluation was not practical due to the length of the summer school term and time constraints on the researcher. Eight weeks of intervention allowed time for a short period of intervention and data gathering at pre and post-test.

3.4.9.5 The Selection of Sessions

The selection of R time and Circle Time sessions was random using a lottery procedure, meaning that every session had an equal chance of selection (Mertens, 2010) (see appendix 5). R time sessions can be implemented in any order (Sampson, 2004). The Circle Time resource book suggest that while '*the activities are presented in a planned, formal, sequential way'*, Mosley stresses that '*it is vital that you adopt your own creative, 'free-wheeling' attitude towards them'* (Mosley, 1996, pg99). A limitation of a randomised approach to the selection of the sessions is that the numbering of the individual sessions implies an order, which might reflect how teachers deliver the interventions in practice. However, R time and Circle Time imply each session includes components that aim to develop the range of emotional literacy skills (Mosley, 1996; Sampson, 2004). Additionally, the literature review highlighted the possible links between the component parts and the development of emotional literacy. This justified a random approach to the selection of the sessions used in the evaluation.

3.4.10 Procedure

The year 3 teacher delivered R time in school 1 and Circle Time in school 2 over a period of eight weeks. The interventions took place in the classroom with the whole class on eight consecutive Tuesdays at 2pm in the summer term of 2011. Over the same time, the children in the control school received no intervention.

3.5 Measures

3.5.1 Emotional Literacy Assessment Instrument (ELAI)

The current study used the Emotional Literacy Assessment Instrument (ELAI) (Southampton Psychology Service, 2003). The ELAI is a checklist measure of overall emotional literacy and subscales, self-awareness, empathy, motivation, self-regulation and social-skills for children aged 7-11 years. The measure has a teacher checklist consisting of 20 statements, parent and pupil checklist made up of 25 statements

(appendix 7, 8 & 9). The participant indicates how well the statements describe the pupil by ticking one of four boxes labelled 'very true', 'somewhat true', 'not really true' and 'not at all true'.

Each item in the checklist has a rating from one to four. The sum of the total items gives an overall emotional literacy score for the all versions of the checklist. The sum of four teacher checklist items and five parent checklist items gives a subscale score for self-awareness, empathy, motivation, self-regulation and social-skills. The ELAI states that to interpret the checklists a higher score indicates the child has better emotional literacy (Southampton Psychology Service, 2003).

3.5.1.1 Reliability & Validity of the ELAI

The ELAI used the statistical procedure Cronbach's alpha to measure the internal reliability of the checklist based on data from a standardised sample of 732 children across schools in England. A minimum Cronbach's alpha score of 0.70 indicates adequate reliability (Brace, Kemp & Snelgar, 2009). The teacher version scored 0.94, parent version scored 0.87 and the pupil version 0.76 indicating the items in the checklists items reliably measured the same underlying concept. Cronbach's alpha score was above 0.70 for all the teacher subscales and most of the parent subscales, except self-awareness and empathy, showing most of the items were internally valid. A limitation to the ELAI is that the researcher could not find an assessment of test re-test of reliability, which assesses the degree to which test scores are consistent from one test time to another. Additionally, there does not appear to be any data that suggests the consistency of the measure when completed by different people using the same checklist at different test times. Validity assessments of the ELAI data supported the five-dimensional structure of emotional literacy as related to Goleman's (1996) model of emotional intelligence (Southampton Psychology Service, 2003).

3.5.2 Strengths and Difficulties Questionnaire (SDQ)

The current study used the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) to measure children's mental well-being. The SDQ briefly screens 3-16 year olds' behaviour. The SDQ has 25 items that ask about positive and negative psychological attributes. The 25 items divide into 5 items related to emotional symptoms, conduct problems, hyperactivity, peer relationship problems and pro-social behaviour. Teacher, parent and pupil respondents mark statements according to a rating scale consisting of the options 'not true', 'somewhat true' and 'certainly true'. There are versions of the SDQ suitable for teachers, parents and pupils (appendix 10 & 11). The pupil version is suitable for completion by children from 8 years old (Muris, Meesters, Eijkelenboom & Vincken, 2004).

The sum of four related items gives a subscale score. The emotional symptoms, conduct problems, hyperactivity and peer relationship problems subscale scores add together to make a total difficulties score.

The questionnaires include brief instructions that ask the respondents to answer the questions based on the last six months or this school year. This study edited the questionnaire instructions at post-test so that it asked participants to make a rating based on the last month (appendix 12 & 13). This focused participants' ratings on the end of the intervention period. Although, a month evaluation timeframe did not include the first 4 weeks of the intervention, the researcher assumed an evaluation of the effectiveness at the end of the intervention best indicated a change following the intervention.

3.5.2.1 Reliability & Validity of the SDQ

Goodman (2001) investigated the reliability of the SDQ gathered data from a large nationwide sample of 10,438 British aged five to fifteen. Teachers, parents and pupils aged 11-15 completed the SDQ. The study judged reliability as satisfactory, reporting a

Cronbach's alpha coefficient of .73, which is above the minimum value showing the items within the SDQ strongly correlate with each other (Brace, Kemp & Snelgar, 2009). They reported satisfactory retest stability after 4 to 6 months and moderate correlations among parent, teacher and pupil SDQ informant scores. Goodman (2001) confirmed the predicted five-factor structure of the SDQ as a brief measure of pro-social behaviour and psychopathology. Muris et al, (2004) investigated the psychometric properties of the self-report version of the SDQ in children aged 8 to 13 in a sample of 1111 from primary schools in the Netherlands. The results showed most of the psychometric properties of the SDQ were acceptable and comparable to those obtained in older children. They recommended checking the child understands the items and the rating scale, and combining the pupil version with the teacher and parent versions, when using the SDQ self report version with young pupils.

3.5.3 Administering the Measures

The researcher administered the ELAI and SDQ pupil questionnaires to the children in each school. The teachers completed the ELAI and SDQ independently. The schools assisted the researcher in sending out the ELAI and SDQ home for parents to complete independently and monitor their return.

3.5.4 Appropriateness of the Measures

This section outlines a consideration of the appropriateness of the measures based on changes in raw score, use of a range of informants and the delivery of the self-report measures.

3.5.4.1 Change in Raw Score

The research was interested in changes in ELAI and SDQ raw scores from pre- to post-test to indicate the effectiveness of the intervention. While the ELAI measure provides score bands for the overall and subscale scores indicating whether a child is well below

average, below average, average, above average or well above average compared to a nationally representative sample (Southampton Psychology Service, 2003), this study did not compare the scores to these norms to suggest a level of emotional literacy. Although it is possible to classify SDQ total difficulties scores as normal, borderline or abnormal, this study did not use the measure as a clinical screening tool for mental health problems (Goodman, 1997).

3.5.4.2 Range of Informants

The study collected teacher and parent informant versions of the ELAI and SDQ alongside the ELAI and SDQ self-report measures, to avoid a reliance on self-report versions of the questionnaires and to triangulate the data from a range of different informants.

3.5.4.3 Self-Report Measures

The ELAI is suitable for use with children aged 7-11 (Southampton Psychology Service, 2003). All the children in the Circle Time and control group and the majority of the R time group were aged seven or above, although there were two children in the R time group below the recommended age. However, studies have previously utilised the ELAI with pupils from 6 years old (Humphrey et al, 2010a, 2010b).

The SDQ pupil version is suitable for use with children aged 8 years and above (Goodman, 1997). Over half of the children in the Circle Time group and control group were 8 years old at the time of the intervention. A higher number of children in the R time group were below 8 years old as it was a mixed year 2/3 class of children. However, in the knowledge that some of the children were below the recommended age ranges for the use of the ELAI and SDQ, the researcher read aloud the instructions and individual statements as the children completed them. Additionally, the pilot of the

study checked whether the participants could access the self-report measures using these procedures (see section 3.6.3).

The focus on a change in raw scores, use of teacher, parent and pupil informants, and adaptions to the delivery of the self-measure provided justification for the appropriateness of the ELAI and SDQ.

3.6 Pilot

A pilot study tries out some of the procedures intended for the final design on a small sample of people to identify any areas of potential difficulty and therefore adjust the final design (Cooligan, 2009). The researcher invited a junior school to be involved in the pilot, not asked to take part in the final study. The pilot school had two year 3 classes. The pilot involved trialling the sessions, the teachers completing the questionnaires and the administration of the self-report measures.

3.6.1 Piloting the Sessions

The pilot involved each teacher delivering the first two sessions of either R time or Circle Time to identify any problems with the interventions because the researcher was not familiar with the materials. The researcher gave the teachers a brief overview of the interventions and left the session plans. The researcher returned to the school on two occasions to observe the teachers implement the sessions and discuss how they felt it went. The pilot study investigated the duration of the R time and Circle Time due to the variability of a session length. The pilot showed that the R time sessions lasted 20 minutes and 25 minutes, which took longer than the expected 10-15 minutes delivery times (Sampson, 2004). The two Circle Time sessions lasted 45 minutes and one hour, which were consistent with the suggested timings in the resource book (Mosley, 1996). As a consequence of piloting the sessions, in the final study the researcher highlighted the importance of keeping to the timings of the R time component parts as suggested by the manual.

3.6.2 Piloting the Completion of the Questionnaires by the Teachers

The pilot involved the teachers completing an ELAI and SDQ questionnaire to help identify the time needed to complete the measures for the whole class. The pilot study showed it took the teachers between 5-10 minutes to complete the two questionnaires. Therefore, a class of 30 children would take approximately a minimum of 2 hours 30 minutes to complete the measures. As a result of the pilot of the questionnaires, the final study aimed to inform schools of this aspect of the design, gain agreement from the teachers that would complete the questionnaires and negotiate additional time for the teachers to complete the task.

3.6.3 Piloting Administering the Questionnaires

The pilot involved the researcher administering the pupil versions of the questionnaires to make sure the administration of the measures supported the children to complete the items. The pilot showed that the majority of children were able to follow the instructions and complete the questionnaires using the rating scale independently. However, the pilot highlighted that a couple of children asked for the meaning of words in the statements. The researcher asked the children to explain what they thought the items meant. The children's responses showed they understood the content of the items, giving the researcher confidence that the children could access the items in the questionnaires. As a consequence of the pilot, in the final study the researcher read the questionnaires slowly with a short pause between each statement to allow the children time to think about each item and ask questions if they wanted to. The researcher asked the children to put down their pencil once they had answered each statement to indicate when the class was ready to move onto the next statement and who might need extra time or help. The researcher responded to children who raised their hand or appeared to need assistance. The researcher regularly checked with the class that everyone was at the same item and whether anyone would like some help. The researcher also moved between the tables in the classroom to give those children, who might not have raised

their hand, a chance to ask questions. Additionally, the class teacher and/or teaching assistant were available to answer any questions the children might have.

3.7 Internal and External Validity

The validity of a study is concerned with the accuracy of the results. Experimental designs require the researcher to take steps to make sure the findings are trustworthy (Robson, 2002). The next section discusses internal and external validity.

3.7.1 Internal Validity

A study with good internally validity demonstrates that there is a causal relationship between the independent variable (e.g. an intervention) and the dependent variable (e.g. changes in emotional literacy and mental well-being) (Robson, 2002), which is not due to the influence of unintended variables. Unintended variables called extraneous variables can affect change in the dependent variable, and threaten internal validity of the study. Below is a brief description of the extraneous variables identified by Campbell & Stanley, (1963) and how this study attempted to control for them:

1) History refers to the changes that occur over time during the study that are not part of the research enquiry process, which influence the results. The experimental design included a control group that experiences the same changes during the study as the experimental group, apart from the intervention of interest. Therefore, all groups would experience any threat from history.

One change that might occur in the schools during the intervention period is the threat to internal validity due to the use of other interventions not part of the study. The researcher asked the three schools about the use of other social and emotional interventions they intended to use at the time of the study. These checks indicated that all three schools planned to continue to use the SEAL resource over the intervention as part of their regular curriculum (DfES, 2005). The researcher deemed that there was a

consistent approach to the use of the SEAL curriculum resource, meaning that any additional effects from the using SEAL intervention would be equally present in all three schools. The study might have made additional checks to assess the extent to which each school used the SEAL resource. However, this was not feasible in the time available for the research study. Therefore, the study acknowledges that the use of concurrent SEAL interventions might be a threat to internal validity.

2) Testing is the experience gained from a pre-test, which changes the participant's response during the study. In the current study, as all participants completed pre- and post-tests an effect from testing would be present in all groups, therefore threats from testing was deemed as low.

3) Instrumentation threats occur due to a change of instrument used to measure the dependent variable between pre- and post-test. The study used the same measures at pre- and post-test, therefore the study considered threats from instrumentation as low.

4) Regression is the effect of choosing participants based on unusual or atypical scores (e.g. high or low). Testing at a later stage often results in typical scores called 'regression to the mean'. This study used statistical tests of normal distribution and variance to make sure scores at pre-test were similar between groups, therefore the study judged threats from regression as low.

5) Experimental mortality is a threat due to the drop out of participants during the experimental phase resulting in differences between the experimental and control groups. Morality threats are minimal due to the short intervention period. The study monitored dropout rate (see chapter 4, section 4.2).

6) Maturation is the growth, change or developmental change in participants during the study that are unrelated to the effect of the intervention. The use of a control group helped overcome maturation threats as they experience the same kinds of maturational

changes over the intervention period as participants in the experimental group, without receiving the intervention. The study deemed threat from maturational effects small due to the short intervention period.

7) Differential selection refers to the differences between groups before the study, which accounts for some of the changes found in the results. This study matched schools, initially invited to take part in the study, based on contextual factors of schools from the same geographical location. However, this does not account for differences in variables such as school ethos and individual attitudes. Therefore, there might be threat from differential selection.

8) Selection-maturation interaction is the threat due to selection based on maturation that causes groups to differ. Selection-maturation was controlled by selecting groups based on a characteristic that was not pre-disposed to grow apart or together if groups are initially different. The short intervention period reduced this threat, therefore the study considered the threat from selection-maturation low.

Cook & Campbell, (1979) added four other extraneous variables that threaten internal validity named experimental treatment diffusion, compensatory equalisation of treatments, compensatory rivalry and resentful de-moralisation of the control group. Below is a description of these threats.

9) Experimental treatment diffusion is the leaking or crossover of the intervention to the control group. In this study, the experimental groups took place in three different school locations to avoid the groups experiencing unintended intervention. Therefore, the study deemed the threat from experimental treatment diffusion as low.

10) Compensatory equalisation of treatments is anything offered to the control group to overcome any perceived unfairness that they are not receiving the same intervention as the experimental group. The intervention groups occurred in different schools to the

control group making it was less likely that the control school would make changes. Therefore, the study considered threat from compensatory equalisation of treatments as low.

11) Compensatory rivalry by the control group occurs when participants in the control group improve their performance if they feel that the changes in the experimental group threaten their regular way of working. The control group had no direct contact with the participants in the experimental groups and the control group were aware that they were a waiting list control. Therefore, the study considered this threat as low.

12) Resentful de-moralisation of the control group is a lowering of performance caused by participant's dissatisfaction at not being part of the experimental group. This study outlined that the control group were a waiting list control group, therefore lowering any threats from this extraneous variable.

3.7.2 Treatment Integrity

Treatment integrity is another threat to the internal validity of the study. Treatment integrity, also known as treatment fidelity, is the degree to which the implementation of the intervention is as specified by the researcher (Mertens, 2010). The researcher can monitor the accuracy of implementation.

3.7.2.1 The Integrity Checklist

The researcher designed integrity checklists for R time and Circle Time to monitor whether the teachers adhered to the significant features of the interventions (appendix 14 & 15). The researcher completed the integrity checklists by rating each aspect according to a scale of one (indicating a low level of adherence) to ten (indicating a high level of adherence) or marking a yes/no response. The study completed integrity checks for R time sessions 2, 4, 6 and 8, and Circle Time sessions 1, 3, 5 and 7 (appendix 16).

The integrity checklists showed teachers highly adhered to the delivery of the component parts of the interventions. The outcomes of the integrity checklist indicated that the teachers adhered highly to the content of the interventions in the majority of the R time and Circle Time sessions. The teacher delivering Circle Time adhered highly to the rules, whereas there was low teacher adherence to the R time rule. Three out of the four R time sessions were longer than stated in the manual (Sampson, 2004). The ratings suggest that the length of a Circle Time session adhered to the suggested timings in the resource book (Mosley, 1998).

Overall, the outcomes of the integrity checklist suggest that the teachers delivered R time and Circle Time as intended, reducing any threat to internal validity due to a lack of treatment integrity. However, the integrity checklists highlight that the teacher delivering R time showed low adherence to the use of the rule and the expected length of an R time session, which may have influenced the results. A limitation of the integrity checklists is that it only monitored adherence to the intervention in half of the sessions. Therefore, it is unknown how well the teachers adhered to the sessions in the other four sessions. However, as the teachers delivered R time and Circle Time at the same time, the researcher was restricted to fortnightly checks.

3.7.3 Strength of the Experimental Treatment

A further threat to internal validity is the strength of the experimental treatment (Mertens, 2010). This relates to the duration of intervention and the length of a session.

3.7.3.1 Duration of Intervention

An experiment to determine the effectiveness of an intervention might last for different lengths of time such as days, weeks, months or years. The duration of the intervention must be of a length that would be reasonable to expect a change in the variable of interest. The results of a study may not produce a positive outcome because the duration of the intervention was insufficient rather than the intervention being

ineffective. The expected outcomes of an intervention can guide the duration of an intervention.

The literature review found several research studies that evaluated interventions, which aimed to promote children's mental well-being over a short duration (Lohaus & Klein-Hebling, 2000; Reynolds et al, 2000; Stevahn et al, 2000). These research studies lasted for a shorter duration than interventions designed to change knowledge such as literacy skills (Jones et al, 2010, 2011). The literature review found no research investigating changes in emotional literacy over a short duration. In relation to the current study, R time and Circle Time indicated that teachers could implement the interventions over a short or long duration. However, it is unclear what duration is sufficient to show significant changes in the children's emotional literacy and mental well-being when using these interventions over a short time period. Therefore, the strength of the experimental treatment related to duration of the intervention was a possible threat to internal validity of the study.

3.7.3.2 Session Length

An intervention session might last for different lengths of time. The session length must also be a reasonable length to expect a change in the variable of interest. The results of a study may not produce a positive outcome because the length of a session is insufficient rather than the intervention being ineffective. The systematic literature review indicated that interventions with a brief session length were effective in developing children's mental well-being (Lohaus & Klein-Hebling, 2000; van Lier et al, 2004), but there were no evaluations of brief interventions aiming to develop children's emotional literacy. Therefore, it is unclear whether the short R time and Circle Time session lengths are sufficient to show significant changes in the children's emotional literacy and mental well-being. Consequently, the strength of the experimental treatment related to session length was a possible threat to internal validity of the study.

3.7.4 External Validity

The findings of a study are externally valid or generalisable if they are observable in another setting (Robson, 2002; Mertens, 2010). External validity and internal validity tend to work in opposition to each other. Attempts to strengthen the internal validity of the study often reduce the generalizability of the study (Robson, 2002). However, Mertens (2010) suggests the need to aim for internally and externally valid research. LeCompte & Goetz (1982) classified threats to external validity, as described below:

1) Selection threats refer to the findings being specific to the research group.
2) Setting threats refer to the findings being specific to the context of the study.
3) History threats refer to effects of history that may determine or affect the findings.
4) Construct effects indicate that the variables of interest are specific to the research group.

The external validity of the current study relates to children in a year 2/3 class, in a whole class context, in schools in a rural geographical location, with pupils identified as having similar characteristics (as described in the sections 3.4.7 & 3.4.8).

3.8 Ethical Considerations

The research study aimed to carry out ethically sound procedures to ensure the protection of the participants by adhering to principles outlined by the British Psychological Society (BPS) (BPS, 2009; BPS, 2010). The University of Nottingham Ethical Committee judged an application for the study as appropriately meeting the University's ethical requirements in research. Below is a description of the ethical issues pertinent to this study and ways the research intended to deal with them.

