An initial evaluation of a teaching assistant delivered intervention to increase peer interaction for pupils with ASD within a mainstream primary school

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

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School of Environment, Education and Development
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<tr>
<td>ASD</td>
<td>Autism Spectrum Disorder</td>
</tr>
<tr>
<td>DISS</td>
<td>The Deployment and Impact of Support Staff project</td>
</tr>
<tr>
<td>DSM V</td>
<td>Diagnostic and Statistician Manual of Mental Disorders</td>
</tr>
<tr>
<td>EP</td>
<td>Educational Psychologist</td>
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<td>EPS</td>
<td>Educational Psychology Service</td>
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<tr>
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<td>Educational Psychology Network (online forum)</td>
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<td>FB</td>
<td>Facilitative behaviour</td>
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<td>International Classification of Diseases</td>
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<td>IEP</td>
<td>Individual Education Plan</td>
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<td>Office for Standards in Education, Children’s Services and Skills</td>
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<td>Matched interaction</td>
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<td>ONS</td>
<td>Office for National Statistics</td>
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<tr>
<td>PIOI</td>
<td>Peer Interaction and Paraprofessional Facilitative Behaviour Observation Instrument</td>
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<td>PECS</td>
<td>Picture Exchange Communication System</td>
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<tr>
<td>Acronym</td>
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<td>REPIM</td>
<td>Reciprocal effects peer interaction model</td>
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<td>Special Educational Needs</td>
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<tr>
<td>TA</td>
<td>Teaching Assistant</td>
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<tr>
<td>TEACCH</td>
<td>Treatment and Education of Autistic and related Communication handicapped Children</td>
</tr>
<tr>
<td>TEP</td>
<td>Trainee Educational Psychologist</td>
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Abstract

Kathryn Baxter

Doctorate in Educational and Child Psychology

May 20th 2014

An initial evaluation of a teaching assistant delivered intervention to increase peer interaction for pupils with ASD within a mainstream primary school

Research has shown that social interaction and the development of friendships is important in promoting academic, personal and emotional development. Social interaction is a core difficulty for children and young people with Autism Spectrum Disorder (ASD). An increasing number of pupils with ASD are being educated within mainstream school where it is hoped that they will benefit from social opportunities with their peers and that the professionals working with them will be confident to support them (Keen and Ward, 2004). There is however growing evidence that school staff do not feel confident in supporting these pupils (House of Commons Education and Skills Committee, 2006; Robertson, Chamberlain and Kasari, 2003) and that this population of children are vulnerable to experiencing significantly poorer academic and social and emotional outcomes than their peers (Department for Education, 2012a; Humphrey and Lewis, 2008; Howlin and Goode, 1998). Teaching assistants (TAs) are often employed by schools to support pupils with ASD however research has suggested that the deployment of TAs might actually compound social interaction difficulties (Humphrey and Symes, 2011; Blatchford et al., 2009). TAs are in a unique position to support the social interaction of the pupils they work with however there is limited research into how TAs can be best utilised to facilitate social interaction between pupils with ASD and their typically developing peers within the classroom.

This study piloted a researcher developed intervention, Better Together and conducted a process and outcome evaluation in order to investigate potential outcomes for TAs and pupils and examine systemic factors which might support or impede the intervention’s implementation and sustainability. The Better Together intervention aimed to train TAs to facilitate social interaction between pupils with ASD and their mainstream peers. The study involved three TA: pupil pairings within a single mainstream primary school and a single project coordinator.

An evaluation of the ‘Better Together’ intervention package was undertaking using a fully mixed, sequential, dominant status design. Information pertaining to TA confidence levels was gathered pre and post intervention through semi-structured questionnaires. Structured observations were undertaken pre and post intervention and after a school term to gather information about the rate, range, maintenance and success of facilitative strategies used by the TAs. Semi-structured interviews with the TAs and project coordinator were carried out in order to obtain information about the implementation and outcomes of the intervention. The Social Inclusion Survey was administered at three time points to ascertain whether any changes in the social inclusion of target pupils had occurred.
Data were analysed using descriptive statistics and thematic analysis. The findings from this small scale study suggest that the TAs had an increased rate and range of facilitative behaviours following the intervention and that there was a simultaneous increase in student interactions between pupils with ASD and their peers. These gains were sustained over time. The intervention was valued by staff and plans were made to extend the principles to other schools within the area through the establishment of a TA network of support. Core facilitators and barriers to the implementation of the intervention were explored and discussed and implications for future research and the role of the Educational Psychologist (EP) are considered.
Declaration

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Finally I would like to thank my family and friends for their encouragement, support and sense of humour and in particular to my three young daughters. Yes, Mummy really is done!
Chapter 1: Introduction

1.1 Chapter Outline
This chapter will consider the rationale for the study and provide information on the context in which the research took place. It will detail the background of the research before outlining the structure of the remaining chapters.

1.2 Rationale
Autism Spectrum Disorder (ASD) is characterised by difficulties in social interaction and social imagination, which can be a significant barrier to benefitting from mainstream educational opportunities. Despite these potential barriers, children with ASD are increasingly likely to be educated within mainstream schools where it is hoped that they will benefit from social opportunities with their peers and that the professionals working with them will be confident to support them (Keen and Ward, 2004). There is however growing evidence that school staff do not feel confident about supporting their needs (House of Commons Education and Skills Committee, 2006; Robertson, Chamberlain and Kasari, 2003) and that this population of children are vulnerable to experiencing significantly poorer academic and social and emotional outcomes than their peers (Department for Education, 2012a; Humphrey and Lewis, 2008; Howlin and Goode, 1998). Research suggests that these outcomes steadily worsen throughout the phases of mainstream education culminating in only 23.8% of pupils with ASD achieving the expected educational attainment level at high school compared with 58.8% of their typically developing peers (Department for Education, 2012a). They are also at a higher risk for exclusion and absence (Department for Education, 2012b). These outcomes are highly significant and can have a lifelong impact on the individual’s quality of life (Baxter, 1997; Koegel and LaZebnik, 2009).

Pupils with ASD who are educated in mainstream schools are often supported by the employment of a designated Teaching Assistant (TA) and the rolling out of social skills interventions; both of which have been criticised within the literature. The role of the TA frequently places the adult in extremely close proximity to the pupil with ASD for much of the time and this has been shown to be counterproductive, both academically and socially (Webster et al., 2010; Giangreco, 1997; Humphrey and Symes, 2011). There is a lack of literature which actively considers the role and skills of the TA in supporting the social interactions of target pupils. Social skill interventions offer the possibility of making a positive impact on pupil outcomes and as such are an important channel of support within mainstream education. There has been much activity over the past ten years around the
efficacy of interventions with some useful conclusions drawn, however as yet very few interventions are freely available to schools and there has been little research into implementation factors which could affect their effectiveness.

The current research focuses upon the implementation and effectiveness of an intervention designed to boost the socially facilitative behaviours of TAs employed to support pupils with ASD within a mainstream UK primary school. As TAs are a widely used but expensive resource within UK primary schools it is important that their skills be utilised efficiently and effectively and that they are supported in their role. The potential for EP services to provide evidence based, ongoing support for TAs working in this capacity is an important area for exploration in order to support this vulnerable population and the TAs who work with them.

1.3 Structure of the ‘Better Together’ intervention project

The current research is a process evaluation of a new intervention called ‘Better Together’ which was purpose designed by the researcher. The researcher decided to utilise a new design of intervention as there are currently very few evidence based packages available to mainstream schools; despite a growing interest into the effectiveness of social skill interventions (Odom, et al., 2003). It was hoped that using a purpose designed approach might:

- Be more responsive to the varied needs of the TAs and pupils involved.
- Give increased ownership of the training and the outcomes to the TAs in order to build sustainability.
- Be more naturalistic for the pupils, thereby promoting generalisation.
- Work with school systems.

The ‘Better Together’ intervention is loosely based on the work of Causton-Theoharis and Malmgren (2005b) and Ghere, York-Barr and Sommemess (2002). ‘Better Together’ follows the same core four objectives employed in these previous studies which centre around enhancing perspectives, establishing the importance of peer interaction, clarifying the TA’s role in facilitating interactions and increasing the TAs knowledge of strategies for facilitating peer interaction. The strategies developed will also roughly follow those highlighted as effective in Causton-Theoharis and Malmgren’s work (2005b). These include:

a. Adult fade back

b. Prompts to be social

c. Connecting with peers
The ‘Better Together’ intervention differs from Causton-Theoharis and Malmgrem (2005b) and Ghere, York-Barr and Sommerness’ (2002) work in relation to its mode of delivery, its breadth of reach within the school and its adaptive and responsive approach.

The intervention consisted of three one hour workshops carried out on a weekly basis. The workshops were attended by a small network of five TAs from the school as well as the project coordinator. ‘Better Together’ also incorporated the distance coaching of the TAs over a ten week period, a whole school training session and a coordinator led meeting involving teaching staff.

1.4 Context for the current research project
This research project took place within the Arid Local Authority (LA) which is situated in the North West of England. This area has a population of approximately 234,000 (Office for National Statistics, 2012). It is the 18th most deprived district in England (Index of Multiple Deprivation, 2010) and over 14,000 children live in poverty. Within the Arid LA there is a designated team set up to support pupils with communication and interaction needs. This team has noted in its 2011-12 annual report a marked increase in pupil referrals within mainstream schools. There is not, however, a definitive system for monitoring the numbers of pupils within the LA with ASD. The LA is currently focussing on auditing ASD provision within its mainstream settings and has commissioned a special interest group, which includes the Educational Psychology Service (EPS), to develop LA guidelines on best practice principles for the inclusion of a growing ASD population.

The research took place in one church aided mainstream primary school within the Arid LA. The school itself is a larger than average primary school with 352 pupils on roll and where the number of pupils eligible for free school meals is well below the national average. The school is renowned within the LA as catering for a larger than average proportion of pupils with ASD and for its positive ethos and inclusive approach.

1.5 The Researcher
The researcher is a trainee educational psychologist (TEP) at the University of Manchester, working within the Arid LA. The training of the researcher influenced the nature of this research to some extent. The researcher trained as a primary school teacher and worked within a mainstream primary school prior to joining the doctoral training course in 2011. Within her teaching role the researcher had experience of supporting pupils with ASD both with and without TA support and the challenges that this can present. The researcher is therefore experienced in working with similar population children, and with TAs and is also familiar with primary school systems.
The author first became aware of research into autism and social interaction through casework carried out whilst on placement as a TEP. The issue of how to use in-house resources to promote social interaction within the classroom for pupils with ASD was raised and debated during a number of consultation meetings with school staff and subsequently an initial search of the literature was undertaken. Following on from this search the researcher discussed the topic with academic tutors from the Doctorate in Educational and Child Psychology programme and attended a thesis research day. These discussions suggested that the role of the TA in improving social outcomes for pupils with ASD was a relatively under researched area. The project was given greater relevance when the researcher’s LA commissioned a special interest group to develop best practice ASD guidelines and the researcher became involved in this.

1.6 Chapter Outline
The following section will give an overview of each chapter contained within this thesis.

Chapter Two: Literature Review

This chapter aims to present the reader with a broad picture of academic research relating to deficits in social skill in pupils with ASD, so that a more detailed understanding of how these deficits might impact on social interaction, social relationships and social inclusion within education and beyond. The literature review then aims to focus the reader specifically on the types of the social skill interventions that schools have available to them and asks the reader to consider how the school's own resources might be positively redirected through the training of TAs and what the role of the Educational Psychologist might be in facilitating this. The researcher will then demonstrate how the present research builds on and extends existing research and will then pose research questions pertaining to the present research.

Chapter Three: Methodology

This chapter describes the research design implemented in this study, which is an exploratory process evaluation design, beginning with the rationale for this approach and including an exploration of the researcher’s epistemological, ontological and axiological position. The critical realist stance taken by the present researcher led to the use of a mixed method design, thereby gathering both quantitative and qualitative data. Data access, data gathering methods and data analysis methods will also be described. The researcher presents a critique of the present research methodology and ethical considerations will be explored.
Chapter Four: Results

The chapter begins with a description of the changes that occurred during the course of this study and the implications for data collection. The results from the current research project are then reported in three sections and then integrated and summarised. The first section reports the findings from the quantitative analysis of the Social inclusion Survey (SIS) and the structured observations. The second section will report the quantitative analysis of data gathered from the semi-structured questionnaires. The final section will report the qualitative analysis of the semi-structured interviews with both the TAs and Project Coordinator. A summary of the results integrates key findings from the three sections.

Chapter 5: Discussion

This chapter summarises the main findings, limitations and implications arising from the current research
Chapter 2: Literature Review

2.1 Chapter Outline
This chapter reviews current literature on the educational provision for pupils with a diagnosis of ASD within England; the importance and function of social interaction and friendships to academic and personal development; barriers to social interaction, training strategies and the potential of the teaching assistant (TA) role to facilitate change. The chapter will first detail the methodology of the literature review by outlining the aims of the review, the review strategy utilised and the literature returned following the use of this strategy. The chapter will then provide an overview of the wider contextual literature followed by a critique of key studies most closely related to the current project. This will lead to a statement regarding the ‘knowledge gap’ and the present study’s research questions. The chapter will conclude with an examination of how the present research builds on and extends existing research.

2.2 Aims of the literature review
This literature review aims to present the reader with a broad picture of academic research relating to social skill deficits in pupils with ASD, so that a more detailed understanding of how these deficits might impact on social interaction, social relationships and social inclusion within education and beyond the school might be developed. The literature review then aims to focus the reader specifically on the types of social skills interventions schools have available to them and asks the reader to consider how the school's own resources might be positively redirected through the training of TAs and what the role of the Educational Psychologist could be in facilitating this.

2.3 Review strategy
Table 2.1: Search terms for the training of paraprofessionals to support social inclusion of pupils with ASD.

<table>
<thead>
<tr>
<th>Search term 1</th>
<th>Boolean operator</th>
<th>Search term 2</th>
<th>Boolean operator</th>
<th>Search term 3</th>
<th>Boolean operator</th>
<th>Search term 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>AND</td>
<td>Teaching assistant</td>
<td>AND</td>
<td>Autism, ASD, ASC, Autism Spectrum Disorder</td>
<td>AND</td>
<td>Friendships</td>
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<td></td>
<td></td>
<td>paraprofessional</td>
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<td>Social skills</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Social inclusion</td>
</tr>
</tbody>
</table>

Searches were carried out between December 2012 and February 2013 with smaller scale follow-up searches carried out in September 2013, October 2013 and April 2014. All searches were limited to papers meeting the following criteria:

- Peer reviewed journals
- Articles pertaining to children and adolescents
- Journals written in the English language
- Journals where the full text was available electronically

The review strategy also included reference harvesting and manual searches within specific journals (Educational Psychology in Practice and Autism) and published guidelines and web documents to locate any additional relevant research papers which met the search criteria but were not identified through the literature search. In addition, the researcher also searched through archive data held on the EPNET (Educational Psychologist Network) forum which led to a search of governmental guidance publications; and had discussion with a PhD candidate at the University of Manchester who is conducting research into ASD and social inclusion within secondary schools. These strategies generated additional references which were accessed by the researcher.

2.4 Literature returned

The general overview search strategy returned sufficient material to give a detailed overview of the subject area. The more targeted search terms detailed in Table 2.1 returned no direct hits and as such it was decided to identify materials through reference harvesting and the application of slightly broader search terms which were ‘paraprofessional’, ‘training’, ‘teaching assistant’ and ‘intervention’. This yielded three key research papers and one
guidance document which were closely related to the current research. The literature review begins with an account of the broader literature followed by a detailed review of the key papers identified through the systematic search.

2.5 Account of the literature

2.5.1 Overview of ASD
The term Autism has been used for about 100 years; it comes from the Greek word "autos," meaning "self." The term describes conditions in which a person is removed from social interaction -- hence, an isolated self. From the 1940s Autism has been applied to varying groups of individuals displaying social and emotional difficulties as well as language difficulties. Currently, Autism is defined by the National Autistic Society (NAS) as, “a lifelong developmental disability that affects the way a person communicates and relates to people around them.”

There has been an increase in the number of people being diagnosed since the 1980’s. It has been suggested that this is the result of an increased awareness of the condition as well as changes to the diagnostic process (Newschaffer, Creon and Daniels, 2007; Wing and Potter, 2002).

Within the UK ASD currently has a prevalence rate of approximately 1% (Baron-Cohen, et al., 2009) with more males being diagnosed than females. More specifically for children, it has been suggested that 116 in every 10,000 children aged nine to ten years old have ASD (Baird et al., 2006).

Figure 2.1: The triad of impairments in individuals with ASD.
The increased rate of diagnosis has led to the categorical view of autism being replaced by the idea of autism as a spectrum disorder (Baron-Cohen2008). The conceptualisation of a spectrum of difficulty reflects the fact that individuals with autism do not present as a homogenous group but a group affected to varying degrees and with differing needs, strengths and assets. This has led to controversy over terminology with many people suggesting that autism is a ‘difference’ rather than a ‘disorder’. Supporters of this view suggest that the term ‘disorder’ has connotations meaning ‘illness’ and/or a ‘lack of pattern’ and is therefore stigmatising for those with a diagnosis. Whilst this is embraced by some, others believe that using the term ‘disorder’ reflects the severity of difficulties that many experience and that this is important in order to secure understanding and recognition for autism. The current researcher has chosen to use the term ASD throughout this thesis as it reflects the idea of a significant impairment and the possibility of intervention. It is also the term most commonly used internationally and one used within the recently updated DSM5.

In addition to controversy over terminology the recent publication of the DSM5 has challenged the relative stability of understanding around the triad of impairment by reducing the previously accepted three domains to two. This reflects the changing landscape of research relating to ASD as well as the politicisation of diagnosis, directly linking clinical diagnosis to severity measures and recommendations for support and funding.

At present there is no clear understanding of the aetiology of ASD although there is evidence to suggest that complex multiple gene interactions might contribute to the strong heritable link reported within the literature (Steyart and De La Marche, 2008; Rutter, 2000). Although there is evidence of different functioning with the brains of individuals with ASD, diagnosis is currently still at the behavioural level. The diagnosis can therefore be controversial with professionals applying different terminology and placing emphasis on separate core deficits to one another. Within the UK diagnosis currently centres upon a triad of core impairments: social relationships, communication and imagination (Wing and Wing, 1976) (see figure 2.1) as set out in the International Classification of Disease 10.

There have been a number of attempts to explain the cause of ASD over the past fifty years but to date there is no single accepted theory. Historically these attempts have been related to the prevailing psychological approaches of the time. There are currently a number of competing, and sometimes complimentary theories aimed at explaining the difficulties typically associated with ASD. Some of the most notable include: The Mind blindness theory (Baron-Cohen, 1995; Baron-Cohen, Leslie and Frith, 1985), Weak Central Coherence theory (Frith, 1989), Executive Dysfunction theory (Ozonoff, Pennington and Rogers, 1991)
and Social Motivation theory (Chevalier et al., 2012). These theories differ in terms of whether they regard social skill difficulties, which are an integral part of a diagnosis of ASD, as a deficit or a delay. This is an important theoretical difference as it impacts upon the type of intervention which might be offered to an individual. Regardless of the cause, the implication of having difficulties within these areas are that pupils might have to be helped to make sense of the social behaviour and emotional responses of others and supported to respond flexibly. The social core of these difficulties has implications for the development of friendship networks and has a direct impact on classroom functioning. This is immediately relevant to the current research and will be discussed in the following sections.

2.6 ASD and communication

2.6.1 ASD and the social communication deficit

Individuals with ASD do not represent a single homogenous group (Taguer-Flusberg and Joseph, 2003). They have individual strengths and difficulties which are likely to affect their progression in life. Social reciprocity specifically and social interaction more generally are however core features of autism spectrum disorders (ASD). This is regardless of cognitive or language ability (Carter, Davis, Klin, and Volkmar, 2005; Howlin 2005; Shea and Mesibov 2005). The types of social impairments experienced by individuals with ASD are wide and frequently involve speech, linguistic conventions as well as interpersonal interaction (White, Scahill, Klin, Koenig, and Volkmar, 2007). Typical problem areas include impairments in social pragmatics such as turn taking in conversation, listening to and understanding another person’s perspective, poor speech prosody, tendency to dwell on preferred topics, difficulty understanding and expressing emotions, and difficulty interpreting nonliteral language such as sarcasm and metaphor (Krasny, Williams, Provencal, and Ozonoff, 2003; Kerbel and Grunwell,1998; Shaked and Yirmiya,2003; Tager-Flusberg,2003). Individuals with ASD often also demonstrate particular behaviours which have been shown to negatively affect their own ability to interact socially. These behaviours might include restrictive, repetitive, and stereotyped patterns of behaviour, characterised by a preoccupation with narrow, rigid and inflexible interests or ways of thinking. Research has shown that these deficits continue as the individual ages and that adolescence is a particularly difficult time for individuals with ASD. It is postulated that this is due to a combined effect of an increasingly complex social environment coupled with an increased awareness of their own difficulties resulting in negative behaviours, thoughts and feelings (Locke, Ishijima, Kasari and London, 2010;
Tantam, 2003). This has been shown to be particularly true for higher functioning individuals (Locke, Ishijima, Kasari and London, 2010).

2.6.2 From social interaction to social competency and towards the development of friendships

Many individuals with ASD exhibit difficulties in knowing what is socially appropriate and in the execution of socially appropriate behaviours as demonstrated above. This indicates a lack of social competency. Social competence can be described as socially desirable behaviours which are the product of well-developed processes in social perception. An important aspect of social perception is how social information is processed. Crick and Dodge’s social information-processing model (Crick and Dodge, 1994) suggests that individuals with ASD have significantly different patterns of information processing at the intent attribution, response generation and response evaluation stages of the social information processing model proposed by Crick and Dodge (1994) (figure 2.2 and Appendix S). In their model they suggest that a child must perceive the situation accurately, formulate a plan, and then have the motivation and knowledge to perform the requisite skill. Without appropriate perception, the motivation and ability will not result in socially appropriate actions. Similarly, without motivation the skill will not be performed.

Figure 2.2: Social information processing model, Crick and Dodge (1994)
In practice this means that pupils with ASD might misinterpret the behaviour/reactions of their peers. This could be linked, at least in part, to the persistent difficulties noted in pupils with ASD in recognising emotions and understanding affect-loaded prosodic patterns of language. The different interpretations of social information processing might then lead to the miscoding of cues, intent and decisions thus perpetuating the difficulties. This is of great concern when the importance of social interaction is considered. From this model it is clear that poor social perception can negatively impact upon social competency.

Reduced social competency can elicit negative responses and evaluative judgements by others (including peers, parents and teachers) as well as by the individual themselves (Merrell and Gimpel, 1998). Reduced social competency can therefore inhibit the ability of the individual with ASD to make and sustain friendships, overcome social challenges such as bullying and navigate the complex social arena effectively. Reduced social competency can also become a self-fulfilling prophecy as it typically results in individuals avoiding social contact and social situations which further deprives the individual of the chance to develop their social communication skills through observation and practice. Within typically developing children the practice of having a ‘best friend’ and resolving conflicts within these relationships have been demonstrated to be crucial in the development of social competency (Nelson and Aboud 1985; Gralinski and Kopp 1993).

2.6.3 The effects of social isolation

The benefits associated with having friendships in typically developing individuals have been well established. Research has shown that having a strong friendship network can lead to protection against bullying (Bollmer, Milich, Harris and Maras, 1996), improved academic adjustment within school (Ladd, Kochenderfer and Coleman, 1996), greater involvement in school, higher self-perceived social acceptance, and higher general self-esteem (Berndt and Keefe, 1995; Keefe and Berndt, 1996). Friendships have also been shown to be protective against anxiety and depression as well as social anxiety which are conditions that often co-occur in individuals with ASD (Kim, Szatmari, Bryson, Streiner and Wilson 2000; La Greca and Harrison, 2005; Ladd, Koehenderfer and Coleman, 1996).

Children who are repeatedly rejected by their peers often experience negative emotional outcomes. Research has demonstrated that peer rejection in typically developing children can lead to anxiety and depression (Prinstein and Aikins 2004) and that over time this can be internalised by the individual resulting in self-doubt, deep rooted social anxiety and loneliness (Chorpita and Barlow 1998; Troop-Gordon and Ladd, 2005). This outcome is associated with self-evaluation and the reflection on one’s self-efficacy which according to
Crick and Dodge (1994) are integral to the interpretation of a social event (see figure 2.2). Within the ASD population there is a spectrum of capacity in relation to self-reflection and some studies have suggested that individuals with greater difficulty in this domain fair better in relation to the development of anxiety and depression than their higher functioning counterparts (Mazurek and Kanne, 2010). This suggests that the risk of developing adverse depressive cognitions might be mediated by the severity of an individual's deficits in their capacity for reflection and evaluation. The more impaired an individual the more protected they are from depressive cognitions.

Social isolation in childhood amongst the general population is also associated with poorer developmental outcomes and an increased likelihood of adult psychopathology (Church, Alisanski, and Amanullah, 2000). Furthermore, peer isolation in childhood amongst the general population can also lead to challenges in adulthood, including decreased participation in recreational and social activities (Baxter, 1997) and more difficulties in obtaining and maintaining employment (Koegel and LaZebnik, 2009).

This section has highlighted that the diagnosis of ASD revolves around core difficulties with social skills, with some researchers arguing that social difficulties are the primary deficit in ASD. These social difficulties frequently lead to decreased interaction with others which negatively affects the individual's social competency. Reduced social competency can have a negative impact on the development of friendships. This can result in social isolation which is associated with poorer developmental outcomes and has a negative impact on adult life.

2.7 Education, Inclusion and ASD

2.7.1 Education and Inclusion

Social inclusion is a broad concept associated with the idea of social integration, social cohesion and equality. It is hard to measure and highly contentious amongst policy makers and educators within contemporary practice. Although a full discussion on social inclusion is beyond the scope of the current study, the current researcher believes that it is important to provide a brief overview of the historical journey of the term in relation to special education and contemporary issues affecting its use today.

Special education has grown away from approaches in the 1970s which helped to develop alternative educational provision for children and young people. Policy makers in the 1980s began to see that children educated separately from their mainstream peers were increasingly likely to live their adult lives on the margins of a divided society (Sakellariadis, 2012). Consequently the political agenda during the 1980s moved away from exclusion and
towards the integration of pupils with additional needs. This change in approach led to many pupils with additional needs being placed into mainstream schools with resources and adaptations but being expected to fit in with pre-existing structures and attitudes. The Salamanca Conference in 1994 moved things further by insisting that social inclusion within mainstream education should be the norm for all children and the Conference adopted a Framework for Action whose aim was to build inclusive and welcoming communities for all (Morewood, 2008). The Salamanca Conference argued that inclusion for all within schools was the most cost-effective way to improve the efficiency of education and of building inclusive societies. Over the past ten years the inclusion debate has taken a different turn with many now arguing that the current systems and policies within education have created an ineffective and poorly monitored system for pupils with SEN and their families (Lamb, 2009; OFSTED, 2004; House of Commons, Education and Skills Committee, 2006). The Lamb Enquiry (2009) argued that schools needed guidance to implement cost affective, evidence based practices in order to ensure the progress of the increasingly complex pupils being educated within mainstream education. It also called for increased accountability, more personalised communication between schools and educators and a clearer focus on outcomes. This section has demonstrated that inclusion within education has evolved over the past thirty years. Current proponents of the inclusion agenda have called for more systematic work to explore and develop evidence based practices to support the effective inclusion of all pupils within education; and for a more structured and holistic approach to the monitoring of academic, social and emotional outcomes for vulnerable pupils which promotes accountability amongst educators.

2.7.2 Educational provision for ASD
Educational provision for pupils with ASD has changed over the past twenty years as a result of Government funded reviews and research. It is now not uncommon for local authorities to offer a continuum of provision which could include specialist schools, specialist resources within mainstream schools as well as mainstream schools. This continuum reflects the differing needs of pupils with ASD and is a concept supported by The National Autistic Society (Barnard, Broach, Potter and Prior, 2002). As a result of such research and Government legislation there are increasing numbers of pupils with ASD attending mainstream schools (Keen and Ward, 2004). Research suggests that pupils with ASD who are educated within mainstream schools often have higher IQ scores, display fewer symptoms of ASD (Eaves and Ho, 1997; White, Scahill, Klin, Koenig, and Volkmar, 2007) and that this becomes more apparent as pupils get older (White, Koenig and Scahill, 2007). This suggests that pupils with ASD who manage to remain within mainstream settings throughout Key Stage 2 and into Key Stage 3 represent a particular subset of individuals
with ASD whose IQ might be within the average to above average range but whose social interaction difficulties might present a particular barrier to inclusion.

There now exists a growing body of research which suggests that ‘all is not well’ within mainstream classes for pupils with ASD. Teachers have reported that they feel that they lack the specialist training and support structures to teach children with ASD effectively and they consider pupils with ASD to be consistently underperforming and more difficult to include within their classes (House of Commons Education and Skills Committee, 2006; Robertson, Chamberlain and Kasari, 2003). Research has also shown that children who are ‘included’ in this way in mainstream classes experience negative social outcomes including having fewer friends (Cairns and Cairns, 1994), smaller friendship networks (Chamberlain, Kasari and Rotherham-Fuller, 2003), and an increased likelihood of being bullied (Humphrey and Symes, 2010). Pupils are also at risk of academic and occupational underachievement (Howlin and Goode, 1998; Department for Education, 2012a). These findings suggest that in order to benefit from their inclusion within mainstream classes, pupils with ASD face particular barriers which require specific supports. Research also suggests that higher functioning pupils with ASD are at a potentially higher risk for negative outcomes as they do not benefit from the protection by peers often granted to more impaired pupils (Kasari, Locke, Gulsrud, Rotheram-Fuller, 2011) and they might be better able to reflect on their limited social competency (Mazurek and Kanne, 2010).

2.7.3 Schools as intensely social spaces

As the previous sections have shown; the inclusion of pupils with ASD within mainstream schools is intricately linked to the inclusion agenda. The driving forces behind ‘mainstreaming’ in this manner can be thought of as falling into the economic need for cost effectiveness, the desire to create a more inclusive system for all and the highlighted need to work with parental preferences in relation to school choice. For pupils with ASD an additional rationale for the choice of mainstream provision centres around exposure to typical interaction patterns, as well as a recognition of the importance of social interaction within the learning environment. The link between social interaction and learning is well established. Both Piaget and Vygotsky’s work provide a theoretical foundation for understanding the role and importance of social interactions in learning. A foundational concept within Vygotsky’s theory is the notion of internalisation, whereby the individual, through interaction with others, actively reconstructs external, shared operations on the internal plane therefore restructuring the individual’s cognition (Vygotsky, 1978). A central assumption is therefore that an individual’s mental functioning is irreducibly social in origin and that a child’s peers are
essential for cognitive growth. Both Piaget and Vygotsky’s work have been applied to classroom practice through a focus on collaborative learning and the creation of learning communities where co-construction is valued. The importance of the development of friendships and relationships is also highlighted in motivational theory such as Maslow’s work (1970) where it is considered that a sense of belonging is a necessary precursor to higher order functioning, the motivation to learn and for constant betterment. A sense of belonging is fostered through social interaction and through shared experiences. Social interaction is regarded as essential to personal growth and in order to motivate and fulfil our individual potential.

Mainstream classes are social places by nature and therefore offer an opportunity for exposure to social situations as well as good peer models. There is evidence however that without supportive structures in place, pupils being ‘included’ within mainstream classes can actually become more socially isolated. This is often caused by the development of problematic social behaviours which result in the pupil being withdrawn from the class into a 1:1 social situation with a classroom support (Bauminger, Schulman and Agam, 2003). These behaviours either isolate them within natural contexts or restrict intervention delivery to less integrated settings, thus exacerbating social competence delays (Borden and Ollendick 1994; Ozonoff, Wiliams, Rauch and Opitz, 2000).

2.7.4 Potential barriers to the development of social competency within educational settings

2.7.4.1 Individual’s own skillset and behaviour

As discussed in previous sections, deficits in social communication and social understanding are integral to a diagnosis of ASD. This can create a barrier to social competency and the subsequent development of friendships. However, as pupils with ASD do not represent a homogenous group (Tager-Flusberg and Joseph, 2003) it is likely that their personal characteristics, as well as their diagnosis, will have an impact on the level of social inclusion they experience (Jones and Frederickson, 2010). Studies have demonstrated that particular behavioural characteristics within typically developing pupils often predict the degree to which the pupil is socially included (Newcomb, Bukowski and Pattee, 1993). This has been explained in terms of Social Exchange Theory (Thibaut and Kelley, 1959) where the motivation for affiliation is explained through perceived costs and the benefits of interaction balanced against a minimum level of expectation. The interaction of individual skillset with
the peer group’s perceptions of the pupil is complex and fluid. It will be discussed in the following section.

2.7.4.2 Peer group

The discussion so far has centred around deficits within the individual with ASD in explaining poor social functioning, however research suggests that there are other factors which can impede an individual’s social functioning which should be considered when contemplating how to support an individual’s social functioning. These include the individual’s peer group.