3.8.1 Informed Consent

The issue of informed consent ensures the participants have sufficient opportunity to understand the nature, purpose, and any potential risks of their participation in the

research to allow them to make an informed decision about their capabilities (BPS, 2009). A consent letter outlined the purpose and aims of the study to ask for parent and pupil participation in the evaluation of the study and informed participants of their right to withdraw at any point in the research without negative consequences (appendix 6). If the parent and child agreed their consent, they signed and returned the permission slip to school.

3.8.2 Confidentiality

The BPS code of human research ethics states, "*Participants in psychological research have a right to expect that information they provide will be treated confidentially and, if published, will not be identifiable as theirs*" (BPS, 2010, pg22). The study made sure participants remained anonymous to the public, which principally means not using the names of the participants or any other identifying information that would reveal participant's identity (Cohen, Manion & Morrison, 2007). Therefore, schools or individual participants are unnamed. The study used coded questionnaires, which related to a class list, to avoid participants needing to write the child's name on the measures.

3.8.3 Protection of Research Participants

In order to protect research participants it is important to identify any potential physical or psychological harm, discomfort or stress to human participants due to their involvement in research study (BPS, 2009). It was possible that there would be discussion or investigation of personal topics, recall of personal memories and activities with an emotional investment. Therefore, the class teachers reminded children of the opportunities to seek the pastoral support already available in school. Additionally, the school used the LA and school's own safeguarding or child protection policy if a child were to disclose any information regarded as a safeguarding or child protection issue.

3.8.4 Debriefing

The BPS standard of debriefing research participants indicates psychologists should debrief research participants at the end of their participation with the intent of informing them of the outcomes and nature of the research (BPS, 2009). The study debriefed participants by outlining the outcomes of the initial analysis of the data with the school and the children. The researcher aimed to provide a more detailed report to the participants, the LA and Educational Psychology Service once the write up of the study was complete.

4. Results

4.1 Introduction

This chapter reports the results. The chapter begins by introducing the approach to the data analysis. This includes the final number of participants, exploration of the participant data, use of parametric tests, a consideration of whether the data meets parametric assumptions and measures of effect size. The data was analysed using SPSS: Statistical Package for the Social Sciences, Version 19.0. The analysis presents Emotional Literacy Assessment Instrument (ELAI) overall score data, and subscale data for teacher, parent then pupil informant data. This leads on to teacher informant Strengths and Difficulties Questionnaire (SDQ) total difficulties scores and subscale data, followed by parent and then pupil data. The chapter concludes with summaries of teacher, parent and pupil informant ELAI and SDQ results for the R time, Circle Time and Control group.

4.2 Final Number of Participant Data

Over the course of the study, two children in the R time group left the school and four parents did not return questionnaires at post-test. One parent in the Circle Time and one parent in the control group dropped out of the study. Table 4.1 shows the final participant numbers used in the data analysis.

	ELAI & SDQ Participant Numbers		
	R time	Circle Time	Control Group
Teacher	25	14	16
Parent	21	13	15
Pupil	25	14	16

Table 4.1: A table to show final participant numbers.

4.3 Statistical Analysis of R time Year 2 and 3 data

Table 4.2 and 4.3 presents t-test analysis to identify within group differences between year 2 and 3 participants in the R time group. The results show the majority of the teacher, parent and pupil total/overall and subscale ELAI and SDQ scores show no significant differences between the year 2 and 3 data.

	R time Pre-test Yr2/3 Data		
	Teacher *p*	Parent *p*	Pupil *p*
Overall score	.07	.90	.02
Self-awareness	.31	.86	
Empathy	.16	.57	
Motivation	.01	.66	
Self-regulation	.28	.60	
Social skills	.01	.77	

Table 4.2: Table to show t-test analysis of R time year 2 and 3 pre-test data for teacher, parent and pupil informant ELAI overall and subscale scores.

	R time Pre-test Yr2/3 Data		
	Teacher *p*	Parent *p*	Pupil *p*
Total difficulties score	.03	.19	.02
Emotional Symptoms	.17	.73	.15
Conduct Problems	.61	1.0	.09
Hyperactivity	.06	.18	.26
Peer Problems	.07	.81	.08
Pro-social Behaviour	.12	.04	.03

Table 4.3: Table to show t-test analysis of R time year 2 and 3 pre-test data for teacher, parent and pupil informant SDQ scores.

4.4 Parametric Tests

Statistical tests find out whether any of the differences between groups from pre- to post-test are statistically significant. A *p* level below .05 indicates a significant statistic. The results report the exact *p* level. If the value is less than .01, the results report the *p* level as $p < .01$. There are three experimental groups (R time, Circle Time and control), and several dependent variables (ELAI overall score, plus subscale scores for self-awareness, empathy, motivation, self-regulation and social skills; SDQ total difficulties score, plus subscale scores for emotional symptoms, hyperactivity, peer problems and pro-social behaviour). The most appropriate statistical test for simultaneous analysis of each of the dependent variables according to the experimental group is a Multivariate Analysis of Variance (MANOVA) (Field, 2009). The MANOVA shows whether there is an effect of the different independent variables and whether these interact. The results report the Pillai's Trace statistic as it is the most robust where sample sizes are small (Brace, Kemp & Snelgar, 2009). The first stage to the MANOVA is overall tests, before specific tests find out where group differences lay.

4.4.1 Overall Tests: Time Tested & Interaction Between Time & Group

For overall ELAI scores and SDQ total difficulties scores, the MANOVA statistical analysis shows whether the test time of participant is significant. It also shows whether the interaction between test time and participants group is significant. The results report these MANOVA test statistics.

For subscale data, if the MANOVA overall tests are significant, specific univariate ANOVAs show which of the independent variables are contributing to the significant overall results. The results report these MANOVA test and univariate statistics.

The use of MANOVA test statistics overcomes the increased risk of making a type I error, which can occur by repeatedly using an ANOVA on a number of dependent variables. A type I error incorrectly rejects the null hypothesis.

4.4.2 Post-Hoc Tests

Post hoc tests then compare pre- and post-scores between each group and within the group to identify where the difference lay. To avoid risk of type I errors, post-hoc analysis applies a Bonferroni correction, which divides the significant value by the number of groups, setting the significant value at a higher level.

A statistically significant increase in ELAI overall and emotional literacy scores according to teacher, parent and pupil informants from pre- to post-test identifies a positive effect of the R time, Circle Time intervention, in comparison to no statistically significant increase in control group scores. A statistically significant difference from pre- to post-test between the R time and Circle Time group ELAI scores, in comparison to no statistical difference in control group scores identifies which intervention is most effective.

A statistically significant decrease in SDQ total difficulties, emotional symptoms, conduct problems, hyperactivity, and peer problems, and an increase in pro-social behaviour scores according to teacher, parent and pupil informants from pre- to post-test identifies a positive effect of the R time and Circle Time intervention, in comparison to no statistically significant corresponding decrease/increase in control group scores. A statistically significant difference from pre- to post-test between the R time and Circle Time group, in comparison to no statistical difference in control group scores identifies which intervention is most effective.

4.5 Measures of Effect Size

Effect size indicates the size of a significant effect.

4.5.1 Partial Eta-squared

Effect size calculations using partial Eta-squared (η^2) provides an estimate of the proportion of variance attributable to the effect observed. The MANOVA output for interaction effects of group calculates partial eta-squared. The guidelines for

interpreting η^2 suggest .01 is a small effect, .06 a moderate effect, and .14 a large effect (Cohen, 1977).

4.5.2 Cohen's *d*

Effect size calculations using Cohen's *d* provides a measure of the level of change in ratings between two equal groups:

$$d = (x1\text{-}x2) / \text{mean } SD.$$

Cohen's *d* indicates the size of a positive significant effect, where the calculation is most relevant. A Cohen's *d* of .20 indicates a small effect size, .50 a medium effect size and .80 a large effect size (Cohen, 1977). Unequal groups can give an inaccurate Cohen's *d* using the mean of the two standard deviations (Brace, Kemp & Snelgar, 2009). Instead of the mean standard deviation in Cohen's formula, calculations for unequal groups use the square root of pooled variance (Srpv):

$$\text{Srpv} = \sqrt{(n1 - 1)\ \text{var1} + (n2 - 1)\ \text{var2}/n1 + \text{n2} - 2}.$$

4.6 Assumptions for Parametric Testing Using the MANOVA

There are a number of parametric assumptions when using the MANOVA. MANOVA is a parametric test. MANOVA assumes that observations are statistically independent. Overall ELAI scores are a total of the subscale scores. The analysis of overall ELAI score and total difficulties scores is separate from the subscale scores to keep their independence. MANOVA assumes the data is at an interval level. The analysis of ELAI and SDQ data assume they are discrete points on a numeric scale. Parametric tests make assumptions about the populations from which the data to be tested are drawn (Dancy & Reidy, 2007). These assumptions relate to the distribution of the data and variances of the populations.

4.6.1 Normal Distribution

In order to meet parametric assumptions, there is an assumption that the data draws from populations that are normally distributed. This means the distribution of the data is symmetrical about the mean and bell-shaped. Table 4.4 and 4.5 displays the Shapiro-Wilk Test of Normality, which statistically tests whether or not the data deviates from the norm. A non-significant result indicates normality of the data, as this shows that the data did not significantly deviate from the norm. A significant result indicates that the data significantly deviated from the norm.

4.6.2 Multi-variate Normality of Distributions

In addition to this assumption, MANOVA assumes multi-variate normality of distributions. Each of the distributions of the dependent variables and the linear combination of the variables should be normal. Multi-variate normality of distributions is difficult to establish, therefore univariate normality also assumes multi-variate normality.

	Teacher						Parent						Pupil					
	R time *p*		Circle Time *p*		Control *p*		R time *p*		Circle Time *p*		Control *p*		R time *p*		Circle Time *p*		Control *p*	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Overall score	.85	.60	.57	.22	.64	.33	.03	.05	.55	.18	<.01	1.76	.49	.24	.41	.51	.85	.58
Self-awareness	.03	.05	.19	< .01	<.01	< .01	.07	.04	.74	.73	.13	.82						
Empathy	.05	.10	.01	< .01	.49	.03	.15	.24	.21	.49	.12	.02						
Motivation	.19	.23	.20	.08	.37	.09	.51	.79	.21	.50	.02	.09						
Self-regulation	.06	.04	.17	.03	.61	.55	.14	.80	.04	.36	.09	.04						
Social skills	.01	<.01	.11	< .01	< .01	< .01	.01	.01	.01	.01	.03	.18						

Table 4.4: A table to show pre- and post-test R time, Circle Time and control group Shapiro-Wilk test of normality for teacher, parent and pupil informant ELAI overall and subscale scores.

	Teacher						Parent						Pupil					
	R time *p*		Circle Time *p*		Control *p*		R time *p*		Circle Time *p*		Control *p*		R time *p*		Circle Time *p*		Control *p*	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Total difficulties score	.16	< .01	.05	<.01	.23	.86	.06	<.01	.04	<.01	.05	<.01	.56	.48	.37	.07	.23	.15
Emotional Symptoms	< .01	< .01	<.01	<.01	.01	<.01	.02	<.01	<.01	<.01	.01	<.01	.11	.07	.68	.44	.07	.01
Conduct Problems	<.01	<.01	.01	<.01	<.01	<.01	.02	<.01	.07	<.01	<.01	<.01	.06	<.01	.10	.07	.02	<.01
Hyperactivity	.04	<.01	.06	<.01	.05	.23	.02	.07	.59	.08	.06	<.01	.02	.01	.28	.22	.33	.21
PeerProblems	<.01	<.01	.01	<.01	.05	<.01	<.01	<.01	<.01	<.01	<.01	.04	.14	<.01	.04	.14	.37	.24
Pro-social Behaviour	<.01	<.01	.52	<.01	.16	.04	<.01	.01	.02	.01	.02	.01	<.01	<.01	.30	.07	< .01	<.01

Table 4.5: A table to show pre- and post-test R time, Circle Time and control group Shapiro-Wilk test of normality for teacher, parent and pupil informant SDQ total and subscale scores.

4.6.3 Equality of Variance

In order to use parametric tests comparison of the variances of the samples should be approximately equal. This means the spread of the whole group of scores is similar between data sets. Table 4.6 and 4.7 displays the Levene's Test, which statistically tests whether the R time, Circle Time and control group have equal variance according to teacher, parent and pupil data. Variances are equal if *p* is greater than .05. Variances are unequal if *p* is less than .05.

	Equality of Variances					
	Teacher *p*		Parent *p*		Pupil *p*	
ELAI	Pre	Post	Pre	Post	Pre	Post
Overall score	.34	.28	.97	<.01	.04	.04
Self-awareness	.03	<.01	.55	.42		
Empathy	<.01	.68	.34	.12		
Motivation	.40	.13	.16	.52		
Self-regulation	.01	.03	.87	.70		
Social skills	.77	.73	.01	.10		

Table 4.6: A table to show pre- and post-test R time, Circle Time and control group Levene's test of equality of variances for teacher, parent and pupil informant ELAI overall and subscale scores.

	Equality of Variances					
	Teacher *p*		Parent *p*		Pupil *p*	
SDQ	Pre	Post	Pre	Post	Pre	Post
Total difficulties score	.17	.18	.60	.53	.16	.12
Emotional Symptoms	.07	.34	.54	.16	.86	.68
Conduct Problems	.15	.03	.54	.22	.12	.20
Hyperactivity	.05	.93	.93	.07	< .01	.03
Peer Problems	.03	.98	.21	.03	.17	.14
Pro-social Behaviour	.53	.23	.51	.24	.06	.03

Table 4.7: A table to show pre- and post-test R time, Circle Time and control group Levene's test of equality of variances for teacher, parent and pupil informant SDQ total and subscale scores.

4.6.4 Homogeneity of Covariance Matrices

MANOVA assumes homogeneity of covariance matrices. This assumption is equivalent to the equality of variance applicable to other parametric tests. Table 4.8 and 4.9 shows Box's test, which checks for the assumption of homogeneity of covariance matrices. Significance is set at the level of $p < .001$. A non-significant result shows the data met the assumption, whereas a significant result shows the data violates the assumption.

	Homogeneity of variance-covariance matrices		
ELAI	Teacher *p*	Parent *p*	Pupil *p*
Overall	.193	.432	.085
Subscale	< .001	.703	

Table 4.8: A table to show Box's test of homogeneity of variances-covariance for teacher, parent and pupil informant ELAI overall and subscale scores.

	Homogeneity of variance-covariance matrices		
SDQ	Teacher *p*	Parent *p*	Pupil *p*
Total Difficulties	.005	.703	.299
Subscale	< .001	.007	.524

Table 4.9: A table to show Box's test of homogeneity of variances-covariance for teacher, parent and pupil informant SDQ total and subscale scores.

4.6.5 Meeting Assumptions

The data must meet parametric assumptions to use the MANOVA. Pillai's trace test statistic is relatively robust to multivariate normality when sample sizes are equal (Field, 2009). However, R time, Circle Time and control group samples are unequal. Therefore, due to unequal sample sizes, the accuracy of Pillai's trace follows checks that the assumption of covariance matrices using Box's test is non-significant and multi-variate normality met parametric criteria (Field, 2009).

The data set did not strictly meet all the assumptions underlying the use of parametric tests. However, looking carefully at the degree to which the data met normality,

equality of variance and homogeneity of covariance matrices (see tables 4.4, 4.5, 4.6, 4.7, 4.8 & 4.9) it is still felt worthwhile to use parametric statistics as there is no non-parametric equivalent test to the MANOVA, data does not grossly violate assumptions and the data is discrete numeric scale. The literature indicates that the MANOVA is a valid test even with modest violations of these assumptions (Brace, Kemp & Snelgar, 2009; Dancy & Reidy, 2007; Tabachnick & Fidell, 1996). Therefore, analysis utilises the MANOVA. The presentation of the results now begins by reporting teacher informant ELAI overall scores.

4.7 Teacher ELAI Overall Score

4.7.1 Descriptive Statistics

Table 4.10 shows R time and Circle Time teacher informant overall mean scores increase from pre- to post-test. Control group scores marginally decrease from pre- to post-test.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Overall score	61.88 (6.83)	64.04 (6.90)	64.43 (7.49)	69.79 (9.20)	65.25 (5.56)	65.25 (5.89)

Table 4.10: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for teacher informant ELAI overall score.

4.7.2 Statistical Analysis

4.7.2.1 Time Test

There is a significant effect of test time $F(1, 52) = 12.18$, $p < .01$, partial $\eta^2 = .19$ (large effect size).

4.7.2.2 Interaction Between Time & Group

There is a significant interaction between the test time and the group $F(2, 52) = 4.05$, $p = .02$, partial $\eta^2 = .14$ (large effect size).

4.7.2.3 Post-Hoc Tests

4.7.2.3.1 Significant Differences Within Groups

Table 4.11 and Figure 4.1 shows there is a significant increase in teacher informant ELAI overall scores from pre- to post-test in the R time group ($p = .04$, $d = .31$, small effect size) and in the Circle Time group ($p < .01$, $d = .64$, medium effect size). There is no significant difference from pre- to post-test in the control group ($p = 1.00$).

	Pre-test to Post-test		
	R time *N* = 25 *p*	Circle Time *N* = 14 *p*	Control Group *N* = 16 *p*
Overall score	.04	< .01	1.00

Table 4.11: A table to show pre- to post-test within groups post hoc Bonferroni tests for teacher informant ELAI overall score.

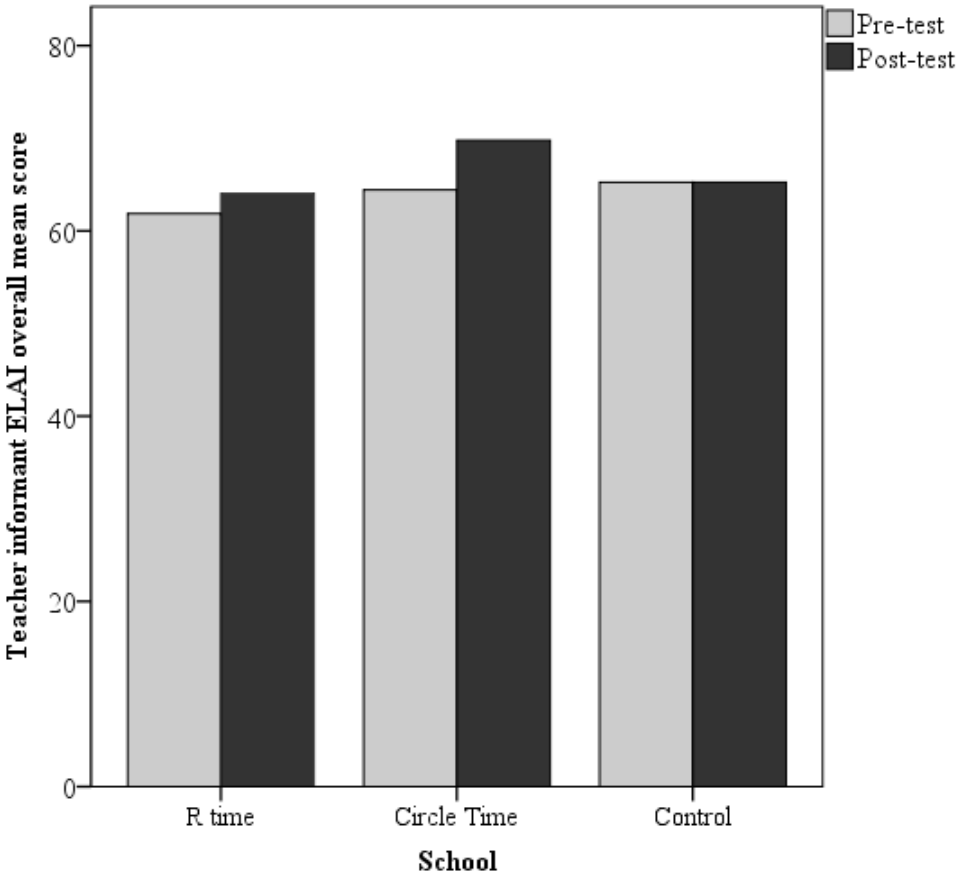

Figure 4.1: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant ELAI overall mean score.

4.8 Teacher ELAI Subscale Scores

4.8.1 Descriptive Statistics

Table 4.12 shows teacher report ELAI subscale mean score and standard deviation for pre-test and post-test data for the R time, Circle Time and control group.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Self-awareness	12.40 (1.19)	12.96 (1.24)	12.50 (1.83)	14.57 (1.91)	12.37 (.62)	12.06 (.68)
Empathy	12.08 (1.19)	12.36 (2.31)	13.43 (2.47)	14.36 (1.82)	12.94 (1.91)	14.06 (1.81)
Motivation	11.96 (1.84)	11.16 (1.86)	11.29 (2.09)	12.21 (3.02)	12.19 (2.48)	11.56 (2.61)
Self-regulation	12.08 (2.40)	13.00 (2.36)	12.79 (2.78)	13.36 (2.93)	12.44 (1.32)	12.75 (1.44)
Social skills	13.36 (1.38)	14.56 (1.33)	14.43 (1.28)	15.29 (1.14)	15.31 (1.25)	14.81 (1.17)

Table 4.12: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for teacher informant ELAI subscale scores.

4.8.2 Statistical Analysis

4.8.2.1 Test Time

There is a significant effect of test time $F(5, 48) = 6.88$, $p < .01$, partial $\eta^2 = .42$ (large effect size). There is a significant effect of test time, according to

- self-awareness scores $F(1, 52) = 17.76$, $p < .01$, partial $\eta^2 = .26$ (large effect size),
- empathy scores $F(1, 52) = 10.73$, $p < .01$, partial $\eta^2 = .17$ (large effect size),
- self-regulation scores $F(1, 52) = 5.57$, $p = .02$, partial $\eta^2 = .10$ (large effect size),
- social skills scores $F(1, 52) = 10.71$, $p < .01$, partial $\eta^2 = .17$ (large effect size).

4.8.2.2 Interaction Between Time & Group

There is a significant interaction between the test time and group $F(10, 98) = 6.50$, $p < .01$, partial $\eta^2 = .40$ (large effect size). There is a significant interaction between test time and group, according to

- self-awareness scores $F(2, 52) = 12.41$, $p < .01$, partial $\eta^2 = .32$ (large effect size),
- motivation scores $F(2, 52) = 4.70$, $p < .01$, partial $\eta^2 = .15$ (large effect size),
- social skills scores $F(2, 52) = 11.24$, $p < .01$, partial $\eta^2 = .30$ (large effect size).

4.8.2.3 Post-Hoc Tests

4.8.2.3.1 Significant Differences Between Groups

Table 4.13 and Figure 4.2 shows at post-test there is a significant difference between teacher informant report self-awareness scores in the Circle Time and control group ($p < .01$, $d = 1.94$, large effect size) and R time and Circle Time group ($p < .01$, $d = 1.02$, large effect size).

	R time-Control *p*		Circle Time-Control *p*		R time-Circle Time *p*	
	Pre	Post	Pre	Post	Pre	Post
Self-awareness	1.00	.19	1.00	< .01	1.00	< .01
Social Skills	< .01	1.00	.22	.90	.06	.25

Table 4.13: A table to show pre- to post-test between groups post hoc Bonferroni tests for teacher informant ELAI self-awareness and social skills scores.

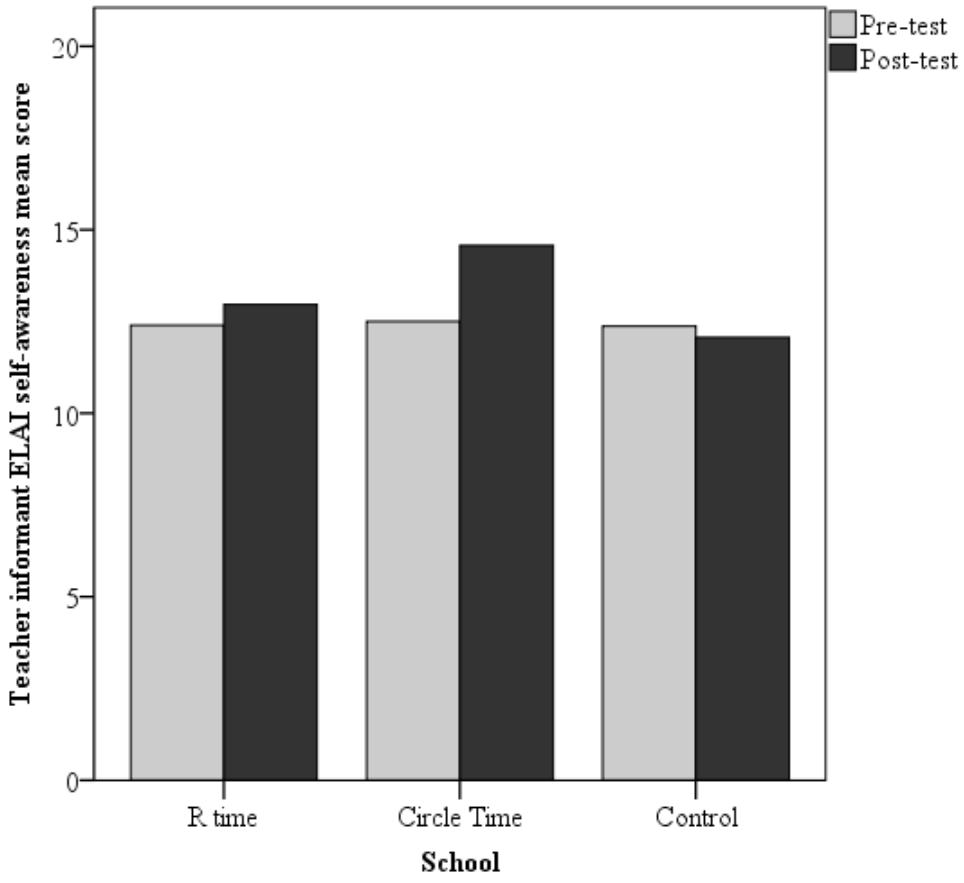

Figure 4.2: A bar chart to show pre- to post-test R time, Circle Time and control teacher informant ELAI self-awareness mean score.

4.8.2.3.2 Significant Differences Within Groups

Table 4.14 and Figure 4.2 shows a significant increase in teacher informant ELAI self-awareness scores from pre- to post-test in the R time group (p = .04, d = .46, small effect size) and in the Circle Time group (p < .01, d = 1.11, large effect size). There is no significant difference from pre- to post-test in the control group (p = .35).

Table 4.14 and Figure 4.3 shows there is a significant increase in teacher informant ELAI empathy scores from pre- to post-test in the Circle Time group (p = .05, d = .43, small effect size) and the control group (p = .01, d = .60, medium effect size).

Table 4.14 and Figure 4.4 shows from pre- to post-test there is a significant increase in teacher informant ELAI motivation scores in the Circle Time group (p = .05, d =.36 small effect size) and a significant decrease in the R time group (p = .03). There is no significant difference from pre- to post-test in the control group (p = .16).

Table 4.14 and Figure 4.5 shows there is a significant increase in teacher informant ELAI self-regulation scores from pre- to post-test in the R time group (p = .02, d = .39, small effect size). There is no significant difference in the control group (p = .50).

Table 4.14 and Figure 4.6 shows there is a significant increase in teacher informant ELAI social skills scores from pre- to post-test in the R time group (p < .01, d = .89, large effect size) and in the Circle Time group (p = .01, d = .71, medium effect size). There is no significant difference in the control group (p = .09).

	Pre-test to Post-test		
	R time N = 25 p	Circle Time N = 14 p	Control Group N = 16 p
Self-awareness	.04	< .01	.35
Empathy	.42	.05	.01
Motivation	.03	.05	.16
Self-regulation	.02	.25	.50
Social skills	< .01	.01	.09

Table 4.14: A table to show pre- to post-test within groups post hoc Bonferroni tests for teacher informant ELAI subscale scores.

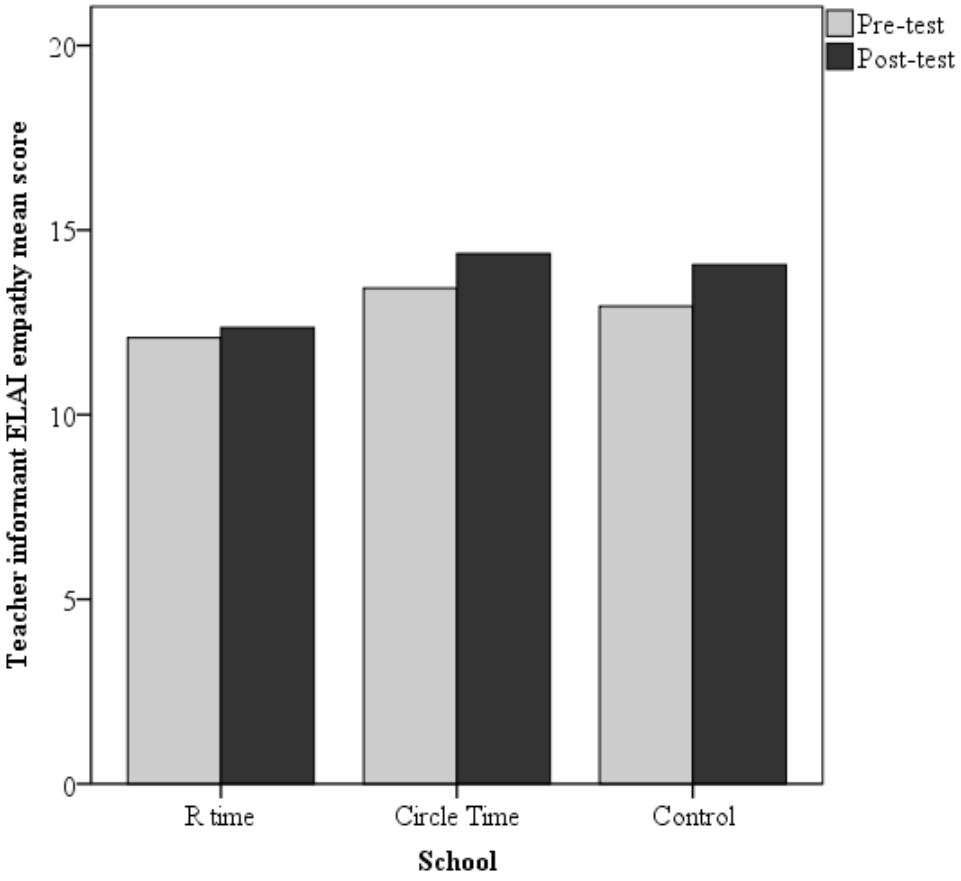

Figure 4.3: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant ELAI empathy mean score.

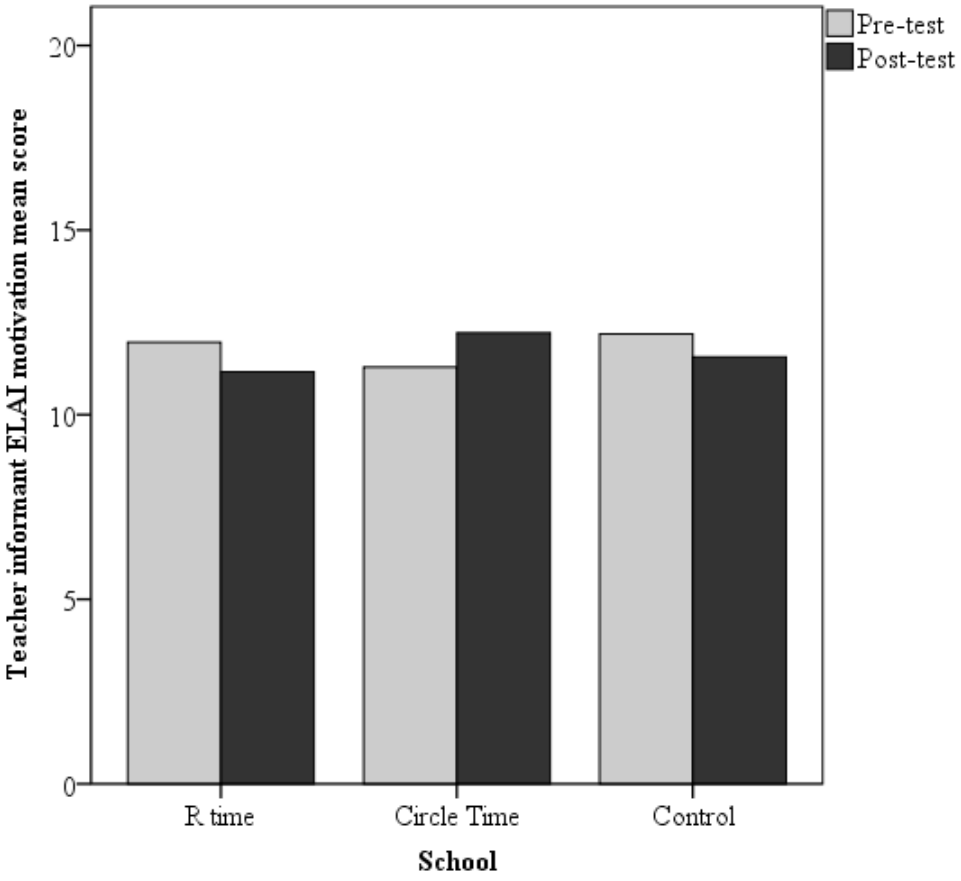

Figure 4.4: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant ELAI motivation mean score.

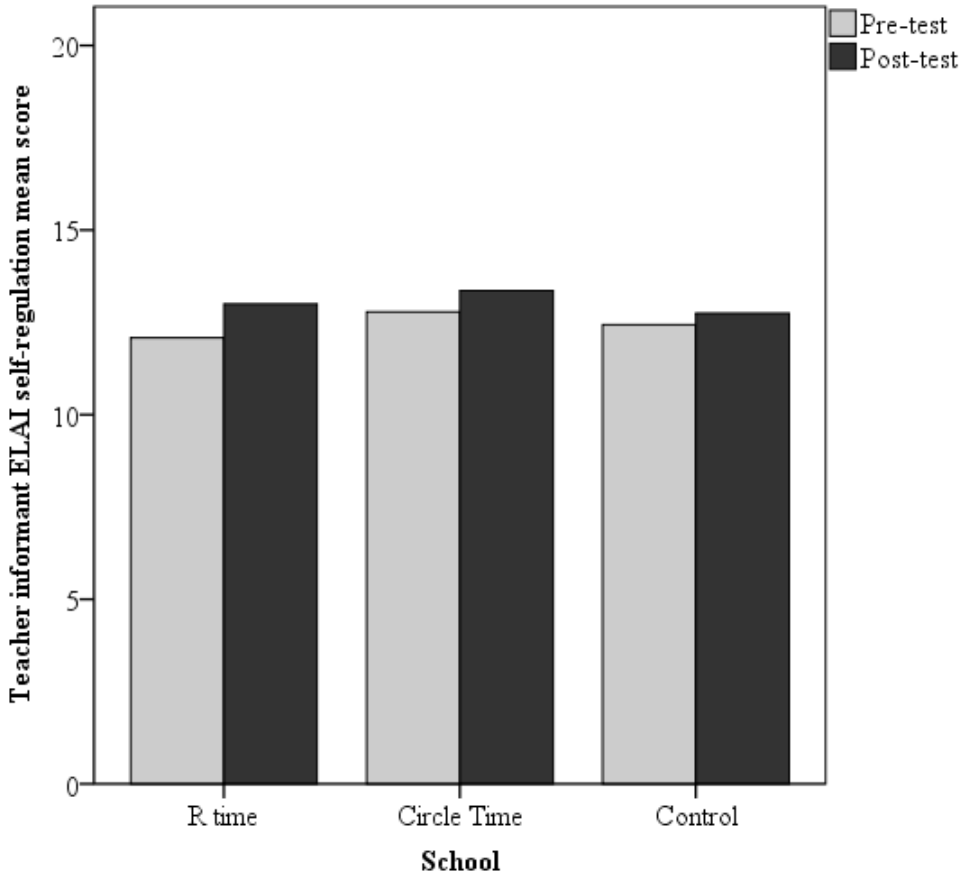

Figure 4.5: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant ELAI self-regulation mean score.

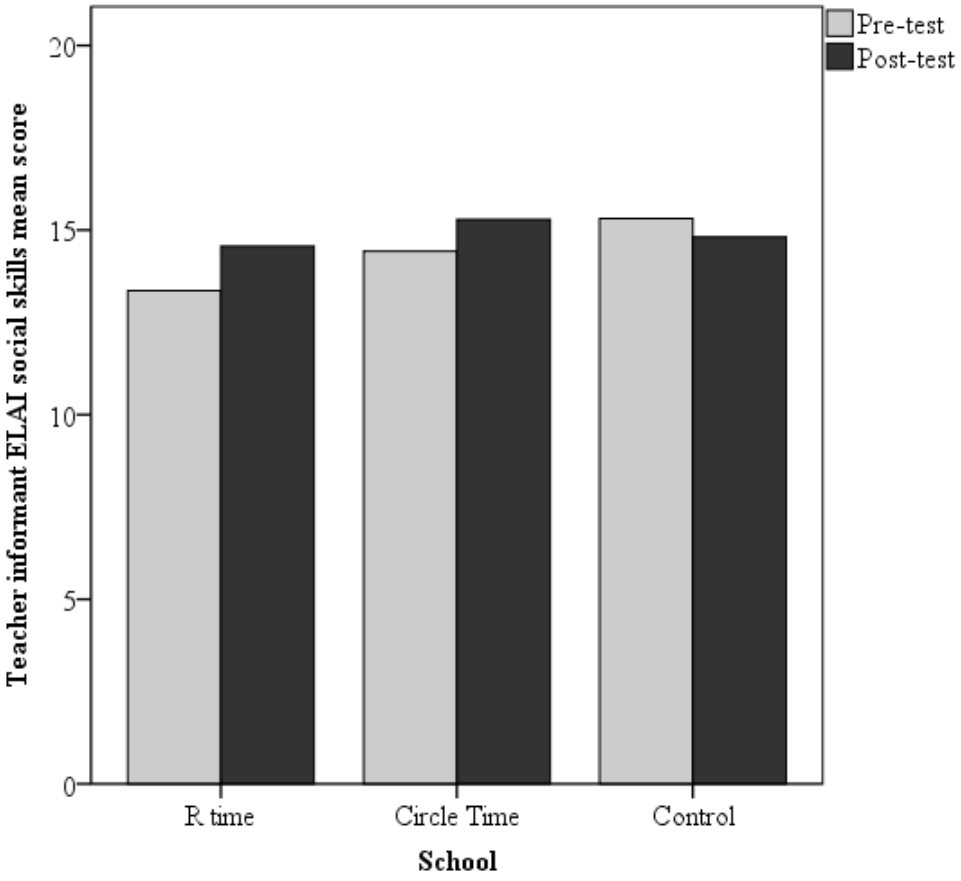

Figure 4.6: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant ELAI social skills mean score.

4.9 Teacher Informant ELAI Key Findings

4.9.1 Effectiveness of the R time intervention in promoting children's emotional literacy

- Teacher informant R time overall scores, self-awareness, motivation, empathy, social skills and self-regulation scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group teacher informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.9.2 Effectiveness of the Circle Time intervention in promoting children's emotional literacy

- Teacher informant Circle Time self-awareness scores significantly increase in comparison to no significant change in the control group, with a large effect size.
- Teacher informant Circle Time emotional literacy overall score, empathy, motivation, self-regulation and social skills subscale scores are not significantly different in comparison to the control group.
- These results support the hypothesis that there will be a statistically significant increase from pre- to post-test Circle Time teacher informant ELAI b) self-awareness subscale scores in comparison to no significant difference in control group scores.

  These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group teacher informant ELAI of a) overall score, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.9.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy

- Teacher informant Circle Time self-awareness scores are significantly higher in comparison to the R time intervention, with a large effect size. Circle Time self-awareness scores are significantly different to the control group, with a large effect size.
- These results support the hypothesis that there will be a statistically significant difference between pre- and post-test R time and Circle Time teacher informant ELAI b) self-awareness subscale scores and that R time and Circle Time ELAI scores will be significantly different to control group scores.

  These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time teacher

informant ELAI a) overall score, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.10 Parent ELAI Overall Score

4.10.1 Descriptive Statistics

Table 4.15 shows R time scores marginally increase from pre- to post-test. Circle Time and control group scores marginally decrease from pre- to post-test.