Research has shown that a pupil’s peer group is at least as big a hurdle for the pupil with ASD, as are their own social skill deficits (Campbell, 2006; Humphrey and Symes, 2010; Humphrey and Symes, 2011). Campbell et al. (2004) showed that pupils were less likely to show positive attitudes and behavioural intentions towards a child showing autistic behaviours, when compared to the same child without autistic behaviour. This may be linked to a lack of understanding of ASD which in Crick and Dodge’s (1994) model of social information processing (figure 2.2) relates to step 2 and the drawing on social knowledge from their own data base. A lack of understanding of ASD may also mean that peers attribute blame to the pupil for their own social inadequacies, as the difficulty is perceived to be within their control. It may also be that the pupil with ASD’s behaviour is perceived as too costly in relation to the potential benefits and as such could lead social rejection. Both Attribution theory (Weiner, 1986) and Social Exchange Theory (Thibaut and Kelley, 1959) support the idea that treating pupils with ASD as if there is nothing different about them, may not be the most effective means to social inclusion. Researchers have used these theories to suggest that awareness raising amongst peers is an important part of promoting inclusivity. This might help peers to avoid classifying some of the characteristically asocial behaviours often observed amongst pupil with ASD, negatively (Jones and Frederickson, 2010). This focus on peer awareness raising is supported by a number of studies which demonstrate that this area is important in generating positive peer attitudes (Boutot and Bryant, 2005; Ochs, Kremer-Sadlik, Solomon and Sirota, 2001; Bellini, Peters, Benner and Hopf, 2007).

These findings indicate that a peer group’s perception of, and attitudes towards, ASD may play a significant factor in a pupil’s social inclusion. The complex interplay of endogenous and exogenous factors on the quality and quantity of their peer interactions is represented in the Reciprocal effects peer interaction model (REPIM) proposed by Humphrey and Symes (2011).
Humphrey and Symes (2011), argue that negative social outcomes reduce an individual’s motivation to interact with their peers. This in turn fuels a pattern of solitary behaviour which does little to enhance the individual’s social and communication skills. The resulting social withdrawal of the individual with ASD simultaneously results in a limited degree of exposure/understanding which highlights feelings of being different. The REPIM model provides an excellent framework for understanding the endogenous and exogenous factors impacting on peer interaction for pupils with ASD. It does not however reflect on the contextual factors which could also impact upon an individual’s opportunity for social interaction. The current researcher was interested in exploring these contextual factors as additional to the REPIM model. It was thought that in doing so, a more naturalistic and wide reaching understanding of social interaction and the factors affecting it might be gained.

2.8 Teaching Assistants and ASD in schools

2.8.1 The context of the Teaching Assistant (TA)

The movement towards inclusion for pupils with special educational needs (SEN) into mainstream classrooms has resulted in organisational changes within schools which poses a
specific threat to the development of social skills for pupils with ASD. One of the most important of these organisational changes is the deployment of TAs to support pupils with ASD.

Within the literature TAs are predominantly referred to as paraprofessionals or educational assistants/aides. The researcher has collapsed these terms into a single TA category. This has been done as TA most accurately reflects the term used within England where the research has been conducted. The researcher is acutely aware however that this may mask some important differences between the groups. Pupils with ASD are often ‘included’ within mainstream classes through the allocation of a TA as part of their statement of special educational needs (Groom and Rose, 2005). This is likely to be 1:1 support and can often be on a full time basis. The decision to allocate a TA to a pupil is often seen as the long term ‘solution’ for the individual pupil and, an effective method of service delivery (Jones and Bender, 1993; Frith and Lindsey, 1982). As the following section will demonstrate; research shows that this seemingly simple decision can be paradoxically counterproductive for both the individual pupil and the class as a whole (Schwartz, 1997; Webster et al. 2010; Broer et al. 2005; Tews and Lupart, 2008). The utilisation of the TA might therefore be perceived of as a potential barrier to both social inclusion and/or academic progression. This concept will be returned to throughout the current research project as a pivotal theme.

2.8.2 The role of the TA

The job of the TA has altered significantly in recent history. It has evolved from a predominantly administrative role to one where TAs are regularly expected to deliver educational instruction, often for pupils with complex needs, and with growing independence from the teacher (French and Pickett, 1997; Giangreco, Edelman, Luiselli and MacFarland, 1997; Webster et al., 2010). This rapid change has led to blurred role boundaries and often a lack of training and supervision amongst the TA workforce (Giangreco, Edelman, Luiselli and MacFarland, 1997). TAs now represent a primary mechanism for inclusion in mainstream classrooms yet the precise nature of their role and level of responsibility remains unclear (French and Pickett, 1997) and has led to confusion within classrooms (Lamont and Hill, 1991; Webster et al., 2010). The need for clarity has been voiced repeatedly within the literature and questions have been raised about whether TAs are suitably qualified to be carrying out roles such as student testing and assessment, administration and modification of the curriculum, extent and nature of instruction, and communication with families (French and Chopra, 1999; Lamont and Hill, 1991).

Typical TA roles reported within the literature include: providing instruction in academic subjects; supporting students with challenging behaviours; providing personal care;
facilitating peer interaction and collecting and managing data about the students (Boomer, 1994). Whilst a significant proportion of the literature has been concentrated on what TAs do within their role, less has been carried out on how they do their job and to what effect.

Studies analysing the experiences of TAs show that they often report feeling extremely close to the pupils that they support and that they see their role as connecting the target pupil to; the curriculum, the pupil's peers, home and school, to the teacher (Chopra et al., 2004; French and Pickett, 1997). They also feel responsible for the progression of the pupil that they support and this can generate feelings of pride and/or embarrassment, (Downing, Ryndak., and Clark, 2000; Chopra et al., 2004). The same studies also suggest that TAs feel that there are a number of factors which are barriers within the job. Reported barriers include, a lack of respect, a lack of clarity around roles/ responsibilities, a lack of training, lack of supervision and direction, lack of time to communicate with the teachers and isolation around their decision making (Chopra et al., 2004; Downing, Ryndak, and Clark, 2000). TAs reported a need for an increased sense of ‘team’ and professional training as key to enhancing their work satisfaction (Tillery, Werts, Roark and Harris, 2003).

2.8.3 The effect of receiving support from a TA

Although there is widespread anecdotal support for the employment of TAs to support pupils with additional needs within mainstream classrooms (Cremin, Thomas and Vincent, 2005). There is evidence which suggests that at best there is no measurable effect on pupil attainment when they are supported by a TA (Blatchford et al., 2008) but that also there can be a strong negative effect on the academic progress of pupils supported by TAs, and that this is particularly true for pupils with SEN (Webster et al., 2010). This latter claim stemmed from the publication of the Deployment and Impact of Support Staff (DISS) project (Blatchford et al., 2009). This project was a large-scale research project exploring the characteristics, working conditions, job satisfaction and impact of the TA in schools. Although the research identified some positive aspects of the TA role, it also highlighted the negative impact that TAs can have on pupil outcomes. The authors of this report suggested that the more 1:1 support a pupil receives the less well they do academically, due in part to the low quality interactions they receive and the quantity of time spent with the teacher. This statement agrees with previous studies which have shown that having a higher number of adults within a classroom impacts negatively on the amount of time that the teacher spends with all pupils (Cremin, Thomas and Vincett, 2007) however this is likely to affect pupils with SEN even more than most pupils as they already receive less teacher time than their peers when they have a designated TA to support them (Giandreco et al., 1997). Webster, et al. (2010) argue that this is evidence of a double standard within education whereby students
with additional needs receive their primary instruction from TAs who lack the qualifications to be able to do so effectively (Giangreco, 2010; Webster et al., 2010).

It is important to note the limitations of the summary report published by Webster, et al. (2010) in relation to pupil outcomes. Within this report the authors refer to pupils making less progress when supported by a TA than similar pupils did who received less TA support. The report does not however detail how pupils were similar and it also does not test the opposite hypothesis that the fact that the pupils were performing less well did not increase the amount of TA support they received. The correlational findings claimed by Webster, et al., (2010) should therefore be treated cautiously as it could be argued that if a child is willingly or unwillingly receiving TA support as a result of behavioural or learning issues then they might potentially be displaying pre-disposing characteristics which could result in lower attainment.

Despite these cautionary notes on the interpretation of the DISS project's findings, it is clear from the research that the role of the TA can be improved and made more effective and this is essential given the current economic climate. The fact that TAs are ideally positioned to support the development of the pupils they work with suggests to the current researcher that this is an extremely relevant area for study. It is crucial given research findings that more is understood about how to support TAs to develop specific skill set deficits in the pupils they support. An acknowledgement of these factors underpins the current research project which seeks to increase rates of social interaction for pupils with ASD.

2.8.4 Features of TA support which might potentially impact on peer interaction

Intense, close physical proximity to pupils has been found to be a common feature of TA support (Giangreco et al. 1997; Broer, Doyle and Giangreco, 2005). Gaingreco et al's (1997) observational study, reported eight major findings of educational significance all related to the proximity of paraprofessionals. Categories of findings and discussion include (a) reduced responsibility for the pupil with disabilities by the class teacher, (b) separation from classmates, (c) dependence on adults, (d) impact on peer interactions, (e) limitations on receiving competent instruction, (f) loss of personal control, (g) loss of gender identity, and (h) interference with instruction of other students. Whilst there is an acknowledgement of the usefulness and sometimes necessary closeness of the paraprofessional, there is also the suggestion that sometimes this is unnecessary and with the potential to have negative implications. Training for paraprofessionals in appropriate fade back techniques may be an important starting point to navigate some of these.
It has been shown that pupils with SEN and TAs have different interaction patterns than the same pupils have with their teachers (Webster et al., 2010). Despite their one to one interactions being longer, more sustained and more interactive, they lack quality and foster dependency and passivity (Webster et al., 2010). Key differences included paraprofessionals being:

- more interested in task completion than in learning and understanding
- more reactive rather than proactive around topics
- more inclined to close down talk and cognition rather than opening it up and extending it.
- less likely to promote active participation in lessons but rather fed into a passive learning style

This fostered dependency and focus on product rather than process is likely to impact on how well a pupil is supported in their social development.

### 2.8.5 What is the effect of using TAs to support pupils with ASD?

#### 2.8.5.1 The pupil experience

In order to understand what it is like to receive 1:1 support within a mainstream classroom it is important to include the voices of the individuals who have received it. This is limited within the literature and remains an area in need of more exploration. In addressing this issue the current literature review draws on studies which focus on both ASD populations and those that look at more general special educational needs. A key theme that emerges from the literature is the exclusivity and primacy of the relationship between pupil and TA is often developed at the expense of peer relationships (Tews and Lupart, 2008).

In Broer et al's (2005) study the researchers identified themes from the personal accounts of pupils. These included the perception of TAs as; mother, friend, protector and primary teacher. The reflections of the youngsters within the study were a mixture of positives and negatives with some recalling their support TA with admiration while others regarded the situation as isolating and making them feel “weird”. Whilst some blamed paraprofessional proximity as a reason for not developing friendships and as a cause for bullying, others saw them as filling the friendship void and protecting them. Some pupils recalled how closely linked they became to their TA to the point where they become a ‘package deal’ (Giangreco and Broer, 2007). This meant that the likability of the TA impacted on the pupil’s own social
inclusion. If the TA was unpopular then the pupil was further shunned and excluded, however if they were popular then pupils then they would be included more (Broer et al., 2005). The responses of the young people in this study betray the complexity of the relationships between themselves and the paraprofessional and are important to consider.

In critiquing the responses of the research relating to former pupils, Broer, et al. (2005) argue that these themes are worrying and indicate ill health within the education system. They suggest that the system denies pupils the opportunities to develop peer relationships, a sense of their own self and arrests emotional maturation. They also suggest that it perpetuates antiquated ideas of disability meaning a childlike existence requiring mothering (Wolfensberger, 1975) and of the individual as not socially valid or whole on their own. Broer, et al. (2005) also argue that by having the TA as their primary teacher, the system creates an unequal and unfair educational experience in which target pupils receive the message that they are not worthy of their teacher, that they do not belong and they therefore receive less adequate instruction than their typically developing peers. This practice of withdrawing pupils also potentially creates a socially stigmatising situation in class which can result in disfranchisement for the pupil.

Within the REPIM model presented by Humphrey and Symes (2011) TA support as it is currently might conceivably exacerbate the endogenous and exogenous factors described by the authors thereby leading to negative social outcomes for pupils with ASD by creating a buffer zone between the pupil and their peers (see figure 2.4). It is the current researcher’s contention that this situation can be corrected through training so that the TA can act as a facilitator for social interaction.
The literature has been highly critical of the current utilisation of TAs to support both the academic progress and social interactions of pupils with SEN for the reasons discussed above. However, it is also clear from research that there are systemic issues within educational policy and practice which have created the current situation. These difficulties have led researchers to liken the employment of a TA as a 1:1 support, to a ‘band aid’ which fails to tackle ‘core’ problems within educational systems (Giangreco, 1996). It is therefore important to work at a systems level in order to support TAs in their role and to ensure that they are trained and monitored in their endeavours. Recent evidence suggests that when TAs are supported, trained and function as part of a team then they are perceived to be more effective both by others and themselves (Chilton, 2012) and that the development of a pupil’s social skills is one area in which TAs can take particular pride (Chilton, 2012).

To summarise findings in this area research suggests that when pupils are supported by a TA in a 1:1 capacity the TA can be both a symbolic and physical barrier to social interaction (Bishop, Jubala, Stainback, and Stainback, 1996). This can have the effect of interfering with the development of peer relationships. In addition to the social impact of close 1:1 support from a TA, research also suggests that it can lead to academic under-performance (Webster et al., 2010). Possible explanations for this could include a reduced exposure to the more qualified class teacher (Webster et al., 2010) or because the paraprofessional is acting as a
barrier to the development of social relationships and a sense of belonging which motivational theorists highlight as important in self-actualisation (Maslow, 1970).

Section 2.8 has demonstrated that there are an increasing number of pupils with ASD being educated within mainstream settings. This is partly due to the acknowledged link between social interaction and the development of social understanding and academic progression. There is however an increasing evidence base which suggests that current organisational structures within schools can inadvertently exacerbate social skill deficits and this can have a negative impact on pupils with ASD. TAs are ideally placed to become facilitators for social interaction by bridging the gap between the target pupil and their peers however training is needed to support them in doing so.

2.9 Social interaction, social skills and social inclusion
A key difficulty within the literature around ASD and social skills interventions is that there is confusion around the terms; social interaction, social skills and social inclusion and subsequently what success criteria interventions should be measured against. This has limited the generalisability of studies and has made comparisons between studies difficult. The following section will describe these three terms and define the current research’s focus.

2.9.1 Social interaction
A social interaction can be conceptualised as an exchange between two or more people. It has the potential to be both reciprocal and one directional, as well as positive and negative. Social interactions are an important basis for the development of relationships and society as a whole. Qualitative impairments in social interaction are a fundamental part of the diagnosis process in both the DSM-V and the ICD 10 (American Psychiatric Association 1994; World Health Organization 2008). It is therefore reasonable to assume that all pupils with a diagnosis of ASD who are educated within mainstream classes will experience difficulties in this area. The degree of difficulty that an individual might demonstrate and the form that it takes will vary between pupils and should be considered when choosing an intervention strategy (Webb, Miles and Sheeran, 2012; Mundy, Henderson, Inge, and Coman, 2007; Beglinger and Smith 2005).

2.9.2 Social skills
Social skills can be conceptualised as an umbrella term for those skills necessary to create and maintain social relationships. Having good social skills means possessing the flexibility to adjust our behaviour to fit a particular situation or need. There is the need to see, think and react according to a situation. This is well represented in Crick and Dodge’s model of
Social Information Processing (1994) (see figure 2.2). The current researcher therefore regards the term ‘social skills’ as being of a higher order than social interaction, although interacting socially is part of an individual’s social skill set. Individuals with ASD are likely to have individualised deficits within this domain (see section 2.6).

2.9.3 Inclusion /Social inclusion
Within the current research the term ‘inclusion’ will be used in reference to the inclusion of pupils with SEN into mainstream lessons through ‘reasonable adjustments.’ This is governed through the Special Educational Needs and Disability Act (2001).

Social inclusion is a contentious term and one which does not have a single accepted definition. It is helpful in conceptualising social inclusion to consider what social exclusion is. Atkinson and Voudi (2002) defined social exclusion as being something:

- relative to the norms and expectations of a society at a particular point in time (relativity)

-caused by an act of some individual, group or institution or the person themselves (agency)

-that limits both the current circumstances and future prospects of a person.

Within the classroom social inclusion might therefore be conceptualised as an ideal scenario whereby an individual pupil is able to participate fully within their social milieu; fully accepted and supported by all layers of the social fabric of the school, despite their ASD diagnosis. This is an ideal however and in reality the literature often refers to degrees of social inclusion with measures designed to detect changes in attitudes and levels of acceptance.

2.9.4 Terminology and the current study
The current study aims to explore the possibility of increasing the rate of social interaction for pupils with ASD through the training of TAs. It is hoped that in doing so the target pupils might begin to develop a wider repertoire of social skills and that this might potentially affect the degree to which they are social included.

2.10 Social Skill Interventions within education

2.10.1 An overview of the efficacy of social skill interventions carried out in schools
There are an increasing number of pupils with ASD who are being educated within mainstream settings and research has suggested that social behaviour appears to be the domain with the greatest potential to benefit from inclusive settings (Harris and Handleman,
‘Mainstreaming’ potentially offers increased opportunities for socialisation, however many pupils with ASD do not readily, or spontaneously interact effectively with their peers (Laushey and Heflin, 2000). There is therefore a need for targeted intervention to promote positive and meaningful inclusion. This has led to the development of multiple social skills packages and approaches aimed at educational settings. The development of such packages has in turn generated considerable research interest as many schools have begun to ask about their efficacy and cost effectiveness. Although it is beyond the scope of the current literature review to present a meta-analysis of social skill intervention efficacy, the current author feels that it is important to provide an overview of research evidence in this area and how it links to the current project. What is clear from an examination of meta-analyses on social skills interventions is that there is a mixed picture of effectiveness for many interventions. The reasons behind this are discussed in the following section.

There has been a huge growth in the number of social skills intervention programmes aimed at boosting the social skills of pupils with ASD in recent years. The most popular packages and the ones which carry the most research evidence base are Peer mediated Intervention, Pivotal Response Training, Script Fading, Video Modelling Techniques, Social Skill Groups, Joint attention training and Social Stories. Although much research exists around the efficacy of these interventions the conclusions which are drawn from them are variable. This is at least partly due to a lack of consensus about which social skills are being examined within the studies and therefore what ‘improvements’ might look like. This makes it extremely difficult to compare techniques. What is clear from the numerous meta-analyses which exist is that those techniques which are naturalistic in origin generally result in better social skill outcomes and that these outcomes are more likely to be generalised and maintained over time (Bellini, et al. 2007; Flynn and Healy, 2012). These interventions are often perceived by school staff to be more difficult to establish and maintain than those delivered in a decontextualized setting (Smith, 2001). This perception of naturalistic, indirect interventions as being more problematic to establish may account for them being less likely to be employed by school staff, despite their more robust evidence base (Hess, Morrier, Heflin, and Ivey, 2008; Koegel, Matos-Freden, Lang, and Koegel, 2012). On a surface level this might suggest a disheartening disinterest by school staff in evidence based practice; however the current author argues that a more useful conclusion to draw might be that an intervention is more likely to be perceived as ‘easy to implement’ if staff are fully involved and invested in its creation and if the intervention is adapted around the needs of the systems and individuals involved. In doing so the current author wonders if it might be possible to combine the benefits of ‘ease of implementation’ and ‘evidence based practice’.
A review of the literature demonstrates that although there is promising evidence behind some interventions; most notably those involving peer mediated interaction, pivotal response training (Pierce and Schreibman, 1997) and video modelling (Holloway, Healy, Dwyer, and Lydon, 2014) it remains quite mixed for others, including social skills groups (Dotson, Leaf, Sheldon, and Sherman 2010) and social stories (Kokina and Kern 2010). This gap between different types of intervention is usefully conceptualised as being the gap between those interventions which take place within a naturalistic environment that draw on the support of familiar peers and adults (e.g. playground, classroom) and those which are more structured and where the pupil is removed from their normal routine (e.g. Individual social story work or social skill groups). Research has consistently suggested that the generalisation and maintenance of social skills learned through interventions becomes increasingly limited as the intervention is separated from the pupil’s natural environment (Pierce and Schreibman, 1995; Chandler, Lubeck, and Fowler, 1992).

2.10.2 A critical look at social skill intervention research

Research into the efficacy of social skill interventions is hampered by small sample sizes, a lack of control groups, agreed terminology, a lack of long term follow up studies and data regarding the generalisation of skills (Kasari, Rotheram-Fuller, Locke, and Gulsrud, 2012; Trembath, Balandin, Togher, and Stancliffe 2009, Holloway, Healy, Dwyer, and Lydon, 2014). The subsequent difficulties in generalising the findings of research in this area are further exacerbated by the individualised difficulties and skill sets that pupils with ASD have and the fluid nature of social skill targets and goals. Recommendations for boosting the efficacy of social skill interventions centre around increasing the intensity and frequency of the intervention, making it as naturalistic as possible and matching the social skill deficit with the intervention (Gresham, Sugai, and Horner, 2001; Bellini et al., 2007). This has the effect of making a single direct intervention, which will benefit all pupils with ASD extremely unlikely to find, and subsequently makes it much more likely that a highly individualised indirect intervention designed around a particular pupil’s skill level, age and social environment is likely to be more effective.

The feasibility of implementing such highly individualised indirect intervention within an educational setting is questionable given the intense and specialised skill set demanded of facilitators. Within the UK education system the facilitators are likely to be TAs and this becomes problematic when the required skill set of the facilitators is juxtaposed with TAs reported lack of confidence in their ability to support the needs of pupils with ASD (Tillery, Werts, Roark and Harris, 2003). Although there has been consideration of the types of
support which might work best in both indirect and direct interventions and an increased focus around improving the feasibility of indirect intervention within the school system and also the confidence of teaching assistants in supporting such interventions. The lack of consistency within the literature regarding the ‘facilitator role’ renders research findings difficult to apply within the UK. The current researcher argues therefore that there is a need to investigate the practicalities of interventions designed to increase social interaction and to specifically look at the role of the TA in them; in order to ensure their sustainability over a period of time.

Section 2.10 has highlighted that, research into the efficacy of social skill interventions delivered within the school environment are mixed and hampered by methodological difficulties and the varied profile of pupils with ASD. What is clear is that those interventions which are adaptive and intensive and which make use of a pupil’s peers within a naturalistic setting are likely to lead to more sustained improvements and be generalised across the pupil’s life (Koegel, Kuriakose, Singh and Koegel, 2012). Within the literature there is a distinct lack of investigation into the feasibility of running social skill interventions within schools and a similar lack of work around their sustainability and the confidence of teaching assistants to intervene. The current author argues that these are crucial areas to understand in order to harness the potential of the TA to deliver regular, non-intrusive social skill mediation within the classroom environment.

2.11 Training TAs to facilitate social interaction within the mainstream classroom

Within the UK there are an increasing number of pupils with ASD who are being supported in mainstream settings with TA support. TAs often do not receive training to support the social interactions of pupils they work with (Causton-Theoharis and Malmgren, 2005). Research has suggested that this support can be counterproductive both generally, in terms of long term outcomes and also specifically in terms of tackling the social skill deficits which pupils with ASD commonly present with. There is however evidence within the literature which suggests that adult facilitated social interactions can lead to increased social engagement (Koegel, Vernon, Koegel, Koegel, and Paullin, 2012) and that therefore social interaction interventions are potentially most effective in terms of maintenance and generalisability when carried out regularly and within naturalistic settings such as the classroom. The role of the TA therefore offers huge potential if channelled and supported appropriately through training.
2.11.1 Studies examining the role of the TA in facilitating social interactions

The current researcher searched the literature base for interventions which trained TAs to facilitate social interactions. This search returned four studies of which three were research papers. Of the three research papers two were written by the same authors and it was not possible to get access to the third despite several attempts. The following section will critically evaluate the closest two matches in relation to these search criteria.
Table 2.2: Studies researching the impact of TA training on the facilitation of social interaction within the classroom for pupils with ASD.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Name of study</th>
<th>Age of Participants</th>
<th>Number of pupil participants</th>
<th>Number of TA participants</th>
<th>Assessment/measures</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Generalisation/Maintenance of skills for the pupil</th>
<th>Feasibility Measure/sustainability within the school system</th>
<th>confidence measure included for TAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causton-Theoharis and Malmgren (2005b)</td>
<td>Increasing peer interactions for students with severe disabilities via paraprofessional training</td>
<td>6-11</td>
<td>4</td>
<td>4</td>
<td>Observational data pre and post intervention collected and 4 weeks after the intervention</td>
<td>4 hour in-service training session delivered 1:1 with 4 different TAs. Topics covered: - Enhancing perspectives - Establishing the importance of interaction - Increasing the paraprofessionals knowledge of strategies for</td>
<td>- Modest increase in facilitative behaviours noted. - Significant increase in interaction levels between target pupil and peers.</td>
<td>Maintenance Observation phase four weeks after the intervention. - Gains maintained</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Malmgren, Causton-TheoHaris, and Trezek, (2005)</td>
<td>Increasing peer interactions for students with behavioural disorders via paraprofessional training</td>
<td>5-10</td>
<td>3</td>
<td>3</td>
<td>Observational data pre and post intervention collected</td>
<td>3 hour in-service training session delivered 1:1 with 3 different TAs.</td>
<td>- Rates of peer interaction increased following on from the intervention.</td>
<td>- None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
The two studies described above delivered the exact same intervention. They were able to demonstrate that a short targeted training session for TAs led to an increased rate of facilitative behaviour by the TAs; and that this resulted in a significant increase in the rate of social interaction between the target pupils and their peers. These findings are extremely positive and although neither study focussed specifically on pupils with ASD, these studies do provide evidence that training TAs can lead to positive social gains in the rate of social interaction achieved for pupils with additional needs.

2.11.2 Critique of social skills interventions which train TAs to facilitate social interaction within the mainstream classroom

The two studies outlined above were the closest related articles in terms of the search criteria employed. The methodology employed in both papers was very closely related as was the intervention delivered although there are significant differences in target populations. The intervention itself was delivered as a single three/four hour in-service training session delivered on a 1:1 basis with three/four different TAs. The curriculum covered four main areas; enhancing perspectives, establishing the importance of peer interaction, clarifying the paraprofessional's role in facilitating social interaction, and increasing the paraprofessionals' knowledge base of strategies for facilitating interactions. The paraprofessionals were then observed on multiple occasions using the Peer interaction and Paraprofessional Facilitative Behavior Observation Instrument (PIOI). This was adapted from the Educational Assessment of Social Interaction (EASI) Engagement Scale (Beckstead and Goetz, 1990). This instrument was used to document in ten minute sets, the rate of specific facilitative behaviours of the paraprofessional and any reciprocal peer interactions between the target pupil and their classmates. The training involved a baseline and post intervention phase in order to compare the rates of facilitative behaviour and the researchers employed a second observer with high levels of inter-observer reliability.

Although these studies were able to demonstrate that a relatively short and targeted intervention led to modest increases in the facilitative behaviour of TAs, and perhaps more importantly that it led to a significant increase in interactions amongst peers and the target pupil; there are several important limitations to the study which impact on the usability of the research. The studies lacked any detailed information relating to the impact that the recorded increase in facilitative behaviours and rates of social interaction had on social inclusion or patterns of behaviour outside of the classroom observations. These are important issues as it has been shown that interactions outside the classroom are critical to the academic and social success of the pupil (Koegel, Vernon, Koegel, Koegel, and Paullin, 2012). The studies also didn’t explore the possibility that the training might have resulted in
negative interactions between the target pupil and their peers. Perhaps most importantly and most relevant to the current study; neither study explored the confidence levels of the TAs they trained or considered the feasibility, implementation or sustainability of the training package from a whole school system perspective. It is essential that these factors are properly understood in order to support the generalisation of the training throughout a given school and ensure that pupils with ASD receive consistent long term support for their social interaction difficulties. This lack of contextual consideration is a feature of the literature focused around ASD and social skills interventions despite there being an acknowledged need for it (Kasari and Smith, 2013). An additional difficulty in generalising the conclusions of these studies to the UK education system is that both studies listed above were carried out in the United States (US). The education system and population within the US is very different to that in the UK. The current researcher feels that research carried out within the UK would be able to shed more light onto the sustainability and effectiveness of intervention work within the UK system.

This section has demonstrated that there is a lack of research examining how TAs can be trained to facilitate social interaction between pupils with ASD and their mainstream peers. It was not possible to locate any literature which specifically examined the feasibility and sustainability of such training interventions within the whole school system and how this might be supported over the long term by the local authority. Given the growing number of pupils with ASD attending mainstream schools with TA support and the reported negative outcomes for them; it is important to examine sustainable, cost-effective interventions. The following section will highlight the differences between the Better Together intervention and that of the two closest studies described above and how it aims to explore both affectivity and feasibility. This will be followed by a discussion of the function of training and how this might be channelled into a specific intervention.

2.11.3 The Better Together intervention

The Better Together intervention draws upon the intervention put forward by Causton-Theoharis, and Malmgren (2005b) and Malmgren, Causton-Theoharis, and Trezek, (2005) however it differs in some key elements. The table below outlines the content of the Better Together intervention, further details can be found in Appendices A-E and on the USB drive included with this thesis. The key differences and rationale for the differences will be discussed below the table.
### Table 2.3: The content of the Better Together intervention

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Focus</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workshop 1</strong></td>
<td>Acknowledge TA strengths and the importance of their role</td>
<td>Group of five TAs involved in a one hour interactive workshop facilitated by the researcher.</td>
</tr>
<tr>
<td></td>
<td>Understand why social interaction is important</td>
<td>Homework task set (noticing social interactions and understanding the layers of relatedness for the target pupil)</td>
</tr>
<tr>
<td></td>
<td>Understand why pupils with ASD might find social interaction difficult.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand the difference between this training (approach) and other interventions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Noticing social interaction (s)</td>
<td></td>
</tr>
<tr>
<td><strong>Workshop 2</strong></td>
<td>Reflecting on ‘noticing’ social interactions. Identifying and problem solving around barriers and facilitators to interactions.</td>
<td>Group of five TAs involved in a one hour interactive workshop facilitated by the researcher.</td>
</tr>
<tr>
<td></td>
<td>Reflect on the role of the TA in supporting social interaction and how the TA role can interact with these difficulties.</td>
<td>Homework task set: Trial and document some strategies from the generated list.</td>
</tr>
<tr>
<td></td>
<td>To develop a bank of ideas for supporting and boosting pupils’ rates of interaction this is specific to the school.</td>
<td></td>
</tr>
<tr>
<td><strong>Workshop 3</strong></td>
<td>Reflection on the facilitative strategies tried</td>
<td>Group of five TAs involved in a one hour interactive workshop facilitated by the researcher.</td>
</tr>
<tr>
<td></td>
<td>Trouble shoot around potential threats</td>
<td></td>
</tr>
<tr>
<td>and barriers</td>
<td>Homework task set: Trial and document some strategies from the generated list.</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Link strategies to planning and Individual Education Plans (IEPs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creating a network of support</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff training Session</th>
<th>One hour interactive training session for teachers and senior leadership team led by the researcher.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand what the ‘Better Together’ project is and where the training is up to.</td>
<td></td>
</tr>
<tr>
<td>Understand why pupils with ASD have difficulties with social communication.</td>
<td></td>
</tr>
<tr>
<td>Understand the importance of interaction over a child’s life course</td>
<td></td>
</tr>
<tr>
<td>Be aware of research around the TA and their role.</td>
<td></td>
</tr>
<tr>
<td>Have an increased knowledge around facilitative strategies that TAs and others might use to increase social interaction.</td>
<td></td>
</tr>
<tr>
<td>Have considered how they might support this project.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Coordinator planning meeting with teachers and TAs</th>
<th>One hour interactive planning discussion facilitated by the Project Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss the effectiveness of strategies tried</td>
<td></td>
</tr>
<tr>
<td>Problem solve around difficulties experienced</td>
<td></td>
</tr>
<tr>
<td>Celebrate successes and efforts made by the TAs</td>
<td></td>
</tr>
<tr>
<td>Identify and plan for opportunities for</td>
<td></td>
</tr>
</tbody>
</table>
The structure of the Better Together project was purposefully designed to be flexible and responsive to the needs of the TAs and staff. The general strategies offered by the researcher were meant to be built upon and made specific to the particular school in which it was implemented. The training was also offered to all TAs within Key Stage Two in order to build a support network and tap into the experience and expertise of a greater number of TAs. This meant that the workshops were delivered to all five TAs in Key Stage Two. The staff training session was planned to build up a shared understanding of the purpose of the intervention and the strategies generated by TAs. It was also designed to support any identified difficulties or barriers to the project’s implementation both from the TA perspective and also that of teaching staff and management. The Project Coordinator led meeting was designed to give the opportunity for shared planning and trouble-shooting as well as to give ownership of the intervention and strategies to the school.

2.11.4 Key Differences between Better Together Intervention and the Causton-Theoharis, and Malmgrem (2005b) and the Malmgrem, Causton-Theoharis, and Trezek, (2005) Interventions

The Better Together intervention differs from the Causton-Theoharis, and Malmgrem (2005b) and the Malmgrem, Causton-Theoharis, and Trezek, (2005) interventions in the following ways. The rationale for these changes will be discussed in the following sections relating to training and implementation:

- An increased focus on the whole school system and how the intervention might operate within the system
- Its focus on developing a network of support at all levels of the school system
- Its flexibility to meet the needs of the individual TAs, pupils and school
- Its focus on giving staff ownership of the strategies and intervention as a whole
- Its collaborative problem solving approach
- Its mode of delivery
2.12 Training and the Role of the Educational Psychologist (EP)

2.12.1 The Role of Training and Continued Professional Development

It is essential that professionals working to educate children use techniques and approaches that are supported by evidence-based practice. It is therefore important that schools support their staff through effective and relevant professional development (Klinger, 2004). It would be unreasonable to assume that the knowledge with which people first enter the profession is sufficient to last an individual throughout their career. It is more useful to regard knowledge as having a dwindling half-life (Knight, 2002). The importance of a continued professional development might conceivably be regarded as even more important for TAs who frequently enter the profession with less training than teachers, but are expected to provide support for the most complex youngsters (Webster, et al., 2010). These paraprofessionals are often the staff members who report being dissatisfied with the range and quality of the training they receive (Webster, et al., 2010) and so it is important to understand ‘what works’ in terms of supporting them through the acquisition and implementation of new knowledge and techniques to maximise the training that they receive. There has been a growth in research which has led to a body of knowledge about what works to support professional development within educational settings (Vaughn, and Dammann, 2001). There has been a strong tendency within this literature to focus on teacher development and a lack of research into effective training methods for paraprofessionals (Cajkler, et al., 2007). For the purpose of this literature review the findings within the literature will be generalised and applied to the TA role.

2.12.2 The efficacy of continued professional development

Research into the efficacy of teacher training has been dominated by a simplistic process-product conceptualisation which has a limited explanatory capacity (Opfer and Pedder, 2011; Timperley and Alton-Lee, 2008). By focussing on ‘what’ is learned instead of ‘how’ or ‘why’ it is learned, research in this area has failed to develop a robust understanding of how to support continued professional development. One specific criticism is that there is little acknowledgment or exploration of how learning is embedded within the context that professionals operate within (Borko, 2004; Clarke and Hollingsworth, 2002). This gap within the literature extends to research concerned with the efficacy of social interaction and social skills interventions for pupils with ASD. In addition to a lack of literature around context; criticisms have also been made of the lack of attention given to implementation factors when considering the efficacy of an intervention (Durlak and DuPre, 2008). There is a robust evidence base for the finding that effective implementation is associated with better
outcomes (Durlak and DuPre, 2008) and hence an associated need for pilot studies which give implementation data. The following section will discuss the findings of process-product evaluations and will then go to discuss a potentially more dynamic approach to evaluating the efficacy of the Better Together social interaction intervention which incorporates implementation factors.

2.12.3 Process-product evaluations of what does and doesn’t work in training

Research suggests that approaches to staff development which involve ‘top down’ brief workshops or presentations are ineffective in bringing about substantive change (Abbott, Walton, Tapia, and Greenwood, 1999; Malouf and Schiller, 1995; National Joint Committee on Learning Disabilities (2000); Goleman, 1998). Factors which have been shown to bring about such change are combined and illustrated in Figure 2.5 and Appendix T (Fuchs and Fuchs, 1998; Gersten, Vaughn, Deshler, and Schiller, 1997; Klingner, Arguelles, Hughes, and Vaughn, 2001; Taylor, Nelson, and Adelman, 1999).

Figure 2.5: An illustration of ‘what works’ for implementing changes to practice (Moreland and Myaskovsky, 2000):

Educators must be able to see both the potential and actual benefit of the training they have received, and be able to take ownership of it by adapting it to fit their own specific situation.
Additional research has demonstrated that having a community of people to support change is also beneficial when asking professionals to alter their practice (Gersten, Vaughn, Deshler, and Schiller, 1997; Pressley, and El-Dinary, 1997). One such way of creating a community is by training multiple people.

There is a growing support for teacher training to be delivered to groups who then go on to form a community task group through which change might be driven (Opfer, and Pedder, 2011). The research evidence base supports the view that such groups perform better and more effectively when they are trained together (Hollingshead, 1998). It has been argued that this can be attributed to the development of a transactive memory system (Wegner, 1987, 1995). A transactive memory system in this sense can be conceptualised as a system of remembering important information and developing a way of knowing who knows what within a group. In this way the group becomes a supportive repository which members can access when needed and gives a form of group identity. Having this type of information and identity can lead to a more streamlined method of problem solving between members (Moreland, and Levine, 1992). A transactive memory system can arguably be created by simply providing individuals with information about the skills of others (Moreland, and Myaskovsky, 2000) however it is most commonly associated with the group training scenario.

2.12.4 Factors Affecting the Implementation of Training
In order to fully conceptualise ‘what works’ in terms of implementing new practice it is also important to consider factors which might impede the implementation. Gersten, Vaughn, Deshler, and Schiller, (1997) have noted six factors which can impact on how readily a new strategy might be implemented within a school; these are illustrated in figure 2.6.
2.12.5 Factors Affecting the Sustainability of Training

It is acknowledged that the implementation of innovative new practices based in evidence is a long term commitment which relies on a close relationship between researcher and professionals (Fuchs and Fuchs, 1998). There is also evidence which suggests that consideration should be given to the length of practice sessions and rate of feedback from the trainer with short practice partnered with regular feedback being a particularly useful combination (Robinson, 2011). Factors affecting the success of training and the sustainability of change within the classroom are linked to those outlined above but also included the perceived flexibility of the new strategy, to be adapted to suit individual contexts and teaching styles, as well as the popularity of the new approach amongst pupils (Klinger, Vaughn, Hughes, and Arguelles, 1999). It is essential that training is tailored to the system and embedded within it as teacher learning has been shown to be non-linear, multidimensional and multi-causal, heavily affected by the interaction of multiple variables (Opfer and Pedder, 2011). Factors impeding the sustainability of new practice included factors such as; high-stake testing, forgetting and time (Klinger, Vaughn, Hughes, and Arguelles, 1999).
An investment in professional development for a select few staff can lead to the ‘spreading’ of good practice. Klinger, Vaughn, Hughes, and Arguelles, (1999) found that factors which facilitated this ‘spread’ included support from senior staff within school, publishing and celebrating improved outcomes for pupils and the perceived flexibility of the practice. There is also evidence that the internal characteristics of individual professionals affect, for instance, how able they feel to implement and sustain a new approach to their practice. Klinger, Vaughn, Hughes, and Arguelles, (1999) conceptualise this as a continuum of professionals with those unlikely to make any change at one end and those who find change relatively easy at the other. They argue that those who benefit most from additional and ongoing support are the ones they describe as ‘moderate implementers.’

To summarise, professional development is crucial in order to bridge the research-practice gap and ensure that pupils benefit from evidence based practice; however there is a lack of research that links the school context to the intervention content and any subsequent effects. This research gap has led to a lack of clarity about why a particular intervention might have been successful. What the literature does suggest is that there are a number of factors that can both negatively and positively affect the impact of training. It is important that these strategies and approaches are drawn upon in the delivery of training. The current research aims to incorporate the ‘what works’ principles into the delivery of the Better Together intervention; but also seeks to combine this with an exploration of the context and processes involved in implementing the project. It is hoped that this will support a deeper understanding of why training works or doesn’t work. This approach to training is an important difference between the current research from those carried out by Causton-Theoharis, and Malmgrem (2005b) and Malmgrem, Causton-Theoharis, and Trezek, (2005). The current study also hopes to add to a limited research base concerning the training of TAs, as it is acknowledged that most of the literature focusses on teachers and that TAs represent a very different group within the school structure, with significantly less power and control (Blatchford et al., 2009).

2.12.6 Training and the TAs potential for improving social outcomes for pupils with ASD

The Autism Education Trust good practice guidelines place a high value on the power of training as a means through which improved outcomes might be gained for pupils with ASD (Charman et al., 2011). They emphasise the usefulness of more general packages such as the Inclusion Development Programme (2009) and also specific training on TEACCH, PECS, sensory integration and behavioural management techniques. The proximity of TAs to the students they support puts them in a unique situation and gives them the opportunity to
facilitate friendships between the pupil with ASD and their classmates. When this is combined with the acknowledgment that mainstream classrooms are considered to be fertile ground for the development of peer interaction and relationships the partnership of TA support and mainstream classroom seems potentially promising.

Studies have shown that TAs are aware of their training requirements (Downing, Ryndak., and Clark, 2000) and of their role as potential ‘connectors’ between target pupils and their peers (Chopra, et al., 2004). Several studies have also demonstrated that TAs can learn new skills and successfully implement learned strategies after a relatively short training period (Wickham, 1993; Shulka, Kennedy and Cushing, 1999). There is also evidence within the literature that whole school approaches which empower TAs and work at a systems level can have a positive impact on student outcome and TA motivation (Giangreco, 2003).

2.12.7 The Educational Psychologist's Role in supporting social skills interventions

EPs are well placed to make a significant contribution to supporting pupils with ASD within mainstream schools both directly and indirectly. Training around ASD is an integral part of EPs initial training and EPs work extensively with individuals with ASD on a regular basis. This means that EPs have a secure knowledge base around ASD in addition to practical experience. They are also well placed to support schools as group work leaders and research has demonstrated that EPs can make important contributions to individuals and groups in this way (Liddle and Macmillan, 2010; Kay, 2012). Training is another key part of an EP’s role and previous studies have looked at the effects of EPs training school staff over a period of time and found favourable results (Cline, 2012; Willey Holliday and Martland, 2007). Willey, Holliday, and Martland, (2007) looked at the effects of EPs training school staff and found not only positive results for pupil participants in their study, but also for the adult participants – teachers and teaching assistants – who claimed that they had developed their knowledge, skills and confidence as a result of the training.

In addition to offering direct work with pupils and school staff, EPs are also able to offer long term support to schools thereby creating collegial support networks which support the implementation of new strategies (Fuchs and Fuchs, 1998). EPs can also function as a ‘critical friend’ for schools, giving an external perspective on implementation and maintenance issues. This has the potential to help build adaptive systemic capacity over time. This ongoing relationship has been shown to be crucial to embedding training within functioning systems (Fuchs, and Fuchs, 1998).
The role of the EP in implementing new strategies within the school environment is further supported by their training as scientist-practitioners. This means they are able to design, implement and evaluate the effectiveness of training and interventions carried out within schools. Gersten, Vaughn, Deshler, and Schiller (1997) argue that explicit feedback and the demonstration of observable effects are key to the successful implementation of new strategies.

By examining the role of the EP it becomes clear that they are well placed to provide training and support the implementation of new strategies and interventions within whole school systems.

2.13 Literature Summary

The literature shows that social interaction and the development of friendships is important in promoting academic (Ladd, Koehenderfer, and Coleman, 1996), personal and emotional development (Bollmer, Milich, Harris, and Maras, 1996). It also shows that pupils with ASD often struggle to form and maintain social relationships (Chamberlain Kasari and Rotheram-Fuller, 2007; Orsmond, Krauss, and Seltzer, 2004) despite being sensitive to and desiring of them (Bauminger and Kasari, 2000; Bauminger, Shulman, and Agam, 2003). School staff are aware of the need to facilitate social inclusion for pupils with ASD but are unsure of how best to do it (Frederickson, Jones and Lang, 2010). Pupils with ASD are increasingly likely to attend mainstream schools where it is expected that they will absorb the social skills needed to develop friendships from their peers, however there is a robust evidence base which suggests that current systems set up to facilitate their inclusion might actually be confounding the issue (Webster, et al., 2010). TAs are in a unique position to support the social interactions of the pupils they work with and there is research which demonstrates that they are highly skilled in taking on new ideas, learning new strategies and implementing them to good effect (Wickham, 1993; Shulka, Kennedy, and Cushing, 1999). This is particularly true when they have the support of the school system within which they work (Giangreco, Edelman, and Broer, 2003). There is currently a need for evidence based research into how TAs can be best utilised in order to facilitate social interaction between pupils with ASD and their typically developing peers. There is also a need to examine systemic factors within schools which might support or impede the implementation and sustainability of new strategies and interventions.

2.14 Aims of the research

The current research project aims to harness the potential of TAs in facilitating social interaction within a mainstream setting through a training package designed to establish the
importance of social interaction for pupils and to generate facilitative strategies amongst TAs which they might use within the classroom. The project’s emphasis on TA training and supervision, alongside the recruitment of a senior project coordinator were designed to boost TA confidence and support systemic change.

2.15 Research Questions
The literature review has highlighted the lack of classroom based interventions designed to increase the social interaction opportunities for children with ASD, and the potential for TAs to implement such interventions. It has also demonstrated that there is a lack of research linking efficacy to context to support a deeper understanding of the implementation and feasibility of the intervention. The following research questions were designed to address these gaps.

The research questions (RQs) are as follows:

- RQ1. Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?
- RQ2. Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social interactions of pupils with ASD?
- RQ3. To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?
- RQ4. How does the school view the implementation of ‘Better Together’ and how have they supported it at a systems level?

2.16 Expected Contribution and Impact of the Project
It is hoped that this research project will contribute to academic knowledge in four main ways. Firstly, it will help to build up an understanding about how TAs might be utilised to increase the rate of social interactions for pupils with ASD in mainstream settings. Secondly, it will examine the feasibility of the intervention and how school systems might inadvertently impede or support the implementation of new strategies. Thirdly, it will provide an insight into the potential of the EP to train and empower TAs to use new strategies. Finally, it will add to literature about how TAs can be used most effectively to support pupils with ASD. This study has the potential to transform the school experience for individual pupils with ASD as well as promoting and celebrating the potential of TAs. Its principles have the potential to affect many more people on several different levels. In harsh financial times it has the potential to offer schools a long term cost-effective intervention for an acknowledged difficulty amongst
pupils with ASD. It is hoped that this project will be used as a foundation for other Educational Psychologists (EPs) seeking to further support and advise around promoting social inclusion for pupils with ASD.
Chapter 3: Methodology

3.1 Chapter Overview
This chapter will detail the rationale and aims, research design, participant sampling and recruitment, data collection and data analysis methods employed in this study. The researcher’s epistemological and axiological positions are described and a critique of the chosen method is provided. The chapter will conclude by considering the ethical issues raised by the research.

3.2 Rationale and Aims
This research was born from a combination of four major factors; Firstly, the author's personal interest in ASD and the role of TAs within schools; Secondly, the current economic climate within the UK which has placed an increase focus on accountability and cost-effectiveness within education; Thirdly, the oversubscription of specialist resource places for pupils with ASD within the local authority that the author was on placement with as a Trainee Educational Psychologist, and the subsequent training needs of mainstream schools; Fourthly, an awareness of a robust research base which suggests that pupils with ASD are experiencing negative outcomes within mainstream schools which calls into question the effectiveness of current support systems used within schools, including the deployment of TAs (Webster et al., 2010; Giangreco, Edelman, Luiselli, and MacFarland, 1997; Blatchford et al. 2009; Humphrey and Symes (2011).

The aims of the current researcher were to both trial the effectiveness and feasibility of a new intervention named ‘Better Together,’ which was designed by the author to attempt to increase peer interaction for pupils with ASD within a mainstream primary school through the training of TAs and also to explore the systemic factors within the school affecting the intervention’s implementation and sustainability.

3.3 Research and philosophy
Research, by definition engages with the world and provides a description of it. The methodological decisions made by the researcher and the interpretation of research findings therefore draw upon the researcher’s philosophical conceptualisation of nature and knowledge. It is therefore important to consider the current author’s ontological,
epistemological and axiological position and how they may have impacted upon the present research.

3.3.1 Ontological and epistemological position

In order to ascertain her epistemological position and understand how this has influenced the current research, the researcher has engaged in philosophical reading and debate alongside self-reflection. In doing so she has become aware of her strong commitment to the notion of the educational psychologist’s role as one of a ‘scientist-practitioner.’ Although not explicitly aligned to any particular philosophical perspective on the nature of knowledge, in the current researcher’s opinion Lane and Corrie’s (2009) conceptualisation of the psychologist as a ‘scientist-practitioner’ is one which is sympathetic to a critical realist position due to its fundamental principles around the exploration, integration and interpretation of information alongside its commitment to the use of scientific enquiry to guide and evaluate work. Critical-realism conceptualises reality as complex, multi-layered and constructed however also acknowledges the role of values in enquiry and on the theoretical nature of facts (Robson, 2002). It represents an integration of the systematic objectivism associated with positivism and creative subjectivity of relativism and as such resonates with the idea of the psychologist as a ‘scientist-practitioner.’ Critical realism offers the possibility of the psychologist giving an ‘explanatory critique’ of a situation (Bhaskar, 1998) based on scientific exploration but informed by the perspectives of participants and consideration of context. It allows the researcher to explore the ‘the wider picture’ revealing what works for some people in some contexts (Matthews, 2010) and promotes the probing of local, tentative explanations for why a particular event occurred in that way and at that time (Robson, 2002). This is something which Kelly (2008) argues, is a central role for the Educational Psychologist in their pursuit of positive sustainable change. It is the ability of critical –realism to consider realities that exist beyond those that are socially constructed, whilst also exercising caution about the over generalisation of principles and ‘knowledge’ that appeal to the current researcher and represent her epistemological position in relation to this research.

The researcher’s critical realist position is reflected in her approach to developing the ‘Better Together’ intervention alongside TAs within the school and in her consideration of systemic factors affecting the intervention’s feasibility and sustainability. This qualitative approach is matched by the use of valid and reliable instruments to detect intended and unintended outcomes, determine effectiveness and consider the generalisability of findings to other contexts.
### 3.3.2 Axiological Position in relation to the research

Axiology is the philosophical study of values; it is important for researchers to be aware of their own values in respect of the subject they are exploring and consider the impact that this might have upon their approach and the conclusions they draw. There are five central beliefs held by the researcher which permeate the current research and will be discussed below:

- Professionals working with children with additional needs want to do their best for that child
- Schools are complex systems which can make change difficult
- Sustainable changes in classroom practice must be organic and naturalistic drawing on the talent and expertise of the involved adults. This represents a bottom up rather than top down approach to change.
- EPs have an important role in supporting the development of those working with children with additional needs.
- Social inclusion is a positive ideal to work towards but requires systematic evidence based practice to work.

These values can be seen in the active involvement of TAs and senior staff members throughout the implementation and evaluation stages of the research and the consideration throughout of the mechanisms needed to support TAs within their highly unique settings to improve outcomes for pupils with ASD. The triangulation of data from multiple sources also demonstrates the current researcher’s belief that complex concepts such as social inclusion cannot be addressed through the analysis of a single source of data. The current project is driven by the current researcher’s belief that meaningful inclusion requires a systematic evidence base. This research is an attempt to contribute towards this evidence base.

### 3.3 Design of the study

This research is an exploratory process evaluation, designed to evaluate the effectiveness, feasibility and sustainability of a novel intervention programme carried out across three pupil/TA pairings in a single primary school.

Process evaluation challenges the traditional view of evaluation as being focused on the extent to which an intervention meets its objectives (Robson, 2002). Process evaluations, alongside realistic evaluation (Pawson, and Tilley, 1997), look at both description and evaluation in order to fully understand how an intervention operates. In this sense they are concerned with improving rather than proving (Robson, 2002). This makes them more dynamic and better able to cope with the complex reality of change and systems. The current researcher conceptualises process evaluation as complimentary to static outcome evaluations, providing a coherent understanding of the processes involved in any observed outcome. Process evaluation therefore allows researchers to confidently state “what it is
about a programme which works for whom in what circumstances” (Pawson, and Tilley, 1997, p.217).

Process evaluations monitor operations so that faults in the design are identified and guidance for alterations is provided. This type of evaluation requires regular support and feedback between involved parties. Within this study this can be seen in the coaching element of the intervention and in the frequent communication between the process evaluator, i.e. the researcher, the TAs and the project co-ordinator (Stufflebeam et al., 1971; Popham, 1975; Stufflebeam, 1983). The current researcher has adopted this style of context rich evaluation in acknowledgement of the lack of research exploring the feasibility of interventions (Opfer, and Pedder, 2011) and to support the development of an understanding of why/how training works for TAs.

The current research is small scale in design and as such the researcher does not claim to draw robust, generalizable conclusions relating to the ‘Better Together’ intervention. It is felt however that the current research will provide valuable information about the intervention’s usefulness for facilitating social interaction amongst the target pupils through TA training and illuminate organisational facilitators and barriers affecting the feasibility, implementation and sustainability of the intervention. It is hoped that this will provide a mixture of summative and formative data which might help to maximise the utility of its findings to professionals (Cline, 2012).

3.3.1 Mixed methods approach
The current researcher gathered both quantitative and qualitative data to allow for the exploration of the intervention’s effectiveness, implementation and feasibility. This is described as a mixed methods approach. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone (Creswell and Plano Clark, 2007).

A mixed methods approach relies upon the effective combination of two different types of research methodologies and philosophies. Quantitative research is normally aligned with a more positivist stance in relation to knowledge. Data gathered through quantitative methods has been described as ‘closed-ended’ (Creswell and Plano Clark, 2007) in nature and therefore criticised as lacking context and often a reflection on the researcher’s own biases and position in relation to the data. In contrast, qualitative research is more closely aligned
with a relativist ontological stance. It tends to generate ‘open-ended’ information that the researcher then interprets. This is both a strength and weakness, as qualitative research is often criticised for its lack of reliability and small sample sizes. There have been long standing tensions between the two different research approaches, although many now agree with Scott (2007) that the two are reconcilable. The mixed methods approach adopted by the current researcher is conceptualised as offsetting the weaknesses associated with qualitative and quantitative research carried out in isolation (Tashakkori and Teddlie, 1998), by providing a more comprehensive and dynamic evidence base for studying a research problem. A mixed method approach has the additional advantages of facilitating the triangulation of complex data sets. Here, the current researcher agrees with Morse's (1991) conceptualisation of triangulation as the act of seeking to obtain different but complimentary data on the same topic thereby strengthening the conclusions that a researcher might draw.

3.3.1.1 Types of mixed method research

It has been noted within the literature that a significant difficulty associated with mixed method approaches is the number of different ways to combine and weight the data obtained (Tashakkor and Teddlie, 2003). Subsequently efforts have been made to create an integrated three-dimensional typology of mixed method designs (Leech and Onwuegbuzie, 2009). This is represented diagrammatically in figure 3.1.
Leech and Onwugbuzie (2009) have reported that mixed method designs can be conceptualised as a function of; (a) the level of mixing, (b) time orientation and (c) emphasis of approaches (equal vs dominant). Level of mixing refers to whether the mixed research is partially mixed or fully mixed. Time orientation refers to whether the quantitative and qualitative phases of the research study occur at approximately the same point in time (i.e. concurrent) or whether these two components occur one after the other (i.e. sequential). Finally, emphasis of approach pertains to whether both qualitative and quantitative phases of the study have approximately equal emphasis (i.e. equal status) with respect to addressing
the research question(s), or whether one component has significantly higher priority than does the other phase (i.e. dominant status).

Following Leech and Onwueguzie’s (2009) conceptualisation, the current research follows a fully mixed, sequential, dominant status design. Qualitative and quantitative data sets were collected during each sequential phase of the research. The data sets were combined at the interpretation stage with more weight given to the qualitative data due to the low numbers of participants and the rich data contained within the qualitative data sets. It was hoped that this choice of design would help to confirm, cross validate and corroborate findings within a single study (Greene, Caracelli and Graham, 1989; Morgan, 1998; Steckler, McLeroy, Goodman, Bird and McCormick, 1992).

3.3.1.2 Why mixed methods in this research?

The researcher chose to combine qualitative and quantitative data within this research project in order to gain a full understanding of the processes involved in implementing the ‘Better Together’ intervention as well as monitoring the intervention’s impact. It was hoped that in utilising a mixed methods design the current researcher could take advantage of this research design’s potential for triangulation thereby strengthening the validity of any conclusions drawn. Triangulation can be conceptualised as a powerful technique that facilitates the validation of a result through cross verification from two or more sources. In the current research project the triangulation of data occurred within the interpretation phase of the research which facilitated the answering of multiple research questions. Table 3.1 illustrates how the researcher triangulated data from the various different sources in order to address the separate research questions.

Table 3.1 The triangulation of data sources in relation to the research questions

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Gathering Method</th>
<th>Research Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1. Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?</td>
<td>- Structured observations delivered pre and post training and at follow up</td>
<td>Quantitative</td>
</tr>
<tr>
<td></td>
<td>- Semi-structured interviews with Teaching Assistants following the training</td>
<td>Qualitative</td>
</tr>
</tbody>
</table>
| RQ2. Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social interactions of pupils with ASD? | Semi-structured questionnaire delivered pre and post training.  
-Semi-structured interviews with Teaching Assistants following the training. | Qualitative |
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<tbody>
<tr>
<td>RQ3. To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Social Inclusion Survey (SIS; Frederickson and Graham, 1999) for same sex peers. This was carried out before the training, 1 month after workshop 1 and after 1 academic term.  
- Semi-structured interviews with Teaching Assistants following the training.  
-Structured observations delivered pre and post training and at follow up. | Quantitative |
| RQ4. How does the school view the implementation of the TA training and how have they supported it at a systems level? |  
- Semi-structured interview with the school coordinator  
-Semi-structured interviews with Teaching Assistants following the training. | Qualitative |

### 3.3.2 The research phases

Figure 3.2 sets out the different phases of the current research project. The initial Pilot and Development phase was carried out in a resourced provision for pupils with ASD within a neighbouring LA. The aims at this stage were to gather information about the facilitative behaviours used by staff within this specialist provision and to share the proposed content of the workshops sessions with staff experienced in supporting pupils with ASD. The proposed PIOI observation schedule (Causton-Theoharis and Malmgreem, 2005) was also trialled at the resourced provision in order to ensure its suitability and feasibility. The subsequent research was divided between Data Phases represented in purple and Intervention Phases represented in blue.
Figure 3.2 : Research outline

- A discussion with staff at an ASD resource* base around the content of the workshop sessions with a focus on facilitative strategies.
- A follow up discussion about the development of the structured observation schedule.
- The subsequent piloting of the structured observation schedule.

- Semi-structured questionnaire for TAs
- Structured 30 minute observations of TAs at three different points of a single day.
- The SIS questionnaire distributed to the same-sex peers of classes containing the target pupils with ASD.

- Three 1 hour group workshops delivered to TAs. These sessions took place once a week over a three week period.
  - 1 hour staff training session introducing the intervention

- 3X Repeated structured observations of the TAs 1 month after workshop 3.
  - Semi-structured 30 minute interviews with TAs 1 month after workshop 3.
  - Repeated SIS questionnaire 1 month after workshop 3 distributed to the classes containing the target pupils with ASD.
  - Repeated semi-structured questionnaire 1 month after workshop 3
  - School Project Coordinator led session with teachers and TAs.

- After one academic term the researcher returned and completed:
  - 1X structured observation of each TA.
  - Repeat the SIS
  - Semi-Structured interview with the school coordinator

* Resourced provisions are becoming popular as a bridge between specialist provision and mainstream schooling. The use of resourced provision is endorsed by the National Autistic society (Barnard, Broach, Potter, and Prior, 2002; Batten, Corbett, Rosenblatt, Withers, and Yuille, 2006) and answers the call for a continuum of need matched to the often very different profiles of individual pupils with ASD. The ASD resourced provision which helped to develop the data collection tools and design the workshop sessions is actively involved in research into best practice in ASD provision (Bond and Hebron, 2013) and has a special interest in social inclusion.

3.5 Data gathering methods
The researcher utilised both quantitative and qualitative methods in order to carry out the process evaluation for the ‘Better Together’ intervention. In the following subsections the
researcher will explore the methods that were employed; firstly for quantitative data collection and secondly for those employed for qualitative data collection.

### 3.5.1 Quantitative data collection

Quantitative data collection was carried out during all Data Phases of the research project (see figure 3.2). During October 2013 Phase One quantitative pre-intervention data was gathered. This consisted of structured observations; semi-structured questionnaires and the use of the Social Inclusion Survey (SIS). This was followed by Phase Two data which was gathered in November 2013 through repeated structured observations, SIS and semi-structured questionnaires. Phase Three data was gathered in February 2014 and consisted of repeated structured observations and SIS. All of the data gathering tools were selected based on previous research and the desired outcomes of the research. The researcher will now provide a summary detailing her choice of quantitative data gathering tools.

#### 3.5.1.1 Structured observation

The use of observation in a research process offers the researcher the distinct advantage of gathering ‘live’ data within a naturally occurring situation. It therefore has high ecological validity. The use of observational methods involves the researcher in the gathering of data which does not rely on mediated means such as secondary accounts of events and situations. The immediate, direct cognition is a well noted advantage of observation within research (Cohen, Manion and Morrison, 2007). Observation is also regarded as particularly useful within exploratory research projects where information regarding process and context is particularly important (Robson, 2011). Additional benefits for the use of observation as a data gathering tool include the idea that what a person does may differ significantly from what they say they do (Cohen, Manion and Morrison, 2007, p.396) observation therefore acts as a ‘reality check’ for the researcher. Sensitive observational methods also allow the researcher to gather information about behaviours which the participants might have overlooked, regarded as not significant or have forgotten.

Observational methods can be very different from one another. It is therefore useful to conceptualise them as differing in relation to two domains; the level of pre-structure and the role adopted by the observer (Robson, 2011). Within the current research the researcher used formal structured methods and was a passive, non-intrusive observer. This structured observation approach was adopted to contribute towards the answering of RQ1 and RQ3. This allowed the researcher to gather systematic hypothesis testing data at the micro level. A structured observation schedule was used during observations to gather specific data on
the incidence, frequency and success of facilitative techniques used to promote social interaction for pupils with ASD; thereby allowing explicit comparison between teaching assistants and across different time periods. The use of a structured observation schedule also provided valuable proximity data in relation to the TA and target pupil.

The observation schedule was based on the Peer Interaction and Paraprofessional Facilitative Behaviour Observation Instrument (PIOI) created by Causton-Theoharis and Malmgren (2005b) in their research looking at ‘Increasing peer interactions for students with severe disabilities via paraprofessional training.’ The observation schedule was completed in time intervals of one minute over a period of thirty minutes (Appendix F). This is much longer than the ten minute observations carried out by Causton-Theoharis and Malmgren (2005b). There were three main reasons for this change. Firstly, it was felt that important differences within lessons took place depending on the time of the observation and so a longer observation period might capture a greater range of behaviours. Secondly, it was felt that it would be less disruptive for the TA and teacher if the observations were longer and less frequent rather than shorter and more frequent. Thirdly, it was felt that the ASD profiles of the target pupils with marked sensitivity to change would be better suited to a more sustained period of observation than shorter, more frequent ones. The observation schedule was trialled at both the thirty minute and ten minute periods during a pilot stage at a resourced provision for pupils with ASD. The thirty minute time period was felt to be the most useful as it captured a more varied picture of the classroom and was less obtrusive for the TAs and teachers. Before data collection commenced, the researcher trained a second observer, who was also a trainee on the doctorate in educational and child psychology course, in the use of the observation schedule. The observation schedule was then trialled for three thirty minute observations in order to establish an inter-rater reliability rate. There was 100% agreement in the codings made on all three occasions. This suggested that the categories on the schedule were mutually exclusive and comprehensive and that the tool was ‘fit for purpose’.

3.5.1.2 Semi-structured questionnaires

A semi-structured questionnaire (Appendix G) was used in order to gather data relating to RQ2. A semi-structured questionnaire was chosen as it offers the potential for structure, sequence and focus as well as allowing respondents to reply in their own terms (Cohen, Manion and Morrison, 2007). The questionnaire sought to explore the thoughts and feelings of TAs in relation to their role and abilities as facilitators for pupils with ASD through open
ended questions in addition to comparing and contrasting numerical and frequency data through rating scales, multiple choice and closed questions. The data gathered through the latter type of questions allowed comparisons to be made between TAs and also for each individual TA over time. The questionnaire was piloted by TAs working at a resourced provision for pupils with ASD and no changes were made to the original format. The semi-structured questionnaire was designed to take approximately 10 minutes for TAs to complete. It was administered during Phase One and Phase Two of the research project (see figure 3.2). The researcher was present during the completion of the questionnaire at Phase One but not Phase Two.

3.5.1.3 Social Inclusion Survey (SIS; Frederickson and Graham, 1999)
The SIS is a sociometric assessment designed to establish how willing children are to play with or work with classmates. It consists of two questionnaires to be completed by a group of children. The measure uses a forced-choice format in which children are presented with a list of classmates' names in the order they appear in the class register. Opposite each name are four response options: a question mark; a smiling face; a neutral face; and a sad face. The children are asked to pick an option for each child on the list. This is repeated for both the 'like to work with' questionnaire and the 'like to play with' questionnaire (Appendix H). An index of social acceptance and rejection is then generated by adding up the number of each smiley and sad face and the total number of ticked faces including the neutral faces. A norm referenced cut off table (Appendix I) is then used to determine whether they are 'popular' or 'rejected'. A description of 'average' is gained if the target pupil does not reach criteria for being classified as 'popular' or 'rejected.' Test–retest reliability of the SIS is good, ranging from 0.70 for acceptance and 0.78 for rejection over a five-week period. In a comparative study, Frederickson and Furnham (1998) found that the SIS was amongst the best of similar sociometric measures.