	R time *N* = 21 Mean (*SD*)		Circle Time *N* = 13 Mean (*SD*)		Control Group *N* = 15 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Overall score	72.24 (7.56)	72.86 (6.76)	73.60 (8.59)	73.69 (11.72)	75.80 (8.23)	74.47 (7.95)

Table 4.15: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for parent informant ELAI overall score.

4.10.2 Statistical Analysis

4.10.2.1 Test Time

There is no significant effect of time $F(1, 46) = <.01$, $p = .99$.

4.10.2.2 Interaction between Time & Group

There is no significant interaction between test time and the group $F(2, 46) = .54$, $p = .59$.

4.11 Parent ELAI Subscale Scores

4.11.1 Descriptive Statistics

Table 4.16 shows parent report ELAI subscale scores mean and standard deviation for pre-test and post-test data for the R time, Circle Time and control group.

	R time *N* = 21 Mean (*SD*)		Circle Time *N* = 13 Mean (*SD*)		Control Group *N* = 15 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Self-awareness	13.05 (2.29)	13.33 (2.08)	13.15 (2.76)	13.62 (2.96)	14.60 (2.10)	13.33 (2.26)
Empathy	15.52 (1.81)	16.14 (1.80)	16.00 (2.38)	15.85 (3.08)	16.07 (2.60)	16.20 (2.60)
Motivation	13.71 (2.55)	13.48 (2.21)	12.77 (2.35)	13.08 (2.75)	14.33 (3.29)	14.07 (2.63)
Self-regulation	12.33 (2.65)	12.10 (2.86)	12.85 (3.34)	12.62 (3.45)	13.93 (3.49)	13.53 (3.58)
Social skills	18.10 (1.81)	17.81 (2.16)	18.23 (1.92)	18.31 (2.02)	16.87 (2.97)	17.33 (2.16)

Table 4.16: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for parent informant ELAI subscale scores.

4.11.2 Statistical Analysis

4.11.2.1 Test Time

There is no significant effect of test time $F(5, 42)=.29$, $p = .91$, partial $\eta^2 = .03$.

4.11.2.2 Interaction Between Time & Group

There is no significant interaction between test time and group $F(10, 86) = 1.22$, $p = .29$, partial $\eta^2 = .12$.

4.12 Parent Informant ELAI Key Findings

4.12.1 Effectiveness of the R time intervention in promoting children's emotional literacy

- Parent informant R time overall scores, self-awareness, motivation, empathy, social skills and self-regulation scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group parent informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.12.2 Effectiveness of the Circle Time intervention in promoting children's emotional literacy

- The results show following the Circle Time intervention parent informant emotional literacy overall score, self-awareness, empathy, motivation, self-regulation and social skills subscale scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group parent informant ELAI of a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.12.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy?

- Parent informants R time and Circle Time ELAI overall and subscale scores are not significantly different.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time parent informant ELAI a) overall score, b) self-awareness, c) empathy, d) motivation, e) self-regulation and f) social skills subscale scores.

4.13 Pupil ELAI Overall Score

4.13.1 Descriptive Statistics

Table 4.17 shows R time, Circle Time and control group mean scores increase from pre- to post-test.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Overall score	79.84 (9.79)	81.28 (9.52)	74.29 (14.14)	77.71 (16.23)	78.87(7.88)	81.50 (7.69)

Table 4.17: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for pupil informant ELAI overall score.

4.13.2 Statistical Analysis

4.13.2.1 Test Time

There is a significant effect of test time $F(1, 52) = 5.54$, $p = .02$, partial $\eta^2 = .10$.

4.13.2.2 Interaction Between Time & Group

There is no significant interaction between test time and group $F(2, 52) = .33$, $p = .72$, partial $\eta^2 = .01$.

4.13.2.3 Post-Hoc Tests

4.13.2.3.1 Significant Differences Within Groups

Table 4.18 shows pupil informant ELAI overall scores do not significantly change from pre- to post-test.

	Pre-test to Post-test		
	R time *N* = 25 *p*	Circle Time *N* = 14 *p*	Control Group *N* = 16 *p*
Overall score	.35	.10	.18

Table 4.18: A table to show pre- to post-test within groups post hoc Bonferroni tests for pupil informant ELAI overall score.

4.14 Pupil Informant ELAI Key Findings

4.14.1 Effectiveness of the R time intervention in promoting children's emotional literacy

- Pupil informant R time overall scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group pupil informant ELAI a) overall score.

4.14.2 Effectiveness of the Circle Time intervention in promoting children's emotional literacy

- The results show following the Circle Time intervention pupil informant emotional literacy overall score are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group pupil informant ELAI of a) overall score.

4.14.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy

- According to pupil informants, R time and Circle Time ELAI overall and subscale scores are not significantly different.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time pupil informant ELAI a) overall score.

4.15 Teacher SDQ Total Difficulties Score

4.15.1 Descriptive Statistics

Table 4.19 shows R time mean scores increase from pre- to post-test. Circle Time and control group mean scores decrease from pre- to post-test.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Total difficulties score	4.16 (3.06)	5.44 (4.40)	5.57 (3.48)	3.71 (4.34)	6.38 (4.27)	6.19 (2.95)

Table 4.19: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for teacher informant SDQ total difficulties score.

4.15.2 Statistical Analysis

4.15.2.1 Test Time

There is no significant effect of test time $F(1, 52) = .54$, $p = .46$.

4.15.2.2 Interaction Between Time & Group

There is a significant interaction between test time and group $F(2, 52) = 7.26$, $p < .01$, partial $\eta^2 = .22$ (large effect size).

4.15.2.3 Post-Hoc Tests

4.15.2.3.1 Significant Differences Within Groups

Table 4.20 and Figure 4.7 shows there is a significant decrease in teacher informant SDQ total difficulties scores from pre- to post-test in the Circle Time group (p = .01, d = .48, small effect size) and a significant increase in the R time group (p = .01). There is no significant difference in the control group (p = .76).

	Pre-test to Post-test		
	R time N = 25 p	Circle Time N = 14 p	Control Group N = 16 p
Total difficulties score	.01	.01	.76

Table 4.20: A table to show pre- to post-test within groups post hoc Bonferroni tests for teacher informant SDQ total difficulties score.

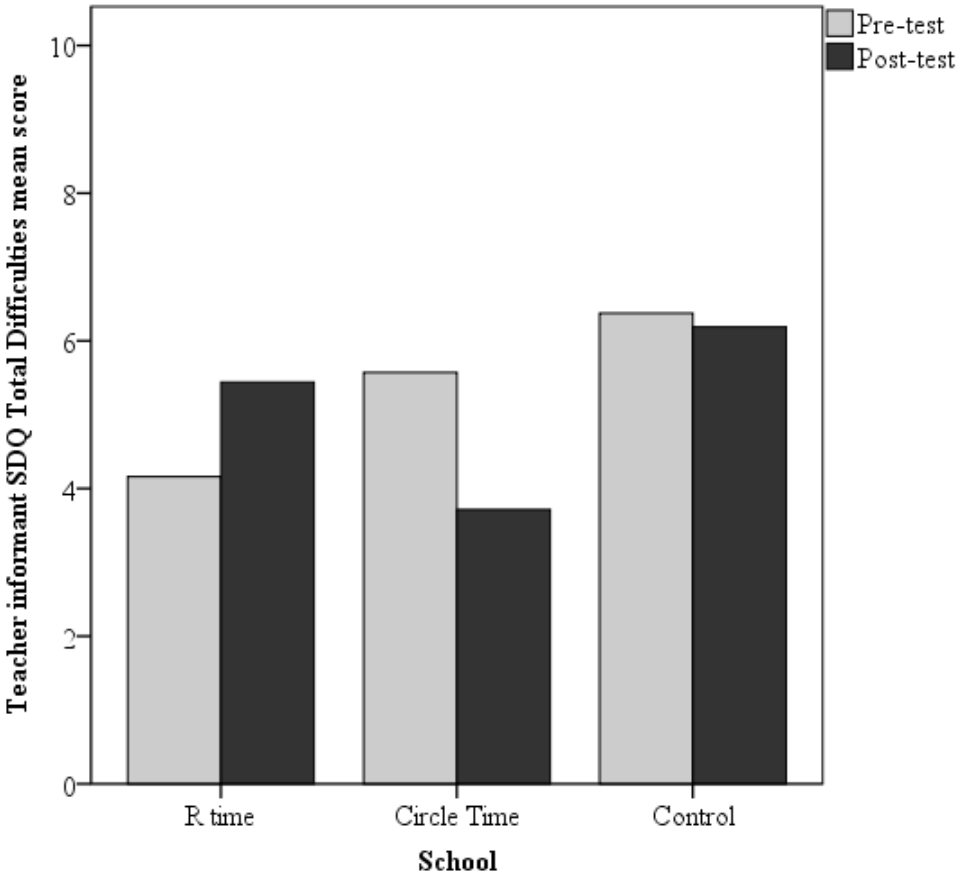

Figure 4.7: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant SDQ total difficulties mean score.

4.16 Teacher SDQ Subscale Scores

4.16.1 Descriptive Statistics

Table 4.21 shows teacher report SDQ subscale scores mean and standard deviation for pre-test and post-test data for the R time, Circle Time and control group.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Emotional Symptoms	0.88 (1.24)	1.52 (1.78)	0.50 (0.76)	0.79 (1.19)	1.31 (1.49)	0.88 (1.54)
Conduct Problems	0.28 (0.54)	0.64 (0.95)	0.57 (0.65)	0.14 (0.36)	0.25 (0.45)	0.44 (0.82)
Hyperactivity	2.60 (1.89)	2.28 (2.37)	2.86 (1.99)	2.00 (2.66)	3.38 (3.07)	3.56 (2.50)
Peer Problems	0.40 (1.26)	0.56 (1.66)	1.64 (1.91)	0.79 (1.48)	1.44 (1.15)	1.31 (1.14)
Pro-social Behaviour	8.24 (1.67)	9.08 (1.44)	6.64 (1.50)	9.07 (1.07)	8.06 (1.57)	6.69 (1.66)

Table 4.21: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for teacher informant SDQ subscale scores.

4.16.2 Statistical Analysis

4.16.2.1 Test Time

There is a significant effect of test time $F(5, 48) = 4.37$, $p = <.01$, partial $\eta^2 = .31$ (large effect size). The results show there is a significant effect of test time for teacher informant peer problems scores $F(1, 52) = 4.95$, $p = .03$, partial $\eta^2 = .09$ (moderate effect size) and pro-social behaviour scores $F(1, 52) = 11.58$, $p < .01$, partial $\eta^2 = .18$ (moderate effect size).

4.16.2.2 Interaction Between Time & Group

There is a significant interaction between the test time and group $F(10, 98) = 7.61$, $p < .01$, partial $\eta^2 = .44$ (large effect size). There is a significant interaction between the test time and group, according to

- emotional symptoms scores $F(2, 52) = 3.34$, $p = .04$, partial $\eta^2 = .12$ (moderate effect size),
- conduct scores $F(2, 52) = 5.38$, $p < .01$, partial $\eta^2 = .17$ (large effect size),
- peer problems scores $F(2, 52) = 5.96$, $p < .01$, partial $\eta^2 = .19$ (large effect size)
- pro-social behaviour scores $F(2, 52) = 31.09$, $p < .01$, partial $\eta^2 = .55$ (large effect size).

4.16.2.3 Post-Hoc Tests

4.16.2.3.1 Significant Differences Between Groups

Table 4.22 and Figure 4.11 shows at post-test, there is a significant difference between pro-social behaviour scores in the R time and control group ($p < .01$, $d = 1.54$, large effect size) and Circle Time and control group ($p < .01$, $d = 1.74$, large effect size).

	R time-Control *p*		Circle Time-Control *p*		R time-Circle Time *p*	
	Pre	Post	Pre	Post	Pre	Post
Pro-social Behaviour	1.00	< .01	.06	< .01	.01	1.00

Table 4.22: Table to show post hoc Bonferroni pre- and post- tests for SDQ teacher report subscale scores between groups.

4.16.2.3.2 Significant Differences Within Groups

Table 4.23 and Figure 4.8 shows there is a significant increase in teacher informant SDQ emotional symptoms scores from pre- to post-test in the R time group ($p = .02$). There is no significant difference in the control group ($p = .19$).

Table 4.23 and Figure 4.9 shows there is a significant decrease in teacher informant SDQ conduct problems scores from pre- to post-test in the Circle Time group ($p = .03$) and a significant increase in the R time group ($p = .02$). There is no significant difference in the control group ($p = .31$).

Table 4.23 and Figure 4.10 shows there is a significant decrease in teacher informant SDQ peer problems scores from pre- to post-test in the Circle Time group ($p < .01$, $d = .50$, small effect size). There is no significant difference in the control group ($p = .58$).

Table 4.23 and Figure 4.11 shows there is a significant increase in teacher informant SDQ pro-social behaviour scores from pre- to post-test in the R time group ($p < .01$, $d = .54$, medium effect size) and the Circle Time group ($p < .01$, $d = 1.89$, large effect size) There is a significant decrease in the control group ($p < .01$).

	Pre-test to Post-test		
	R time *N* = 25 *p*	Circle Time *N* = 14 *p*	Control Group *N* = 16 *p*
Emotional Symptoms	.02	.42	.19
Conduct Problems	.02	.03	.31
Peer Problems	.38	< .01	.58
Pro-social Behaviour	< .01	< .01	< .01

Table 4.23: A table to show pre- to post-test within groups post hoc Bonferroni tests for teacher informant SDQ subscale scores.

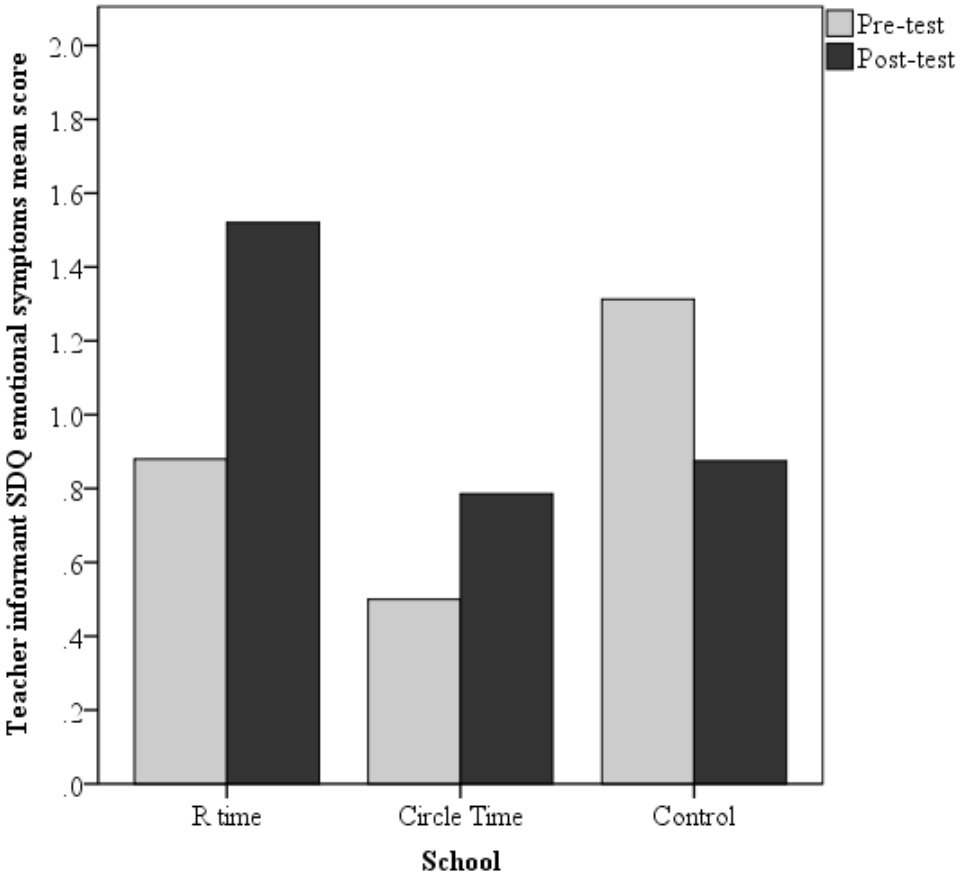

Figure 4.8: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant SDQ emotional symptoms mean score.

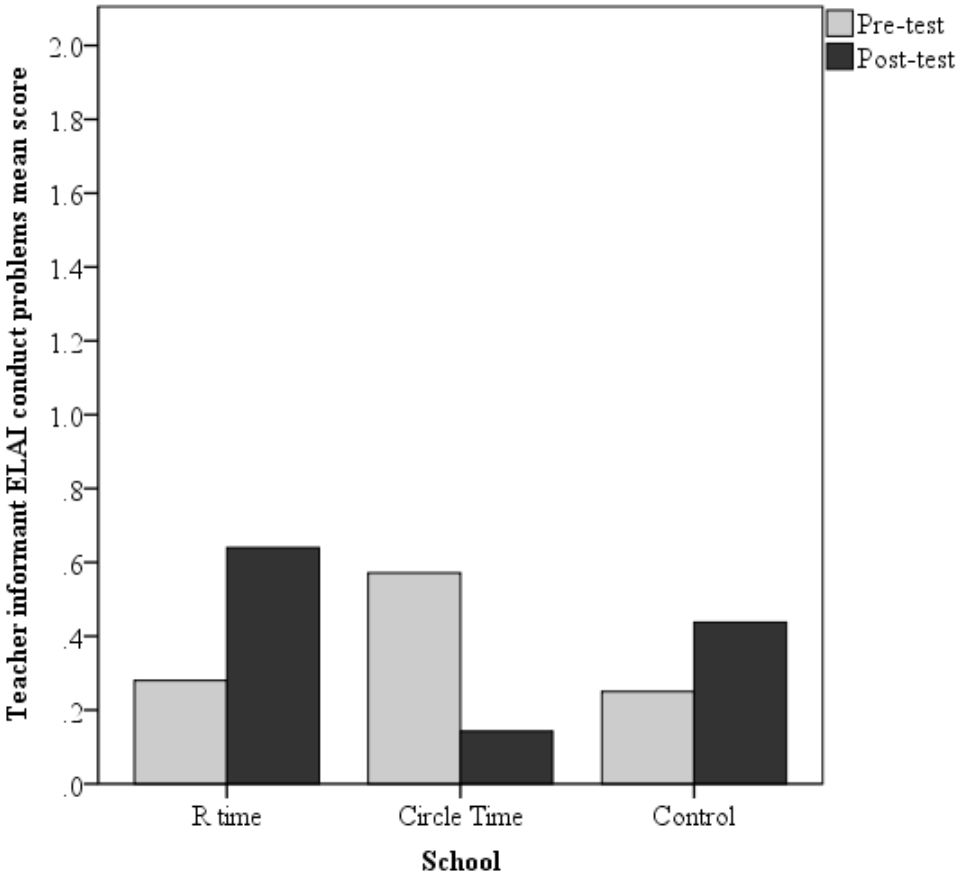

Figure 4.9: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant SDQ conduct problems mean score.

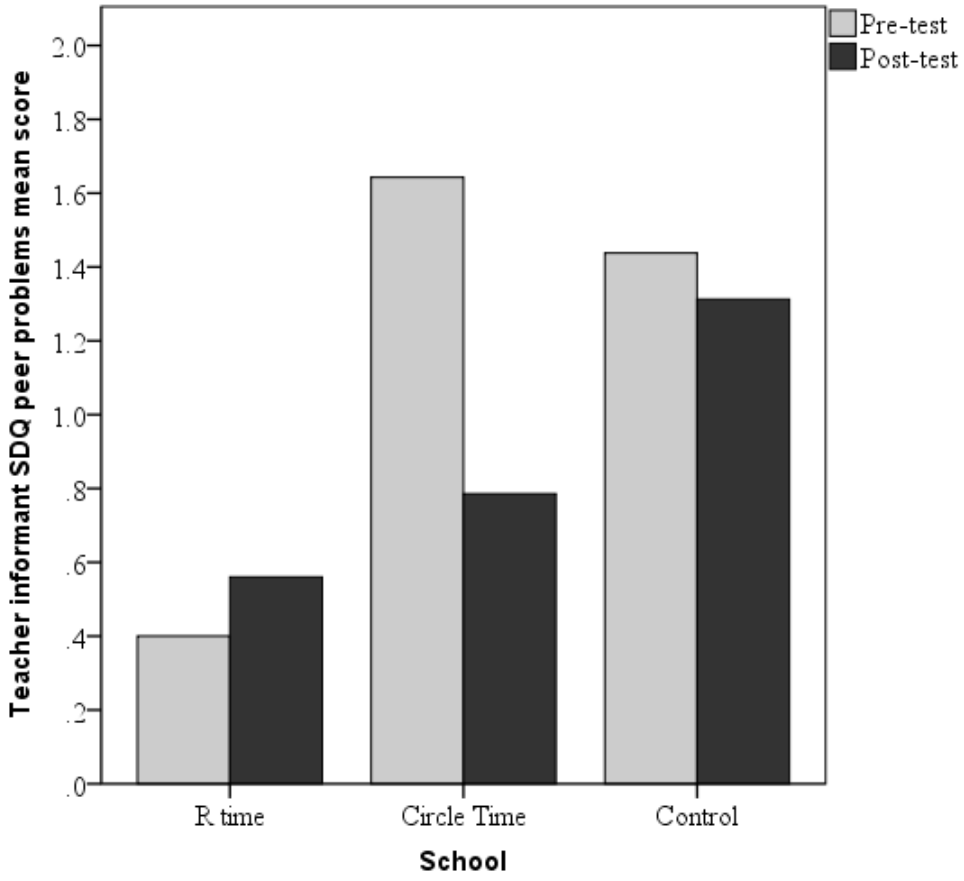

Figure 4.10: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant SDQ peer problems mean score.

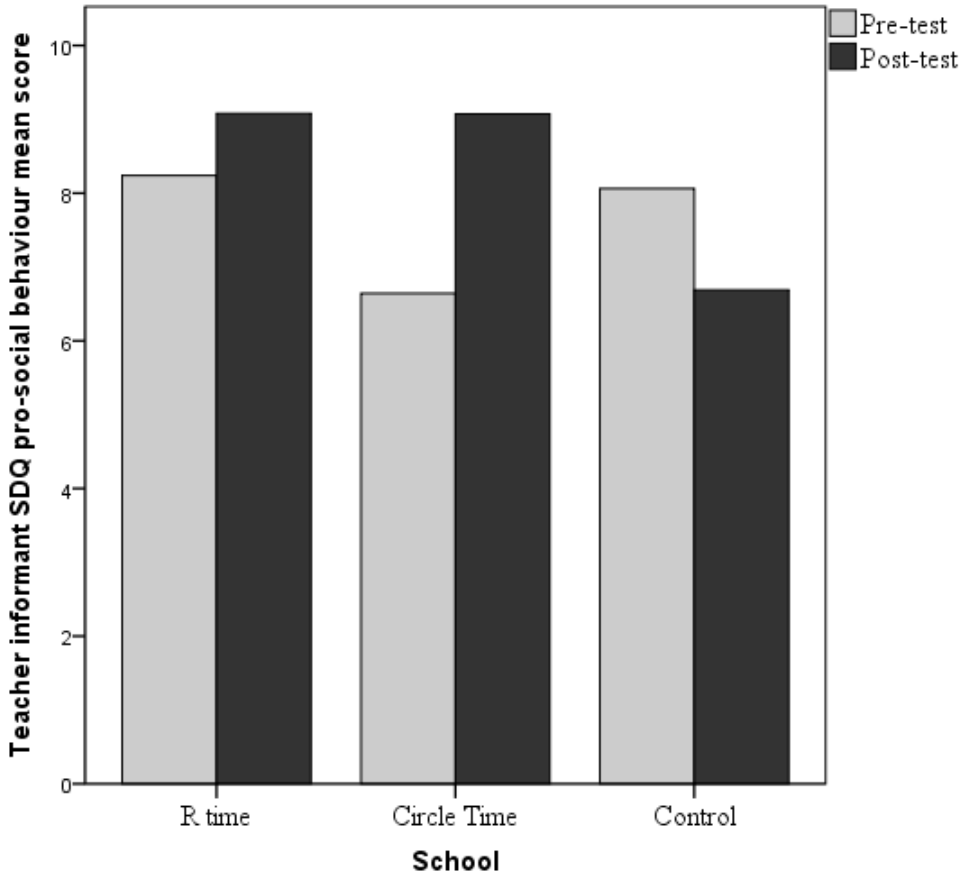

Figure 4.11: A bar chart to show pre- to post-test R time, Circle Time and control group teacher informant SDQ pro-social behaviour mean score.

4.17 Teacher Informant SDQ Key Findings

4.17.1 Effectiveness of the R time intervention in promoting children's mental well-being

- Teacher informant R time pro-social behaviour scores significantly increase in comparison to a decrease in scores in the control group, with a large effect size.
- There is no significant difference between R time total difficulties scores and emotional symptoms, conduct problems, hyperactivity and peer problems in comparison to the control group.

- These results support the hypothesis that there will be a statistically significant increase from pre- to post-test R time teacher informant SDQ f) pro-social behaviour scores, in comparison to no significant difference in control group scores.

  These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group teacher informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity and e) peer problems subscale scores.

4.17.2 Effectiveness of the Circle Time intervention in promoting children's mental well-being

- Teacher informant Circle Time pro-social behaviour scores significantly increase in comparison to a significant decrease in scores in the control group, with a large effect size.
- Teacher informant total difficulties score, emotional symptoms, conduct problems, hyperactivity and peer problems subscale scores are not significantly different to the control group.
- These results support the hypothesis that there will be a statistically significant increase from pre- to post-test Circle Time teacher informant SDQ f) pro-social behaviour scores, in comparison to no significant difference in control group scores.

  These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group parent informant SDQ reported levels of a) total difficulties, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems scores and f) pro-social behaviour scores.

4.17.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's mental well-being

- Teacher informant R time and Circle Time SDQ total difficulties score and subscale scores are not significantly different.
- Circle Time pro-social behaviour scores are significantly lower than R time pro-social behaviour scores at pre-test.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time teacher informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

4.18 Parent SDQ Total Difficulties Score

4.18.1 Descriptive Statistics

Table 4.24 shows R time and control group mean total difficulties scores decrease from pre- to post-test. Circle Time total difficulties mean scores marginally increase from pre- to post test.

	R time *N* = 21 Mean (*SD*)		Circle Time *N* = 13 Mean (*SD*)		Control Group *N* = 15 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Total difficulties score	8.62 (4.21)	7.62 (4.83)	8.23 (5.53)	7.92 (6.59)	7.93 (5.08)	6.87 (4.60)

Table 4.24: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for parent informant SDQ total difficulties score.

4.18.2 Statistical Analysis

4.18.2.1 Test Time

There is no significant effect of test time $F(1, 46) = 2.67$, $p = .12$.

4.18.2.2 Interaction Between Test Time & Group

There is no significant interaction between test time and group $F(2, 46) = .23$, $p = .80$.

4.19 Parent SDQ Subscale Scores

4.19.1 Descriptive Statistics

Table 4.25 shows parent SDQ subscale scores mean and standard deviation for pre-test and post-test data for the R time, Circle Time and control group.

	R time *N* = 21 Mean (*SD*)		Circle Time *N* = 13 Mean (*SD*)		Control Group *N* = 15 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Emotional Symptoms	1.81 (1.69)	2.00 (2.17)	1.46 (2.18)	2.85 (4.51)	2.27 (2.43)	2.00 (2.04)
Conduct Problems	1.52 (1.29)	1.33 (1.49)	1.85 (1.28)	2.77 (3.81)	1.20 (1.21)	1.00 (1.56)
Hyperactivity	3.52 (2.44)	2.95 (2.22)	4.00 (2.61)	4.92 (4.13)	2.93 (2.25)	2.60 (2.13)
Peer Problems	1.29 (1.88)	1.05 (1.36)	0.92 (1.19)	2.00 (4.73)	1.53 (1.30)	1.27 (1.16)
Pro-social Behaviour	8.19 (1.57)	8.52 (1.40)	8.23 (1.83)	8.31 (1.70)	8.60 (1.35)	8.40 (1.64)

Table 4.25: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for parent informant SDQ subscale scores.

4.19.2 Statistical Analysis

4.19.2.1 Test Time

There is no significant effect of test time $F(5, 42) = .44$, $p = .82$.

4.19.2.2 Interaction Between Test Time & Group

There is no significant interaction between test time and group $F(10, 86) = .60$, $p = .81$.

4.20 Parent Informant SDQ Key Findings

4.20.1 Effectiveness of the R time intervention in promoting children's mental well-being

- Parent informant R time total difficulties and subscale scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group parent informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

4.20.2 Effectiveness of the Circle time intervention in promoting children's mental well-being

- Parent informant Circle Time total difficulties and subscale scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group parent informant SDQ reported levels of a) total difficulties, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems scores and f) pro-social behaviour scores.

4.20.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's mental well-being

- Parent informant R time and Circle Time SDQ total difficulties score and subscale scores are not significantly different.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time parent informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

4.21 Pupil SDQ Total Difficulties Score

4.21.1 Descriptive Statistics

Table 4.26 shows R time, Circle Time and control group mean scores decrease from pre- to post-test.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Total difficulties score	11.48 (5.44)	9.68 (5.12)	15.43 (8.31)	12.79 (8.07)	11.94 (5.85)	937 (5.98)

Table 4.26: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for pupil informant SDQ total difficulties score.

4.21.2 Statistical Analysis

4.21.2.1 Test Time

There is a significant effect of test time $F(1, 52) = 21.35$, $p < .01$, partial $\eta^2 = .29$ (large effect size).

4.21.2.2 Interaction Between Test Time & Group

There is no significant interaction between test time and group $F(2, 52) = .33$, $p = .72$.

4.21.2.3 Post-Hoc Tests

4.21.2.3.1 Significant Differences Within Groups

Table 4.27 and Figure 4.12 shows pupil informant SDQ total difficulties scores significantly decrease in the R time group ($p = .02$, $d = .34$, small effect size), the Circle Time group ($p < .01$, $d = .32$, small effect size) and the control group ($p < .01$, $d = .43$, small effect size).

	Pre-test to Post-test		
	R time *N* = 25 *p*	Circle Time *N* = 14 *p*	Control Group *N* = 16 *p*
Total difficulties score	.02	< .01	< .01

Table 4.27: A table to show pre- to post-test within groups post hoc Bonferroni tests for pupil informant SDQ total difficulties score.

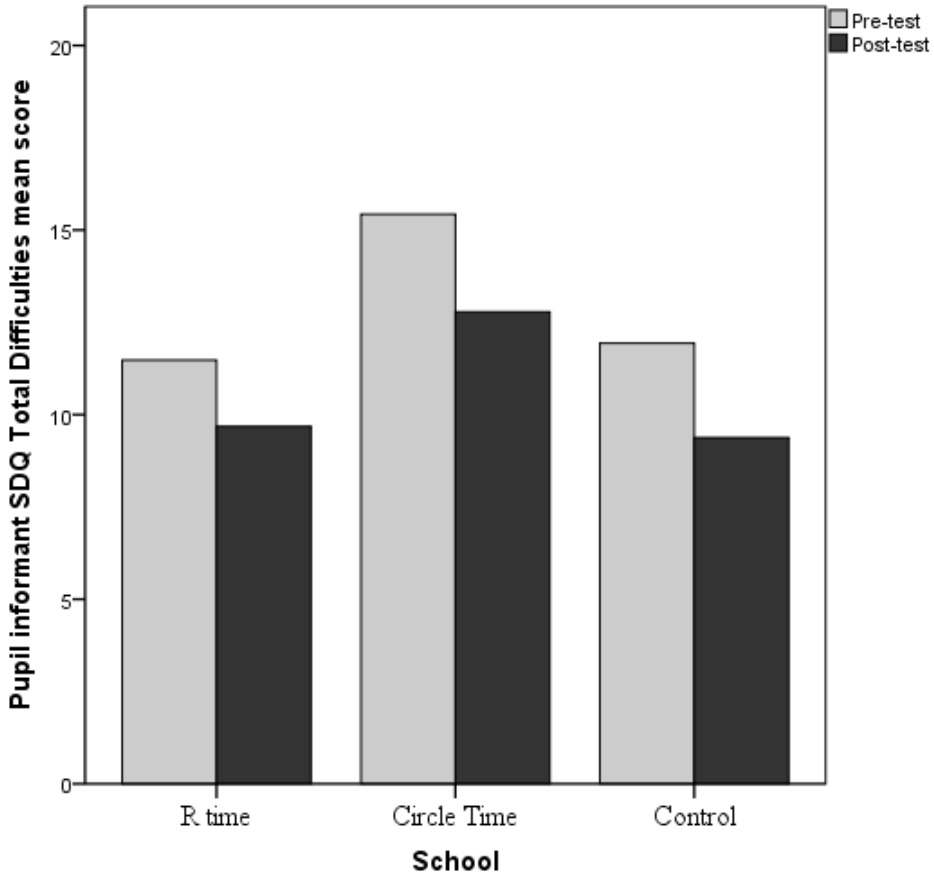

Figure 4.12: A bar chart to show pre- to post-test R time, Circle Time and control group pupil informant SDQ total difficulties mean score.

4.22 Pupil SDQ Subscale Scores

4.22.1 Descriptive Statistics

Table 4.28 shows pupil report SDQ subscale scores mean and standard deviation for pre-test and post-test data for the R time, Circle Time and control group.

	R time *N* = 25 Mean (*SD*)		Circle Time *N* = 14 Mean (*SD*)		Control Group *N* = 16 Mean (*SD*)	
	Pre	Post	Pre	Post	Pre	Post
Emotional Symptoms	4.08 (2.36)	3.12 (2.49)	4.21 (2.47)	3.26 (2.21)	3.81 (2.61)	3.13 (2.73)
Conduct Problems	2.04 (1.57)	1.24 (1.30)	2.93 (2.46)	2.14 (1.99)	1.69 (1.49)	1.13 (1.31)
Hyperactivity	2.12 (1.79)	2.64 (2.04)	5.21 (3.09)	3.43 (2.56)	2.94 (1.88)	2.44 (1.50)
Peer Problems	3.24 (2.11)	2.68 (1.97)	3.07 (2.06)	3.86 (2.63)	3.50 (1.46)	2.69 (1.62)
Pro-social Behaviour	8.92 (1.78)	8.36 (1.47)	7.07 (2.30)	7.79 (2.23)	8.88 (1.09)	9.00 (1.16)

Table 4.28: A table to show pre- and post-test R time, Circle Time and control group mean and standard deviation for pupil informant SDQ subscale scores.

4.22.2 Statistical Analysis

4.22.2.1 Test Time

There is a significant effect of test time $F(5, 48) = 4.80$, $p < .01$, partial $\eta^2 = .33$ (large effect size).

Pupil informant SDQ are significantly different at pre-test in comparison to post-test according to

- emotional symptoms ($F(1, 52) = 10.08$, $p < .01$, partial $\eta^2 = .16$ (large effect size),
- conduct problems ($F(1, 52) = 11.47$, $p < .01$, partial $\eta^2 = .18$ (large effect size),

- hyperactivity ($F(1, 52) = 4.15$, $p = .05$, partial $\eta^2 = .07$ (moderate effect size) scores.

4.22.2.2 Interaction between Test Time & Group

There is no significant interaction between test time and group $F(10, 98) = 1.89$, $p = .06$.

4.22.2.3 Post-Hoc Tests

4.22.2.3.1 Significant Differences Within Groups

Table 4.29 and Figure 4.13 shows there is a significant decrease in pupil informant SDQ emotional symptoms scores from pre- to post-test in the R time group ($p = .01$, $d = .40$, small effect size). There is no significant difference in the control group ($p = .15$).

Table 4.29 and Figure 4.14 shows there is a significant decrease in pupil informant SDQ conduct problem scores from pre- to post-test in the R time group ($p = .01$, $d = .56$, medium effect size). There is no significant difference in the control group ($p = .15$).

Table 4.29 and Figure 4.15 shows there is a significant decrease in pupil informant SDQ hyperactivity scores from pre- to post-test in the Circle Time group ($p < .01$, $d = .77$, medium effect size). There is no significant difference in the control group ($p = .34$).

	Pre-test to Post-test		
	R time *N* = 25 *p*	Circle Time *N* = 14 *p*	Control Group *N* = 16 *p*
Emotional Symptoms	.01	.10	.15
Conduct Problems	.01	.06	.15
Hyperactivity	.28	< .01	.34

Table 4.29: A table to show pre- to post-test within groups post hoc Bonferroni tests for pupil informant SDQ subscale scores.

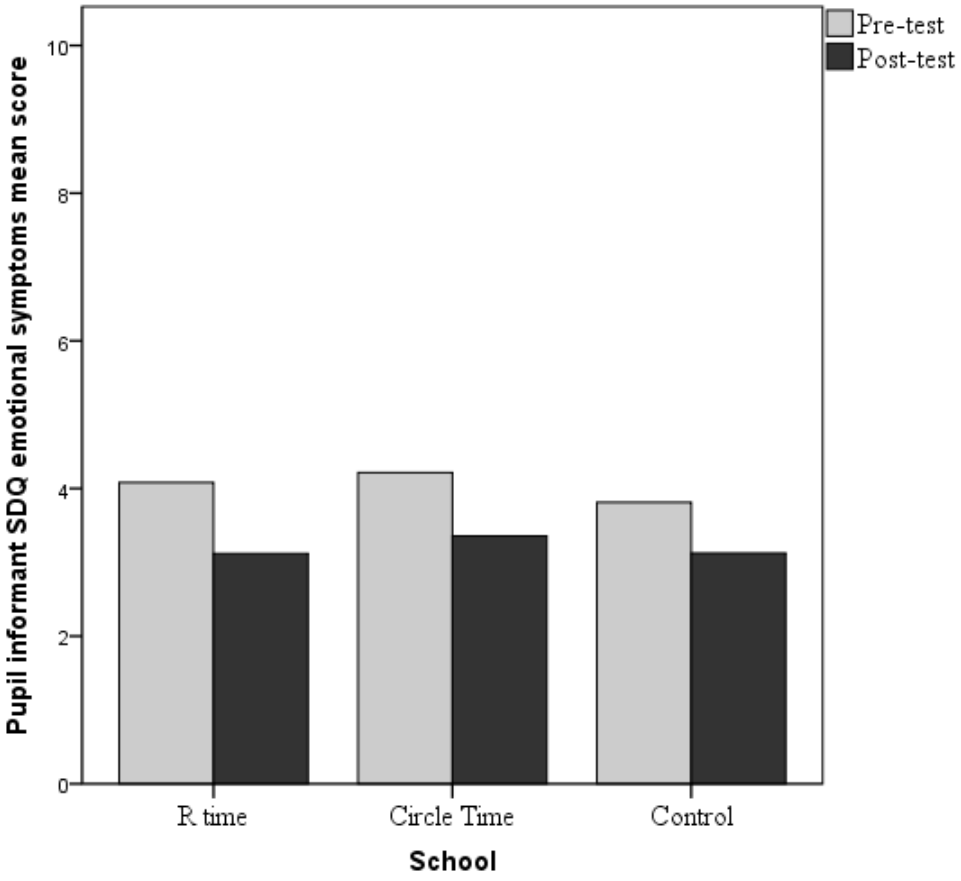

Figure 4.13: A bar chart to show pre- to post-test R time, Circle Time and control group pupil informant SDQ emotional symptoms mean score.