Within the current research project the SIS was distributed to all same sex peers (including the target pupil) within each target child's class during Phases One, Two and Three in order to address RQ3. The decision to restrict the SIS to same sex peers was based on research which suggested that opposite sex peers should not be regarded as a homogenous reference group within the KS2 age range (Frederickson and Furnham, 1998). The SIS was administered to the pupils by their class teacher on each occasion.

3.5.2 Qualitative data gathering methods
Qualitative data was collected during Phases Two (November 2013) and Three (February 2014) through semi-structured interviews. The resulting data was then triangulated at the interpretive stage with quantitative data to address RQs 1, 2, 3 and 4. The researcher felt
that the qualitative elements of the research were essential to understanding the processes, facilitators and barriers involved in the implementation of the ‘Better Together’ intervention.

**3.5.2.1 Semi-structured interview**

Interviews are useful when a rich data set is required for analysis. Interviews vary between the structured and the unstructured on a sliding scale. The current research utilises a semi-structured interview model. In a semi-structured interview “the researcher has a number of topics to cover but the precise questions and their order is not fixed; they are allowed to develop as a result of the exchange with the respondent” (Breakwell, 2012, p. 372). This flexibility allows the interviewer to be responsive and collaborative thereby allowing for a greater depth to the data (Cohen, Manion and Morrison, 2007). Interviews also have the advantage of giving interviewees an opportunity to clarify questions.

It has been suggested within the literature that semi-structured interviews might be particularly useful in research where the interviewer is closely associated with the research and where an in-depth contextual understanding is needed to evaluate processes and implementation (Robson, 2011). This seemed to fit well with the current research project where central topics needed to be covered flexibly. In order to explore the research questions it was important to the current researcher that the semi-structured interview would allow the interviewer the flexibility to ask open questions, be responsive to and guided by the responses of the interviewees and be exploratory. It was hoped that the semi-structured interviews would function as hypothesis generating rather than hypothesis testing.

Within the current research semi-structured interviews were used to gather data from TAs and also from the School Project Coordinator. There were two separate interview schedules, one for TAs (Appendix J) and one for the School Project Coordinator (Appendix K). The interview schedule for TAs contained nine core questions relating to TA confidence, usefulness of the intervention, perceived barriers and facilitators to the implementation of ‘Better Together’, future adaptation and changes to practice. The interview schedule used for the School Project Coordinator contained ten questions relating to the same topics but with the addition of sustainability. The questions asked during the interview were influenced by literature on implementation factors (Durlak and DuPre, 2008). The scheduled questions encompassed intervention quality, participant responsiveness and the generalizability, or reach of the intervention. It also included questions linked to delivery system barriers and facilitators and future adaptation. Each interview was carried out for thirty minutes on a 1:1 basis and audio recorded. The interview schedules were piloted with an experienced EP prior to data gathering in September 2013.
3.6 Participant/Setting Recruitment

The current research project aimed to develop an understanding of how TAs can support the social interaction of individual pupils with ASD within a mainstream school. It is also interested in systemic factors affecting the implementation of the 'Better Together' project. In order to ensure that the research addressed these areas a number of recruitment criteria were devised. Firstly, a single school was sought in order to gain a rich understanding of contextual and systemic factors affecting the implementation process. Secondly, in order to ensure commitment to the research’s aims and to explore systemic issues a senior staff member willing to act as a facilitator was required. Thirdly, steps were put into place to ensure that ASD was confirmed (diagnosis) and that this was the primary area of need for the target pupils (statement of special educational needs) and that they had specific difficulties with social interaction. Finally, it was decided that a focus on Key Stage 2 would allow the researcher to be confident that the child’s social interaction difficulties were specific to their ASD profile rather than linked to a developmental social immaturity. Research has also found that academic and social difficulties worsen when children progress into Key Stage 3 suggesting a need for preventative intervention in mainstream primary classrooms.

Recruitment to these criteria began in May 2012 within the focus LA. The focus LA in which the research took place is where the researcher is currently on placement as part of her doctorate in Educational and Child Psychology. The LA is located in the Northwest of England in an area of low socio-economic status. The researcher asked members of the LA Educational Psychology Service if they were aware of a primary school with three - four pupils with a confirmed diagnosis of ASD in Key Stage 2 who were being supported by a TA through a statement of special educational needs. Seven schools were identified as potential candidates. These schools were contacted by letter in June 2012 (Appendix L) and invited to take part. Of the seven schools only one had three pupils with a confirmed diagnosis and within this school only two of the three pupils had a statement of special educational needs. The criteria for selection were therefore altered to include pupils with a confirmed diagnosis but who did not necessarily have a statement of special educational needs. This resulted in a single match in June 2013.

The matched school was asked to distribute information sheets and consent forms to three TAs and the parents of the three pupils that they supported, as well as to the nominated School Project Coordinator (Appendices M-N). TAs and teachers were also asked to circulate an information sheet to the target pupil so that their assent could be gained (Appendix O). Informed consent was obtained from all in July 2013 and again before the start of each data
collection phase. The parents of the rest of the class were also given the option of opting out of the SIS data collection (Appendix P).

The matched school within which the research took place is a mixed mainstream primary school catering for pupils aged 3 – 11. At the time of the research taking place, there were approximately 352 pupils on the school register. The proportion of pupils known to be eligible for free school meals was well below the national average and the proportion of disabled pupils or those supported at school action plus or with a statement of special educational needs was much lower than average. This school was targeted for this research project as they were known within the authority for catering for higher than average number of pupils with ASD.

3.6.1 Participants
The research sample consisted of three TA: pupil pairings and a single School Project Coordinator who worked in the role of the school’s special educational needs co-ordinator (SENCO). All participants were from the same school.

Pairing A: Female TA + Female Year3 pupil
Pairing B: Female TA + Female Year 4 pupil
Pairing C: Female TA + Male Year 6 pupil

3.7 Data analysis methods
Quantitative data analysis methods will first be detailed in section 3.7.1, followed by qualitative data analysis methods in section 3.7.2.

3.7.1 Quantitative data analysis
Due to the small sample size descriptive statistics were employed to explore trends within the data generated from the SIS, observations and semi-structured questionnaires. Individual and summary trends across the data set will be reported as well as the identification of positive and negative trends.

3.7.2 Qualitative data analysis
The interview recordings were partially transcribed, and a thematic analysis (Braun and Clarke, 2006) conducted in order to identify and organise participant views on the effects and implementation and sustainability of the ‘Better Together’ intervention project.
3.7.2.1 Partial transcription

The transcribing of audio material into written form is an important, if arduous, first step for the researcher towards familiarisation with their data (Reissman, 1993). Once the researcher had decided that she would utilise thematic analysis to analyse her interview data she became aware that there was no concrete rule associated with thematic analysis in relation to transcription. Further reading suggested that thematic analysis does not require the level of detail in the transcript as other forms of analysis (e.g. content or narrative) and as such could be transcribed either fully or partially. What appears to be more important in relation to transcription is that it retains the information needed in a way that is ‘true to its original nature’ and that it is functional in relation to the purpose of analysis (Braun and Clarke, 2006 p.88). Given the large amount of data streams within the current research project and the current researcher’s preference for verbally presented data, the decision was made to undertake a partial transcription of interview data and retain the audio recordings until analysis was complete to facilitate repeated listening. In doing so the researcher felt that she was making the data more manageable without sacrificing its validity.

3.7.3 Thematic analysis

The researcher used thematic analysis to analyse partial transcriptions of the semi-structured interviews with the three TAs and the Project Coordinator. These two data streams were analysed as a complete data set (Lyons, 2011) in order to ensure that both streams were given equal weighting in the analysis.

Thematic analysis is “a method for identifying, analysing and reporting patterns (themes) within data” (Braun and Clarke, 2006, p.79). It is a common qualitative tool for data analysis which aims to provide an organised and rich description of a data set in relation to research questions. As a research tool it is not aligned to any particular theoretical framework but the current researcher felt that it mapped on particularly well to her own critical realist position. This is due to the fact that it encourages the researcher to allow themes to emerge from the data whilst retaining a clear focus on structure, process and attention to detail and context. The current researcher felt that in carrying out a thematic analysis she would be able to critically analyse and appreciate how individuals and groups create their own meaning out of their experiences both in the moment and also through past experiences. It also offered the researcher the opportunity to consider her own experiences and how this might impact on her interpretation of the data.
Thematic analysis as a tool for data analysis has been criticised for lacking rigour. Braun and Clarke (2006) have suggested that this is due to a historic lack of guidance on how to carry out and report back findings within the framework; leading to inconsistency and compromised validity. Braun and Clarke (2006 p.79-80) have stated within their article on thematic analysis that it is essential for researchers to make explicit how they carried out their analysis in order to ensure consistency within the literature.

Other theorists have been similarly enthusiastic about the de-mystification of thematic analysis in order to make it more robust and systematic. In addition to Braun and Clarke (2006) insistence that the methodology of the analysis be made explicit, Holloway and Todres (2003) have stressed the importance of the researcher making their own assumptions and position clear within the analysis; thereby avoiding the illusion that data codes just ‘appear’ to the researcher. This is crucially important within thematic analysis as the identification of themes and the coding of data rely on the researcher's own judgement (Taylor and Usher, 2001).

In the current study the researcher’s epistemological position has already been made explicit in section (3.3.1). This has directly influenced the analysis of data within the thematic analysis. As the researcher had specific research questions in mind when carrying out the thematic analysis and the data was coded in line with this, the thematic analysis can be described as deductive or theory-driven; however this was combined with a more flexible and organic approach to the data which could be described as inductive. This hybrid approach to thematic analysis is one described by Fereday and Muir-Cochrane (2006) and offers the distinct advantage of the rigour associated with deductive coding with a more reflexive and ecologically valid depth associated with inductive reasoning. The current researcher approached the data analysis at the explicit or surface level in an attempt to gain insight into emerging patterns and draw on their meaning. The thematic analysis was carried out using the six phase guidance set out by Braun and Clarke (2006). This will be discussed in the following section.

3.7.3.1: Thematic analysis: the process

The current researcher employed the six phase thematic analysis process outlined by Braun and Clarke (2006). This will be outlined below and is represented visually in Appendix Q.

1. Familiarisation with the data

This requires the researcher to carry out repeated listening of the audio recorded interviews, followed by the partial transcription of the audio records and the repeated re-reading of
transcripts and notes from interviews. This should then allow the researcher to generate a list of initial ideas and thoughts.

2. Generation of initial codes
The generation of initial codes was done through a thorough and systematic analysis of the entire data set. Recurring issues and topics were identified and formed the basis for the initial codes. The initial coding system was applied to the whole data set manually, by highlighting paragraphs and sections using a colour coding system. The analysis was kept broad at this stage, coding for as many potential themes as possible.

3. Searching for a theme
Potential unifying themes for the codes collected in Data Phase 2 were then sought. This process involved the researcher considering different linking themes and patterns and the active consideration of patterns. Once themes had been established they were recorded and codes were recorded on post it notes and sorted into piles underneath their theme.

4. Reviewing themes
This step involved re-visiting the entire data set to ensure that the collated extracts within each theme were grouped together meaningfully and that the potential themes accurately reflected the meanings evident in the data set as a whole. This step also involved ensuring that no data that could have been incorporated had been missed and that identified themes were further refined to ensure each was specific enough to be discrete from the other themes, but broad enough to capture all the codes contained within it.

5. Defining and naming themes
This stage involved the researcher considering the ‘essence’ (Braun and Clarke, 2006) of each theme and ensuring the specificity of each. The researcher carefully considered how each theme could be summarised within a particular name and how this related to the research questions.

6. Producing the report
This stage represents the researcher’s final opportunity for analysis. It involved selecting from the entire remaining data set examples of each theme which could be used to represent it within the write up. It also involved the researcher reflecting back to the research questions.
3.7.3.2 Thematic networks

Thematic networks are web-like illustrations (networks) that organising and present themes (Attride-Stirling, 2001). Thematic networks make explicit the procedures employed when going from text to interpretation (Attride-Stirling, 2001). They are therefore a robust technique and a highly sensitive tool for the systematisation and presentation of qualitative analyses (Attride-Stirling, 2001, p.385). The structure of a thematic network is represented in figure 3.3 and follows the model set out by (Attride-Stirling, 2001). This will be used to give a visual picture of the data to the reader.

**Basic Theme**- This is the lowest order theme derived from the textual data. These basic themes mean little individually but when combined with other basic themes represent an organising theme.

**Organising Theme**- These are middle order themes that organise basic themes into clusters of similar issues. Organising themes represent the main components of the superordinate theme of the text as a whole. Taken together, a group of organising themes represent a global theme.

**Global Theme**- These are the core part of the thematic network and represent the main ideas of the data as a whole.

**Figure 3.3 Structure of a thematic network (Attride-Stirling, 2001)**
3.8 Critique of method

The researcher is aware of a number of limitations that can be levelled at the design and methodology of the current research. One example of such is that there was no control group to compare findings with. It was hoped instead that the multiple streams of data from the different sources might compensate for this and lend weight and validity to the conclusions drawn. A related issue is that as the process evaluation took part in a single primary school in a particular area of the LA. This was necessary in order to gain the depth of information needed to understand the systems involved in the implementation and sustainability of ‘Better Together’ but this has almost certainly reduced the generalisability of the findings. It is likely that particular uncontrolled characteristics such as the ethos and approach of the school will have impacted on the results gained and will therefore be explored in depth in later sections.

A further limitation is that the research had a relatively small sample size. This will affect the generalisability of the research’s findings. It is however hoped that although it might not be possible to make an assertion about effectiveness in general terms, it will give an indication of systemic or process factors that support and/or hinder the implementation of change within a mainstream primary school and be able to provide evidence of ways of supporting TAs to make a positive impact on the social experience of pupils with ASD.

The researcher’s position as a TEP within the focus LA, the trainer and the evaluator created a ‘dual role’ which may have impacted upon the validity of the research. Specific difficulties commonly associated with ‘dual roles’ are that the researcher may have preconceptions about issues and/or solutions, and there may also exist hierarchical difficulties between participants and the researcher (Robson, 2002). This may have led to participants giving skewed answers within interviews in order to please the researcher. In order to mitigate against these difficulties the researcher engaged in regular reflective supervision sessions. It was also important that the school chosen was not a school for whom the researcher was the named EP and that the TA’s and Project Coordinator were heavily involved both in the delivery and implementation of the intervention. The researcher stressed the importance of collaboration and shared expertise throughout the intervention in order to both benefit from the participant’s expertise but also to allow for candour and frankness around facilitators and barriers to the process. The current researcher acknowledges that their dual role is a potential limitation but feels that reasoned attempts were made to minimise the impact that this might have had on research validity.
Restricted time frames also meant that the researcher made the decision to not include interviews with the pupils with ASD to reflect in their experiences of the intervention. This was a regrettable decision given that there is a highlighted need for research into the school experiences of pupils with ASD and to actively involve them in their own support. It was hoped that the triangulation of data from the TAs and the SIS might help to compensate for this by shedding information on the impact of the intervention.

A final criticism of the methodology of this research project is that during the thematic analysis phase it was not possible to employ investigator triangulation. It was planned that a co-researcher would help to support the analysis by coding a sample of the data however this was not possible for logistical reasons. The researcher consequently coded the entire data set single handed. Efforts were made to compensate for this by asking for support during supervision and the recruitment of a fellow trainee educational psychologist, utilising the same methodology, discussing the naming of themes phase. The subsequent thematic networks have therefore been developed alongside colleagues with experience of carrying out thematic analysis.

3.9 Ethics

Ethical approval for the research project was obtained on (18.7.2013) (Appendix R). This allowed the researcher to carry out the project in the confidence that the University supported the research design. The following section will detail some additional ethical issues which arose during the research. Some of these will be discussed in more detail in subsequent sections as they become more relevant.

3.9.1 Power and confidentiality

Perceived power imbalances were a significant issue within the current research and as such a number of actions were taken by the researcher to minimise their impact.

3.9.1.1 TAs and the researcher

The researcher had a ‘dual role’ within this research as described in Section 3.8. The researcher was acutely aware that she was perceived as being a powerful professional within the context of the project. The TAs were also aware of the researcher’s past professional role as a teacher. This may have caused anxiety and affected the TAs behaviour during observations and responses during interviews and the questionnaires. In order to address this the current researcher explained her current role at different times
throughout the project and made clear her impartiality and that the thoughts and feelings of the TAs were highly valued. This was supported by the organic nature of the intervention which allowed the TAs a high level of input into its design.

### 3.9.1.2 TAs, teachers and the system
During the research the current researcher became increasingly aware of the sensitive nature of the relationship between TAs and teachers in relation to work deployment and subsequent power im-balance within their relationship. The researcher's questions during the interviews in relation to this were difficult for the TAs to answer. In order to address this the current researcher altered the manner in which she chose to report her findings from an individual casework approach looking at individual TA data to reporting on group data. She explained this to the TAs and only reported findings back to the Project Coordinator once they had been checked by the participating TAs. This has meant that the supporting quoted detailed in the Results section are not attributed to a specific TA.

### 3.9.2 TA anxiety
The researcher was acutely aware of the anxiety levels of the participating TAs at different points of the research and efforts were made to reduce it. There were two main causes of TA anxiety which will be discussed in this section.

#### 3.9.2.1 Observation.
The multiple observation periods in the different phase of the research were anxiety provoking for the TAs. In order to support TAs and reduce anxiety around these observations the rationale for them was explained to before the research began and they were given the option of not being observed. No TA opted to do this. The TAs were also given an observation task of their own to carry out with their target pupil as part of their homework. It was hoped that this help to normalise the process. The TAs informed consent to be observed was obtained at each stage of the Data Phases (see figure 3.2) and a feedback and debrief session was factored in immediately after the completion of each TA’s cycle of observations. The decision was also made at the research design phase to reduce the observations and make them longer in order to help reduce anxiety.

#### 3.9.2.2 Staff Training Session
An integral part of the ‘Better Together’ project was that all staff should be aware of the project so that they could support the positive efforts of the TAs. The original plan for this was that the TAs would prepare a summary of what they had been doing for feedback during the training. Last minute changes to the training were however made by the Project Coordinator and on the day of the training the TAs were asked to speak in front of staff. The
researcher was acutely aware that this might be anxiety provoking for the TAs involved particularly given the sensitivity of the topic (barriers and facilitators in implementing the project). The researcher attempted to ease this by offering the opportunity to feedback for them but the TAs chose to speak on their own behalf. Although this was a positive factor in the training for staff it was not necessarily advantageous for the TAs. The researcher offered a debrief session for the TAs following on from the training session and this was readily taken up and appreciated by staff.

3.9.3 Child participants
The child participants’ welfare was considered throughout this research project in a number of ways. Firstly, the researcher decided to distance herself from the children involved by making use of known adults to administer the SIS measure and to gain both assent from the individual target pupils and consent from their families. The target children and their classmates were all given the option of opting out if they felt uncomfortable with the SIS measure at any point. Secondly, the SIS measure was used instead of a peer nomination technique. It was felt that this represented a less intrusive method of gathering information from the class because it involved all of the children rating one another simultaneously. Thirdly, the researcher made explicit the fact that all sociometric data would be analysed and that any concerns around the children within the classes would be discussed with the class teacher. Finally, the researcher asked that the class teacher made it explicit to the children that the information on their sheets would be kept confidential from their friends and only shared if there were concerns about their welfare.
4.1 Section outline
This section will begin with a description of the changes that occurred during the course of this study and the implications for data collection. The results from the current research project will then be reported in three sections and then integrated and summarised. The first section will report the findings from the quantitative analysis of the SIS data gathered during Data Phases 1, 2 and 3 and the structured observations carried out during Data Phases 1, 2 and 3 (see figure 3.2). The second section will report the quantitative analysis of data gathered from the semi-structured questionnaires carried out in Data Phases 1 and 2. The final section will report the qualitative analysis of the semi-structured interviews with both the TAs and Project Coordinator during Data Phases 2 and 3. A summary of the results will integrate key findings from the three sections.

4.2 Changes made during the course of the research project
The current research project was designed to investigate both the impact of the Better Together intervention and also the contextual processes involved in its implementation. It was therefore necessary that both the intervention and data collection took place in a ‘real life’ context. As such the intervention needed to remain flexible and responsive to the needs of the school and as a consequence a number of changes occurred during both the intervention delivery and data collection phases.

4.2.1 Changes to the intervention delivery
Shortly before the intervention was due to commence in September 2013, the project coordinator requested that the workshops be delivered to all TAs working within KS2 rather than just those identified as supporting a targeted pupil with ASD. This meant that the workshops were delivered to an audience of five TAs rather than the three that had originally been proposed. A further change was made in the timing of the staff training session. This had been planned for November 2013 following data collection phase 1 and the delivery of the three workshops (see figure 3.2). This was moved to happen in January 2014 as two teachers were returning from maternity leave and wanted to be involved. A final change to the intervention delivery occurred at intervention stage 2 (see figure 3.2). The project coordinator was not able to facilitate a meeting between TAs and teachers and herself due to difficulties with asking TAs to meet after school or at lunch. We therefore built a section into the staff training session where two TAs stayed at the meeting and fed back to the teachers. The content of this section was not structured around planning, as was the original
intention, but rather to reflect on their experiences and successes. The implication of this change will be raised in the Discussion section.

4.2.2 Changes to data collection
There were some minor changes to the timing of data collection points due to staff and pupil illnesses. Data collection phase 2 took place 2 months after the workshops were delivered rather than the planned 1 month and Data collection Phase 3 took place in March 2014 rather than February. The moving of Data Collection Phase 3 to March 2014 was significant in that it meant that the Year 6 Pupil: TA pairing were involved in SATS revision and assessments. The planned observation in Year 6 therefore did not take place.

4.3 Participant Information
To maintain confidentiality all participants will be given pseudonyms. Details of the pseudonyms and their level of expertise are detailed below.

4.3.1 Adult Participants
There were four adult participants within this research project. This consisted of:

- One experienced female Project Coordinator who is part of the school's senior leadership team.

- Three TAs working within Key Stage 2 to support an individual pupil with a diagnosis of ASD. The TAs will herein be referred to as TA1, TA2 and TA3. Table 4.1 below gives information pertaining to the TAs level of experience of working as a TA.

Table 4.1 Key information about the participating TAs

<table>
<thead>
<tr>
<th>TA</th>
<th>Gender</th>
<th>TA Level of Experience</th>
<th>Paired Pupil</th>
<th>Amount of time each TA has supported their target pupil for</th>
<th>Paired Pupil Year Group</th>
<th>Paired Pupil Gender</th>
<th>TA: Pupil pairing known as</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1</td>
<td>Female</td>
<td>&lt;2 years</td>
<td>A</td>
<td>3 years</td>
<td>3</td>
<td>Female</td>
<td>TA1:A</td>
</tr>
<tr>
<td>TA2</td>
<td>Female</td>
<td>&gt;20 years</td>
<td>B</td>
<td>&lt;1 year</td>
<td>4</td>
<td>Female</td>
<td>TA2:B</td>
</tr>
<tr>
<td>TA3</td>
<td>Female</td>
<td>7 years</td>
<td>C</td>
<td>2 years</td>
<td>6</td>
<td>Male</td>
<td>TA3:C</td>
</tr>
</tbody>
</table>
4.3.2 Pupil Participants
There was no direct contact between the researcher and the three pupils who were involved in this project, although they were observed alongside their paired TA. The school was asked to select pupils for this study based on the criteria discussed in Section 3.6. Following selection, parental permission was gained for all three pupils’ participation in the project at each Data Collection Phase point. This consent was not withdrawn for any participating pupils. Table 4.1 above gives relevant information relating to the targeted pupils’ characteristics.

4.4 Quantitative analysis of the SIS measure and the structured observations
The quantitative data gathered from the SIS, structured observations and questionnaires carried out pre-intervention, post-intervention and on follow up (Data phases 1, 2 and 3) were analysed in order to begin to answer the following research questions:

RQ1. Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?

RQ3. To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?

Group data was explored, rather than analysing the data at an individual basis due to the sensitivity of the observation and interview data (see section 3.9.1.2). As the sample size was small (n=3) descriptive statistics were employed (percentages and means; Hinton, 2004).

4.4.1 The SIS measure
As outlined in Section 3.5.1.3, the SIS is a sociometric assessment designed to establish how willing children are to play with or work with classmates. It consists of two questionnaires to be completed by a group of same sex children. The measure uses a forced-choice format in which children are presented with a list of same sex classmates’ names in the order they appear in the class register. Opposite each name are four response options: a question mark; a smiling face; a neutral face; and a sad face. The children are asked to pick an option for each child on the list. This is repeated for both the ‘like to work with’ questionnaire and the ‘like to play with’ questionnaire (Appendix H). An index of social acceptance and rejection is then generated by adding up the number of each smiley and sad face and the total number of ticked faces including the neutral faces. A norm referenced cut off table (Appendix I) is then used to determine whether they are ‘popular’ or ‘rejected’. A description of ‘average’ is gained if the target pupil does not reach criteria for being classified as ‘popular’ or ‘rejected.’
Within this study the SIS was utilised at Data Collection Points 1, 2 and 3 (See Figure 3.2) in order to evaluate how the target pupils’ peers perceived the target pupil over time and to explore whether there were any detectable changes to social inclusion.

4.4.1.1 Pre- and post-intervention SIS group data
The pre- and post-intervention and follow up scores are provided in Table 4.2 and Table 4.3. The difference in point score between the pre, post and follow up measure is also included, with the direction of movement indicated from the pre intervention score ( - for reduction in score, + for an increase) as is their descriptive classification. The pupils from whom data was gathered remained static throughout the phases of the research. There were an additional two children who joined Target Pupil B’s class during Phase 3 of the research however data was not gathered from them.
Table 4.2: Pupils’ ‘Like to work with’ SIS responses

<table>
<thead>
<tr>
<th>Target pupil</th>
<th>Pre-intervention (Data Collection 1)</th>
<th>Post-intervention (Data Collection 2)</th>
<th>Follow Up (Data Collection 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. positive responses</td>
<td>No. negative responses</td>
<td>Total faces ticked</td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>15</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Target pupil</td>
<td>Pre-intervention (Data Collection 1)</td>
<td>Post-intervention (Data Collection 2)</td>
<td>Follow Up (Data Collection 3)</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>3</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>6</td>
<td>+1</td>
<td></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>13</td>
<td>+1</td>
<td></td>
</tr>
</tbody>
</table>
### 4.4.1.2 Question mark responses

Teachers were asked to give the following instructions to pupils completing the SIS survey.

“On this form is a list of boys/girls in our class. Next to each name there is a question mark, a smiley face, a neutral face (neither smiley or sad) and a sad face. I would like you all to cross your name off the list first. I would then like you to go down the list and choose a face or question mark which matches how you feel about that person when you play/work with them. So I would choose a smiley face if I like working/playing with them, a sad face if I don’t enjoy playing/working with them and a neutral face if it’s sometimes enjoy it and sometimes don’t. If I don’t know if I enjoy playing/working with the person on the list then I would choose the question mark.”

The question mark therefore represented a response which suggests a degree of ambivalence due to a lack of experience of that person. The rate of question mark data is not represented in Tables 4.2 or 4.3 as these responses are excluded from the popularity calculation. The current researcher felt it would be useful to explore the tentative hypothesis that changes in this category might suggest an increased exposure to social interactions with the named pupil.

#### Table 4.4 Changes in the question mark category response from the ‘like to play’ and ‘like to work’ SIS forms.

<table>
<thead>
<tr>
<th>Target Pupil</th>
<th>Pre-intervention (Data Collection 1)</th>
<th>Post-intervention (Data Collection 2)</th>
<th>Follow Up (Data Collection 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Number of question mark responses</td>
<td>Difference in number of question mark responses</td>
<td>Difference in number of question mark responses</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>-4</td>
<td>-4</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>-1</td>
<td>+4</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>-2</td>
<td>-2</td>
</tr>
</tbody>
</table>

Table 4.4 suggests that there was a reduction in the number of the target pupils’ classmates recording a question mark response for each target pupil following the intervention. This reduction was maintained or slightly increased for two of the three pupils. One pupil’s question mark response rate increased at the follow up stage. These differences may indicate that target pupils were interacting more with their classmates during the intervention and for two pupils at the follow up stage; thereby reducing the rate of question mark.
responses. However, given the small number of participants the pupils' classification of social inclusion might not reflect this change. It is therefore useful to take the results of both indicators into consideration when contemplating the impact that the Better Together intervention had on rates of social interaction.

4.4.1.3 Summary of SIS data
The data collected from the SIS suggests that for both questionnaires:
- There were no appreciable differences between the like to play and like to work with classifications the children received over time.
- One pupil retained their ‘popular’ rating over time.
- One pupil was classified as ‘average’ before the intervention, ‘popular’ after Phase 2 but then returned to their original classification as ‘average’ by the end of Phase 3.
- One pupil was classified as ‘average’ before the intervention, ‘rejected’ at Phase 2 but then returned to ‘average’ at the end of Phase 3.
- There was a reduction in question mark responses for all pupils at the post-intervention stage and this reduction continued or slightly increased at the follow up stage for two out of three pupils.

These are broadly encouraging findings that indicate that the majority of pupils were accepted by their peers, with two thirds of them considered popular by the end of the intervention at Phase 2. Of concern is the pupil whose levels of acceptance decreased over the period of the intervention. It should be noted that within this pupil’s class, seven children including A had similar reductions in their popularity. The SIS measure indicates that at the follow up stage (Phase 3) all of the children had retained their original classification of social inclusion. The positive gain associated with Pupil B at the immediate post-intervention stage had not been sustained and had instead returned to pre-intervention levels. The decrease in question mark responses for all pupils at Data Collection point 2 may indicate that they were interacting more; thereby creating the opportunity for their peers to choose a more committed response relating to their interactions with them. As the SIS is a relatively broad measure of peer perceptions, other measures were also used to provide a more fine grained analysis of the pupil’s social inclusion. This included classroom observations and interviews with key staff, which complement the SIS data.

4.4.2 Structured observation data
As described in Section 3.5.1.1, structured observations were used within this study to gather real life data within a naturally occurring situation. The high level of ecological validity
that this method offers was useful in the current study as a means of triangulating data relating to both the effectiveness of the intervention and the organisational factors which might facilitate or impede its implementation. The structured observations were carried out at three different time points (see figure 3.2). The observations were planned in this way in order to give the researcher a pre-measure benchmark regarding the rate and range of facilitative behaviours, a post-measure following on from the intervention to analyse the effect of the intervention on the rate and range of facilitative behaviour and a follow up measure after a term was included to investigate the sustainability of any changes. The planned observation timetable included each TA being observed three times at Data Collection points 1 and 2 and once at Data Collection Point 3. One TA was not able to be observed at Data Collection Point 3 (Table 4.5) and this is represented throughout this section as ‘missing data’.

Table 4.5 The number of observations carried out across the study

<table>
<thead>
<tr>
<th>TA</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1</td>
<td>XXX</td>
<td>XXX</td>
<td>X</td>
</tr>
<tr>
<td>TA2</td>
<td>XXX</td>
<td>XXX</td>
<td>X</td>
</tr>
<tr>
<td>TA3</td>
<td>XXX</td>
<td>XXX</td>
<td>O</td>
</tr>
</tbody>
</table>

X= observation  
0 = Not available to observe

The observations were carried out used a formal structured method in order to gather systematic data relating to the incidence, frequency and success of facilitative techniques used to promote social inclusion for pupils with ASD; thereby allowing explicit comparison between teaching assistants and across different time periods. The observation schedule (Appendix F) was modelled on the Peer Interaction and Paraprofessional Facilitative Behaviour Observation Instrument (PIOI) created by Causton-Theoharis and Malmgrem (2005b) in their research looking at ‘Increasing peer interactions for students with severe disabilities via paraprofessional training’

Observations were deliberately staggered at the Phase 1 and Phase 2 phases so that each TA was observed at different time points. This was planned as such as it is acknowledged by the researcher that some lessons lend themselves better to social interactions than others and that the level of interaction would differ according to the part of the lesson the researcher observed (e.g. Less interaction at the start during adult input). Each TA was therefore observed at different points within lessons and during different subjects. During
Phase 3 the TAs were only observed once and this did have an impact on the facilitative behaviours observed. The limitations of the observational data are therefore acknowledged by the researcher and will be discussed further in the Discussion section.

4.4.2.1 Pre- post and follow up intervention observational data
The data gathered from the observations will be presented under the following sub-headings for clarity; rate of facilitative behaviour, rate of student interaction, range of facilitative behaviours, success of social interactions and proximity to pupil.