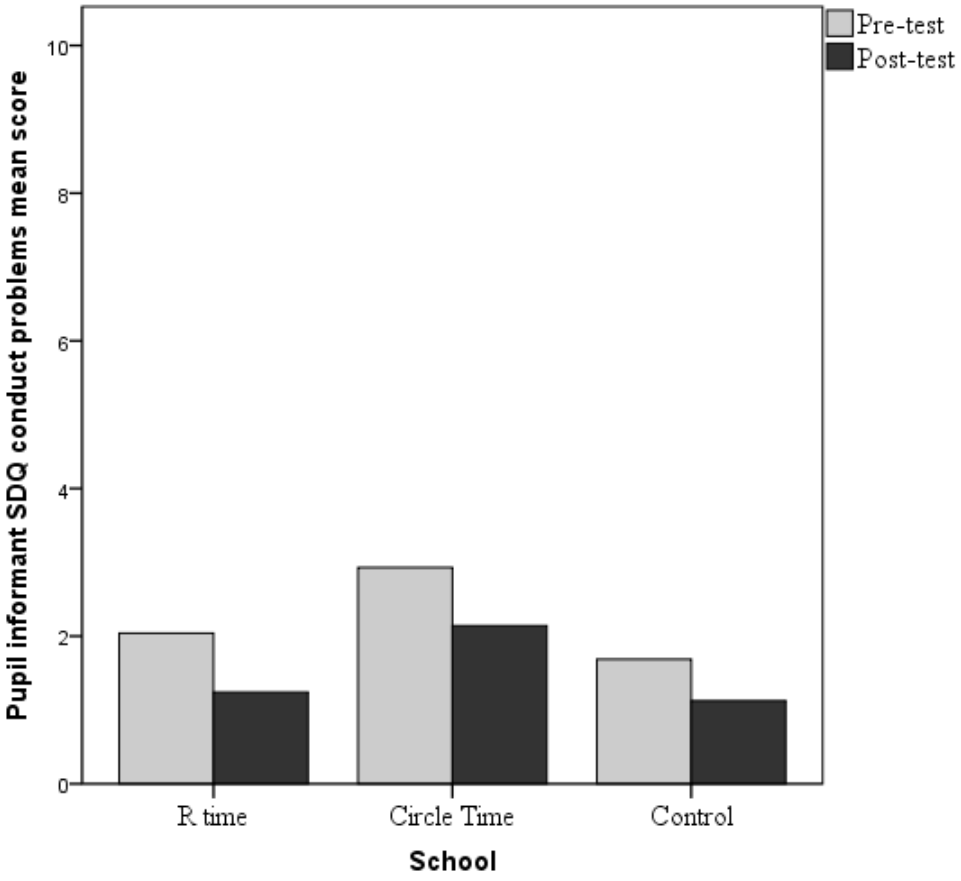

Figure 4.14: A figure to show pre- to post-test R time, Circle Time and control group pupil informant SDQ conduct problems mean score.

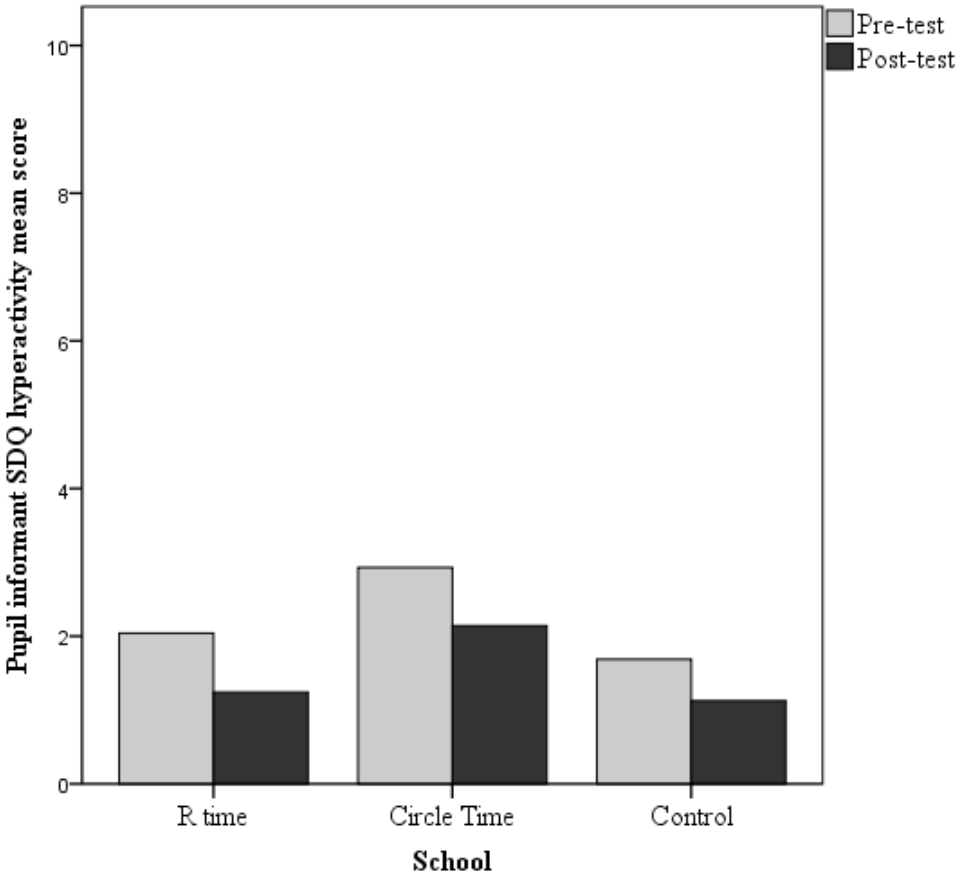

Figure 4.15: A bar chart to show pre- to post-test R time, Circle Time and control group pupil informant SDQ hyperactivity mean score.

4.23 Pupil Informant SDQ Key Findings

4.23.1 Effectiveness of the R time intervention in promoting children's mental well-being

- Pupil informant R time total difficulties and subscale scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and control group pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct

problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

4.23.2 Effectiveness of the Circle Time intervention in promoting children's mental well-being

- Pupil informant SDQ total difficulties score, emotional symptoms, conduct problems, hyperactivity and peer problems subscale scores are not significantly different to the control group.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test Circle Time and control group pupil informant SDQ reported levels of a) total difficulties, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems scores and f) pro-social behaviour scores.

4.23.3 Comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's mental well-being

- Pupil informant R time and Circle Time SDQ total difficulties score and subscale scores are not significantly different.
- These results support the null hypothesis that there will be no statistically significant difference between pre- and post-test R time and Circle Time pupil informant SDQ a) total difficulties score, b) emotional symptoms, c) conduct problems, d) hyperactivity, e) peer problems and f) pro-social behaviour subscale scores.

Next are overall summary tables of the results for ELAI teacher, parent and pupil scores, followed by results for SDQ teacher, parent and pupil scores.

4.24 Overall Summary of ELAI Key Findings

		ELAI overall score and subscale scores												
		Teacher						Parent						Pupil
	Comparison	OA	SA	E	M	SR	SS	OA	SA	E	M	SR	SS	OA
Pre	R time-Control						✓							
	Circle Time-Control						✓ C							
	R time-Circle Time						✓							
Post	R time-Control													
	Circle Time-Control		✓CT L											
	R time-Circle Time		✓CT L											
	R time Pre-Post	✓ + S	✓ + S	+	✓ -	✓ + S	✓ + L	+	+	+	-	-	-	-
	Circle Time Pre-Post	✓ + M	✓ + L	✓ + S	✓ + S	+	✓ + M	-	+	-	+	-	-	+
	Control Group Pre-Post	-	-	✓ + M	-	+	-	-	-	+	-	-	-	+

Key: OA=Overall, SA=self-awareness, E=empathy, M=motivation, SR=self-regulation & SS=social skills.
✓ = significant change (blank) = no significant change + = increase in mean scores - = decrease in mean scores
S=small effect size, M=medium effect size & L=large effect size. RT (R time), CT (Circle Time) & C (Control) = the higher score.

Table 4.30: Table to show a summary of the results for teacher, parent and pupil informant ELAI overall and subscale score

4.25 Overall Summary of SDQ Key Findings

		SDQ total difficulties score & subscale scores																	
		Teacher						Parent						Pupil					
	Comparison	T	ES	CP	H	PP	PB	T	ES	CP	H	PP	PB	T	ES	CP	H	PP	PB
Pre	R time-Control																		
	Circle Time-Control																		
	R time-Circle Time						✓												
Post	R time-Control						✓ RT L												
	Circle Time-Control						✓ CT L												
	R time-Circle Time																		
	R time Pre-Post	✓ +	✓ +	✓ +	-	+	✓ + M	-	+	-	-	-	-	✓ - S	✓ - S	✓ - M	+	-	-
	Circle Time Pre-Post	✓ - S	+	✓ - L	-	✓ - S	✓ + L	+	+	+	+	+	-	✓ - S	-	-	✓ - M	+	+
	Control Group Pre-Post	-	-	+	+	-	-	-	-	-	-	-	/	✓ - S	-	-	-	-	+

Key: T= total difficulties score, ES=emotional symptoms, CP=conduct problems, H=hyperactivity, PP=peer problems & PB=pro-social behaviour. ✓ = significant change (blank) = no significant change + = increase in mean scores - = decrease in mean scores /=no change S=small effect size, M=medium effect size & L=large effect size. RT(R time), CT(Circle Time) & C(Control) = denotes the higher score.

Table 4.31: Table to show a summary of the results for teacher, parent and pupil informant SDQ total and subscale scores.

5. Discussion

5.1 Introduction

The discussion begins by exploring the three research questions, each presenting a summary of key findings, links to relevant intervention research and possible alternative explanations. Following this, there is a consideration of general limitations of the study and the appropriateness of the measures. Finally, the chapter outlines future research, implications of the findings for educational psychology practice and concludes with a summary of the contribution of the study.

5.2 Effects of R time in Promoting Children's Emotional Literacy and Mental Well-being

5.2.1 Key Findings

The first research question asked, 'What is the effectiveness of the R time intervention in promoting children's emotional literacy and mental well-being?'

The findings showed R time overall emotional literacy score and self-awareness, empathy, motivation, social skills and self-regulation scores were not significantly different to the control group.

The results showed that R time pro-social behaviour scores significantly increased, according to teacher informants. However, total difficulties scores and emotional symptoms, conduct problems, hyperactivity and peer problems were not significantly different in comparison to the control group.

5.2.2 Links to Relevant Intervention Research

The findings of this study were in contrast to multi-component interventions with a whole class component showing a positive effect on developing children's emotional

literacy (e.g. Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Hawkins et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). The literature review found no research that evaluated whole class interventions only, aiming to promote children's emotional literacy. The findings of the current study do not provide evidence to suggest that the whole class intervention only, R time, had a positive effect on such skills.

The findings of this study concur with evidence from multi-component studies to suggest whole class interventions effectively promote children's mental well-being (e.g. Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Hawkins et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). In contrast to the 8 weeks of intervention in the current study, Hampton, Hammond & Carvalho (2010) found positive effects following seven months of R time intervention. Therefore, this study contributes to the evidence base for whole class interventions only, by suggesting the short-term effectiveness of R time in promoting an aspect of children's mental well-being.

5.2.3 Possible Alternative Explanations

This section will consider three possible alternative explanations for the lack of statistically significant observed changes in children's emotional literacy, total difficulties and problem behaviours including emotional symptoms, conduct problems, hyperactivity and peer problems. These include low integrity to the intervention, strength of the experimental treatment and R time aims.

5.2.3.1 Integrity to Intervention

Errors in the way the teacher delivered R time could account for the lack of significant effects of the intervention on children's emotional literacy, total difficulties and problem behaviours. The study used an integrity checklist to monitor integrity to the

intervention. The outcomes of the integrity checklist showed low adherence to the use of the R time rule (the R time manual suggests the teacher should establish a ground rule for each session) and expected session length. Therefore, it is possible that the lack of integrity to treatment created threats to internal validity, due to the extent to which the intervention was implemented as intended (Mertens. 2010).

5.2.3.2 Strength of Experimental Treatment

A further possible explanation for the lack of intervention effect is due to the strength of the experimental treatment (Mertens, 2010). The dose of the intervention might not have been sufficient to allow a change in children's emotional literacy skills, total difficulties and problem behaviours.

5.2.3.2.1 Duration

The R time intervention period of 8 weeks might not have been long enough to show significant changes in children's emotional literacy, total difficulties and problem behaviours. It should be noted that the short duration of intervention in the present study contrasts with positive outcomes found in studies evaluated over a longer duration (e.g. Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Domitrovich et al, 2007; Han et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). Whereas the current study did not find positive results following 8 weeks of intervention, these studies found in the literature review showed positive effects after 9 months of intervention. It is interesting to consider that there was no research found that evaluated whole class interventions aiming to promote children's emotional literacy over a shorter duration. Furthermore, the literature review found one study that evaluated the effectiveness of a whole class intervention only, after a short duration of a week and the study did not show positive outcome on promoting children's mental well-being (Reynolds et al, 2000). It is possible that the duration of the R time intervention could have created a threat to the internal validity of the study due to strength of the

treatment (Mertens, 2010), in other words the present study's findings may be, in part, due to the duration of intervention rather than intervention effectiveness.

5.2.3.2.2 Session Length

Another plausible explanation that relates to the strength of the experimental treatment is the R time session length (Mertens, 2010). It is possible that the overall session length did not expose children sufficiently to intervention to observe a significant change in children's emotional literacy, total difficulties and problem behaviours. Although the integrity checklists were used and showed R time sessions lasted longer than stated in the manual, R time had a shorter session length than the majority of the studies found in the systematic literature review (Barrett & Turner, 2011; Jones et al, 2010, 2011; McClowry et al, 2005; Reynolds et al, 2000; Stevahn et al, 2000). It seems worthy to consider that there were no studies found evaluating the effectiveness of a brief whole class intervention on promoting children's emotional literacy. Therefore, there remains no evidence to suggest whether brief interventions aiming to promote children's emotional literacy are effective or not. It is possible that the R time session length could have created a threat to the internal validity of the study due to strength of the treatment (Mertens, 2010), meaning the present study's findings may be also, in part, due to the overall session length of intervention rather than intervention effectiveness.

Future studies might wish to consider the strength of an intervention in terms of duration and session length. An implication of this discussion is that studies of interventions with a short session length such as R time might require a longer duration of intervention to allow changes to occur in order to determine whether an intervention is effective or not.

5.2.3.3 R time Aims & Changes in Difficult Behaviour

Another alternative explanation for the increase in pro-social behaviour and the lack of significant change in difficult behaviours might relate to the aims of R time. It is possible that R time did not specifically reduce problem behaviours because this was not a specific aim of the intervention. R time suggests that the activities explicitly encourage children to speak appropriately and behave positively towards a partner (Sampson, 2004). R time seems to emphasise developing children's positive behaviour but it does not explicitly aim to address difficult behaviour. It would appear that an intervention that has a focus on developing positive behaviours might not necessarily result in a decrease in difficult behaviours. Future studies might seek to reduce problem behaviours by explicitly addressing these behaviours through the activities in the intervention.

In summary, this study suggests that R time is ineffective in promoting improvements in children's emotional literacy and is effective in promoting improvements in aspects of children's mental well-being as evidenced by positive effects on children's pro-social behaviour. However, there is a need for further research that addresses issues related to integrity to the intervention, strength of intervention and focus of R time aims before we can say this with a greater degree of confidence.

5.3 Effects of Circle Time in Promoting Children's Emotional Literacy and Mental Well-being

5.3.1 Key Findings

The second research question posed was 'What is the effectiveness of the Circle Time intervention in promoting children's emotional literacy and mental well-being?'

The findings show that Circle Time self-awareness scores significantly increased when compared with a control group, according to teacher informants. However, the results

also indicated that following Circle Time emotional literacy overall score, empathy, motivation, self-regulation and social skills subscale scores were not significantly different to the control group.

The findings show Circle Time pro-social behaviour scores significantly increased compared to a significant decrease in the control group, according to teacher informants. However, total difficulties scores and emotional symptoms, conduct problems, hyperactivity and peer problems were not significantly different in comparison to the control group.

5.3.2 Links to Relevant Intervention Research

This study provides evidence for the effectiveness of Circle Time in promoting one aspect of children's emotional literacy: self-awareness. This is in line with multi-component studies highlighted in the literature review showing the effectiveness of other similar whole class interventions aiming to develop children's emotion literacy (Adam et al, 2010; Bierman et al, 2008, Domitrovich et al, 2007; Han et al, 2005; Jones, et al 2010, 2011). However, multi-component interventions cannot easily attribute the positive effect to the whole class component due to difficulties parcelling out the effects of each component. Furthermore, the literature review found no research that evaluated whole class interventions only, aiming to promote children's emotional literacy. Therefore, this study provides evidence for a significant change in children's emotional literacy following an evaluation of a whole class intervention only.

The findings of the current study concur with the evidence for the effectiveness of whole class interventions and changes in children's well-being from multi-component studies (e.g. Adams et al, 2010; Barrett & Turner, 2001; Bierman et al, 2008; Hawkins et al, 2005; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). Lohaus & Klein-Hebling, (2000) and Stevahn et al, (2000) are the most comparable whole class interventions only, reporting positive effects on children's well-being, which is also a finding following Circle Time. The outcomes of this study would

appear to support Mosley's (1996) intention that Circle Time promotes positive behaviour and in particular supports positive change in pro-social behaviour.

5.3.3 Possible Alternative Explanations

This section will consider two possible alternative explanations for the findings reported above. These include the strength of intervention and Circle Time aims.

5.3.3.1 Strength of Experimental Treatment

A possible explanation for the lack of significant change in overall emotional literacy scores, motivation, empathy, social skills, self-regulation, total difficulties and problem behaviours could relate to the strength of the experimental treatment. The dose of the intervention might not have been appropriate to result in changes in children's emotional literacy and in all aspects of mental well-being that were measured (Mertens, 2010). It could be that the intervention period of 8 weeks was not long enough to allow further significant changes to occur. Therefore, the findings may suggest a threat from the strength of the experimental treatment not allowing an observed change in all overall/total and subscales scores rather than because the intervention was ineffective.

5.3.3.2 Circle Time Aims

A possible further explanation for the observed significant positive change in self-awareness and pro-social behaviour and lack of change related to problem behaviours may relate to the aims of Circle Time (Mosley, 1996). Circle Time states that the development of children's emotional literacy and helping to promote better behaviours are aims of the intervention, however Mosley (1996) did not develop Circle Time intervention from or based on theoretical explanations of emotional literacy, nor does it provide any clear explanation of how the intervention develops the range of emotional literacy competencies. Therefore, the significant findings might reflect that Circle Time

actually aims to develop self-awareness and pro-social behaviour, rather than developing the range of emotional literacy competencies and problem behaviours.

In summary, this study suggests Circle Time effectively promoted improvements in an aspect of children's emotional literacy as evidenced by positive gains in self-awareness and an aspect of mental well-being as evidenced by positive gains in pro-social behaviour. However, further research will be required which address issues related to the duration of the intervention and aims of the intervention before it is possible to say Circle Time develops children's emotional literacy and mental well-being with more certainty.

5.4 Comparative effectiveness of R time and Circle Time in Promoting Children's Emotional Literacy and Mental Well-being

5.4.1 Key Findings

The third research question asked, 'What is the comparative effectiveness of the R time intervention and the Circle Time intervention in promoting children's emotional literacy and mental well-being?'

The findings show Circle Time self-awareness scores were significantly different to R time. This suggests Circle Time more significantly promoted children's self-awareness than R time. However, there was no significant difference between R time and Circle Time overall emotional literacy, empathy, motivation, self-regulation and social skills scores.

The findings show there was no significant difference between R time and Circle Time total difficulties score, emotional symptoms, conduct problems, hyperactivity, peer problems and pro-social behaviour scores.

5.4.2 Links to Relevant Intervention Research

The significant findings related to self-awareness contribute to the evidence base in this area of study as the systematic literature review found no research that compared the effectiveness of whole class interventions. Additionally, there were no other UK comparison studies of R time or Circle Time.

This study indicated Circle Time significantly promoted children's self-awareness compared to R time with a large effect size. The current study used reported effect sizes to compare the relative impact of studies evaluating a whole class intervention. The size of the change in self-awareness score following Circle Time compared to R time in the current study was higher than those reported in multi-component studies (Adams et al, 2010; Bierman et al, 2008; Jones et al, 2011). Multi-component studies indicate small (van Lier et al, 2004) to medium effect sizes (Bierman et al, 2008; Jones et al, 2010, 2011; McClowry et al, 2005; van Lier et al, 2004). This indicates that whole class interventions only, might be an effective alternative to multi-component interventions with a whole class component.

5.4.3 Possible Alternative Explanations

This section discusses three possible explanations for the significant change in self-awareness scores in the Circle Time group in comparison to R time, and the lack of effect for overall emotional literacy, self-regulation, motivation, empathy and social skills and mental well-being. These include differences between R time and Circle Time session length, differential selection and integrity to the intervention.

5.4.3.1 Session Length

The study found that Circle Time significantly promoted the emotional literacy skill, self-awareness, whereas over the same duration R time did not. This pattern of findings might relate to the significance of the difference in session length in Circle Time and R time. The strength of the experimental treatment can create threats to the internal

validity of the study (Mertens, 2010). The current study found Circle Time was twice as long as an R time session, therefore Circle Time participants experienced double the dose of intervention over the same duration of intervention. The difference in session length might alternatively explain why Circle time was more effective than R time in promoting children's self-awareness.

5.4.3.2 Differential Selection

A possible explanation for the lack of significant difference in pro-social behaviour scores between the R time and Circle Time group might also relate to initial differences between groups prior to the intervention, known as differential selection of participants (Campbell & Stanley, 1963). The results indicated that Circle Time pro-social behaviour scores were significantly lower than R time scores at pre-test (see section 4.25). Therefore, the lack of significant differences in pro-social behaviour scores at post-test might be due to the initial differences between groups at pre-test and not the effectiveness of the intervention.

5.4.3.3 Integrity to the Intervention

The differences in outcomes of the effectiveness of the interventions might also relate to integrity to the intervention. The outcomes of the integrity checklists showed integrity to Circle Time was overall high, whereas integrity rating indicated the R time teacher informant did not adhere to all aspects of the intervention. Higher treatment integrity helps reduce threats to internal validity (Mertens, 2010). The higher integrity to Circle Time therefore might explain the significant effects on self-awareness compared to R time.

In summary, this study provides evidence to suggest Circle Time more effectively resulted in a significant positive change in the aspect of emotional literacy, self-awareness, than R time. Possible alternative explanations of the results indicate that two interventions, with differences in strength of the experimental treatment may

explain the different outcomes on children's emotional literacy. Circle Time implemented over 8 weeks successfully promoted children's self-awareness but a shorter R time session implemented over the same duration did not. This implies that when comparing interventions it seems important to consider the duration and overall length of a session. Additionally, differences between groups at pre-test and teacher integrity to the intervention might be possible alternative explanations as to why Circle Time appeared more effective than R time. This suggests it may be relevant to consider the context of the intervention and integrity to the intervention in order to determine whether an intervention is effective or not. Therefore, whilst this study suggests that there is a comparative difference between R time and Circle Time in promoting improvement in an aspect of children's emotional literacy, further research will be required which addresses these alternative explanations of the findings before we can say this with greater assurance.

5.5 Methodological Limitations

This section outlines three methodological limitations including the sampling strategy, sample size and contextual differences.

5.5.1 Sampling Strategy

The study selected participants from a patch of schools within the Local Authority (LA) because the researcher worked in that area. This was a convenience sample, meaning the availability of the participants was the reason they were selected (Patton, 2002). A limitation of this approach is that this small patch of schools might be different in some way to schools from the wider LA. Therefore, the findings might be specific to the setting or group risking threats to the external validity (LeCompte & Goetz, 1982). Future studies might benefit from adopting a probability-based sampling technique, where all schools in the LA had an equal chance of selection, to increase the probability that the research sample is representative of the population and does not possess a characteristic specific to the group (Mertens, 2010).

In the current study, the need to gain informed consent for participant's involvement in the evaluation of the study also determined the sampling technique due to ethical considerations (Mertens, 2010). Although the whole class received the intervention, not all parents and pupils gave consent to agree to evaluate the interventions. It is unknown if there were any differences between the group of participants who took part in the evaluation compared to those who did not, and what effect this had on the outcomes of the study. It is possible that the parents and/or pupils who gave permission and participated in the evaluation were more knowledgeable, enthusiastic, motivated or committed to social and emotional interventions such as R time and Circle time than those parents and/or pupils who did not. Cohen, Manion & Morrison (2007) suggest that accessibility to participants can limit data gathering from the general population. For example, Adams et al (2010) reported a parental response effect due to differences in the number of parents and pupils completing measures at different time points, suggesting families who are more positive about the intervention were more willing to remain involved in the study. However, in the current study most participants who completed the pre-measure also completed post-measures. This suggests those respondents involved at the start of the current study's evaluation remained involved at the end of the evaluation, which means drop out of participants was low.

5.5.2 Sample Size

In the current study, the number of pupils in the class determined the maximum sample size. There were 25 participants in the R time group, 14 in the Circle Time group and 16 in the control group. At least half or more of the class participated in the evaluation of the interventions. Statistical analysis of data often requires a minimum number of participants below which they should not be used (Robson, 2002). As a guide, fifteen participants per variable is a 'rule of thumb' used for the quasi-experimental design (Borg & Gall, 1989). This suggests R time and the control had an adequate number of participants to use statistical analysis to detect an effect, if an effect was present. Circle Time had slightly fewer participants, which means the sample size falls below the recommended numbers. The size of the Circle Time sample might not have been large

enough to detect statistical significant effects. Therefore, the sample size of the Circle Time group was a possible threat to the validity of the study and is a limitation to the study. Future studies might consider using methods to increase the sample size to encourage the whole class to take part in the evaluation of the intervention.

5.5.3 Contextual Differences

This study found contextual differences between R time compared to the Circle Time and the control group. For example, R time was a smaller school compared to the Circle Time and control school according to the number of pupils on roll, whereas the Circle Time and control school were larger and more similar in size. Additionally, random assignment to group did not occur for three schools, due to school 3 requesting to become the control. The initial contextual differences between settings and school 3's preference to become the control might reflect differences between groups due to extraneous variables, which may have influenced the participants in unknown ways. Therefore, the outcomes of the study might be due to these differences in context and not due to the effects of the intervention, known as differential selection (Campbell & Stanley, 1963). However, the results of pre-tests showed that generally the samples did not differ significantly on measures of emotional literacy and mental well-being (see section 4.24 & 4.25).

The study considered the potential influence of extraneous variables which might have threatened the validity of the study such as contextual variables, the teacher's adherence to the intervention and the use of concurrent interventions over the time of the evaluation. This approach is in accordance to the study adopting a post-positivist stance to research, therefore leading to the use of quantitative research methods. However, the researcher recognises that how the contexts differed and the extent to which the schools implemented additional interventions, such as SEAL, might have resulted in limitations that influenced the outcomes of the study in unknown ways. Future research methods could consider facilitating data gathering about the context of the intervention and the

participants, as there is a view that the post-positive and constructivism paradigm can merge in the 'pragmatic approach' rather than being distinctly different (Robson, 2002). The pragmatic approach leads to the use of mixed-method studies where both quantitative and qualitative methods are used.

5.5.4 Research Design

The use of a small-scale quasi-experimental design in a real world setting created limitations to this study. Whilst the real world 'messiness' of the design was considered from the outset, it was not always possible to overcome and manage the issues this created. Examples of potential confounding variables include the difference in R time and Circle Time's session length, the occurrence of year 2 children within one of the year 3 classes and limited integrity shown to the R time intervention. Additionally, the study only used a small sample of lessons from R time and Circle Time, potentially limiting the scope and impact of the intervention. A number of alternative explanations of the results were therefore reported. It is hoped that future research in this area, including that undertaken by researcher, will be able to learn from and overcome these limitations.

5.6 Appropriateness of the measures used

This section discusses the appropriateness of the ELAI and SDQ measure.

This study suggests that the Emotional Literacy Assessment Instrument (ELAI) (Southampton Psychology Service, 2003) was an informative measure of change in children's overall emotional literacy, self-awareness, motivation, social skills, empathy and self-regulation score. Additionally, the Strengths and Difficulties Questionnaire (Goodman, 1997) acted as a useful measure of change in children's pro-social and difficult behaviours. Advantageously, the measures allowed data collection from a class of pupils as they were simple to administer and quick to complete. Similarly, research often uses self-report measures to evaluate the effectiveness of whole class interventions

(Adi et al, 2007). The handbook suggests using the pupil version of the ELAI with individuals or groups (Southampton Psychology Service, 2003), however this study is consistent with other intervention research that has used the ELAI measure to gather data from the whole class (e.g. see Adams et al, 2010). The study acknowledges that the pupil informant version of the ELAI was limited to overall emotional literacy scores due to the validity of the measure.

This study gathered data from year 2 and 3 pupils. The study took a number of steps to ensure the children could access the measures, as some of the pupil informants were below the suggested age for their use. For example, as the SDQ has been validated for use with younger pupils (Muris et al, 2004), the current study followed their recommendations including checking to make sure the children understood the items in the questionnaires and gathering data from teacher and parent informants to triangulate the pupil informant version. The outcomes of the pilot of the measures did not give reason to believe that the children could not access the questionnaires. The children who asked appeared to understand the items. This study was also concerned with a change in score rather than standardised scores. Therefore, the researcher felt justified to move forward with the measures in light of the actions that were taken. However, it is possible there were other children that did not ask for the meaning of items which they did not understand. Other research has found that younger children can have difficulties accessing social and emotional concepts used in the items of questionnaires (Hampton et al, 2010). The study acknowledges that the age of the pupils may have created limitations due to access to the measures, which might have influenced the results.

It is important to bear in mind that the ELAI and SDQ are not an objective measure of skill and behaviour. A limitation of these measures is that they rely on the informant to give an accurate assessment of the child concerned. This means they are subject to bias, informants might complete them in accordance with an ideal, which presents the person in a more favourable light. Additionally, self-report measures are often subject to the

'halo effect', in which once a person develops a particular view about another person they tend to continue to think in that way (Mertens, 2010; Southampton Psychology Service, 2002). For example, if a teacher or parent already considers a child as emotionally literate, they may not notice any further positive changes following the intervention.

A future study might consider using alternative measures, such as direct measures, to gather further information about the cluster of competencies that contribute to emotional literacy, to overcome limitations of using the self- report ELAI and SDQ with young pupils and using measure of perceptions.

5.7 Future Research

This section will summarise the discussion of suggested areas for future research.

This study suggests considering the duration of the intervention and the length of a session, to increase the likelihood of significant between group observed differences in emotional literacy and mental well-being. Future research should therefore investigate the effectiveness of R time and Circle Time over a longer duration.

From the current study it is unknown whether the findings are specific to year 2 and 3 children or not. Therefore, this study could be replicated using different age groups of children. This would allow a further investigation of the effectiveness of the interventions with a wider age group of children and support the generalisability of the results beyond a year 2/3 class. This study represents children who are white British and use English as their primary language. A further study might aim to evaluate the effectiveness of the intervention that represents a broader range of ethnic and socio-economic backgrounds, to help generalise the results. Furthermore, this study was a

small scale study of three primary school settings in a rural location. A future study might seek to increase the sample size, which represents a range of diverse settings. This study selected children from a small patch of schools and included participants who agreed to evaluate the interventions. Future studies might consider using a probability-based sampling technique to increase the likelihood that the sample represents the wider population.

Due to the potential limitations regarding using the measures with younger pupils, a future study might benefit from using direct measures of children's emotional literacy and mental well-being, alongside questionnaire measures.

This study adopted a post-positive stance to research using quantitative research methods to evaluate the effectiveness of R time and Circle Time including the use of a control group and measures of emotional literacy and mental well-being. However, it might be helpful for future research to use mixed methodology that enables gathering information about the context of the intervention in the evaluation of its effectiveness.

This research suggests short-term effects following R time and Circle Time, however there is no evidence to suggest that these effects lasted longer-term. There is some evidence for the long-term effectiveness of whole class interventions from large scale multi-component intervention (Hawkins et al, 2005; Jones et al, 2011), however there is limited research for the longer-term effect of short intervention such as those used in this study. Therefore, future research could seek to investigate whether effects from R time and Circle Time are sustained over a longer period of time.

In summary, the methodology and long-term effectiveness of the intervention of the current study has highlighted a number of areas for future research.

5.8 Implications for Educational Psychology Practice

This section considers implications for EP practice following the current study.

5.8.1 EP's Supporting Schools to Implement Interventions

This study showed that the trainee educational psychologist, also the researcher, had a role in supporting schools to implement interventions which aim to develop children's emotional literacy and mental well-being. The researcher introduced interventions that the schools were not already using, therefore increasing the teachers knowledge and understanding of the R Time and Circle Time intervention. This indicates that EPs can have a role in helping schools to access a wider range of emotional literacy and mental well-being materials. The focus on this area in research and government policy (e.g. Adams et al, 2010; Barrett & Turner, 2011; Bierman et al, 2008; DfEE, 2001; DfES, 2005) also suggests that EPs might support schools to implement these types of intervention**.**

5.8.2 Duration of Whole Class Interventions

This study has highlighted the importance of considering the intensity and duration of interventions in determining their effectiveness. The researcher used previous whole class intervention research to design an evaluation of interventions with a short session length. The results of this study add to understanding of interventions with a short session length and duration in the evaluation of their effectiveness. The outcomes of the current study and knowledge of the evidence base of what works in this area, will support the researcher to design whole class interventions with schools and EP's in the future.

5.8.3 Evaluating Interventions

This study found that the Trainee Educational Psychologist, also the researcher, had a role in supporting schools to evaluate the effectiveness of R time and Circle Time in promoting children's emotional literacy and mental well-being. The research provided

the schools with measures before and after the intervention that focused on such skills, and analysed the findings using a statistical package to indicate their significance. This indicates that EPs could have a role in supporting schools to evaluate the effectiveness of interventions offering knowledge of measures, analysis of results and their interpretation.

In summary, this study suggests that the Educational Psychologist has a key role in supporting schools to implement, design and evaluate interventions.

5.9 Contribution of the Study

This study focused on investigating whole class interventions only, aiming to develop children's emotional literacy and mental well-being and comparing their effectiveness. While there are a number of multi-component intervention studies, they do not help partial out the contribution of the whole class component and no research compares the effectiveness of intervention. The study found that R time had a statistically significant effect in promoting children's pro-social behaviour, whereas Circle Time had a statistically significant effect in promoting children's self-awareness and pro-social behaviour. Circle Time showed a positive significant effect on children's self-awareness compared to R time. The discussion considered the pattern of findings according to alternative explanations including integrity of the intervention and strength of the intervention. The study acknowledges limitations due to the sampling technique, sample size and contextual differences. There is also a consideration of the appropriateness of the measures and the way they were accessed by pupil informants. The study identified a number of areas for future research including increasing the duration of intervention, use of direct measures, use of a wider range of participants, a broader context, use of probability-based sampling technique, use of mixed methodology and follow up evaluation. Implications of the study for EP practice includes supporting schools to implement interventions, consider the strength of the intervention and evaluate their effectiveness. In summary, the study contributes to the

evidence base for whole class interventions only, by identifying significant changes in aspects of children's emotional literacy and mental well-being following a short-term R time or Circle Time intervention. Chapter 6 now follows to conclude the study.

6. Conclusion

The emotional literacy and mental well-being of children is of considerable interest to researchers and practitioners in the UK (e.g. Adams, Morris, Gilmore, & Frampton, 2010; Adi, et al, 2007; DfEE, 2001; DfES, 2005; Mosley, 1998; Sampson, 2004). Goleman (1996, 1998) and Weare (2004) help us understand emotional literacy as a set of related social and emotional competencies, whereas the concept of mental wellbeing refers to a range of emotional and cognitive attributes associated with a self-reported sense of wellbeing and/or resilience in the face of adversity (Parkinson, 2012).

This study evaluated the effectiveness of two popular UK interventions, R time and Circle Time, in promoting children's emotional literacy and mental well-being. Intervention research highlighted the effectiveness of whole class interventions promoting these areas. However, research tends to evaluate large-scale multi-component interventions (e.g. Bierman et al, 2008; Domitrovich et al, 2007; Jones et al, 2010, 2011), rather than whole class interventions only. Additionally, there are very few studies of UK whole class interventions and those that do have significant design limitations (e.g. Hallam, Rhamie & Shaw, 2006; Hampton et al, 2010).

The current study attempted to build upon the methodological limitations of previous intervention research literature by adopting an experimental design incorporating two experimental groups and a control group. The results showed Circle Time significantly improved children's self-awareness, while both R time and Circle Time significantly improved children's pro-social behaviour. This suggested that R time and Circle Time effectively promoted aspects of children's emotional literacy and/or mental well-being following 8 weeks of intervention.

ELAI overall scores, motivation, empathy, social skills and self-regulation, and SDQ total difficulties score, emotional symptoms, conduct problems and hyperactivity showed R time and Circle Time were not significantly different to the control group. The study discussed whether the duration and the session length of R time and Circle

Time intervention were sufficient to allow changes to be observed in emotional literacy competencies and difficult behaviours. This study appeared to indicate that Circle Time was more effective than R time over eight weeks of intervention, although it was noted that Circle Time had double the session length of R time, and therefore double the dose of intervention. R time and Circle Time remain an area for further investigation. Further research could include the investigation of the effects of R time and Circle Time after a longer duration of intervention. This study indicates a number of implications for educational psychology practice including designing, implementing and evaluating an intervention. Looking forward as an Educational Psychologist, there appears to be scope to continue to work with schools to explore whole class interventions, such as R time and Circle Time, in the promotion of children's emotional literacy and mental well-being.

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8. Appendices

Appendix 1: An R time Session

Session 1

3.18	Resources:	Some 'ingredients' to put into a mixing bowl. The objective to make a magic cake mix.
	Introduction:	Hello (insert partner's name).
	Activity:	Put the ingredients into the bowl – mix them with 'mystery'; eg. "Beaten egg, running water Red smartie, tear of daughter, Lemon clear and smoky flour, Make me magic within the hour." Get the children to discuss how this magic mix might change them. How could they be magic?
	Plenary:	Children share their ideas'.
	Question:	If 'I' (teacher) had the cake how do you think it would make me magic.
	Conclusion:	Wouldn't it be great if we had a magic cake.

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Appendix 2: A Circle Time Session

Session 1

CIRCLE MEETING 1

Activity 1 – Oranges and lemons

Aim Fun, warming-up game.

What to do See page 104.

Activity 2 – Round: 'What I'd like to change ...'

Aim To introduce the theme of changes.

What to do The children stand in an inward-facing circle. They take turns to complete the sentence, 'What I'd like to change about myself is ...' (e.g., 'my hair; I'd like it to be curly', 'my height; I'd like to be taller', 'my nose; it's too big').

Activity 3 – Brainstorm

Aim To focus on changes they have experienced.

What to do The teacher asks the children to think of all the changes that happen or have happened to them in their lives. These can be mundane or big events (e.g., new school, moving house, new hairstyle, birth of brother or sister, new teacher, new three-piece suite).

Open Forum

The teacher asks the children whether changes are good or bad. The response will be that some are good, some bad. Why is this? The children are prompted to think of changes they have experienced and how they have been affected – have changes made them happy or miserable? Is there any child who is unhappy because of a change in his life who would like some help?

Activity 4 – Rainbow

Aim Ending game.

What to do See page 170.

Activity 1 – Oranges and lemons

Aim To mix children up in a circle so they sit next to someone different.

What to do All the children sit in a circle facing inwards. They are alternately labelled 'orange' or 'lemon'. The teacher or a chosen child calls out 'oranges', 'lemons' or 'fruit basket'. Children in the named category change seats; 'fruit basket' means all change. Without realising it, many of them will now be sitting next to a different person. Very quickly go round the circle, labelling half the children A and half B.

Activity 1 – Rainbow

Aim Fun, warming-up game.

What to do The children stand in an inward-facing circle. They are given the colours red, yellow, green and blue in turn. An object is placed in the centre of the circle, for example a book. The teacher calls out any of the four colours and all the children in that category run in a clockwise direction around the outside of the circle. When they reach their places again, they may enter the circle to pick up the object in the centre. Whoever picks up the object calls the next colour. To add fun, 'Rainbow' can be called while the children are running round, in which case they have to change direction and run round the circle anti-clockwise.

Appendix 3: Similarities between the R time and Circle Time component parts.