4.4.2.1.1 Rate of facilitative behaviour
Data relating to the rate of facilitative behaviour demonstrated by the TAs was sought in order to ascertain whether there had been any changes in frequency following the intervention and if so whether they were sustained over time. For the purposes of the observation, a behaviour was classed as facilitative if it fit into one of the three types of behaviour identified on the observation schedule (Adult fade back, Prompt to be social or connect with peers) (see Appendix F). The rate per minute of facilitative behaviour (fb) was calculated by tallying each observed facilitative behaviour during the phase and dividing it by the total number of minutes that the TA was observed for. The difference in number of fb between the pre, post and follow up measure is also included, with the direction of movement indicated from the pre intervention score ( - for reduction in score, + for an increase).
<table>
<thead>
<tr>
<th>TA</th>
<th>Number of FBS</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of FB</th>
<th>Number of FBS</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of FB</th>
<th>Difference in Number of FBS</th>
<th>Number of FBS</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1</td>
<td>0</td>
<td>75</td>
<td>0</td>
<td>11</td>
<td>75</td>
<td>0.146</td>
<td>+11</td>
<td>7</td>
<td>20</td>
<td>0.35</td>
</tr>
<tr>
<td>TA2</td>
<td>9</td>
<td>75</td>
<td>0.12</td>
<td>22</td>
<td>75</td>
<td>0.29</td>
<td>+13</td>
<td>27</td>
<td>20</td>
<td>1.35</td>
</tr>
<tr>
<td>TA3</td>
<td>1</td>
<td>75</td>
<td>0.013</td>
<td>24</td>
<td>75</td>
<td>0.32</td>
<td>+23</td>
<td>Missing Data</td>
<td>Missing Data</td>
<td>Missing Data</td>
</tr>
<tr>
<td>Overall</td>
<td>10</td>
<td>225</td>
<td>0.044</td>
<td>57</td>
<td>225</td>
<td>0.253</td>
<td></td>
<td>34</td>
<td>40</td>
<td>0.850</td>
</tr>
</tbody>
</table>

Table 4.6 Facilitative behaviour data observed during the three different phases of the study

<table>
<thead>
<tr>
<th>Relative Change between Phases</th>
<th>Change in FB Rate</th>
<th>Base FB Rate</th>
<th>Relative Change Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 to Phase 2</td>
<td>0.253-0.044 = 0.206</td>
<td>0.044</td>
<td>0.206/0.044 = 4.68</td>
</tr>
<tr>
<td>Phase 1 to Phase 3 (Note: Only TA1 and TA2)</td>
<td>0.850-0.060 = 0.790</td>
<td>0.060</td>
<td>0.790/0.060 = 13.17</td>
</tr>
</tbody>
</table>

Table 4.7 The relative change factor calculation for facilitative behaviours.
The frequency data suggests that all TAs involved in the Better Together project used a greater number of facilitative behaviours at the post-intervention stage than they did prior to the intervention. The observed average relative change from Phase One to Phase Two for the three TAs was a 4.68 fold increase from the initially observed rate of facilitative behaviours. As data was collected for only two TAs in Phase 3 (TA1 and TA2), the average relative change from Phase 1 to Phase 3 was calculated only on the basis of these two TAs and this showed a 13.17 fold increase from the initially observed rate of facilitative behaviours. At an individual level, there was some variation observed in the relative change effect for the different TAs and potential reasons for these differences will be raised in the Discussion section.

4.4.2.1.2 Rate of Student Interaction (SI)

The rate of student interaction was analysed pre-and-post intervention and at the follow up stage. It was felt that this was an important indicator of whether there was a relationship between the number of facilitative behaviours used by the TAs and the rate of SI and whether this changed over time. A student interaction was classed as any two way interaction either verbal or active non-verbal behaviour, that causes another student or students to initiate a verbal or non-verbal response. This could include questioning, directing, gesturing, nodding, carrying out a direction. The rate of student interaction was calculated by tallying each observed student interaction during each phase and dividing it by the total number of minutes the student was observed for. The difference in number of SI between the pre, post and follow up measure is also included, with the direction of movement indicated from the pre intervention score ( - for reduction in score, + for an increase).

The data indicates that the rate of student interactions observed at the post-intervention stage was higher than the rate observed prior to the intervention. The observed average relative change from Phase One to Phase Two for the three TAs was a 3.50 fold increase from the initially observed rate of student interactions. As data was collected for only two TAs in Phase 3 (TA1 and TA2), the average relative change from Phase 1 to Phase 3 was calculated only on the basis of these two TAs and this showed a 13.38 fold increase from the initially observed rate of student interactions. At an individual level, there was some variation observed in the relative change effect for the different TAs and potential reasons for these differences will be raised in the Discussion section.
<table>
<thead>
<tr>
<th>TA pairing</th>
<th>Number of Sis</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of SI</th>
<th>Number of Sis</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of SI</th>
<th>Difference in Number of Sis</th>
<th>Number of Sis</th>
<th>Number of minutes observed for</th>
<th>Rate per minute of SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA1:A</td>
<td>0</td>
<td>75</td>
<td>0.167</td>
<td>44</td>
<td>75</td>
<td>0.586</td>
<td>+44</td>
<td>9</td>
<td>20</td>
<td>0.35</td>
</tr>
<tr>
<td>TA2:B</td>
<td>17</td>
<td>75</td>
<td>0.28</td>
<td>69</td>
<td>75</td>
<td>0.92</td>
<td>+52</td>
<td>56</td>
<td>20</td>
<td>2.8</td>
</tr>
<tr>
<td>TA3:C</td>
<td>21</td>
<td>75</td>
<td>0.226</td>
<td>56</td>
<td>75</td>
<td>0.74</td>
<td>+35</td>
<td>Missing Data</td>
<td>Missing Data</td>
<td>Missing Data</td>
</tr>
<tr>
<td>Overall</td>
<td>38</td>
<td>225</td>
<td>0.167</td>
<td>169</td>
<td>225</td>
<td>0.751</td>
<td>+35</td>
<td>65</td>
<td>40</td>
<td>1.625</td>
</tr>
</tbody>
</table>

Table 4.8 Student interaction data during the three phases of the research

Table 4.9 The relative change factor calculation for student interactions

<table>
<thead>
<tr>
<th>Relative Change</th>
<th>Change in SI Rate</th>
<th>Base SI Rate</th>
<th>Relative Change Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 to Phase 2</td>
<td>0.7–1 - 0.167 = 0.584</td>
<td>0.167</td>
<td>0.584/0.167 = 3.50</td>
</tr>
<tr>
<td>Phase 1 to Phase 3 (Note: Only TA1 and TA2)</td>
<td>1.6–5 - 0.113 = 1.512</td>
<td>0.113</td>
<td>1.512/0.113 = 13.38</td>
</tr>
</tbody>
</table>
The data suggests that there were more student interactions between all target pupils and their peers post-intervention than pre-intervention. This increase was sustained and increased over time for TA2 but dipped at the follow up (Phase 3) for TA1. Possible reasons for this dip for TA1 are raised in the Discussion section.

4.4.2.1.3 Matched interactions (MI)
Data was gathered around the number of facilitative behaviours which triggered either an isolated student interaction or a cluster of interactions at all three stages of Data Collection. It was felt that this would provide valuable information about the types of fb which successfully triggered student interactions and whether this changed over time. An interaction was classed as ‘matched’ if a facilitative behaviour by the TA resulted in any two way verbal or non-verbal behaviour that caused a peer or group of peers to initiate a verbal or non-verbal response with the target pupil. The difference in number of matched interactions between the pre, post and follow up measure is also included, with the direction of movement indicated from the pre intervention score ( - for reduction in score, + for an increase).

The data indicates that the rate of Matched Interactions observed at the post-intervention stage was higher than the rate observed prior to the intervention. The observed average relative change from Phase One to Phase Two for the three TAs was a 56.55 fold increase from the initially observed rate of Matched Interactions. As data was collected for only two TAs in Phase 3 (TA1 and TA2), the average relative change from Phase 1 to Phase 3 was calculated only on the basis of these two TAs and this showed a 120.20 fold increase from the initially observed rate of Matched Interactions. At an individual level, there was some variation observed in the relative change effect for the different TAs and potential reasons for these differences will be raised in the Discussion section.
<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TA1</strong></td>
<td>Number of Mls: 0</td>
<td>Number of Mls: 9</td>
</tr>
<tr>
<td></td>
<td>Number of Minutes Observed for: 75</td>
<td>Number of Minutes Observed for: 75</td>
</tr>
<tr>
<td></td>
<td>Rate per minute: 0</td>
<td>Difference in Number from Phase 1: +9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TA2</strong></td>
<td>Number of Mls: 1</td>
<td>Number of Mls: 20</td>
</tr>
<tr>
<td></td>
<td>Number of Minutes Observed for: 75</td>
<td>Number of Minutes Observed for: 75</td>
</tr>
<tr>
<td></td>
<td>Rate per minute: 0.013</td>
<td>Difference in Number from Phase 1: +19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TA3</strong></td>
<td>Number of Mls: 0</td>
<td>Number of Mls: 22</td>
</tr>
<tr>
<td></td>
<td>Number of Minutes Observed for: 75</td>
<td>Number of Minutes Observed for: 75</td>
</tr>
<tr>
<td></td>
<td>Rate per minute: 0</td>
<td>Difference in Number from Phase 1: +22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>Number of Mls: 1</td>
<td>Number of Mls: 51</td>
</tr>
<tr>
<td></td>
<td>Number of Minutes Observed for: 225</td>
<td>Number of Minutes Observed for: 225</td>
</tr>
<tr>
<td></td>
<td>Rate per minute: 0.004</td>
<td>Difference in Number from Phase 1: +22</td>
</tr>
</tbody>
</table>

Table 4.10 Matched interaction data collected over the three phases of the research

<table>
<thead>
<tr>
<th>Relative Change</th>
<th>Change in MI Rate</th>
<th>Base SI Rate</th>
<th>Relative Change Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 to Phase 2</td>
<td>0.22 – 0.004 = 0.2262</td>
<td>0.004</td>
<td>0.2262/0.004 = 56.55</td>
</tr>
<tr>
<td>Phase 1 to Phase 3 (Note: Only TA1 and TA2)</td>
<td>0.80 – 0.007 = 0.7933</td>
<td>0.007</td>
<td>0.7933/0.0066 = 120.20</td>
</tr>
</tbody>
</table>

Table 4.11 The relative change factor calculation for matched interactions
The data suggests that there were more matched interactions in the post-intervention stage than the pre-intervention for all three target pupils. This gain was sustained and improved upon by TA2 in the follow up stage (Phase 3) but dipped for TA1. Potential reasons for this will be raised in the Discussion section.

4.4.2.1.4 Proximity Data

Data was collected at pre, post and follow up stages relating to the proximity of the TA to the pupil they were supporting. It was felt that this would give important information relating to how the TA was supporting the target pupil and whether this acted as either a facilitator or barrier to student interaction. Proximity data was gathered every 5 seconds for a 90 second period at the beginning of each structured observation. The researcher gave one mark every 5 seconds for the TA either being less than three feet from the target pupil or more than three feet away. A proximity variable was then calculated by finding the mean percent of times the TA was less than 3 feet from the target pupil.

<table>
<thead>
<tr>
<th>Table 4.12: Proximity data collected for the three phases of the research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>TA1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>TA2</td>
</tr>
<tr>
<td>TA3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The proximity data suggests that all TAs spent a high proportion of time less than 3ft from the target pupil at the pre-intervention stage but that this reduced at the post-intervention phase. The proximity variable at the follow up stage (Phase 3) increased for TA2 although not to pre-intervention levels but was sustained at zero for TA1. Possible reasons for this difference will be raised in the Discussion section.

4.4.2.1.5 Range of facilitative behaviours

Data was sought relating to the range of facilitative behaviours that the TAs in this study used at different time points to support their target pupil’s social interactions. It was hoped
that this would give information regarding the individual TAs confidence to try new approaches and their flexibility to try different facilitative behaviours in order to encourage social interaction. The range of facilitative behaviours was calculated by counting the frequency with which each behaviour was demonstrated across each phase of the research. There was no maximum number of possible fbs that could be observed. For the purposes of this study, facilitative behaviours were classed as any purposeful behaviour which intended to cause the target pupil to interact with any other peer/s within the classroom. Ten types of behaviour were grouped into three main subgroups; adult fade back, prompt to be social and connecting with peers (Appendix F). The researcher recorded each separate instance of any fb on the observation schedule. Multiple attempts using the same fb were only recorded once.

The behaviours The number of different facilitative behaviours was then reported at the end of each phase along with the total difference in number of alternative facilitative behaviours used by each TA by the end of Phase 3 (Phase 2 for TA3) in comparison to pre-intervention.

The direction of the movement in range of facilitative behaviours is also indicated ( - for reduction in score, + for an increase). It is important to note that the Phase 3 data represents a 20 minute observation period rather than 75 minutes at Phases One and Two.

**Table 4.13 Range of facilitative behaviours used by TAs in the three phases of the research**

<table>
<thead>
<tr>
<th></th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Total difference in range of facilitative behaviours from Phase 1 to Phase 3 (Phase 2 for TA3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>Number of different facilitative behaviours</td>
<td>Number of different facilitative behaviours</td>
<td>Number of different facilitative behaviours</td>
<td></td>
</tr>
<tr>
<td>TA1</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>+5</td>
</tr>
<tr>
<td>TA2</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>+6</td>
</tr>
<tr>
<td>TA3</td>
<td>1</td>
<td>7</td>
<td>Missing Data</td>
<td>+6</td>
</tr>
</tbody>
</table>

The range data suggests that there was a positive gain in range of facilitative behaviours by all TAs in this study. This range was sustained and improved across Phases 2 and 3 for TA2
and reduced slightly for TA1 at the follow up stage (Phase 3). Although there was no follow up data for TA3, her gains mirrored the others at Phase 2. Potential reasons for the reduction in range for TA2 are raised in the Discussion section.

4.4.2.1.6 Summary of observational data

The data gathered from the structured observations is on the whole promising; however the small sample size is a limiting factor on the conclusions that can be drawn. The structured observations suggest that following the ‘Better Together’ intervention TAs use a broader range of facilitative behaviours more frequently and that this continued over time. The data also suggests that the target pupils participated in more student interactions following the intervention, although data is mixed about the sustainability of this change. The data shows that both the rate of facilitate behaviours and student interaction increased following the intervention and this is supported by an increased number of matched interactions. This suggests that within this small sample the TAs facilitative behaviours became more effective in triggering student interactions. The proportion of time spent in close proximity to the pupil that they support was shown to fluctuate between the phases of the research. The high percentage of time spent close to target pupils at the pre-intervention phase was linked to low levels of student interaction and facilitative behaviour and the reduction of the proximity variable in the post-intervention stage was associated with an increase in facilitative behaviours and student interaction. This suggests that within this sample TAs were using the time spent close to their target pupils more creatively and in a more targeted way to take advantage of the possibilities for social interaction. This pattern continued for TA1 during the Phase 3 follow up. Interestingly, the increased proximity variable for TA2 during Phase 3 did not reduce student interaction or facilitative behaviour but actually resulted in the largest gains in the three areas of facilitative behaviours, student interactions and matched interactions. One tentative explanation for this could be that for TA2 in particular, the intervention led to an increased awareness of her role in supporting social interactions and gave her a more effective way of doing so. In addition to the potential increase in efficacy demonstrated by the proximity data; there is also evidence from the widened range of facilitative behaviours observed from Phase 1-3 that TAs felt more confident following the intervention and were more able to be flexible in how they approached supporting the social interactions of the target pupils.

4.4.3 Quantitative analysis of the Semi-Structured Questionnaire

The quantitative data gathered from the semi-structured questionnaire was analysed in order to begin to answer the following research question:
RQ2. Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social inclusion of pupils with ASD?

4.4.3.1 The Semi-structured questionnaire
A purpose made semi-structured questionnaire (Appendix G) was used to gather data about the thoughts and feelings of TAs in relation to their role and abilities as facilitators for pupils with ASD both prior to the intervention and afterwards. The questionnaire utilised rating scales, multiple choice and closed questions in order to compare and contrast numerical and frequency data. Due to the small number of participants, the data gathered from the questionnaires was collated and reported descriptively. Each question was given a theme drawn from its content and these form the subheadings in the following analysis.

4.4.3.2 Descriptive analysis of questionnaire data
The data gathered from the semi-structured questionnaire was analysed through themes drawn from the focus of each question. These foci were used to group and report answers.

4.4.3.2.1 Confidence in understanding ASD.
All contributing TAs reported an increase in confidence level in their understanding of Autism Spectrum Disorder following the Better Together intervention.

All TAs reported feeling more confident after the intervention than they had done initially. This ranged from a movement from the ‘Not at all confident’ bracket to the ‘slightly confident’ bracket for one individual to a shift from ‘slightly confident’ to ‘confident’ for the other two.

4.4.3.2.2 The importance of social interaction
All TAs remained static in their opinion regarding the importance of social interaction for learning. This ranged from ‘Very important’ to ‘Extremely important’.

4.4.3.2.3 Inclusion
All TAs rated their target pupil as being more included within school following the intervention than before it. Two TAs noted a one-step movement from ‘Included’ to ‘Very included’; whilst another reported that her pupil had moved from the ‘slightly included’ bracket to the ‘Very included’ bracket. This represents a two-step improvement on the scale given (Appendix G).

4.4.3.2.4 Confidence to support
Two out of the three TAs reported a static level of confidence in relation to supporting the social interactions of their target pupil. This remained at a ‘confident’ level. One TA reported a positive shift from the ‘slightly confident’ bracket to the ‘confident’ bracket.
4.4.3.2.5 Pupil Interaction
Two out of the three TAs reported an increased rate of interaction between their target pupil and their peers following on from the intervention. Of these two TAs, one noted a shift from the interacting ‘sometimes’ bracket to the ‘regularly’ bracket and another noted a shift from the ‘regularly’ to the ‘often’ bracket. One TA noted no change for their target pupil who still interacted ‘regularly’.

4.4.3.2.6 Proximity
All TAs noted that there were an increased number of times where they were operating less than an arm’s length from their target pupil, following on from the intervention. For two TAs this represented a move from ‘regularly’ working less than an arm’s length away from their target pupil to the ‘often’ bracket and for one it was from the ‘sometimes’ to the ‘regular’ bracket.

This finding is not supported by the structured observation data and informal discussions with the TAs suggested that they may have misunderstood the question to mean the opposite (i.e. further away from the target pupil). It is possible however that this particular element of the training did create a degree of confusion in terms of not being too close but needing to use facilitative behaviours. This will be discussed in the Discussion section.

4.4.3.3 Summary of questionnaire data
The data collected pre-and-post intervention suggests that there was a positive shift in the thinking of TAs following the intervention. This can be seen in their increased confidence levels around the subject of ASD and also in the fact that they reported an increased level of inclusion for the pupils that they support. The TAs remained consistent or slightly more confident in their perception of themselves as being able to support the social interactions of pupils with ASD and two out of the three reported an increased rate of social interaction amongst peers and the target pupil following the intervention. Informal discussions with two of the TAs following on from the questionnaires suggests that the positive gains reported in the questionnaires may give a conservative picture of change due to inflated initial responses in the pre-questionnaire. The two TAs described gaining a much greater ‘understanding’ of why social interaction was important and of why they acted as they did to support the pupils they worked with. This may represent a more fundamental and powerful shift in their thought processes. This will be discussed in the Discussion section.

4.5 Summary of quantitative data
The quantitative data is on the whole positive about the effect and impact of the Better Together intervention. The data gathered from the SIS, structured observations and semi-
structured questionnaire over the three phases of the research project were triangulated and together suggest that following the intervention:

- TAs used a broader range of facilitative behaviours and that this was sustained over time.
- TAs used facilitative behaviours more frequently and this was sustained over time.
- TAs used facilitative behaviours which were more successful in prompting social interactions more often.
- The majority of pupils either maintained or increased their level of social acceptance during the course of the intervention however the potential gain experienced by one pupil was not sustained at the follow up stage.
- TAs were more confident in their understanding of ASD
- Pupils with ASD were involved in more social interactions.
- TAs were more confident and flexible in how they support social interactions.
- TAs used their physical proximity to pupils more effectively than prior to the intervention.

Given the small sample size from which the above conclusions have been drawn; it becomes increasingly important to draw upon the rich data derived from the qualitative analysis of the semi-structured interviews. The following section will utilise this qualitative data to help add depth to the analysis of the intervention and its implementation.

4.6 Qualitative Analysis of the semi-structured interviews

The qualitative data referred to in this section was gathered from the semi-structured interviews of TAs at Data Collection Point 2 and the Project Coordinator at Data Collection Point 3. These were analysed through a thematic analysis. The thematic analysis was carried out in order to begin to answer the following research questions:

RQ1. Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?

RQ2. Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social interaction of pupils with ASD?

RQ3. To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?

RQ4. How does the school view the implementation of the TA training and how have they supported it at a systems level?
4.6.1 Qualitative data collection
The qualitative data was collected through four semi-structured interviews. Each of the three TAs involved in the study were interviewed individually for between 30 and 40 minutes during Data Collection Point 2 (November 2013). It was felt that this would be the best point to capture the TAs' thoughts about the intervention and its impact on them. The Project Coordinator was interviewed at Data Collection Point 3 (March 2014), this was timed to take place later so that it would follow the staff training session and also so that more time had been given over to the intervention’s implementation. The interviews were held at the focus school and audio recorded. The interview schedules were designed in advance of the sessions (Appendix J and K) but not shared with the TAs prior to the interviews.

4.6.2 Confidentiality of qualitative data
Quotes derived from the interview data will be presented anonymously. This was a necessary precaution due to the sensitivity of the topics covered. It does not change the content of the information as themes are explored as a group rather than on an individual basis.

4.7 Thematic analysis of the interview data
This section will describe and explore each theme identified through the thematic analysis of the interview transcripts. This was carried out using the guidelines detailed in section 3.7.3. The themes will be supported by text segments from the original transcripts of the interviews. 102 initial codes were drawn from the transcript data and organised by source (Appendix Q). The resulting four colour coded sources were then combined and organised into potential themes (Appendix Q). The potential themes were then revised and checked to ensure that they were neither too reductionist or too broad. 26 Basic Themes were finalised at this point. These Basic Themes were then arranged into groups of similar ideas/patterns which resulted in the creation of 9 Organising Themes. The Organising Themes were then grouped into four Global Themes. Thematic networks were used to illustrate the organisation of the themes, across the data set. All four thematic networks are displayed in Figure 4.1. The following sections will all be structured around the representation of each Global Thematic network and supported by a discussion of pertinent transcript data.
Figure 4.1 Thematic network overview
4.7.1 Thematic network for TA confidence

This thematic network consisted of two Organising Themes and six Basic Themes. This thematic network represents the TA and Project Coordinator's responses to questions within the interview around their perceptions of changes associated with the Better Together project. These questions were designed to answer RQ2 relating to the Better Together intervention’s potential for increasing TA confidence.

Figure 4.2 Graphic representation of the TA Confidence thematic network

4.7.1.1 Organising Theme: lack of confidence

The Project Coordinator and TAs were asked questions relating to the impact that the intervention had on their/TA practice and their perceptions of their/TA confidence to support the pupil they work with. Their responses to these questions and topics raised organically through other questions including those relating to the perceived facilitators and barriers to the implementation of the intervention resulted in the data gathered for this Organising Theme. Discussions revealed that TAs had deep rooted concerns about their own expertise and the potential for being judged in relation to the new strategies they were trialling.
4.7.1.1 Basic Theme: not an expert

Two of the participants made reference to their preparedness for supporting complex children with specific needs.

“I would like guidelines, I mean I am not an expert”

“Knowing more about ASD makes me feel better about supporting X because really they only touched on it at college and I feel like I should know.”

The two TAs who shared their concerns in this area were the least experienced of the TAs and this may have had an impact on their confidence levels.

4.7.1.1.2 Basic theme: being judged

All of the TAs and the Project Coordinator discussed their feelings around being judged by school staff, themselves, the researcher and by the children they support. This related specifically to the strategies which were generated as part of the Better Together package, despite all reporting that the strategies had been relatively successful in boosting social interaction.

“I’m panicking that someone will think I’m not doing my job!”

“They [The children] just forgot me!”

“The TAs were all anxious about being observed.”

The insecurity amongst TAs around how others might perceive them and their job was palpable.

4.7.1.1.3 Basic Theme: change as destabilising

The TAs spoke about how change was difficult and how it had made them question the value of their role.

“It was really hard for me to just back off”

“Stepping back was hard for them to get their heads around.”

4.7.1.2 Organising Theme: increase in confidence

This Organising Theme related to the Better Together intervention’s effectiveness at increasing the confidence levels of the TAs involved in the project. Discussions with those involved suggest that there was an increase in confidence as a result of the intervention for all involved. This is evidence of the intervention’s effectiveness.
4.7.1.2.1 Basic Theme: training boosted confidence
All participants and the Project Coordinator noticed an increased confidence to both try something new and to justify a rationale for doing so.

“It’s given them [TAs] confidence”

“It has made me more confident”

“I feel more confident to answer why I’m doing something”

The unanimous agreement that there had been an increase in confidence following on from the intervention is interesting when juxtaposed with the professional insecurity and thoughts about change noted in the previous Organising Theme. This may relate to the implementation and sustainability of organisational change.

4.7.1.2.2 Basic Theme: experience
Within the small sample of TAs interviewed there seemed to be a proportional relationship between the reported level of TA confidence to support their targeted pupil and their level of professional experience.

“My experience makes me confident”

This relationship seemed to affect the individual’s preference in relation to the mode of delivery and focus for the intervention with the least experienced TA wanting a more directive approach and the most experienced valuing a more flexible and collaborative approach.

“I’d have liked a programme, something to follow because I’m not an expert on this.”

“Bringing a real problem helped – the flexibility, I could relate more.”

4.7.1.2.3 Basic Theme: confirmation
For one TA, the intervention boosted her confidence by confirming that what she was already doing was good practice.

“It was good to know that what I was doing was right.”

4.7.2 Thematic Network for implementation
This thematic network consisted of three Organising Themes and nine Basic Themes. This thematic network represents the TA and Project Coordinator’s responses to questions within the interview around the implementation of the Better Together intervention. These questions were designed to address RQ4 and also fed into the process evaluation.
4.7.2.1 Organising Theme: barriers

The TAs and Project Coordinator were asked questions about their experience of trialling the strategies linked to the Better Together intervention and were specifically asked to reflect on potential/experienced barriers in carrying them out. The discussions raised practical and logistical difficulties as well as a broader examination of the expectations of stake holders.

4.7.2.1.1 Basic Theme: classroom

Discussions with TAs revealed that there were practical and logistical difficulties which negatively impacted upon their ability to implement the intervention strategies. These mainly revolved around the setup of the individual classrooms within which the TAs operated from. For one TA, the energy and noise of the classroom was a difficulty.

“X just switches off when its noisy, X loses focus and that’s it!”
Another TA reflected on the layout of the classroom and the frequent moving around of pupils which could impact on the target pupil.

“ Its hard to know where X will be at a given time, which makes it hard for me to plan who might be good for X to talk to.”

4.7.2.1.2 Basic Theme: organisation

The organisation of both the TAs work and the day to day running of the individual classes was also raised by TAs as a potential barrier to implementation. All TAs and the Project Coordinator commented upon the scarcity of time.

“Time is a real issue”

“Can I really get an extra thing done?”

“It’s hard to free up the TAs”

“Yeah because I do feel that you are on the job 100% and time out for whatever makes you feel guilty. To be allowed to do it would be great.”

“As soon as anyone sees that you have a minute they give you things to do like photocopying you know”

The notion of a lack of time seemed to permeate through many layers of the discussions held. It was specifically mentioned in relation to TAs attending the training, observing their target pupil, carrying out homework tasks, communicating ideas with staff and in actually implementing the strategies suggested. The need to have protected time for the intervention was raised by one TA as a potential improvement of the intervention.

Another potential organisational barrier highlighted by staff related to planning. For two of the three TAs implementing the suggested strategies required a knowledge of what was going to happen within class in advance. They felt that this would have supported them to think about which strategies they could trial.

“If I knew [the plan] then it would be easier to try out new strategies”

“Those opportunities can just pop up whenever which you know is fine but it doesn’t give me the time to think about who X might talk to more and get them in position you know”

“Sometimes I don’t know and then it’s hard to know which would be best”
The TAs’ reflections on organisational difficulties also resulted in one TA considering their relative lack of power to make changes within the classroom.

“But there’s nothing I can do about that!”

4.7.2.1.3 Basic Theme: expectations
The idea that the Better Together intervention might challenge perceived expectations of the TAs was mentioned by two of the participants and the Project Coordinator. It was felt that the challenge would be made to teachers, pupils and parents alike.

“Parents might not like the TAs taking a step back”

“I can see X looking at me and wondering, why are you over there?”

“I wonder if X will think I’m still doing my job?”

4.7.2.2 Organising Theme: facilitators
Discussions were held with participants around things that might have/had helped them to implement the Better Together intervention. These discussions raised several important factors which could be mobilised or drawn upon to improve the likelihood of the strategies being implemented. The discussions held with the TAs highlighted the importance of people and relationships within the process of change.

4.7.2.2.1 Basic Theme: relationships
The idea of the relationship between the Class Teacher and the TA as pivotal to the implementation process was raised by all of the contributing TAs. Discussions suggested that this relationship functioned by providing a safe environment for the TAs to try something new and as a place for mutual learning.

“I try more [strategies] when I feel that support, you know!”

“Also my relationship with X [the class teacher] helps because X asks me about my ideas and things that work. X is also happy to let me back off if I think X [pupil] doesn’t need me. X [Class Teacher] trusts my judgement. X [Class Teacher] lets me use the strategies I want.”

4.7.2.2.2 Basic Theme: communication
The need for positive, proactive communication between the TAs, parents, Class Teachers and the pupils themselves was raised by two of the TAs and the Project Coordinator. The function of the
communication seemed to vary according to the experience and confidence level of the TA as well as by purpose. It could serve to both justify a course of action or strategy implemented by the TA but also be a vehicle for mutual learning, planning, the pooling of ideas and an evaluation of a strategy’s effectiveness.

“They would know why I was doing it”

“It helps to talk about it, makes me more confident”

“Communication between us helps a lot”

“I talk to X about why I won’t be there and that helps them understand”

“I mean they trust us to do the right thing with their children but it might help to tell them explicitly why”

“It helps to know what is coming up, the plan, talking about it helps me to plan what I can do.”

4.7.2.2.3 Basic Theme: networks

The concept of a TA network as a supportive mechanism for the implementation process was raised by all participants. Participants seemed to value their experience of being part of a group and being trained together. They were articulate in their thoughts about why this was helpful. Their ideas drew on the network as being a valued way of gaining strength and confidence;

“Bringing the TAs together was great”

“They seem to be creating a network of support for one another”

The network also seemed to help the TAs to be more creative and flexible in their use of strategies;

“Working with another TA helped to bounce ideas”

“It’s great to work with someone so creative [another TA]”

It also allowed the Project Coordinator to know more about their individual strengths and talents which supported her appreciation of them.

“I think that bringing the TAs together as a group has been really useful. It’s helped me to get to know them better and has helped me see just how wonderful they are really. We are really very blessed with them.”

The TAs also articulated ideas about the network as a way of helping them to share the burden and responsibility for the complex children that they support.
“Sometimes it can be a bit lonely, sharing ideas and knowing someone else is going through something similar helps.”

The network also seemed to give the project impetus. In particular two TAs spoke about the creation of a bespoke friendship group which utilised many of the Better Together strategies, something which was aided by having both of them running it. It also allowed less experienced TAs to draw on the expertise of their fellow TAs in a way which seemed to be beneficial to all.

### 4.7.2.3 Organising Theme: motivating factors

Discussions with the participants revealed that there were a number of factors which helped to motivate the TAs during the implementation process which can be regarded as facilitators. These relate to concrete examples of things the TAs were proud of, a feeling of change for the pupil and their own feelings about positive change.

#### 4.7.2.3.1 Basic Theme: seeing the change

The TAs spoke about the power of seeing change for the pupils in a relatively short period of time and how this motivated them to carry on.

“It’s so satisfying to see how well X is doing now, they were so withdrawn before”

“There really have been some big changes”

“They have seen the benefits and in such a short space of time”

“Keeps me going seeing X like that”

#### 4.7.2.3.2 Basic Theme: the impact of change

All three TAs commented upon the positive impact of change on the children that they support and how this motivates them.

“It has done X the world of good”

“It led to the friendship group and that’s such a positive thing for X”

“It’s empowered the children”

#### 4.7.2.3.3 Basic Theme: recognition by others

TAs were motivated when others recognised the changes within the pupils that they supported.

“And she just said, the children we have targeted, they are doing well. That made me feel good.”
“And someone else came up to me and said, you know I just had a conversation with X, a conversation! That’s never happened before!”

4.7.3 Thematic Network for skill development

This thematic network consisted of two Organising Themes and sixteen Basic Themes. The Skill Development Thematic Network was formed through discussions with TAs and the Project Coordinator at interview around the effectiveness of the Better Together intervention and perceived changes to TA practice. These questions were designed to address RQ1 and RQ3.

Figure 4.4: Graphic representation of the Skill Development thematic network

4.7.3.1 Organising Theme: TA skills

Discussions with the TAs and the Project Coordinator suggested that there had been an appreciable development in the skills of the TA and that the input had been targeted at the right level. The skills
developed by the TAs centred on new strategies, a different approach to situations and an increased understanding of ASD.

4.7.3.1.1 Basic Theme: understanding why
All TAs and the Project Coordinator suggested that there had been a positive effect on the TAs understanding of ASD following on from the Better Together intervention. Comments at interview made links between this improved understanding and individual practice within the classroom.

“TAs understand why they are doing what they are doing now”

“It’s helped me to know why X may react like that which has changed what I do”

“It’s opened my eyes to the behaviours and how they fit with ASD”

“Knowing about the autistic brain helped me to understand X”

TAs commented that learning about ASD in general had been a highly valued part of the intervention.

“I found the information the most useful bit”

For one TA having the information was empowering and allowed them to feel more confident, not just in terms of new strategies that they were trying but also in justifying what they had been doing instinctively.

“It’s helped me to join up the dots you know, I feel better knowing why I had been doing that, I didn’t know that before.”

The TAs and Project Coordinator were happy with the proportion of the intervention dedicated to imparting knowledge about ASD and felt that it had been pitched correctly.

“Better Together was fun and informative; it was pitched at just the right level.”

The need or desire for an increased knowledge base was voiced by all participating TAs but seemed to be a more significant issue for the less experienced TAs who felt underprepared for their role in supporting complex individuals.

“As a TA you aren’t trained to deal with specific issue like ASD, I mean it might get mentioned at college once but that’s about it.”
4.7.3.1.2 Basic Theme: specific skill development

In addition to gaining a deeper understanding of ASD and how this might impact on the pupil they support; TAs also valued the input around specific strategies to trial. This was evident in the fact that they were able to give examples of strategies they had tried following on from the intervention.

“I found the strategies the most useful part of the intervention”

“I am sitting back more, targeting my support”

“I have given them ownership of the group, sat back more”

“I have taken away ideas to try, like looking to his peers to help out”

“I’m waiting a bit longer before wading in!”

Two of the TAs valued the simplicity and responsiveness of the intervention.

“Its things like that, simple little things”

“It’s all about simple things that I can do without loads of planning”

“Bringing a real life problem helped – made it real, I could relate to that more”

4.7.3.1.3 Basic Theme: change in approach

During the interviews TAs reported a change in approach to the support they offered as well as specific changes in their level of understanding and the strategies that they used. This change in approach was described as being more reflective and based on a principle of noticing and adjusting.

“It [Better Together] helped me to see things sooner and change how I react”

“I have learned a lot about picking up on clues and noticing”

“It’s [Better Together] helped me to notice that X really wants friends”

One TA also commented on the observation homework task set after Workshop 1 and suggested that this had made a positive impact on their practice.

“It’s given me the idea to observe. To see how I can use myself better”

Another TA noted that although they were using the same group intervention as before there had been a subtle shift in focus.

“It’s not that the group has changed, it’s more my role that’s changed or how I see them”
4.7.3.1.4 Basic Theme: ideas for further skill development

An important part of the interview process involved asking TAs and the Project Coordinator about how the intervention might be improved in order to further support skill development. Feedback from the Project Coordinator suggested that a more holistic view of staff development would be welcomed as would a more direct form of instruction.

“I think that going into Key Stage 1 would help, so that there was consistency for the children, it would make movement between classes easier”

“I don’t know, perhaps a form of modelling? So you would demonstrate the skills. That would be great.”

This approach would fit well with the literature around pivotal response training and will be discussed in the following section.

4.7.3.2 Organising Theme: pupil skills

Discussions with the TAs and the Project Coordinator suggested that there had been noticeable changes in the social skills of the targeted pupils. Questions asked during the interviews explored this idea and their responses indicated that gains were made in specific skills and that these gains were benefitting their peers and being generalised to different situations.

4.7.3.2.1 Basic Theme: specific skill gain

All TAs noted that there had been specific skill gains amongst the pupils they supported.

“X has started to compliment others! Something they have picked up from others in the group. They taught X”

“X is better able to deal with distance between us”

“They forgot we were there. They [two target pupils within a group] really opened up to each other”

“They are working with others much more now, much more!”

“X is so much more confident with other children now”

“They are turning to their peers now, to fill that gap”

“X is part of a group now”
These skill gains reflect a development in both confidence and skill set for the target pupils. TAs noted that this was having a positive impact on the individual children.

### 4.7.3.2.2 Basic Theme: peers

In addition to the target pupil gaining from the Better Together project two TAs also noted that there had also been positive benefits for the target pupil's peers.

“Others are benefitting too”

“Theyir peers are learning how to approach them and how to help”

This suggests that within at least two classrooms the Better Together intervention had encouraged a greater co-dependence between the target pupil and their peers.

### 4.7.3.2.3 Basic Theme: generalisation

The TAs and Project Coordinator were asked during the interview about the skills that had been gained following on from the intervention and whether these had been generalised to other situations. Feedback from participants suggested that generalisation had been observed across playtimes, dinnertimes, differing classroom environments and even through individual play.

“And well, its spilling out too, into the playground”

“X has started to use that skill at different times too, like Y isn’t in the group and X used the same approach”

“When I’m on duty I sometimes have a peek, see what X is doing and although X isn’t at the stage where they can approach others yet, as soon as someone comes over to X there is a big smile and you can see X using those skills”

“I have looked at scripts with X and talked about using them before but recently X is off using them, it’s a bit woody but X is using them!”

“I can even see it in X’s play. X likes these particular characters and where there was only ever one or two characters, there are now a few and X uses the scripts with them, making out that they are having a right good time with each other!”

### 4.7.4 Thematic Network for the role of the TA

This thematic network comprised of two Organising Themes and four Basic Themes. The contributing data for this thematic network was derived from interview questions which asked participants to reflect
on their thoughts on the perceived changes to TA practice following the Better Together intervention as well as potential facilitators and barriers to its implementation.

Figure 4.5: Graphic illustration showing the thematic network for the Role of the TA

4.7.4.1 Organising Theme: no change in perception: role as the same

This theme was an interesting one as two of the TAs reported that the intervention had made no difference to the work that they did to support the targeted pupil.

“It hasn’t changed my role in class. I never sat close to X”

“No, no change really”

This theme seemed to relate to the TAs perception of either their physical proximity to the target pupil or as a defensive reaction to their previous practice in their role. Both TAs who reported this lack of
change went on when prompted to detail examples of changes in their approach to their role and to the strategies they utilised within class.

4.7.4.2 Organising Theme: change in perception

Discussions with the TAs suggested that there had been some changes to how they perceived their professional role following the Better Together intervention. These changes seemed to pertain to how they approached their role as well as specific changes to their practice. TAs were also very articulate in discussing how these changes had affected them on a personal level. The concept of change seemed to evoke a degree of defensiveness amongst participants and discomfort which will be discussed further in the following section.

4.7.4.2.1 Basic Theme: awareness

TAs reported finding the Better Together intervention helpful in terms of making them more aware of the importance of their role in supporting the pupil they work with.

“It opened my eyes to how important and powerful my role is”

“It’s good to know that I am appreciated”

This realisation had made this TA feel more confident and secure in their role.

The TAs also felt that the intervention helped them to see how they might have acted as an unwitting barrier to social interaction in the past and re-focused them into the facilitation of social interaction.

“I’m more aware now of how I might have been a bit of a barrier”

“And I was doing it [answering questions for the pupil], but I wasn’t even aware I was!”

4.7.4.2.2 Basic Theme: approach

Participants in the intervention reported that following on from the intervention there were appreciable changes to how they approached their role as TAs. This was achieved both through the strategies that they utilised and a more subtle change to how they approached their role.

“It’s made me think, opened my eyes to how I could approach my role”

For one TA an increased awareness of her role had meant that she had begun to question her view of herself as a carer or mother figure.

“I mean, you want to do everything for X”

“You want to protect them-wrap them up, but I realise that’s not helpful now”
This TA had shifted how she approached her role from a carer’s role to one more closely aligned with that of a facilitator or coordinator, someone preparing the pupil for independence. Another TA reflected on the fact that the big change was in how they supported the group work rather than any change to the group itself.

“The difference isn’t X, it’s about my role in things [group]”

These subtle changes to the ways TAs viewed their professional role are potentially quite powerful. It is suggestive of a deeper level of understanding and reflection than simply trying new strategies. This could arguably result in a greater flexibility of use of the Better Together principles.

4.7.4.2.2 Basic Theme: change as uncomfortable

Discussions with both TAs and the Project Coordinator highlighted how difficult change was for the TAs, particularly as the changes seemed to challenge ideas around their professional identity and role.

“It was strange to take a step back”

“It was a big thing to give up that control, sit back and let it happen”

“Stepping back made me wonder, do they need me?”

“I’m panicking that someone will think I’m not doing my job!”

The concept of change as being hard and challenging will be discussed further in the following section.

4.8 Summary of Qualitative Data results

The qualitative data collected through the semi-structured interviews suggests that following their involvement in the Better Together project participants felt more confident in relation to their own knowledge base and in the way that they supported the interactions of the pupils that they support. This manifested differently in relation to the professional experience of the TA. For the more experienced TA the training gave a structure to what she felt she was already doing. For the least experienced TA, the training helped to target her feelings of not being an expert. The interview data suggested that at the same time as increasing TA confidence the strategies suggested within the project, specifically ‘stepping back’, resulted in the TAs feeling judged by both themselves and others thereby questioning their professional role. This had a destabilising effect on them.

Participants felt that their relationships with the class teachers and other TAs supported the implementation of the project as well as effective communication between all involved. Joint training with fellow TAs had the effect of creating a peer support network which facilitated creative
opportunities for TAs to benefit from each other’s individual talents and experience. Factors which encouraged the TAs and motivated them to continue include being able to see a positive change in the individual pupil within a relatively short period of time and other people recognising their efforts and the progress of the pupils as a consequence. Participants reported that the organisation of their work as well and the classrooms that they worked in were potential barriers to the implementation of the strategies generated within the intervention.

TAs and the Project Coordinator felt that their involvement in the project had resulted in positive skill development for TAs, peers and the pupils they supported. This skill gain related to the development of a deeper understanding of ASD leading to a change in approach as well as the learning of specific skills for TAs. The pupils within the study were also reported to have developed new skills leading to an increased confidence in their social interactions. The positive gains were not restricted to class based sessions with the TA, reports suggested that target pupils had begun to generalise their skills into less structured and novel situations.

Involvement with the Better Together project also led the TAs and Project Coordinator to reflect on the role of the TA at a fundamental level. This reflection seems to have generated a heightened awareness of their professional role and a corresponding shift in the approaches taken.

4.9 Summary of Results

Taken as a whole, the results suggest that involvement in the Better Together project had a positive impact on the TAs and targeted pupils within the focus school. This can be seen through the raised confidence levels of the TAs and is demonstrated directly through the questionnaire and interview data, as well as implicitly through the increased range and frequency of facilitative behaviours demonstrated by the TAs. This gain in confidence was at times contradicted by reflections on the limitations of their role and the danger of being judged and feeling powerless to make changes. It also seemed closely related to the individual TA’s level of personal experience this result on the current sample requires extending to a larger population in order to ascertain its validity.

In addition to positive gains in TA confidence, the results suggest that TAs responded positively to the intervention by increasing the rate and range of the facilitative behaviours they demonstrated. This increase corresponded to a higher social interaction rate amongst the target pupil and their peers which was largely sustained over time. This observed increase was corroborated by discussions with the TAs who were able to give examples of new facilitative behaviours they had tried and successes they had observed. This was highly motivating for the participants, some of whom were visibly moved by the changes in the target pupil’s confidence to interact and their new found skills.
In addition to increasing the rate and range of facilitative behaviours, there was evidence from the observational data that TAs were becoming more efficient and targeted in how they supported the target pupils. This is reflected by proximity data showing that TAs were spending more time further away from pupils but with a simultaneous increase in the rate of facilitative behaviours and matched interactions. This suggests a more concentrated and coordinated approach to the support offered. This ‘stepping back’ approach was contentious and one which evoked mixed feelings amongst TAs seemingly threatening how they perceived their role and professional worth.

Despite a seemingly positive response by TAs to the intervention and observed increases in matched facilitative behaviours and social interaction; pupils in this study did not become more socially included on the SIS measure. As the categories within the SIS are quite broad and the research was carried out over a relatively short period of time this not entirely surprising. The researcher believes that it isa positive sign that the target pupils maintained their pre-intervention SIS classification and feels that when this is combined with the qualitative data gathered, there is evidence that the target pupils made fine grained improvements within their individual SIS classification. Despite a lack of change in the classification of social acceptance, there were changes in how a target pupil’s peers viewed them. This was demonstrated by a movement away from ambivalent responses (question marks) and towards a more concrete classification (smiley, sad or neutral face). These findings suggest that there has been a positive improvement in the direct social interactions of target pupils and their peers, which if sustained may lead to changes in social inclusion.

Potential barriers and facilitators for the implementation of the intervention were discussed and these highlighted the considerable strength that was gained by TAs being trained together and forming a network of support. Ideas were put forward for improving the process such as the direct modelling of skills and strategies by the researcher. Deviations from the original plan, which involved a structured meeting between teachers, TAs and the Project Coordinator, impacted upon the amount of data that was gathered about implementation at the systemic level. The implications of this will be raised in the Discussion section.

Taken as a whole the results indicated that there had been a change in approach and behaviour amongst the participating TAs following their involvement in the intervention. This concept of change was met with mixed feelings by the participants. Change was held as positive and empowering but simultaneously destabilising and multi-layered. This theme is one which resonated throughout the results section and is one which will be developed in the following section.

The Discussion section will develop some of the more salient findings further, relating them back to the research questions. It will also explore how these key findings interact with the existing literature.
discussed in the Literature Review and reflect on the study’s limitations and implications of findings for professional practice.
**Chapter 5: Discussion**

**5.1 Section outline**
This chapter will summarise and discuss the research findings in relation to each research question. The effectiveness of the intervention will be explored along with the processes involved in its implementation. These findings will then be evaluated and considered in relation to previous research. The chapter will conclude by considering the limitations and implications of the research and suggest further areas for academic exploration.

**5.2 Study Aims**
This study aimed to evaluate:

*Effectiveness:* How successfully the Better Together intervention supported TAs to facilitate the social interactions of pupils with ASD.

*Sustainability:* The extent to which any changes in TA practice were maintained over time.

*Process:* The facilitators and barriers which impacted upon the implementation of the Better Together intervention.

In order to achieve this, the study attempted to answer the following research questions:

- **RQ1.** Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?
- **RQ2.** Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social interaction of pupils with ASD?
- **RQ3.** To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?
- **RQ4.** How does the school view the implementation of ‘Better Together’ and how have they supported it at a systems level?

The present researcher will now summarise findings in relation to each of the RQs.
5.3 Research question one

- RQ1. Does participation in ‘Better Together’ result in an increased rate and range of facilitative behaviours displayed by TAs and is this sustained over time?

Data was collected in order to analyse how effective the Better Together intervention package was at increasing the rate and range of facilitative behaviours displayed by the three TAs involved in this small scale study. A secondary question related to the sustainability of any change following on from the intervention period. It was felt that this was an important area for study as a literature search has revealed that there is a lack of evidence relating to how schools might best use their TA support in order to enhance social inclusion outcomes for pupils with ASD. The following discussion of the results pertaining to this research question will be broken down into evidence relating to rate, range and sustainability.

5.3.1 The rate of facilitative behaviour

The combined results from this small scale study suggest that all TAs who took part in the Better Together project increased their rate of facilitative behaviours when compared to their pre-intervention scores. These gains were significant with an average relative change effect from Phase One (pre-intervention) to Phase Two (post-intervention) of 4.70. These changes were achieved over a relatively short period of time (6-7 weeks). This central finding supports the conclusions drawn by other researchers that TAs’ rate and range of facilitative behaviours can be increased through a short term training package (Causton-Theoharis and Malmgrem, 2005; Malmgrem, Causton- Theoharis and Trezek, 2005). This study therefore provides ongoing support for researchers who have reported that TAs can learn new skills and successfully implement strategies after a relatively short training period (Hall, McClannahan, Krantz, 1995; Shulka, Kennedy, and Cushing, 1999). This is a significant finding given the importance of continual professional development within education as a whole and more particularly for TAs who often enter the profession with relatively little training (Blatchford, 2009) and who report dissatisfaction around the lack of training opportunities they receive (Chopra et al., 2004).

The direction of change from Phase One to Phase Three in the current study is consistent with that reported by Causton-Theoharis and Malmgrem (2005b) and Malmgrem, Causton- Theoharis and Trezek (2005); however the gains reported in this study are much higher than the ‘slight improvement’ in TA fb rate reported by Malmgrem, Causton-Theoharis and Trezek (2005) and the two fold improvement reported by Causton-Theoharis and Malmgrem (2005b). This research indicated a much higher average relative change factor of 13.16 (1317%) from Phase 1 to Phase 3. These numbers are based upon a reduced sample size of 2 TA pupil pairings since no data was available for the third TA.
pupil pairing for the Phase 3 assessment. The difference in the rate of improvement was an interesting and unexpected finding given that the Better Together intervention was modelled on the intervention utilised in the other two studies. There are several different explanations for why the difference might have been so much larger in this study.

One possibility is that the level of discrepancy between the studies might be due to differences in the mechanics of how the interventions were delivered. Better Together was delivered as a series of multi-participant workshops which were then combined with a layered sharing of the approach with different systems within the school. This contrasts with the interventions utilised in the aforementioned studies which were delivered in a single four hour long session on an individual basis and with no systems level work. This explanation is given credence by research which suggests that there are several factors affecting the degree to which substantive change might take place. Those most pertinent to the current discussion are; the existence of a group, mentoring opportunities by external professionals, opportunities to reflect and trial strategies, number of session and having the support of senior members of the team (Bond and Hebron, 2013; Hollingshead, 1998; Moreland, 1999; Klinger, Vaughn, Hughes, and Arguelles, 1999). The importance of the group and the collaborative flexibility of Better Together were commented upon by the participants and the Project Coordinator during the course of this small scale study. The fact that the Better Together intervention combines these highlighted elements might help to explain why larger changes in fb rates were observed in this study than in those carried out by Causton-Theoharis and Malmgrem (2005b) and Malmgrem, Causton- Theoharis and Trezek (2005).

An alternative but not mutually exclusive explanation for the difference in the rate of change is that Better Together offered the opportunity for the development of a more significant and prolonged relationship between the researcher and the TAs. Each workshop that was delivered had a reflective and mentoring element built into it and TAs also made use of the researcher’s support through regular email correspondence outside of the contact hours. This allowed for the development of supportive relationships between the researcher and participants over time. The idea that the degree of change might be affected by both the relationship between the trainer and trainee and the length of time that relationship exists for, has support within the literature. There is evidence from multiple disciplines which emphasises the importance of this relationship and the need for support to be ongoing or at least pre and post training in order to maximise the potential for substantive change (Lambert and Barley, 2001; Brinkerhoff and Montesino, 2006). Given that relationships are important in implementing change, it might make sense that the intervention which supports the development of this relationship over a period of time and provides outreach support might achieve a higher rate of change than one
which does not. These findings support the idea that EPs are well placed within LAs to both provide and support training over a period of time (Cline, 2012; Willey, Holliday, and Martland, 2007).

A contrasting explanation for the different rates of change observed between this study and those of Causton-Theoharis and Malmgrem (2005b) and Malmgrem, Causton-Theoharis and Trezek (2005) is that the higher rate might be attributable to experimenter bias, or the desire to please. The experimenter bias could be rooted in the more extensive relationship built up between the researcher and the participants in the Better Together intervention. This could have resulted in the TAs exhibiting the fbs that they knew had formed the basis of the workshops whilst they were being observed in the post-intervention and follow up stages. This could suggest that the gain was unrealistic and not truly reflective of sustainable change. This explanation is called into question by two factors. Firstly, the change observed after the highest level of interaction between participant and researcher (Phase Two) was continued and improved upon into the third phase of the research during which time contact was much more sporadic. Secondly, in addition to the structured observations which demonstrated the high rate of change, semi-structured interview data gathered from the TAs and the Project Coordinator support the idea of change outside of the observation sessions.

On balance it seems likely that the different change rates observed between the current research project and the studies carried out by Causton-Theoharis and Malmgrem (2005b) and Malmgrem, Causton-Theoharis and Trezek (2005) is related to the different mode in which the intervention was delivered and the subsequent development of the trainer-trainee relationship.

5.3.2 Pattern of change – individual difference

In addition to demonstrating an overall increase in the rate of fbs displayed by all TAs post intervention; this small scale study also found that there were significant differences between the TAs as to how much change was affected. The current researcher suggests that this might be partially explained by their level of expertise and confidence as well as individual characteristics. The patterns observed in this study replicate those found by Causton-Theoharis and Malmgrem (2005b) in which they report that the TA with the most functional behaviours at the baseline phase of their research maintained the highest level of functional behaviours post intervention (TA2 in the current study). Causton-Theoharis and Malmgrem (2005b) suggest that this is indicative of the intervention being effective in increasing levels of fb for TAs regardless of level of proficiency. The current researcher agrees with this hypothesis however would like to put forward the idea that the difference in rate of change may be partially attributable to differences in each TAs level of experience and confidence and that a closer understanding of these factors at the outset of training might lead to even greater gains in the long term. The skill attribution model of learning (Dreyfus and Dreyfus, 1980) suggests that there
are five stages to skill acquisition with each stage requiring a different approach to training. In order to progress to the next stage a trainee must satisfy all conditions of the current stage before sustainable advancement can take place. If a trainee does not meet the criteria for the stage at which the training is designed then they risk an unsustainable gain or regressing to the previous stage. It might therefore be important that the trainer is able to gauge the trainees level of competency and readiness for change before training commences and to adapt their input flexibly throughout.

5.3.3 Range of facilitative behaviours

All TAs involved in the current study increased the range of fbs that they displayed in the post-intervention phase of the research. This supports findings from the Causton-Theoharis and Malmgrem (2005b) and Malmgrem, Causton-Theoharis and Trezek (2005) studies. The TAs within this small scale study maintained and improved this increase at the follow up Phase Three stage. The current researcher suggests that this is evidence of a development of the participants’ flexibility and confidence. It also suggests that allowing TAs to practise their skills in real life situations between the phases of the research is an important factor in sustaining improvement. Interview data suggests that an additional factor which enhanced the range of fbs trialled is the fact that the TAs were able to draw on the group for ideas and that this support network functioned away from the distinct training package.

5.3.4 Sustainability

In order to explore the sustainability of the Better Together intervention, data was gathered at a post-intervention stage (Data Collection Phase 2) one month after the intervention and also at a follow up stage (Data Collection point 3) one academic term after the intervention (see figure 3.2). The evidence from this small scale study suggests that all TAs at the post-intervention phase had made positive gains in the rate and range of facilitative behaviours that they used, when compared to their performance at the pre-intervention stage. This is similar to the findings of Causton-Theoharis and Malmgrem (2005b) who reported that the TAs in their study all maintained a rate of fb which was higher than the average pre-intervention rate. These results are comparable as they were gathered over a similar time period (4-7 weeks) following the intervention. The current research wanted to extend sustainability to a longer period and so included a follow up stage. Data from the follow up stage indicated that gains were continuing to be made for one TA and had reduced slightly for the other, although still well above the pre-intervention rate. This is a positive finding and one which should be explored further through research with a larger sample size. The researcher believes that the differences between the two TAs may be reflective of the skill and confidence level of the individual TAs and indicative of the TAs’ readiness for change. The results could also relate to the
individual behavioural characteristics of the target pupil. The findings from this study should however be interpreted with caution as the data was only gathered for two of the TAs and was based on a single twenty minute observation of each TA rather than the more sustained observations in the other data phases. Further exploration of sustainability at different time points following the intervention and with a larger sample size would help to support the findings from the current study.

5.3.5 Summary of research question one

This study has provided evidence that within the focus school the Better Together intervention was effective at increasing both the rate and range of facilitative behaviours demonstrated by TAs. These gains were sustained over time. The gains observed in this study were much higher than in other studies which have employed a similar approach (Causton-Theoharis and Malmgrem, 2005b). The current researcher has argued that this may be a function of the mechanisms involved in the intervention’s delivery. The current researcher is not aware of any similar research having been carried out into the training of TAs and as such fills an important gap within the literature. The small scale exploratory focus of the current study allowed the researcher to discover important differences between TAs in relation to their readiness for change and in the patterns with which they adopted the Better Together approach. The researcher has suggested that individual difference and particularly experience and confidence interact closely with a person’s capacity to change. These findings also concur with research suggesting that EPs can be effective in the role of a trainer in schools (Cline, 2012; Kay, 2012).

5.4 Research question two

RQ2. Does participation in ‘Better Together’ alter how TAs perceive their confidence and skills in supporting the social interaction of pupils with ASD?

Data was collected in order to analyse whether the Better Together intervention had altered how TAs perceived their level of confidence in relation to the pupils they supported. The literature review revealed that TAs can feel underprepared for their role and lacking in confidence which can have a demotivating effect and a potentially negative effect on the pupils that they support (Chopra et al., 2004; Downing, Ryndak and Clark, 2000). TA confidence levels following training was also identified through the literature review as being a relatively under researched area. It was therefore felt that raising TA confidence levels was an important focus for the Better Together project. The data that will be used to answer RQ2 was predominantly gathered from semi-structured questionnaires completed at Phase One and Two and the semi-structured interviews carried out during Phase Two of the research. Where
appropriate these results will be discussed with reference to other measures utilised in order to provide a more robust analysis.

The semi-structured questionnaires contained two questions which specifically targeted TA confidence levels:

- How confident do you feel in your level of understanding of Autism Spectrum Disorder?
- How confident do you feel in supporting the social interactions of the pupil you work with?

### 5.4.1 An increase in confidence

The results from the first question revealed that all TAs involved in Better Together rated their confidence in relation to understanding ASD as having increased in the post-intervention phase (Phase Two) in comparison to the pre-intervention phase (Phase One). The TAs all reported feeling either 'Not at all confident' in terms of their knowledge of ASD or 'Slightly confident' prior to intervention which supports other study findings which have demonstrated a lack of confidence amongst TAs (Chopra, et al., 2004). This lack of confidence was echoed during the semi-structured interviews with comments relating to a lack of expertise and the need to know more. Following the intervention all TAs classed themselves as one category more confident than before. This key finding supports work carried out in specialist ASD resources where efficacy was rated higher by staff at the post training phase than it was pre-training (Bond and Hebron, 2013). That Better Together was able to increase TA confidence levels in a short period of time is a novel finding, with no further examples within the literature of TA confidence levels following training. It is also a positive finding as research has shown that TAs identify a lack of training to be a barrier to their job and that they would like to receive more in order to enhance their job satisfaction (Chopra et al., 2004; Downing, Ryndak and Clark 2000; Tillery, Werts, Roark and Harris, 2003). This growth in confidence was reflected in the interviews through comments about understanding as being empowering and reassuring. It may be that the TAs felt more comfortable to report higher confidence levels around their subject knowledge as there was no formal testing measure recording gain (i.e. test/quiz). This could mean that the results are an over exaggeration of the gain. This is made less likely by the additional measures used within this study which help to provide a more robust analysis of the increased confidence levels.

The results from the second question revealed that two out of the three TAs felt that their confidence to support social interactions had remained static at the ‘confident’ level at the post-intervention phase and that one TA had reported a positive shift from the ‘slightly confident’ bracket to the ‘confident’ bracket. This was a smaller gain that that reported by the TAs during the interviews in which they unanimously reported feeling more confident. This is another positive and novel finding.
between the two phases of the research was smaller than that reported for confidence levels relating to knowledge about ASD. This could be related to the fact that the TAs completed the post-intervention questionnaires just prior to their structured observations during Phase Two. The knowledge that they were about to be observed supporting the interactions of the target pupil may have influenced how confident they felt and may have been reported differently at another time point without the pressure of the observations. The increased rate and range of facilitative behaviours observed in the post intervention and follow up phases of the research provide additional data which suggests an increase in confidence amongst TAs. This is supported further by an overall reduction in the proximity variable demonstrated in the observations. Taken together the data from the structured observations suggests that TAs in the post-intervention stage felt more comfortable to try new strategies out and support more remotely than at the pre-intervention stage.

### 5.4.2 Why did it increase confidence?

TAs reported through their interviews that being given information about ASD supported them to feel more confident in their role, as did the creation of a network of support amongst the TAs whom they felt could help them to problem solve around real life issues. The TAs own personal attributes were also important; with more experienced TAs making larger improvements than their less experienced colleagues. Thematic analysis suggested that for the most experienced TA in this study, the strategies helped her to know that what she was doing was actually ‘right’. Better Together therefore offered her the possibility of professional confirmation of expertise. Additional factors which TAs in this study felt helped to increase their confidence levels included the pacing of the sessions to allow them to have a go at the strategies discussed and also to see progress and success with the pupils. These interview findings compliment research discussed within the literature review relating to sustained change through training (See figures 2.5 and 2.6). The findings from this study agree most directly with the benefits of the creation of collegial support networks and links to pupil learning (Garsten at al., 1997; Bond and Hebron, 2013).

### 5.4.3 A decrease in confidence

The thematic analysis of the semi-structured interview data revealed an interesting finding relating to TA confidence levels. It appears that The Better Together intervention project simultaneously increased the level of TA confidence in relation to specific strategies and knowledge whilst also decreasing confidence in relation to professional identity and/or security. Specifically, the teaching of stepping back techniques and the use of peer support and mentors had a destabilising effect on the TAs involved in this study. It also seemed to highlight issues of inequality within the school system. Professional insecurity and the lack of clarity around the TA role and their responsibilities have been demonstrated within the literature and as such this project supports these findings (Chopra et al.,
2004; Downing, Ryndak and Clark, 2000). It also supports findings which suggest that there can be a drop in confidence when extending a professional role into a new area (Bond and Hebron, 2013). The thematic analysis also demonstrated that TAs who took part in this study were acutely aware of their relative lack of power and how reliant they were on the staff around them when making decisions about strategies and planning. The security of the TA role seemed therefore to be intricately connected to the proximity they kept to the pupil they supported. The distancing strategies were therefore very challenging for the TAs. The knowledge of why they were planning for the interaction was therefore empowering in terms of understanding but also destabilising. The TAs were concerned that others would think that they weren’t doing their job unless they were operating closely and constantly with the target pupil. This study therefore lends support to research which stresses the importance of clarity of role for TAs and for whole school policies and change, in order to ensure that there is a common understanding and support network for TA who might be operating in a different way.

5.4.4 Summary of research question two
This small scale research project lends support to the idea that TA confidence levels can be improved over a relatively short period of time. The intervention’s design supported the development of crucial networks of support for the TAs as they tried out different strategies. TAs also valued the workshop approach and being allowed to flexibly respond to real life difficulties. The intervention did however have a destabilising effect on the TAs professional security and identity and highlight barriers and inequalities to change within the school system.

5.5 Research question three
To what extent does ‘Better Together’ increase the social interaction and social inclusion of pupils with ASD and is this sustained over time?

Data was collected through structured observations and interviews, to analyse whether the level of social interaction between the target pupils and their class peers increased following the TAs involvement in the Better Together intervention. Further data was collected after a term to analyse whether any gains were sustained over time. Additional information was collected through the SIS, both pre and post intervention, in order to ascertain whether there were any measurable gains in social inclusion. This was supplemented by interview data. The following section has been structured into three sections; social interaction, sustainability and inclusion and is followed by a summary.

5.5.1 Social interaction
Social interaction is a social act. It is a way of an individual reaching out to another for a social purpose. In order to plan and carry out a social interaction an individual must possess sufficient social
understanding to formulate their plan/respond and have the opportunity to engage socially (Crick and Dodge 1994). Difficulties in processing and instigating social interaction are a core deficit for ASD and research has suggested that environmental factors within mainstream education can reduce social opportunities therefore exacerbating an individual’s skill difficulties (Humphrey and Symes, 2011). This intervention therefore worked at increasing the rate of social interaction between a target pupil and their peers whilst simultaneously increasing social opportunities.

The results from this small scale study indicate that the number of interactions between the target pupil and their classmates increased following their partnered TA’s involvement on the Better Together intervention. Structured observation showed that the three target pupils in the study had a very low base rate of interaction at the pre-intervention stage (range 0-0.28) and this had increased at the post-intervention stage by an average change rate of 3.447 (range 0.586-0.92). This increase represents a marked improvement in their level of social interaction. These small scale findings concur with research which suggests that pupils, particularly with high functioning ASD, can be socially isolated within the classroom and that they may require support to access the social benefits of mainstream education and avoid long term difficulties (Bauminger, Shulman, and Agam 2003; Howlin, and Goode, 2000; Mawhood et al., 2000).

The findings also lend support to the idea that targeted low cost interventions delivered to TAs can lead to large improvements in their rates of social interaction. The gains in this study follow the same upward trajectory as those observed by Causton-Theoharis and Malmgrem (2005b). As such the results might be considered to be part of a growing collection of evidence indicating the potential benefit to social interaction of TA training. The average percentage increase in social interaction rate in this study is however much lower than the 25 fold increase reported by Causton-Theoharis and Malmgrem (2005b) at 3.447. This is an interesting finding and one made more interesting by the comparison of the matched interaction rate from this study and the general social interaction rate increase in the Causton-Theoharis (2005) study. The rate of increase for matched interactions mirrored the 25 fold increase of the student interaction rate in the Causton-Theoharis study (2005) suggesting that this was a major area of improvement. It may be that the differences observed between the studies are related to the different populations the intervention took place with and the severity of the disability. The current study’s subjects all had a primary diagnosis of ASD and were being educated within mainstream classes. This is a fact that the literature has demonstrated is indicative of a more high functioning individual (Batten, Corbett, Rosenblatt, Withers and Yuille, 2006). The population in the Causton-Theoharis study all had a generic ‘severe disability’ label. This may
mean that social interaction was not their primary need and they might therefore have been more responsive to social overtures.