<table>
<tr><th>R time component & aims</th><th>Circle Time component & aims</th></tr>
<tr><td>Random pairings
To get to know everyone.
To work with different people in the class.</td><td rowspan="2">Introduction
To encourage children to sit next to peers who are not their usual companions.
To help children listen to each other and warm up to speaking.</td></tr>
<tr><td>Introduction
To introduce each other to the R time session.</td></tr>
<tr><td>Activity
To work collaboratively.
To get to know each other.
To learn to help each other.
To communicate with each other.
To value and succeed together.</td><td rowspan="3">Middle Phase
To ask questions.
To express opinions.
To join in with discussions.
To work together.
To problem solve.

To plan action points.

To review.</td></tr>
<tr><td>Plenary
To share with others the activities they have been involved in.</td></tr>
<tr><td>Question
To encourage children to explore other children’s contributions through questioning and discussion.</td></tr>
<tr><td>Conclusion
To finish the session positively.</td><td>Closing Phase
To close the session by praising one another, cheer everyone up or calm down.</td></tr>
</table>

Appendix 4: Initial Research Invite Letter to Schools

Educational Psychology Service & Early Years Support Service

Invitation to Participate in a Research Project

Dear Headteacher,

My name is Lynne Sedgwick and, as you may already know, I am your school's Trainee Educational Psychologist. I have 4 years teaching experience in a primary school and have an MA in Special Educational Needs. I am also currently studying for a doctorate in Applied Educational Psychology at The University of Nottingham.

I am planning to carry out a research project and I am particularly interested in investigating **whole class based programmes** to promote children's **social and emotional development and well being**.

I am writing to **invite you to take part in the project**.

As you will be aware, in recent years, social and emotional development and well being has been central to the Every Child Matters agenda and continues to be a **national priority area for improvement**. Researching the **potential impact of teaching materials** aimed at developing social and emotional development and well being could be very useful for schools by increasing awareness of what is effective.

To give you an initial overview of the study, your commitment would involve some or all of the following

- Brief teacher **training** in the intervention (approximately 1 hour)
- A **year 3** class teacher willing to deliver the programme over approximately **8 weeks** in the summer term 2011 (15-40 minutes per weekly session)

- Completion of short **questionnaires before** and **after** the intervention (teacher, parent & pupil versions) (approximately 10 minutes per child).

You would be one of three primary schools in the XXX area that I hope will be involved in the study. I will ask two schools to complete the questionnaires, training and the intervention over the spring/summer term. I will also ask a third school to complete the questionnaires in the summer but receive the training and deliver the intervention in the autumn term if they still wish to do so.

Originally from a teaching background myself, I am aware of the demands on teacher time. I therefore aim to work in close collaboration with your school over the research period.

The data will be collected and analysed by myself. It will be then used as part of the write up of my research project. My study will be marked by an examiner and the data could be used in later publications which aim to inform others of the contributions of such programmes. Any identifying factors such as the names of participants and your school will be removed so that your involvement is anonymous. Confidentiality will be respected at all times.

After the research project is complete there will be opportunities to receive feedback and share the findings with you. The final written research project will also be available to the school.

Throughout the project I will be guided by a supervisor at the university. I will adhere closely to ethical principles guiding research within schools and with children.

If you do decide to give your permission to participate in the study you are free to discontinue your involvement at any time.

I have a current enhanced CRB check.

If you would like to contact me to discuss any aspects of this letter or the project further I would be happy to do so, on tel: or by e-mail: lynnesedgwick@

Using the reply slip below, **it would be helpful to me if you could inform me of your initial decision by Friday 18th February**. If I receive more than 3 schools expressing an interest to take part in the study I will randomly select those who will take part. If I do not hear back from three volunteers by the end of term and I have not heard from your school I may contact you by phone to discuss your possible involvement in the study.

I look forward to the opportunity to work with your school and if you do decide to be involved with the project I will be in touch soon to discuss next steps.

Thank you for your time.
Yours sincerely,

Lynne Sedgwick
Trainee Educational Psychologist
BSc (Hons.) Psychology
PGCE Primary Education
MA in Special Educational Needs

Supervisor, Name, Deputy Principal Educational Psychologist

_____ Primary School **is interested/is not interested** in being involved in the research study investigating whole class based programmes to promote children's social and emotional development and well being.

Please contact me with further information: **Yes / No**

Signed: ----------

Return to
Lynne Sedgwick

Address

Or to lynnesedgwick@

Appendix 5: The Randomly Selected R time and Circle Time Sessions

Session	R time reference number	**Circle Time Meeting theme & reference number**
1	3.18 pretend task	**Changes 1**
2	3.08 practical task	**Being kind 4**
3	3.22 talking task	**Friendship 3**
4	3.07 practical task	**Listening & concentrating 2**
5	3.04 practical task	**Listening & concentrating 3**
6	3.12 practical task	**Co-operation 2**
7	3.02 practical task	**Friendship 2**
8	3.09 practical task	**Feelings 2**

Appendix 6: Information Letter and Consent Form for Parents and Children

Information To Participants

Dear Parent/Guardian,

My name is Lynne Sedgwick, I am your school's Trainee Educational Psychologist employed by and studying for a doctorate in Applied Educational Psychology at The University of Nottingham. As part of my role I am planning to carry out a research project to evaluate the effectiveness of whole class programmes to develop social and emotional development and well-being.

Your child's school has agreed to be involved in the evaluation of two such programmes, one called 'Circle Time' by Jenny Mosley and one called 'R time' by Greg Sampson.

I am writing to request consent for your child to be involved in the evaluation of this study, as your child is in the class I intend the programmes to be delivered to. Before you decide it is important for you understand what it will involve. Please take the time to read the following information carefully.

In order to evaluate the interventions your child's school will be randomly placed in a 'Circle time' intervention group, an 'R time' intervention group or a control group (no intervention).

Your child's school may be selected to be one of the intervention groups. This means that either the 'Circle Time' or 'R time' programme will be delivered by the class teacher to the whole year 3 class for 8 weeks in the summer term and form part of the weekly timetable. It is likely that your child will enjoy the sessions. Each 'Circle Time' session lasts between 30-40 minutes. Each 'R time' session lasts between 10-15 minutes. The 'R time' intervention aims to develop underlying skills of managing

feelings, motivation, empathy, self-awareness and social skills, grouped under the term ‘emotional literacy’. The 'Circle Time' intervention aims to develop self-esteem but also mentions a number of other social and emotional development skills similar to the aims of ‘R time’.

Your child’s school may be selected to be the control group. This means that no intervention will take place over the summer term however, at the beginning of the next academic year the school will be offered the opportunity to deliver one of the interventions, depending on whether the outcomes of the intervention groups showed a significantly positive result.

In every group the evaluation of the project will involve your child to complete two short questionnaires to measure their emotional literacy skills, and behaviour in terms of strengths and difficulties. The class teacher will also be asked to complete teacher versions of these questionnaires. I would also like to invite you to contribute to the evaluation of the study by asking you to complete the enclosed parent’s versions, taking between 5-10 minutes each to complete. Please attempt to answer every question if possible.

These measures will be administered one to two weeks before the interventions begin and immediately after the interventions have finished. I will be therefore sending you further copies of the parent questionnaires at the end of the intervention for your completion.

The data from the study will be collected and analysed by myself. It will be then used as part of the write-up of my research project. My study will be marked by an examiner and the data could be used in later publications which aim to inform others of the contributions of such programmes. All identifiers such as names of your child and school will be removed, making your involvement anonymous. The data will be kept

confidential. After the research project is complete there will be opportunities to receive feedback and share the findings with you.

If you require any further information on the study, please feel free to contact myself, or my supervisor, using the details given below.

Please ensure you have talked through this letter with your child and ask them if they would like to take part in the data collection. If you are happy that your child should participate in the evaluation of the study, and your child also agrees to do so, please both you and your child sign the consent form below, and return it along with your completed questionnaires to the school before the **Monday 4th April 2011.**

If you permit your child to participate in the data collection you or your child still have the right to withdraw from the study at any point without having to give a reason. That is, even if you sign the consent form and start the study you may withdraw your child at any point.

Yours sincerely,

L. Sedgwick

Trainee Educational Psychologist
Lynne Sedgwick

Appendix 7: Emotional Literacy Assessment Instrument Teacher Checklist

Emotional Literacy Teacher Checklist

Ages 7 to 11

Pupil's name ..... **Completed by** .....

Date ..... **Year group** ☐ **Boy** ◯ **Girl** ◯

Please look at each statement and put a tick in the box that best describes how this pupil generally is. There are no right or wrong answers. Please ensure you answer all the questions.

	Very true	Somewhat true	Not really true	Not at all true
1 Listens to other people's point of view in a discussion or argument.				
2 Gives up easily when faced with something difficult.				
3 Is aware of his/her own strengths and qualities.				
4 Loses temper when loses at a game or in a competition.				
5 Laughs and smiles when it is appropriate to do so.				
6 Is intolerant of people who are different from him/her.				
7 When starts a task or assignment, usually follows it through to completion.				
8 Finds it hard to accept constructive criticism and feedback.				
9 Is liable to sulk if doesn't get his/her own way.				
10 Makes the right kind of eye contact when interacting with others.				
11 Is insensitive to the feelings of others.				
12 Leaves things to the last minute.				
13 Can recognise the early signs of becoming angry.				
14 Remains calm and composed when loses or 'fails' at something.				
15 Is disliked by many of his/her peers.				
16 Is very critical of others' shortcomings.				
17 Does things when they need to be done.				
18 Can name or label his/her feelings.				
19 When things go wrong, immediately denies that it is his/her fault or blames others.				
20 Has a sense of humour and fun that is used appropriately.				

Appendix 8: Emotional Literacy Assessment Instrument parent checklist

Emotional Literacy Parent Checklist

Ages 7 to 11

Date .....

Boy ◯ Girl ◯

Please look at each statement and put a tick in the box that best describes how you think your child generally is. There are no right or wrong answers. Please make sure you answer each question. Your responses will be treated in strictest confidence.

	Very true	Somewhat true	Not really true	Not at all true
1 Listens to other people's point of view in a discussion or argument.				
2 Gives up easily when things aren't perfect.				
3 Can name or label his/her feelings.				
4 Is quick tempered and aggressive.				
5 Spends too much time alone.				
6 Is tolerant of people who are different from him/her.				
7 Seems able to shut out distractions when needs to focus.				
8 Tends to have feelings of self-doubt/insecurity.				
9 Is liable to sulk if doesn't get his/her own way.				
10 Finds it difficult to make new friends.				
11 Is insensitive to the feelings of others.				
12 When starts a task, usually follows it through to completion.				
13 Can recognise the early signs of becoming angry.				
14 When things go wrong, immediately denies that it is his/her fault or blames others.				
15 Is liked by a lot of people.				
16 Is very critical of others' shortcomings.				
17 Leaves things to the last minute.				
18 Is aware of his/her own strengths and weaknesses.				
19 Rushes into things without really thinking.				
20 Can make friends again after a row.				
21 Gets annoyed when other people get things wrong.				
22 Keeps trying even when faced with something difficult.				
23 Is easily hurt by what others say about him/her.				
24 Is a bad loser.				
25 Mixes with other children.				

Thank you for completing this checklist. Please return the completed checklist to the school.

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the measure of potential

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Appendix 9: Emotional Literacy Assessment Instrument Pupil Checklist

Emotional Literacy Pupil Checklist

Ages 7 to 11

Date ..... Boy ◯ Girl ◯

Here are some questions about you. Please try to answer them as honestly as you can. Read each question and then put a tick in one of the boxes. Make sure you do each question.

Here is an example of how to answer the questions. If you do not think you are shy at all, you would tick the box 'not like me at all'.

	Very like me	Quite like me	Only a bit like me	Not like me at all
I am a rather shy person.				✔

Now please answer the rest of the questions.

	Very like me	Quite like me	Only a bit like me	Not like me at all
1 I try to help people when they are unhappy.				
2 I often forget what I should be doing.				
3 I know what things I'm good and bad at.				
4 I often lose my temper.				
5 A lot of people seem to like me.				
6 I get annoyed when other people make mistakes.				
7 I often leave it to the last minute to do my school work.				
8 I can describe how I am feeling most of the time.				
9 I get upset if I do badly at something.				
10 I find it difficult to make new friends.				

Please turn over

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the measure of potential

This checklist is part of *Emotional Literacy: Assessment and Intervention – Ages 7 to 11*, ISBN 0-7087-0363-1, and may be photocopied.
Published by GL Assessment Limited.
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	Very like me	Quite like me	Only a bit like me	Not like me at all
11 I know when people are starting to get upset.				
12 I carry on trying even if I find something difficult.				
13 I am easily hurt by what others say about me.				
14 I calm down quickly after I have got upset.				
15 I am usually included in other children's games.				
16 I laugh at other children when they get something wrong.				
17 I make a good effort with most of my school work.				
18 I am good at many things.				
19 I am usually a calm person.				
20 I spend too much time on my own.				
21 I try to help someone who is being bullied.				
22 I find it easy to pay attention in class.				
23 I worry a lot about the things I'm not good at.				
24 I can wait for my turn.				
25 I can make friends again after a row.				

Thank you for filling in this checklist.

GL assessment
the measure of potential

Appendix 10: Strengths and Difficulties Questionnaire Teacher/Parent Version

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Appendix 11: Strengths and Difficulties Questionnaire Pupil Version

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	☐	☐	☐
I am restless, I cannot stay still for long	☐	☐	☐
I get a lot of headaches, stomach-aches or sickness	☐	☐	☐
I usually share with others (food, games, pens etc.)	☐	☐	☐
I get very angry and often lose my temper	☐	☐	☐
I am usually on my own. I generally play alone or keep to myself	☐	☐	☐
I usually do as I am told	☐	☐	☐
I worry a lot	☐	☐	☐
I am helpful if someone is hurt, upset or feeling ill	☐	☐	☐
I am constantly fidgeting or squirming	☐	☐	☐
I have one good friend or more	☐	☐	☐
I fight a lot. I can make other people do what I want	☐	☐	☐
I am often unhappy, down-hearted or tearful	☐	☐	☐
Other people my age generally like me	☐	☐	☐
I am easily distracted, I find it difficult to concentrate	☐	☐	☐
I am nervous in new situations. I easily lose confidence	☐	☐	☐
I am kind to younger children	☐	☐	☐
I am often accused of lying or cheating	☐	☐	☐
Other children or young people pick on me or bully me	☐	☐	☐
I often volunteer to help others (parents, teachers, children)	☐	☐	☐
I think before I do things	☐	☐	☐
I take things that are not mine from home, school or elsewhere	☐	☐	☐
I get on better with adults than with people my own age	☐	☐	☐
I have many fears, I am easily scared	☐	☐	☐
I finish the work I'm doing. My attention is good	☐	☐	☐

Appendix 12: Follow Up Strengths and Difficulties Questionnaire Teacher/Parent Version

Strengths and Difficulties Questionnaire

FOLLOW-UP

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of your child's behaviour **over the last month**.

Male/Female

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Appendix 13: Follow Up Strengths and Difficulties Questionnaire Pupil Version

Strengths and Difficulties Questionnaire

FOLLOW-UP

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you **over the last month**.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	☐	☐	☐
I am restless, I cannot stay still for long	☐	☐	☐
I get a lot of headaches, stomach-aches or sickness	☐	☐	☐
I usually share with others (food, games, pens etc.)	☐	☐	☐
I get very angry and often lose my temper	☐	☐	☐
I am usually on my own. I generally play alone or keep to myself	☐	☐	☐
I usually do as I am told	☐	☐	☐
I worry a lot	☐	☐	☐
I am helpful if someone is hurt, upset or feeling ill	☐	☐	☐
I am constantly fidgeting or squirming	☐	☐	☐
I have one good friend or more	☐	☐	☐
I fight a lot. I can make other people do what I want	☐	☐	☐
I am often unhappy, down-hearted or tearful	☐	☐	☐
Other people my age generally like me	☐	☐	☐
I am easily distracted, I find it difficult to concentrate	☐	☐	☐
I am nervous in new situations. I easily lose confidence	☐	☐	☐
I am kind to younger children	☐	☐	☐
I am often accused of lying or cheating	☐	☐	☐
Other children or young people pick on me or bully me	☐	☐	☐
I often volunteer to help others (parents, teachers, children)	☐	☐	☐
I think before I do things	☐	☐	☐
I take things that are not mine from home, school or elsewhere	☐	☐	☐
I get on better with adults than with people my own age	☐	☐	☐
I have many fears, I am easily scared	☐	☐	☐
I finish the work I'm doing. My attention is good	☐	☐	☐

Appendix 14: R time Integrity Checklist

R time Integrity Checklist

Date: _____ Session: _____

Aspect of intervention	Rating Never Always	Notes
Presence of correct materials/resources	1 2 3 4 5 6 7 8 9 10	
R time rule clearly established	1 2 3 4 5 6 7 8 9 10	
Adherence to structure - Random pairing - Introduction - Main activity - Plenary - Conclusion	 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10	
Adherence to content	1 2 3 4 5 6 7 8 9 10	
Adherence to order of session plan	1 2 3 4 5 6 7 8 9 10	
Good quality of materials/resources	1 2 3 4 5 6 7 8 9 10	
Adherence to time of session	1 2 3 4 5 6 7 8 9 10	
Adherence to length of session	1 2 3 4 5 6 7 8 9 10	
Adherence to the order of sessions	Yes/No	
Delivery - paced - children encouraged	 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10	

- praise given - courtesy shown to all - manners practised - delivery bright - action taken for inappropriate behaviour	1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10	
Was the whole class present?	1 2 3 4 5 6 7 8 9 10	Why not? Who was missing?

Appendix 15: Circle Time Integrity Checklist

Circle Time Integrity Checklist

Date: _____ Session: _____

Aspect of intervention	Rating Never Always	Notes
Presence of correct materials/resources	1 2 3 4 5 6 7 8 9 10	
Circle Time rules clearly established	1 2 3 4 5 6 7 8 9 10	
Adherence to structure Introduction phase Warming up game Round Middle phase Open Forum Closing phase Celebrating success Closing ritual	 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10	
Adherence to content	1 2 3 4 5 6 7 8 9 10	
Adherence to order of session plan	1 2 3 4 5 6 7 8 9 10	
Good quality of materials/resources	1 2 3 4 5 6 7 8 9 10	
Adherence to time of session	1 2 3 4 5 6 7 8 9 10	
Adherence to length of session	1 2 3 4 5 6 7 8 9 10	
Adherence to the order of sessions	Yes/No	
Delivery - paced	 1 2 3 4 5 6 7 8 9 10	

- children encouraged - praise given - action taken for inappropriate behaviour	1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10	
Was the whole class present?	1 2 3 4 5 6 7 8 9 10	Why not? Who was missing?

Appendix 16: Outcomes of the R time and Circle Time Integrity Checklists

	Researcher Rating 1-10							
	R time Session				Circle Time Session			
Aspect of Intervention	2	4	6	8	1	3	5	7
Presence of correct materials/resources	10	n/a	10	10	10	n/a	10	10
R time rule clearly established	10	?	1	1	10	10	10	10
Adherence to structure								
Random pairing/Warm up game	10	10	10	10	10	10	10	10
Introduction/Round	10	10	10	10	8	10	n/a	10
Main activity/Open form	10	10	10	10	10	10	10	10
Plenary/Celebrating success	10	10	10	10	n/a	10	10	n/a
Conclusion/Closing ritual	10	10	10	10	10	10	10	10
Adherence to content	9	8	7	10	10	3	10	9
Adherence to order of session plan	10	1	10	10	10	10	10	10
Good quality of materials/resources	10	n/a	10	10	10	n/a	10	10
Adherence to time of session	7	10	10	10	10	n/a	10	10
Adherence to length of session	N	Y	N	N	?	Y	?	Y
Adherence to the order of sessions	Y	Y	N	N	Y	Y	N	N
Delivery								
- paced	10	10	10	10	10	10	10	10
- children encouraged	10	10	10	10	10	10	10	10
- praise given	10	8	10	10	10	10	10	10
- courtesy shown to all	10	10	10	10				
- manners practised	10	10	10	10				
- delivery bright	10	10	10	10				
- action taken for inappropriate behaviour	10	10	10	10	10	10	10	10
Was the whole class present?	Y	Y	Y	N	Y	Y	N	Y