Research has consistently shown that pupils with a less obvious disability can face more social rejection (Weiner, 1986; Boutot and Bryant, 2005; Ochs, Kremer-Sadlik, Solomon and Sirota, 2001; Bellini, Peters, Benner and Hopf, 2007). It has been suggested that this is likely to be a function of attributing more responsibility to the individual for their difficulties (Weiner, 1986). The high functioning autistic children within the current sample may therefore have been expected to function better and be held more responsible for their difficulties by their peers than the pupils with severe disabilities. They may therefore have not been as responsive to the social endeavours of the target pupils as they were in the other study.

The fact that there was a large scale increase in the matched interaction rate within the current study and a less marked improvement in the student interaction rate may be related to the specific difficulties experienced by pupils with ASD. Matched interactions are different to student interactions because they are a response to the TA’s facilitative behaviour. It therefore represents a more linear and inflexible response than a simple raise in student interaction. A lack of flexibility and reduced generalisation of learned skills is something which has been widely reported within the literature in relation to pupils with ASD (Koegel, Vernon, Koegel, Koegel, and Paullin, 2012). The increased matched interaction rate suggests that the functional behaviours that the TAs were using were highly effective and necessary in order to support a change in SI/MI rate for this specific population. It also suggests that either the pupils were not yet equipped to apply these learned skills more flexibly or that their peers were less receptive to the efforts of the autistic pupils than in the Caston-Theoharis, and Malgrem (2005b) paper. It is likely that the time span for the current research was not long enough for the new skills to reach a fluency level of skill acquisition for this population. The rate of fb is therefore crucial to the raised SI and MI in the current study. This lends support to research showing that interventions that are more targeted to individual need tend to lead to greater gains. This is different to the conclusion drawn by Caston-Theoharis, and Malgrem (2005) in which they suggest that only a relatively small increase in the TA’s rate of facilitative behaviours was necessary to support a large positive increase in student interaction.

A novel and encouraging finding from this study is that, although smaller than the MI gain, the rate of SI increased throughout the phases of the research (Table 4.8 and Table 4.0). As the SI rate represents spontaneous interaction between the target pupil and their peers, this could be interpreted as evidence of generalisability, or a sustained impact of the intervention, without the need for TA intervention. This finding is given greater credibility by the fact that qualitative differences were noted
in the behaviour of the target pupils in less structured environments (See Section 5.5.3). The small sample size of the current study limits the degree to which this novel finding can be applied more broadly, however is particularly pleasing as social skills interventions are often criticised for their lack of generalisability outside the allocated intervention group/time (White, Scahill, Klin, Koenig, and Volkmar, 2007).

An additional interesting finding is that the range of variation in SI rate between the TA pupil pairings increased in the post-intervention stage. Variation amongst TAs is something which has been raised in previous papers and is something that the current researcher regards as a function of individual difference both at the TA and pupil level. For example in the current study the TA with the most experience in her job secured the highest level of increased SI rate. The sample size within the current study reduces the generalisability of this finding but it may be interesting for future research to explore individual variability further.

**5.5.2 Sustainability**

The literature has consistently raised the need for measures of sustainability within social skill intervention research (Kasari and Smith, 2013). A lack of sustainability measures is also a criticism levelled at much of the research in this area. In an effort to address this, the current study built in a follow up phase after an academic term. Within this follow up phase two of the pupils’ student interaction rates were analysed and compared to both pre-intervention and post-intervention data in order to ascertain the level of sustainability. The results indicated that both pupils maintained a level of student interaction which was significantly higher than that displayed at the pre-intervention stage. One pairing (TA:B) went on to double their already impressive gains at the post-intervention stage; whereas pairing TA:A had a slight dip at follow up. (Table 4.8). The differences in sustainability may again be a function of individual difference at both the TA and pupils level.

**5.5.3 Inclusion**

Social inclusion is often cited as the long term goal for both social interaction interventions and more broadly in terms of educational policy. However, research is hampered by a lack of clarity over what is meant by social inclusion, how you might measure it and the extent to which any perceived idea of inclusion fits with that of individuals with ASD. This has led to a lack of consensus within the literature, leading to significant difficulties in collating results and drawing conclusions between studies. An in-depth exploration of the topic of social inclusion is beyond the scope of the current discussion however efforts were made within this small scale study to analyse whether there was any measurable impact on social inclusion following the Better Together intervention. For this analysis an increase in social inclusion was defined as the target pupil being more readily accepted by their peers in terms of their
play and work. In order to assess this the SIS was distributed to all same sex peers within each target pupil’s class at pre, post and follow up phases of the research. This was combined with qualitative interview data.

Unlike findings from other studies, pupils involved in this project were not classified as ‘rejected’ by their peers at the pre-intervention stage. The SIS data suggested that all three pupils were either ‘accepted’ or ‘popular’. This is of concern as candidates were initially selected based on both a diagnosis of ASD and school identified concerns over their level of social acceptance. This may mean that the pupils were incorrectly identified and may therefore not be representative of other pupils with ASD. Both informal and structured interview conversations with TAs and the Project Coordinator were carried out from which it became clear that, as in the research, there was confusion between the terms social interaction and social inclusion. The target pupils were all reported to have significant difficulties interacting socially but were simultaneously regarded as ‘socially included’ by the TAs and Project Coordinator. The SIS data at the post-intervention stage suggested very minimal change, with all target pupils maintaining their pre-intervention classification by the follow up stage. This is not a particularly surprising finding given that the SIS is a broad instrument of peer perceptions and that the intervention took place over just one academic term. It would seem sensible to expect that for change to occur within the social inclusion domain, time is needed. This study would seem to concur with this point. It may also be that a simple increase in the quantity of social interactions is not enough to trigger changes in social acceptance/inclusion. Research has raised the possibility that it is the quality of interaction that is crucial in triggering the development of friendships (Kasari, and Smith, 2013) rather than the mere fact that an interaction took place.

One interesting finding from this small scale study is that there was a reduction in question mark responses for all pupils at the post-intervention stage and that this reduction continued, or became more pronounced, at the follow up stage for two out of three pupils. Although not a standardised part of the SIS the decrease in question mark responses for all pupils at Data Collection point 2 may indicate that they were interacting more; thereby creating the opportunity for their peers to choose a more committed response relating to their interactions with them.

An additional factor which could have affected the social inclusion and social interaction data is that the sample of pupils being observed in the current study was predominantly girls (1:2). This is not representative of the ASD population, where it is thought that there is a range of approximately 4:1 (Ehlers and Gillberg, 1993). Research has suggested that girls with high functioning ASD present differently to boys (Cridland, Jones, Magee, and Caputi, 2014). This can mean that their social difficulties are missed despite there being a significant underlying difficulty with social communication.
Within the current study this may have affected how the girls perceived the target pupil and how the target females reacted to the facilitative behaviours of the TAs.

The researcher combined the SIS findings with interview data and informal observations and found that there were gains made in terms of specific interaction skills learned by the target pupils and that these were complimented by comments relating to their social inclusion (thematic network). TAs also noted that gains had been made in the pupils’ ability to generalise their skills into less structured environments such as the playground. This supports SI data described in Section 5.5.1 and is an encouraging finding given that a major criticism of social interaction interventions is that they are often not generalised (White, Scahill, Klin, Koenig, and Volkmar, 2007). In addition to this, TAs and the Project Coordinator commented on the fact that the pupils’ peers were becoming more aware and sensitive to the needs of the pupil which was allowing them to be more skilled at including them (attribution). This small scale study has found qualitative evidence of the target pupils making small positive changes towards more inclusive behaviours prompted by the TAs, and that this had a positive effect on their levels of social inclusion. This provides tentative support for the reconceptualization of the TA as a facilitator rather than a barrier to social interaction as set out in the revised REPIM model (figure 2.4). Further investigation into the degree to which the pupil’s social acceptance did change would need to include an exploration of the pupils’ feelings about their own inclusion and extend the research to allow time for behaviours to become fluent and attitudes to change.

5.5.4 Summary of research question three
The results from this study suggest that for the three TAs in the study, their involvement in the Better Together intervention triggered a higher level of social interaction in the target pupil when compared to their pre-intervention rate. These gains were either maintained or improved upon over time. The increase in social interaction was smaller than that observed in previous research which utilises similar principles (Causton-Theoharis, and Malmgrem, 2005b). The current researcher suggests that this may be a function of the differing needs of pupils with ASD. The degree to which the target pupil’s level of social inclusion was altered by the Better Together intervention was not possible to determine, however data suggests a positive change in behaviours.

5.6 Research question four
RQ4. How does the school view the implementation of ‘Better Together’ and how have they supported it at a systems level?

In order to answer RQ4, data was collected through semi-structured interviews with TAs and the Project Coordinator one month after the workshop input had concluded. Questions were asked about
factors that the participants had found to be either supportive or detrimental to the implementing of the Better Together intervention.

5.6.1 Implementation

The past ten years has witnessed an explosion of literature around ASD and intervention efficacy; however relatively little consideration has been given to the potential barriers and facilitators to intervention implementation that exist within the school environment (Kasari and Smith, 2013) and to the actual process of implementation itself (Lendrum and Humphrey, 2012). To some degree this reflects a wider lack of attention to implementation factors and evaluative research (Pawson and Tilley; Durlack and DuPre, 2008; Lendrum and Humphrey, 2012). This is an important gap in the literature as implementation variability has been shown to equate to variability in the achievement of expected outcomes (Lendrum and Humphrey, 2012). Research in this area is crucial as an intervention needs to be able to achieve much more than theoretical outcomes. They need to be feasible and manageable in real-world settings so that their effects are achieved in practice (Lendrum and Humphrey, 2012). The generation of good implementation data would hopefully lead to a more sustainable and robust evidence base for interventions. This may be particularly useful within UK schools where staff have been shown to be resistant and cynical following the saturation of schools with new educational initiatives (Lendrum and Humphrey, 2012; Lendrum, 2010). The development of a sound evidence base in combination with context rich information would help schools to make informed decisions about the types of interventions which might work best in their setting; thereby avoiding costly ineffective trials.

Within ASD intervention research trials into efficacy are frequently carried out in clinic based settings with only limited acknowledgement of contextual factors. Whilst this ensures the fidelity of intervention materials it does not support an understanding of the implementation process. Mainstream schools within the UK often educate a wide range of children in terms of their backgrounds and academic abilities. They also contain staff with an equally diverse range of skills, backgrounds and theoretical orientations (Dingfelder and Mandell, 2011). All of these factors will combine to create a unique school ethos and approach. It is reasonable to assume that these factors will affect the implementation process and as such are worthy of exploration.

The current small scale study used a full effectiveness trial approach within the school environment to ensure high levels of ecological validity (Weisz, 2000) and examine the implementation process for the Better Togethers project. It was hoped that this approach would help to add to the current literature base and support an understanding of the potential for EP practice.
A thematic analysis of findings carried out in the current study revealed that there were particular school based factors affecting the feasibility of implementing the Better Together intervention. These ranged from the physical layout of individual classrooms to the organisation and planning of work and tasks for both pupils and TAs. The relative lack of time and difficulties in releasing staff from their allocated classes were frequently cited as limiting factors and contributed to the breakdown of the scheduled meeting between TAs and teachers in Data Phase 2. Expectations of staff around the role of the TA and the relative lack of power that TAs held to make changes within class were also commented upon and limited the creativity of TAs to fully embrace the strategies being trialled. In addition to limiting factors, participants within this study highlighted the importance of positive relationships with the class teacher and proactive communication between them as pivotal in the implementation process. The need for a community of support both from the trainer and also fellow TAs were also crucial in supporting TAs to trial new approaches and were key to sustaining the momentum of the intervention. These finding concur with other research which has considered factors affecting the implementation and sustainability of interventions (Bond and Hebron, 2013).

Although it is beyond the scope of the current research to consider the wider implementation literature in depth; many of the key implementation factors identified in the current study mirror those identified by implementation researchers such as Durlak and DuPre (2008) and Kay (2012). They also emphasise the importance of having clear sight of the conditions necessary for success (Cline, 2012) in order to determine the specifics of what it is about a programme that works and for whom (Pawson and Tilley, 1997). In demonstrating the importance of contextual information and the need for the development of a sound evidence base and use of that evidence base; the current research also lends support to Cline’s (2012) argument that EPs are well placed to contribute to implementation research and to ensure that pupils benefit from evidence based practice.

The findings also concur with training literature which gives evidence for the development of collegial support networks and for the provision of on-going support from both external and internal sources (Gersten, Vaughn, Deshler, and Schiller, 1997). Further factors affecting the TA’s motivation to implement the intervention was gained from witnessing the successes of the strategies and the recognition of progress from other staff members. These findings lend further support to the idea of the EP as being ideally placed within schools and LAs to offer both long term guidance to staff and to help develop and use implementation data to ensure pupils benefit from evidence based interventions (Cline, 2012; Kay, 2012).

These findings suggest that there are particular school based factors which can both positively and negatively affect the implementation process for intervention packages. These would have remained unreported in a clinic based study. An acknowledgement of the factors in this study led to a discussion
with the Project Coordinator and a plan put in place to address and/or harness them. A good example of this is the subsequent rolling out of the Better Together intervention approach within the focus school’s geographical cluster group by the TAs and Project Coordinator. The rationale behind this plan was to both support other TAs within the local area and to build up a wider network of support. This was driven entirely by the school and is evidence of the spreading of good practice within the local authority.

This study demonstrates the importance of both an exploration and acknowledgement of specific factors affecting implementation. It therefore feeds into implementation science in other areas such as mental and physical health which have examined the feasibility, acceptability and adaptation of interventions within settings (McHugh and Barlow, 2012). This is a relatively underdeveloped area of research within ASD research but one which it has been suggested is crucial in understanding the feasibility of school based interventions (Kasari and Smith, 2013).

5.7 Implications of the Present Research

The use of a mixed-methods approach in the present research allowed for a context rich exploration of the process of implementing the Better Together intervention. This has been shared with the staff and TA confidence to continue the intervention within the focus school has been increased. This can be seen as evidence of capacity building within the school which research suggests leads to improved gains. In addition to the building of internal capacity; the school and participants have planned a skill sharing programme amongst their cluster group of schools led by the TAs. Research has demonstrated that an increased sense of ownership of an idea or approach and sharing of skills and expertise amongst schools offers good potential for sustainability.

The current small scale research has shown evidence that a short, flexible intervention delivered to TAs by an EP can be effective at increasing rates of student interaction through facilitative behaviours and that this is sustained over time. This has the effect of making the TA a facilitator rather than a barrier to social interaction. It has also demonstrated that TAs’ confidence to deliver interventions can be increased and that some of the gains observed amongst the pupils have been generalised into non-classroom environments. TAs in this study valued the simplicity, flexibility and responsiveness of the non-directive approach employed in Better Together. These findings are important as they offer evidence that interventions with a high level of ecological validity and low level of directivity can provide positive gains. This provides a more flexible, acceptable and arguably more sustainable alternative to the manualised interventions available to schools, which have been criticised as difficult to implement (Borntrager et al., 2009).
The present research also provides valuable implementation data which is a relatively underdeveloped yet important factor within the ASD and education literature (Kasari and Smith, 2013; Bond and Hebron, 2013). Contextual factors and implementation data that explores facilitators and barriers allow the researcher to understand why an intervention isn’t working, rather than merely whether the intervention is effective. A knowledge of the factors and mechanisms that make an intervention successful or unsuccessful in a particular context help to support an understanding of whether it might work in another. The importance of collaborative support networks both within the school and with the current researcher were clear facilitators in this study. A considered understanding of the implementation process helps to support educational settings to take an evidence based approach to intervention selection.

In addition to studying efficacy and facilitators and barriers to the implementation of the Better Together intervention, the present research also studied the recommendations that participants made for future implementation. All participants felt that the intervention was worth continuing with and rolling out to other schools. It was also felt that the principles and approach should be employed throughout the school rather than just in the upper key stage and that more direct modelling by the researcher would be valued. These suggestions by the participants fit well with research findings around the use of modelling in training and the development of whole school approaches. It was suggested by the researcher and the Coordinator that this might form part of the cluster approach that the school are embarking upon.

The current research has provided evidence that EPs are well placed within schools to carry out evaluation research (Frederickson, 2002; Greig, 2001; Marsh, 2011) and to support the development and use of interventions that are grounded in evidence informed practice and practice based evidence (DCSF, 2008). This research has demonstrated that EPs can be effective in training school staff and at devising flexible interventions that are responsive to the needs of settings and contextually situated. This in-depth understanding of individual schools and long term commitment is further strengthened by the EP’s knowledge of the wider LA and the potential that this offers for the spreading of good practice.

The present research has further implications in relation to the present researcher’s practice as a trainee educational psychologist. At the time of writing this report, the present researcher is involved in a LA drive towards developing Best Practice ASD guidance for mainstream schools and EY settings. The understanding gained by the researcher around TA perceptions and systemic barriers and
facilitators will help to support her in her advisory role. It will also support her understanding of the training process and the factors affecting its effectiveness.

5.8 Limitations of the Present Research

The small sample size and the fact that the study took place in a single school could be considered to be a methodological limitation of the present research as it limits the efficacy findings relating to the Better Together intervention. The current researcher accepts this as a limitation however would emphasise that the focus for the current study was on exploring the implementation process as well as efficacy. To this end the inclusion of one participant group in a single school allowed for a more in-depth understanding of contextual factors affecting the implementation process and the barriers and facilitators involved in this. The current study can therefore be characterised as a process review of a pilot intervention rather than an efficacy trial. It was felt that this would be more useful to the school, local authority and the wider academic literature than an efficacy trial.

The current study sought to improve rates of social interaction amongst pupils with ASD and their peers and hypothesised that this might impact on social inclusion or social acceptance. One limitation of this study was that the instrument utilised to explore social inclusion (SIS) is a relatively broad one. It may be that a more sensitive tool utilised over a longer period of time might have uncovered more about the links between interaction and inclusion.

A further limitation of the current study relates to the observation schedule that was used to collect quantitative data on the rate and range of facilitative behaviours. This schedule gives equal weighting to all behaviours listed on the schedule regardless of complexity. It is therefore feasible that one TA could have gained a high score on rate of change for facilitative behaviour by repeatedly demonstrating a single and technically simple facilitative behaviour. It might therefore be misleading to say that the above TA had made more progress than another TA practising a wider range of facilitative behaviours slightly less frequently. It would be useful to have a tariffed approach to the observations in order to compare rates of change more fairly. The current study supplemented the observational data with notes and with interview data in order to compensate for these difficulties and there was a high level of agreement between the sources. The amount of quantitative data collected from the observations was also reduced by two thirds in Phase 3 (twenty minutes of one lesson) which may have impacted upon the validity of conclusions drawn at this Data Phase. This could have made the data more vulnerable to the effects of the time/part of a lesson was observed. Efforts were made to compensate for this by combining qualitative data and quantitative data at the interpretation stage.
The current study consciously chose to focus its efforts within one school; however the choice of school may have impacted upon the findings. The school within the current study is a faith school and one in which there is very little staff movement. It is also well known within the LA for having excellent ASD provision and being exceptionally inclusive in its approach to education. Research has suggested that these are important factors affecting the success of ASD provision (Bond and Hebron, 2013). As a consequence of this particular choice of school, the TAs and pupils involved in the Better Together project may have had a higher base rate of understanding, interest and enthusiasm than other schools within the LA. It was felt that trialling the intervention and exploring implementation factors within this school would allow conclusions to be drawn in an optimum setting and that this would be helpful when considering its applicability to other settings.

An additional limitation of the current study is that the views of the pupils themselves were not sought as part of the research. This means that their reflections on their experience of the intervention are not reflected within the research and neither are those of their parents. This is a significant difficulty and is something which has been raised as a general criticism of ASD research. The researcher acknowledges that pupil and parent should inform the evaluation of efficacy and process. The decision to not include their views was taken in order to safeguard the pupils from the stress of being observed on multiple occasions and to protect the validity of the observation data. Their views would however have strengthened the research findings and ensured that the Better Together intervention was relevant for them.

A number of changes to planned delivery and data collection occurred over the course of the study, reflecting challenges associated with real world research (Robson, 2002). These changes led to only two TAs being included in the observations at Data Phase 3 which may have reduced the robustness of the conclusions drawn at this stage. Organisational difficulties within the school and ill health also meant that the scheduled Project Coordinator meeting between the teachers and TAs did not take place. This meant that a crucial link between the different tiers of personnel at the school was missed out. Subsequently, the staff training session was adapted to include the views of the TAs but this did not provide the interaction and planning opportunity that it was hoped the Project Coordinator meeting would.

5.9 Implications for future research
The TAs involved in the current study and the Project Coordinator had plans to share the strategies and techniques within their wider cluster group. There is therefore the potential to study the effectiveness across a range of schools and with a broader range of staff and pupils involved. This
widening of settings will also contribute to a greater understanding of implementation processes and contextual factors and improve the validity of research findings. The rolling out of the Better Together intervention will also be a valuable tool for the LA which is currently embarking on devising an authority wide Best Practice framework.

Future research should build on the methodology of the present research as well as address its methodological limitations in order to improve the evaluation of the Better Together principles. This could include involving the pupils and parents in establishing meaningful shared goals and establishing the validity of the observational tool to ensure that complexity of facilitative behaviour is factored in and that each facilitative behaviour’s capacity for prompting social interaction is established. Future research should also consider the quality of the interactions taking place and whether particular types of interaction are more likely to affect social inclusion and might also consider the use of a more sensitive tool over a longer period of time, particularly in the follow up phase. A further area which could be developed in future research is around individual variability amongst participants and the concept of readiness for change in relation to the implementation of training and interventions.

5.10 Conclusion

This process evaluation of the Better Together intervention has yielded positive findings for the effectiveness of the intervention in a single mainstream primary school. This is indicated by an increased rate and range of facilitative behaviours by TAs and an associated increase in the target pupils' social interactions. This study has also been able to demonstrate that these gains have been sustained over an academic term and that the confidence of TAs within the study has been increased, making them feel better able to support the pupils they work with. The TAs in this study therefore became facilitators rather than barriers to social interaction and formed a collegial network of support for one another. It has also offered tentative support for a potential change in social inclusion.

The current research has also been able to contributed detailed contextual information relating to the implementation of the project which is useful when considering the potential barriers and facilitators to sustained change in real world contexts. It has also offered evidence that educational professionals appreciate and respond well to interventions with high ecological validity and which are flexible and responsive to their needs.

It is hoped that the present research will continue to have utility for the focus school and that the development of the collegial network will support the sharing of the Better Together strategies and principles within the LA thereby benefitting a wider group of vulnerable pupils.


Rossetti, Z., & Goessling, D. (2010). The role of paraeducators in facilitating friendships between high school students with and without autism or other developmental disabilities. *TEACHING Exceptional Children, 42*(6), 64-70.


Appendix A: Workshop A

**Workshop 1**

### Slide 1

**WELCOME!**

### Slide 2

**HOUSE KEEPING**
- Confidentiality
- Fire Alarm
- Comfort Breaks
- Toilet
- Refreshments
- Packs
Aims for Workshop 1

- Understand why social interaction is important.
- Understand why pupils with Autism (ASD) find social interaction difficult.
- Understand the difference between this training and other interventions.
- Know how to spot social interactions

RATIONALE

- Increasing incidence rate. More pupils with ASD are attending mainstream schools.
- TAs are increasingly being used to support pupils with ASD within schools yet many report feeling underprepared for this role.
- Increasing evidence that TAs are crucial in supporting these pupils but that this support can have a negative impact.
- Significant organisational difficulties within schools which can prevent/hinder TAs when facilitating social interactions.

Better Together: A training package designed to facilitate the social inclusion of pupils with ASD within a mainstream primary school.

- Different to other interventions

Why is being able to communicate important?

- Acceptance
- Friendships
- Support
- Happiness
- Achievement
- Isolation
- Rejection
- Unsupported
- Sad
- Underachievement
WHAT THE RESEARCH TELLS US...

- Learning first occurs on the social plane through person to person interaction before later progressing through an internalisation process (Fugarty, 1999; Vygotsky).
- Pupil to pupil interaction is a critical component of learning (Johnson & Johnson, 1991).
- Security derived from a sense of belonging acts as a necessary precursor to higher order functioning such as the motivation to learn and for constant betterment. A sense of belonging is fostered through social interaction and through shared experiences (Furrer, 2003).
- Peer relationship difficulties can predict serious adjustment difficulties (Parker & Asher, 1997).

ACTIVITY 1

Individually consider a time when you have felt very included within a group.
- How did you feel?
- What did you do as a consequence?

Describe this situation to a partner.

Next, consider a time when you have felt isolated within a group.
- How did you feel?
- What did you do as a consequence?

Describe this situation to a partner.

ACTIVITY 2

- Create a Circle of Relatedness Map for yourself
- And for the child that you support
ASD AND SOCIAL INTERACTION

For children with ASD, social communication is challenging.

Whilst previous slides might relate to both pupils with and without ASD, the following aims to describe the relationship between ASD and social communication difficulties.

Slide 10

1. Autism is twice as likely to occur in boys than girls.
2. All children with autism have the same difficulties.
3. Autism is on the increase.
4. Autism is a lifelong developmental disability.
5. Autism can be identified before the age of 2.
6. Autism runs in families.
7. Individuals with Autism all have low levels of intelligence.
8. Children with Autism always prefer to be alone.
9. Autism can be caused by the MMR jab.
10. People with Autism are often eccentric geniuses with special talents.

Slide 11

ASD: WHY IS IT SO HARD?
RESEARCH TELLS US THAT PUPILS WITH ASD
EDUCATED WITHIN MAINSTREAM SCHOOLS ARE
MORE LIKELY TO .......
- have fewer friends (Cairns and Cairns, 1994) and smaller friendship networks (Chamberlain, Kasari & Rotherham-Fuller, 2003)
- be bullied (Humphrey and Symes, 2010)
- underperform academically (Humphrey and Lowe, 2008; Howlin and Goode, 1998)
- Despite this they often want to make friends. (Rossetti & Goessling 2010).
*This demonstrates how important intervention and training are for these pupils.

Social information processing model, Crick and Dodge (1994)

SUMMARY OF WORKSHOP 1
- All pupils benefit from social interactions on a number of different levels (academic, emotional well-being, motivation, self-esteem etc).
- When trained and supported, TAs can be very effective in supporting pupils with ASD with their social interactions.
- ASD presents very specific difficulties which have to be overcome in order to interact well.
- This training package aims to harness the potential of TAs within the whole school system.
**Homework Task**

- With a target child\* complete a Circle of Relatedness chart.
- Please dedicate four** separate 5-minute chunks of time to observe your target child and record how they are interacting with others in the chart within your diary***.
- Consider when during the school day interactions were more likely to occur both for your target pupil and more widely in the class.

Be prepared to discuss what you have noticed next time.
Appendix B: Workshop 2

Slide 1

Slide 2

Slide 3
Difficulties with social interaction are part of the triad of impairment and therefore a prerequisite for a diagnosis of ASD. Pupils with ASD often want friends. Social interactions/relationships are crucial for all pupils’ well being and success. Pupils with ASD face many challenges in terms of social interaction (bullying, rejection). TAs can have a negative impact on social interaction. TAs can make a huge difference to how interactive a pupil is.

Aims for Workshop 2
- To begin to understand why pupils with ASD find interaction difficult and barriers and facilitators to social interaction.
- To understand how the TA role interacts with these difficulties.
- To develop a bank of ideas for supporting and boosting pupils’ rates of interaction which is specific to XXX.
How do these difficulties interact within the classroom?

- Interference of the teacher's sense of responsibility for the pupil.
- Overdependence on adult support
- Reduction in the number of peer interactions
- Loss of personal control for pupils (Giangreco et al., 1997).

Can you think of any others?

Can you think to yourself or with a partner of a time when you feel you may have been a barrier to social interaction?

What do TAs and pupils with ASD say?

“I thought it was my job to not make it so obvious. If I weren’t mixing diversity into it, it wasn’t my job, so I felt I was not doing my job.” — Broer, Doyle & Giangreco, 2005.

“I was kind of getting embarrassed because I always had, like a mother right there” (Broer, Doyle & Giangreco, 2005).

Before I saw my relationship with the students as the most critical; now I understand that it is my responsibility to help them. I would change things to fit the needs of other kids, not just with me.” — Monica, Paraprofessional

“I make decisions about where to put my energies from when every day I think it is my responsibility to determine what he is learning. Challenging response.” — Li, Paraprofessional
Slide 10

Tas: The Bridge that can support Social Interaction

- Teachers and other professionals can use peer models to stimulate the social problem-solving skills of students within an inclusive classroom setting.
- Peer supports and pairings can help all students build social skills.
- Paraprofessionals need to encourage these natural supports.

Slide 11

How can interaction be encouraged?

<table>
<thead>
<tr>
<th>Aim (What are you trying to get them to do?)</th>
<th>Strategy</th>
<th>What did you do if it has worked?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Slide 12

Research suggests that the following are effective ways to boost interaction:

- Ensure the pupil is in a rich social environment (not withdrawn)
- Adult fading back (e.g., fictional task)
- Preparing a child in advance for social interactions
- Moving pupils together
- Identifying social opportunities
Slide 13

- Modelling ways to interact
- Using peers to support pupil
- Highlighting similarities between pupils
- Directly teaching interaction skills
- Interpreting peer behaviour and target child’s behaviour
- Actively partnering pupils with peers
- Creating a situation where the Child has to share their equipment/space.

Slide 14

**SUMMARY OF WORKSHOP 1 + 2**

- Students with autism have difficulty navigating the social world, and, despite wanting friends, experience a number of negative social outcomes.
- Peer interactions and friendships are important for a number of reasons, for example they are linked to self-esteem and academic achievement.
- Although they are used as the primary tool to help the inclusion of pupils with autism, teaching assistants may actually be acting as a barrier to social inclusion for pupils with autism.
- There are a number of strategies teaching assistants could use in their practice to remove this barrier. These mainly involve fading back, prompting to be social and connecting peers.

Slide 15

**HOME WORK TASK**

Choose three of the techniques on the list that you think that you could use within your classroom. Record them on the sheet.

Over the next week record when and how you have used the strategy, with whom and with what effect. If you are not class-based then you could try it at home.

Before we meet next time discuss with someone else in the group how things have gone and be ready to share in Workshop 3.
Appendix C: Workshop 3

Slide 1

WELCOME TO WORKSHOP 3
Facilitating social interaction for pupils with ASD
“Bringing it all together”

Slide 2

HOUSE KEEPING:
- Confidentiality
- Fire Alarm
- Comfort Breaks
- Toilet
- Refreshments

Slide 3

reCap
- Difficulties with social interaction are part of the triad of impairment and therefore a prerequisite for a diagnosis of ASD.
- Pupils with ASD often want friends.
- Social interactions/relationships are crucial for all pupils’ well-being and success.
- Pupils with ASD face many challenges in terms of social interaction (bullying, rejection).
- TAs can have a negative impact on social interaction.
- TAs can make a huge difference to how interactive a pupil is.
- There are a number of strategies which TAs can implement to support interactions at school.
Slide 4

AIMS FOR WORKSHOP 3
- To reflect on strategies tried
- To trouble shoot around potential threats and barriers
- To link strategies to planning and IEPs.
- Creating a network of support
- To continue to develop the XX guide to facilitating social interaction with ASD.

Slide 5

HOW DID THE STRATEGY TASK GO?
Talk with a partner about the strategies that you have tried over the past week.
Consider:
- What was your aim?
- Which strategy did you chose and why?
- Did it work? How do you know?
- What would you change?

Slide 6

THREATS AND BARRIERS
What types of things supported your efforts?
What types of things hindered or stopped you?
What could we do about these difficulties?
It is easy to lose sight of the child within the diagnosis. It is only by observing them that we can begin to understand what to do.

Detailed, regular observations provide a base line and inform planning and tracking. They shouldn’t be long and tedious!

Look at the tool I have provided as an example of how to do this.

This can help inform the child’s IEP.

---

**LINKING STRATEGIES TO PLANNING**

• What is an IEP?
  
  Individual Education Plans (IEPs) These are plans put together to help pupils at SA and SA+ or statemented pupil succeed at school. The IEP describes the goals set for a child during a set period of time, as well as any special support needed to help achieve them.

• How should an IEP be used?
  
  They are Working Documents. This means that they are to be written on, changed and evaluated as the pupil achieves or fails to achieve.

• How might this training be useful with IEPs?
  
  They can inform both the what and the how arms of the IEP.

---

**SMART TARGETS**

<table>
<thead>
<tr>
<th>Specific</th>
<th>Is the objective precise and well-defined?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurable</td>
<td>Is there a time scale for achievement?</td>
</tr>
<tr>
<td>Achievable</td>
<td>How will the individual know when the task has been completed? Does evidence exist for its validation? How will you evaluate whether the target has been reached?</td>
</tr>
<tr>
<td>Relevant</td>
<td>Are these outcomes relevant to the pupil’s life?</td>
</tr>
<tr>
<td>Time-bound</td>
<td>Are these outcomes available to enable this to happen in the time available?</td>
</tr>
</tbody>
</table>

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183
ACTIVITY

Think about the child that you support (you could use the observation tool as an aide). With a partner write a social interaction IEP target that you might want to work on. Pay particular attention to the ‘how’ column.

Use the two hand outs as a guide.

WHAT WILL YOU TAKE AWAY FROM THESE WORKSHOPS?

REMEMBER……

You are superheroes!!!
SUMMARY OF WORKSHOPS
- Students with autism have difficulty navigating the social world, and, despite wanting friends, experience a number of negative social outcomes.
- Peer interactions and friendships are important for a number of reasons, for example they are linked to self-esteem and academic achievement.
- Although they are used as the primary tool to help the inclusion of pupils with autism, TAs may actually be acting as a barrier to social inclusion for pupils with autism.
- There are a number of strategies teaching assistants could use in their practice to remove this barrier. These mainly involve fading back, prompting to be social and connecting peers.
- There are factors which can act to support and hinder TAs using these strategies.
- TAs can use these strategies to inform IEP targets.

PHASE 2
Over the next month please try out some of the strategies and see how they go. I will make the booklet and send it on to Angela. You can use this as a reference.

In a month’s time:
- Interviews (3 target TAs)
- Catch up meeting (others) DATE
- Repeat observation (3 target TAs)
- Repeat Questionnaire
Appendix D: Staff training session

Slide 1

What is the theme?

Slide 2

House Keeping

- Introductions
- Confidentiality
- Fire Alarm
- Toilet
- Refreshments
- Packs
- Please chip in! Stop me if there is anything you aren't sure of.

Slide 3

Aims
By the end of this session I hope that you:
- Understand what the ‘Better Together’ project is and where we are up to with it.
- Understand why pupils with ASD have difficulties with social communication.
- Understand the importance of interaction over a child’s life course.
- Are aware of research around the TA and their role.
- Have an increased knowledge around facilitative strategies that TAs and others might use to increase social interaction.
- Are aware of how you can support this project.

Is there anything in addition to this that you would like to gain from today’s session?
The ‘Better Together’ social inclusion project for pupils with ASD*
A joint research project between XX and the University of Manchester
21.1.14

Rationale for the research

- More pupils with ASD are attending mainstream schools, where it is hoped that they might pick up on the social skills of their peers and generalise these to their own behaviour (Keen and Ward, 2004).
- Research has shown that this is not the case. Pupils with ASD who are educated in this way when compared to pupils in specialist settings:
  - Have fewer friends (Cairns and Cairns, 1994) and smaller friendship networks (Chamberlain, Kasari & Rotherham- Fuller, 2003)
  - Are more likely to be bullied (Humphrey and Symes, 2010)
  - Are more likely to underperform academically (Humphrey and Lewis, 2008; Howlin and Goode, 1998)
- TAs are increasingly being used to support pupils with ASD within schools, yet many report feeling underprepared for this role.
- Increasing evidence that TAs are crucial in supporting these pupils, but that this support can have a negative impact.
- Significant organisational difficulties within schools which can prevent/hinder TAs when facilitating social interactions.

1. Autism is twice as likely to occur in boys than girls.
2. All children with autism have the same difficulties.
3. Autism is on the increase.
4. Autism is a lifelong developmental disability.
5. Autism can be identified before the age of 2.
6. Autism runs in families.
7. Individuals with Autism all have low levels of intelligence.
8. Children with Autism always prefer to be alone.
9. Autism can be caused by the MMR jab.
10. People with Autism are often eccentric geniuses with special talents.
Activity

• What behaviours might you expect from a child diagnosed as having ASD?

• Discuss with a partner, write 6+ traits on post-its.

Why is being able to communicate important?

• Acceptance
• Friendships
• Support
• Happiness
• Achievement

➢ Isolation
➢ Rejection
➢ Unsupported
➢ Sad
➢ Underachievement
What the Research tells us...

- Learning first occurs on the social plane through person to person interaction before later progressing through an internalisation process (Rogers, 1999; Vygotsky).
- Pupil to pupil interaction is a critical component of learning (Johnson & Johnson, 1991).
- Security derived from a sense of belonging acts as a necessary precursor to higher order functioning such as the motivation to learn and for constant betterment. A sense of belonging is fostered through social interaction and through shared experiences (Furrer, 2003).
- Happy pupils do better at school and in life in general (eg. Wentzel & Caldwell, 2006; Hartup & Stevens, 1997).
- Peer relationship difficulties can predict serious adjustment difficulties (Parker & Asher, 1997).

Harnessing the potential

Activity
Spend 5 minutes with a partner thinking about TAs at St. Luke's and the jobs that they do (keep it anonymous).

Create your own superhero using these talents, and qualities. You can give them a superhuman ability which could help them in their role and/or a superhero name!
The role of the TA and oh how we love (need) them!

- The number of full-time equivalent (FTE) TAs in mainstream schools in England has more than trebled since 1997 to about 170,000 (DfE, 2010a).
- 43 per cent of the mainstream school workforce in England are support staff and over half of these people (54 per cent) are TAs (DfE, 2010a).
- TAs therefore comprise almost a quarter (24 per cent) of the mainstream school workforce: 32 per cent of the nursery and primary school workforce; and 12 per cent of the secondary school workforce.
- Changing roles, now less clerical and more involved in interventions and teaching small groups.
- Research into teacher’s views shows that having access to a TA:
  - decreased their workload (53%)
  - increased their job satisfaction (68%)
  - decreased their stress levels (65%)
  - Many reported an increased time to teach (Groom and Rose, 2005)

The only problem in this....... 

- Research suggests that we are not channelling TAs well enough and that having a TA can actually be counter productive for some pupils (Blatchford, 2010).

Why?

What are the possible effects?

- Interference of the teacher’s sense of responsibility for the pupil
- Overdependence on adult support
- Reduction in the number of peer interactions
- Loss of personal control for pupils (Giangreco et al., 1997)
- Decreased teacher time.
1. How do these difficulties interact within the classroom?

2. TA support
   For pupil with ASD

3. TAs: The bridge that can support Social Interaction

4. Research suggests that the following are effective ways to boost interaction
   - Ensure the pupil is in a rich social environment (not withdrawn)
   - Adult fading back (e.g., fictional task)
   - Preparing a child in advance for social interactions
   - Moving pupils together
   - Identifying social opportunities
Slide 19

- Modelling ways to interact
- Using peers to support pupil
- Highlighting similarities between pupils
- Directly teaching interaction skills
- Interpreting peer behaviour and target child's behaviour
- Actively partnering pupils with peers
- Creating a situation where the child has to share their equipment/space.

Slide 20

Practical Strategies suggested, tried and tested by TAs at St. Luke’s!

Slide 21

<table>
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<tr>
<th>Supports</th>
<th>Barriers</th>
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<td>Talking to other TAs</td>
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<td>Teachers who understand what I’m trying to achieve with X</td>
<td>My own guilt – feeling that I should be there with it all the time</td>
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<td>Being involved in planning targets and reviews</td>
<td>Not getting the time to speak to the teacher</td>
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<td>Past experiences</td>
<td>Getting close to advice on lesson and can think of strategies I could use with it</td>
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<td>Being allowed to sit in next to X</td>
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Slide 22

As a school ......
How can we support the work of the TAs to enable them to use these strategies?

Slide 23

Summary

• Students with autism have difficulty navigating the social world, and, despite wanting friends, experience a number of negative social outcomes.
• Peer interactions and friendships are important for a number of reasons, for example they are linked to self-esteem and academic achievement.
• Although they are used as the primary tool to help the inclusion of pupils with autism, teaching assistants may actually be acting as a barrier to social inclusion for pupils with autism.
• Teaching assistants could use a number of strategies that would allow them to fade back, prompting to be social and connecting peers.
• TAs have the potential to make a huge difference if supported in the right way.
• In order for change in approach or intervention to work over time, it needs to be supported externally. Hopefully we have a few ideas about how we might do this.

Slide 24

What do TAs and pupils with ASD say?

“I thought it was my job to act like a mom, to be the mediator between them (Broer, Doyle & Giangreco, 2005).”

“I start being concerned about when he is becoming more and more dependent on me ...”
Linking Strategies to planning

• What is an IEP?
  Individual Education Plans (IEPs) These are plans put together to help pupils at SA and SA+ or statemented pupil succeed at school. The IEP describes the goals set for a child during a set period of time, as well as any special support needed to help achieve them.

• How should an IEP be used?
  They are Working Documents. This means that they are to be written on, changed and evaluated as the pupil achieves or fails to achieve.*

• How might this training be useful with IEPs?
  They can inform both the what and the how arms of the IEP.

Slide 26

• Interviews
• Questionnaire
• SIS
• TAs and yourselves working together using the strategies generated
• Continuing the network of support

Slide 27

Thank you!
Any Questions?
Appendix E: Better Together TA homework task

Observation of Target Child

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<th>Minute</th>
<th>Activity</th>
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<th>Solitary activity</th>
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Appendix F: Observation Schedule

Instructions for use

Structure of observation
90 seconds = collect proximity data
30 minutes = collect FB, MI and SI data for 30 minutes

Keep notes throughout the observation. Observe lessons at different times (e.g. different times of the day, and at different points in the lessons), and observe in different settings (e.g. structured and less structured lessons)

Key Terms
TA Proximity Data
TA is less than 3 feet from pupil = within arm’s reach
TA is more than 3 feet from pupil = not in arm’s reach

Facilitative Behaviour
Adult fade back – Backing away from pupil when peers are near
- Fictional task – TA creates a task, such as helping another pupil, to leave focal pupil to work with another pupil
- Prepare in advance for social interactions – TA warns students that they will be absent during a lesson/activity and that they will have to work with their peers
- Move students together – directing students (either the focal pupil or peer) to physically move so that the focal pupil is working with one or more peers

Prompt to be social – TA looking for opportunities for target pupil to interact with peers
- Looking for appropriate social opportunities – identify a situation where the focal pupil can interact with peers
- Prompt to engage successfully – e.g. prompt to speak more loudly, clearly, to say hello, to maintain a conversation, to listen, to ask someone to sit down etc.
- Teaching or modelling skills – explain or show pupil how to interact or direct the student to interact with peers
- Interpret behaviour – explaining to peers any unconventional behaviour(s) exhibited by target pupil that could communicate intent

Connect with peers – formally develop peer support as an alternative to TA support
- Peer mentors – use peers to provide support a TA might provide e.g. acting as a scribe
- **Highlighting similarity** – verbally identify commonalities between the target pupil and one or more peers
- **Purposeful error** – Inconsequential slips that require pupils to share materials or work together e.g. ‘forgetting’ a pencil case

Facilitative Behaviour (FB)
Observe for 30 minutes. Each minute, mark the number of times a particular FB happened (so it would be possible for the same FB to get more than one mark per minute). Tick whenever a FB is used (tick the actual behaviour used) from one of the categories on the schedule.

**Student Interaction (SI)**
Tick in the corresponding SI column anytime there is a two-way interaction that includes either a verbal or active nonverbal behaviour, that causes another individual to initiate a verbal or nonverbal response. This could include: questioning, directing, gesturing, nodding, carrying out a direction, physically or verbally resisting an interaction.

Matched Interaction (MI)
Draw a line between the SI and the FB that caused the SI for each occasion. This becomes an MI and will be discounted from the SI count.

**Proximity data**
Every 5 seconds for 90 seconds mark (one mark per 5 seconds) whether TA is less or more than 3 feet from the focal pupil. This data is collected *prior* to collecting the TA facilitative behaviour and student interaction data.

Proximity variable = mean percent of observational probes in which TA was observed to be less than 3 feet from the focal pupil.
**Instructions for use**

*Proximity data*
Every 5 seconds for 90 seconds mark (one mark per 5 seconds) whether TA is less or more than 3 feet from the focal pupil. This data is collected *prior* to collecting the TA facilitative behaviour and student interaction data.

Proximity variable = mean percent of observational probes in which TA was observed to be less than 3 feet from the focal pupil.

*Facilitative behaviours (FB)*
Observe for 5 minute periods. Each minute, mark the number of times a particular FB happened (so it would be possible for the same FB to get more than one mark per minute).

–B - Tick whenever a FB is used (tick the actual behaviour used) and then put a cross through it if it does NOT result in SI.

Proximity variable
FB = Mean rate of total FBs per 5 minutes/mean rate of successful FBs per 5 minutes/ total of each of the strategies.

*Student Interaction (SI)*
SI – Tick every time there is a social interaction as a result of an FB. For example, pupil A could ask pupil B a question (as a result of an FB), pupil B could reply, pupil A could ask another question, and pupil B could reply. That would be classed as two SIs. If Pupil B hadn’t replied the second time, that would only be one SI.

Proximity variable
SI = Number of observed interactions per minute/ mean SI per data collection phase (e.g. at pre and post intervention – add up total of all behaviours and divide by number of observation periods).

*Structure of observation*
90 seconds = collect proximity data
5 minutes = collect FB and SI data for 30 minutes (approximately 5 cycles)

Keep notes throughout the observation. Observe lessons at different times (e.g. different times of the day, and at different points in the lessons), and observe in different settings (e.g. structured and less structured lessons)
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Appendix G Teaching Assistant Questionnaire

Teaching Assistant Questionnaire

Q1. How confident do you feel in your level of understanding of Autism Spectrum Disorder?
Please tick one option

- Not at all confident
- Slightly Confident
- Confident
- Very Confident
- Extremely Confident

Q2. What do you think are the main difficulties associated with Autistic Spectrum Disorder?

(Questionnaire continues with options for Q3, Q4, Q5, and Q6)
Q. 7 How often are you less than an arm’s length away from the pupil you support?

Please tick one option

Never  Rarely  Sometimes  Regularly  Often

Q. 8 Which three lessons are most problematic for the pupil that you support in terms of their peer interaction?

1. _________________________ and why ______________________________________________
2. _________________________ and why ______________________________________________
3. _________________________ and why ______________________________________________

Thank you very much for completing this questionnaire.
# SOCIAL INCLUSION SURVEY (SIS)

How much do you like to ................. with each person at school?

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Appendix I Social Inclusion Norm Reference Table (Frederickson and Graham, 1999)

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<th>Total number of faces ticked</th>
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Appendix J: Interview Probes TAs

5. Interview Probes: Teaching Assistant

A. Purpose:

Explain the purpose of the interview: To collect information about your experience of the training package and what has been happening since we last met. Remind the participant that the interview will be recorded.

B. Confidentiality:

The information gathered will be audio-recorded, transcribed and analysed. It will be anonymised so that nobody should be able to identify them from quotes taken from the interview. The information will be treated sensitively and stored on an encrypted memory stick. It will be destroyed once the research has been assessed. After the information is transcribed and before it is analysed I will give you a copy to make sure that I have captured what you meant. I can remove anything you are not happy with.

C. Format of the interview:

The interview will last for approximately 30 minutes. I will ask you some questions and I am interested in your responses there are no right and wrong answers. If at any point you would like to stop or do not want to answer the question then please let me know and we can have a break or leave out the question.

D. Contact:

If you would like to contact me following this interview then please don’t hesitate to email me. This is the email address.

E. Questions:

Any questions before we begin?

Questions:

5. Core questions are numbered. Bracketed information is for additional prompt.

1. How have your experiences on the training programme affected or not affected how you support the pupil you work with?

(prompt specific examples)

2. Can you tell me a bit about what you have found useful about the training?
(what will you remember, already know, surprised you)

3. Can you tell me a bit about what hasn’t been as useful within the training?

(strategies/techniques)

4. Has your involvement on the training altered how you view yourself in relation to the pupil you support?

(facilitator?)

5. If I was to repeat this same training in a different school, how might I be able to improve it?

6. Tell me about any facilitators or barriers that you experienced following on from the training.

7. To what extent, if at all, have you noticed any changes in the pupil you support?

8. Have your experiences on the training altered how you perceive the pupil you support and if so, in what ways?

9. How, if at all, has your involvement in the training affected your confidence in supporting _______?

F. Thank You

Thank you for taking part in this interview. Do you have any questions about what we have discussed? Or what happens next? If you think of anything then please don’t hesitate to get in touch
Appendix K: Interview Probe, Project Coordinator

A. Purpose:
Explain the purpose of the interview: To collect information about the implementation of the training package and to gather information about the project’s sustainability and impact at a systems level. Remind the participant that the interview will be recorded.

B. Confidentiality:
The information gathered will be audio-recorded, transcribed and analysed. It will be anonymised so that nobody should be able to identify them from quotes taken from the interview. The information will be treated sensitively and stored on an encrypted memory stick. It will be destroyed once the research has been assessed. After the information is transcribed and before it is analysed I will give you a copy to make sure that I have captured what you meant. I can remove anything you are not happy with.

C. Format of the interview:
The interview will last for approximately 30 minutes. I will ask you some questions and I am interested in your responses there are no right and wrong answers. If at any point you would like to stop or do not want to answer the question then please let me know and we can have a break or leave out the question.

D: Contact:
If you would like to contact me following this interview then please don’t hesitate to email me. This is the email address.

E: Questions:
Any questions before we begin?

Questions:

5. **Core questions are numbered. Bracketed information is for additional prompt**

1. How useful has the training been for both the target TAs and staff more generally? 
(prompt specific examples)

2. Can you tell me a bit about what you have found useful about the training? 
(what will you remember, already know, surprised you)

3. Can you tell me a bit about what hasn’t been as useful within the training? 
(strategies/techniques)

4. What have been the facilitators and barriers for the implementation of the project?

5. To what extent is the project sustainable in the mid-long term ?

6. What have been the facilitators and barriers for the sustainability of the project?

7. What systemic changes have been made/if any, in order to consolidate the skills learned?
F. Thank You

Thank you for taking part in this interview. Do you have any questions about what we have discussed? Or what happens next? If you think of anything then please don’t hesitate to get in touch.
Appendix L: Information Sheet for Schools

**BETTER TOGETHER**

Promoting Peer Inclusion For Pupils With Autism: A Training Package for Teaching Assistants

**Introduction:**

My name is Kait Baxter a Trainee Educational Psychologist. Your school is being invited to take part in the above research project as part of the researcher’s Doctorate in Educational and Child Psychology.

**Aims of the Training**

Pupils with autism spectrum disorder (ASD) are increasingly likely to be educated within mainstream schools. This often happens with one to one support from a teaching assistant (TA). However, research suggests that children with ASD who are educated in this way are at risk of experiencing poorer academic and social and emotional outcomes than their peers. One area that research has highlighted as particularly problematic is the often ‘difficult’ peer relationships that pupils with ASD have with their mainstream peers and the possible effects that this might have on their experience of school and later life.

This research project aims to harness the potential of teaching assistants (TA) in facilitating peer relations through a training package delivered at both a whole school and TA level by a Trainee Educational Psychologist. It is hoped that this project promote social inclusion for pupils with ASD. The project is both a pilot evaluation of the training package and also an exploration of the implementation and sustainability of the package.

**What’s Involved?**

The Educational Psychologist will provide the following:

- A whole school awareness raising and training session on ASD for approximately 1 hour.

- Observations of current practice, questionnaire and discussions with TAs supporting pupils in KS2 with ASD.
- Three 1 hour Training Workshops delivered to a group of TAs supporting pupils in KS2 with ASD over a three week period.

- Follow up discussions with pupils with ASD, TAs receiving the training and further observations.

- Return visit after an academic term to look at how the training has been used and to discuss with the coordinator about the school’s experience of and evaluation of the training package.

**To be involved with the Project:**

In order to be involved in the project outlined above, the Trainee Educational Psychologist would like to hear from Primary School who are able to offer the following:

- An enthusiasm to create better outcomes for pupils with ASD.

- A setting where there are at least 3 pupils with a diagnosis of ASD in **Key Stage 2**. The pupils should have a **Statement of Special Educational Need** and be supported by a TA for at least part of the week.

- Release time for the targeted TAs for the three training workshops which will each last for 1 hour and also time for them to have a discussion with the Trainee Educational Psychologist.

- A time slot within their staff development programme for a whole school (or as close as possible) training session on supporting ASD. This will last for between 60 and 90 minutes.

- An identified coordinator from the senior leaderships team who will liaise with the Trainee Educational Psychologist about the school’s experience of the training package. The coordinator will also lead a session with teachers and TAs focused on sharing strategies learned and planning how this can be built into whole school systems and planning.

**What is the duration of the research?**

*The research study will last approximately 8 months altogether. The training package will run for 4 weeks. I would then return after 1 month to repeat observations and interview TAs and pupils and then return and repeat an observation and discuss with the coordinator after one school term.*

**Will the outcomes of the research be published?** *It may be that the research will be published in an academic journal or presented at an academic conference. The research will be submitted to the University of Manchester as part of my Doctorate in Educational and Child Psychology.*

**Contact for further information** *If you have any further questions please do not hesitate to contact me by email at kaitbax@hotmail.com*
Appendix M: Information Sheet and consent form for TAs and School Project Coordinator

An initial evaluation of a teaching assistant delivered intervention to increase peer interaction for pupils with ASD within a mainstream primary school

Participant Information Sheet

As the potential school project coordinator or a TA supporting a pupil with ASD in KS2 you are being invited to take part in a research study for my Doctorate in Educational and Child Psychology. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

Who will conduct the research?

*Kait Baxter and the School of Education at the University of Manchester*

What is the aim of the research?

The aim of the project is to evaluate the effectiveness of the training package in facilitating peer interaction and thereby improving social inclusion for pupils with ASD.

What would I be asked to do if I took part?

*The research project would involve TAs in the following:*

- Three training workshop lasting an hour each

- Whole school training session of one hour

- A questionnaire, which should take approximately ten minutes to complete. This will be completed once at the beginning and once at the end of the project.

- Observations of yourself for half an hour during normal lessons on three occasions before the training, and again on three occasions after one month. There will be an additional single observation after one school term.

- An interview for half an hour. This interview will be audio recorded.
As a school project coordinator the project will involve:

- Delivering a discussion with teachers in the target pupils’ classes and TAs focused on sharing strategies learned and planning how this can be built into whole school systems and planning.

- An interview for half an hour about the implementation, sustainability and impact of the project.

What happens to the data collected?

The observational data will be recorded on a schedule and anonymised.

The questionnaire data will be collected and anonymised.

The interview data will be audio recorded and transcribed by myself. Once the data has been transcribed it will be sent to you for verification that the transcription is correct and accurately reflects your views.

How is confidentiality maintained?

All data will be kept either in a locked filing cabinet at Local Educational Psychology Service or on an encrypted memory stick. Once the research has been written up and submitted and marked by my University the audio recording will be destroyed.

Any quotes used from the audio recording will be anonymised. In the write-up of the research the identity of the school, school staff and children will all be protected so your information will remain anonymous.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not you want to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason. You can also opt out of a particular part of the research (eg. Interview) if you would like. If you would like to discuss opting out of a section then please contact me on kait.baxter@XXXXd.gov.uk by XXXXX so that we can arrange this.

What is the duration of the research?

The research project will last for approximately 8 months. The training package would take place over four weeks. There will be a follow up 1 month after the training and again after one school term.

Where will the research be conducted?

A Local Primary School
Will the outcomes of the research be published?

It may be that the research will be published in an academic journal or presented at an academic conference. The research will be submitted to the University of Manchester as part of my Doctorate in Educational and Child Psychology.

Criminal Records Check

The researcher and all adults involved in the research project have undergone a satisfactory criminal records check.

Contact for further information

If you would like to discuss this research project further then please feel free to contact myself by email kaitbax@XXX.gov.uk

You may also want to contact my supervisor Dr. Caroline Bond at the University of Manchester. Her email address is caroline.bond@manchester.ac.uk

What if something goes wrong?

If you would like to talk to someone for further advice after the research please feel free to contact any of the above listed people.

If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Practice and Governance Co-ordinator by either writing ‘o The Research Practice and Governance Co-ordinator, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 ‘PL’, by emailing: Research-Governance@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093
Teaching Assistant and School Project Coordinator Consent Form

An initial evaluation of a teaching assistant delivered intervention to increase peer interaction for pupils with ASD within a mainstream primary school

CONSENT FORM

If you are happy to participate please complete and sign the consent form below

1. I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason.

3. I understand that the interviews will be audio recorded

4. I agree to the use of anonymous quotes

8. I agree that any data collected may be published in anonymous form in academic books or journal

9. I am aware that I can opt out of a particular part of the research and have communicated my wishes to the researcher.

I agree to take part in the above project

Name of participant ____________________________ Date ____________________________ Signature ____________________________
The evaluation of a training package designed for teaching assistants (TAs) to facilitate the social inclusion of pupils with autism spectrum disorder (ASD) within a mainstream primary school.

Introduction:

Your child’s school has volunteered to take part in a research project run by a trainee Educational Psychologist from the University of Manchester as part of her Doctorate in Educational and Child Psychology. Before you decide whether this is something you would like your child to take part in it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Thank you for reading this.

Who will conduct the research?

Kait Baxter and the School of Education at the University of Manchester

What is the aim of the research?

The aim of the project is to evaluate the effectiveness of a training package for teaching assistants. The training package has been designed to help support your child to communicate and interact more positively with their classmates.

What would my child be asked to do?

The research project would involve your child’s interactions with their peers and Teaching Assistant being observed by the researcher on up to three different occasions. Their interactions will be recorded on an observation schedule.

The whole class will also be asked to complete a social inclusion survey which involves rating how likely they are to play and work with different pupil within their class.

What happens to the data collected?

The data from the first observation schedule will be used to build up a baseline to compare future observations with. The data will be anonymised so that your child cannot be identified from it.

How is confidentiality maintained?
Children will only be referred to by their first name within the social inclusion survey *. Data gathered during the observations refer to pupil A, B and Teaching Assistant A etc rather than by name.

All data will be kept either in a locked filing cabinet at Local Educational Psychology Service or on an encrypted memory stick. Once the research has been written up and submitted and marked by my University the observation schedules will be destroyed.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not you want your child to take part. If you do decide that your child should take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason.

What is the duration of the research?

The training package will take place over four weeks. Your child will have an interview a month after the training package takes place.

Where will the research be conducted?

A Local Primary School

Will the outcomes of the research be published?

It may be that the research will be published in an academic journal or presented at an academic conference. The research will be submitted to the University of Manchester as part of my Doctorate in Educational and Child Psychology.

Criminal Records Check

The researcher and all adults involved in the research project have undergone a satisfactory criminal records check.

* If there are multiple children in one class with the same first name then a surname initial will be used.

Contact for further information

If you would like to discuss this research project further then please feel free to contact myself by email kaitbax@XXX.gov.uk to set up a telephone conversation.

You may also want to contact my supervisor Dr. Caroline Bond at the University of Manchester. Her email address is caroline.bond@manchester.ac.uk
What if something goes wrong?

If you would like to talk to someone for further advice after the research please feel free to contact any of the above listed people.

If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Practice and Governance Co-ordinator by either writing 'to 'The Research Practice and Governance Co-ordinator, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 'PL', by emailing: Research-Governance@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093.
The evaluation of a training package designed to facilitate the social inclusion of pupils with autism spectrum disorder (ASD) within a mainstream primary school.

CONSENT FORM

If you are happy to allow your child to participate and be observed as part of the project then please complete and sign the consent form below

5. I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.

6. I understand that participation in the study is voluntary and that I am free to withdraw my child at any time without giving a reason.

7. I agree to allow my child to be observed within class as part of the project

4. I agree that any data collected may be published in anonymous form in academic books or journals.

5. I agree to allow my child to complete, and be part of a social inclusion survey

I agree for my child ______________________ to take part in the above project

___________________  ___________________  ________________
Parent’s Name       Signature          Date
Appendix O: Target pupil information sheet and assent form

BETTER TOGETHER

Promoting Peer Inclusion For Pupils With Autism: A Training Package for Teaching Assistants

Introduction:
My name is Kait Baxter and I am a trainee Educational Psychologist. I would like to ask you to be part of my research project for my Doctorate in Educational and Child Psychology.

Aim:
The project aims to help adults to help pupils to speak more with pupils in your class. I hope this will make you feel a bit happier about friendships in your class.

How?
I will talk to the Teaching Assistant that works with you in class and help them to help you by giving them some advice.

What do I have to do?
You don’t have to do anything at all!

What happens to the information I gather?
All of the information that I gather will be made so that no one can tell if it’s talking about you. That means that your name won’t go anywhere in what I write. All of the information will be kept on a pen drive that has a secret code so that no one can read it without a password.

What happens when the research has finished?
When I have finished the research it will be handed in at the University of Manchester to be marked. It may be published in a book or journal.

What if I change my mind?
If you decide that you don’t want to carry on with the research then you can choose to not do it anymore at any point and you don’t have to say why.
More information?

If you would like to talk over this project then please speak to ____________________________ at any point.

Thank you for reading this.
 If you are happy to be part of the project and you have read all of the information and asked all the questions that you would like to then please tick one of the following boxes.

Yes I would like to take part

No I would not like to take part

Signed: _____________________________

Date _____________________________
BETTER TOGETHER:
A SOCIAL INCLUSION PROJECT

Your child’s school has volunteered to be part of an exciting research project designed to help teaching assistants to develop the friendship groups of the pupils that they work with.

Who is running it?

The project will be carried out by myself Kait Baxter as part of my doctoral thesis in Educational and Child Psychology at the University of Manchester.

Aim

Research has shown us that teaching assistants can be the key to improving and developing new friendships for children that they work with in class. At the same time research has also shown us that children perform best at school and in later life when they are able to form good friendships and feel happy. This project is designed to link the two things together by training teaching assistants to support and develop friendships.

What will my child have to do?

All children in your child’s class will take part in a brief survey about who they like to play with and who they like to work with. The survey will be delivered by the class teacher in a PSHE lesson and should take around 15 minutes to complete. The children will discuss what they have to do and they will not see each other’s responses. The children’s responses will be summarised by myself and fed back to the class teacher in order to help him/her support any children at risk of being more socially isolated. This will be repeated at the end of the project.

There will not be any direct contact between myself and your child.

Duration of the project

The project will run from May 2013 until November 2013.

How is confidentiality maintained?
All data collected will be treated as confidential, unless any child protection issues were to arise. If this happens then the appropriate child protection procedures will be followed. Identifying information (eg. Your child’s name) will only be used to match responses in the survey and will be destroyed following the second survey.

All survey data will be stored on an encrypted memory stick and/or on a secure, password protected hard drive.

What happens if I do not want to take part of I change my mind?

It is entirely up to you whether your child takes part.

If you decide that you would like your child to be part of the project then you don’t need to do anything. The class will complete the survey in their PSHE lesson as outlined above at the start and end of the project.

If you decide that you do not want your child to take part then you need to complete the op-out form below and return it to myself at the following address:

Kait Baxter, Doctorate in Educational and Child Psychology, School of Education, University of Manchester, Oxford Road, Manchester, M13 9PL

Or email me at kait.baxter@XXXX.gov.uk by XXXXXXX

If you decide to allow your child to take part but then change your mind, then you can opt out at any point by contacting me by email or by post at the above address. If this happens then any data relating to your child will be destroyed.

Criminal Records Check

I have had a full Criminal Records Check at the Enhanced Disclosure level.

What if something goes wrong?

If you are concerned about the project or have concerns about your child. Then please contact the school’s special educational needs coordinator in the first instance. However if you wish to make a formal complaint about the research project then please contact my supervisor at the University of Manchester Dr. Caroline Bond caroline.bond@manchester.ac.uk

Many thanks for reading this document.

Kait Baxter

Opt-out form
I do not wish my child to participate in the research project.

Name of Child ____________________________________

Class _______________________

Signed ___________________ Parent/Guardian name ____________________

Date ___________________

Please return this form to Kait Baxter at the following address by XXXXXXX:

Doctorate in Educational and Child Psychology, School of Education, University of Manchester, Oxford Road, Manchester, M13 9PL

Or email on kait.baxter@XXXX.gov.uk
Appendix Q: Illustrative photographs of the thematic analysis process

Picture 1: Initial codes collated by source and colour coded.

Picture 2: The development of potential themes from the initial codes.
Pictures 3 Showing Basic Themes arranged into groups of similar ideas/patterns to form Organising Themes.

Picture 4: The development of Organising Themes.
Picture 5: An example of the grouping of Organising Themes into a single Global Theme.
Appendix R: Correspondence of ethical approval

From: ethics.education@manchester.ac.uk
To: kaitbax@hotmail.com
CC: Caroline.Bond@manchester.ac.uk
233anchebe.kubiena@manchester.ac.uk
Subject: Ethics Approval Application - CONFIRMATION after Panel
Date: Thu, 18 Jul 2013 10:43:23 +0000

Dear Kait,

Ref: PGR-5691262-A1

I am pleased to confirm that your ethics application has now been approved by the School Research Integrity Committee (RIC) against a pre-approved UREC template.

If anything untoward happens during your research then please ensure you make your supervisor aware who can then raise it with the RIC on your behalf

This approval is only for the Ethical Approval Application, you are still required to have received approval from your Panel before carrying out any research.

Regards

Gail

Gail Divall | PGT & Quality Assurance Administrator | Room B3.8 | School of Education | Ellen Wilkinson Building
Appendix S Social information processing model, Crick and Dodge (1994)
Appendix T An illustration of ‘what works’ for implementing changes to practice (Moreland and Myaskovsky, 2000):

- Demonstrate both the general value of the practice and its potential for improving student performance
- Ensure a community of support
- Ensure that there is feasibility and fit of the practice in teachers’ classrooms
- Help teachers understand how the new practice differs from what they have been using
- Provide coaches and mentors to work with teachers
- Maintain open lines of communication with school personnel
- Provide materials and other resources
- Substantive Change