

**RISK FACTORS AND INTERVENTION: CHILD
ENGAGEMENT IN LEARNING WITHIN
EDUCATIONAL PSYCHOLOGY PRACTICE.**

**A THESIS SUBMITTED TO THE UNIVERSITY OF MANCHESTER FOR THE
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Consideration of factors which disrupt or promote learning engagement and potential intervention arising from this are of particular interest for Educational Psychologist day-to-day practice. Skinner and in the “Handbook of Research on Student Engagement” (Christenson et. al. (eds.), 2012), regard “engagement” as having significant implications for long term achievement, social competency and emotional resilience. Three research papers which consider different impacts upon child learning engagement are presented – a literature review of early attentional ability; a study of parental involvement and transition and an evaluation of a social-emotional problem solving programme. The contextual background and rationale for each research paper and the research training associated will be discussed. The first paper findings point to specific risks at different ages associated with early attentional development and potential parental-focused prevention and intervention. The second paper indicates an association between parental involvement, transition support and child perception of parent engagement. Paper three isolates key context and mechanisms associated with programme facilitators and subsequent outcomes for children. The content of the papers will be critically analysed, with reference to feedback from examiners. Contribution to knowledge gained; research methodologies in educational psychology; limitations of each research paper and implications for further research will be discussed.

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The three Research Papers were carried out as part of the Doctorate Programme in Educational Psychology, The University of Manchester, from September 2006 to January 2010.

1 Introduction

1a. Professional Background

I have been a practicing Educational Psychologist for 10 years since being engaged as an Educational Psychologist by a Local Authority in 2003. My role over the years has predominantly been as a generic Educational Psychologist (EP) working through the medium of consultation, within mainstream and special Primary and Secondary schools, Educational Diversity, Special Educational Resourced Facilities (SERFs) and mainstream nursery provision. I was also employed to carry out a 0.3 role working with the three Sure Start Centres, associated with programme development for the pre-school population. Since 2009, I have been a Senior Educational Psychologist and spent a year as Acting Principal for my service.

My prior roles as a Primary/Early Years teacher; Primary Special Educational Needs Coordinator (SENCo); Early Years Advisory Teacher and Special Educational Needs advisor, as well as a generic EP provided me with broad experience with children who have a range of additional and complex needs, from 0-19 years. My previous roles allowed me to develop a thorough understanding, in particular, of early development and “Early Years” pedagogy. I have continued to gain knowledge in my special interest in applied psychology with children in the younger age range and developed this through my “Sure Start” role via the development of projects and training. These aspects of my

role, in particular, have led to an enduring interest in development, risk and resilience factors, in particular around learning engagement and of potential fruitful intervention.

In my current role as Senior Educational Psychologist I lead and manage a team of 7 Educational Psychologists. I have worked at both an operational and strategic level within the Educational Psychology Service and across the Local Authority, contributing to the development of Special Educational Needs (SEN) policy and strategic development. My role has included research and data analysis on a local and national level. In 2010-11 I implemented a pilot study in the Local Authority for the Lamb Innovative projects (Department for Education), which contributed to the development of national structures around Special Educational Needs and new Code of Practice, due to be made statutory from September 2014. I co-ordinate and provide strategic development, training and casework service for the Early Years SEN team. I also provide a psychological service to mainstream and special schools, completing SEN re-assessments, intervention, training, and have prepared and presented at SEN Tribunal. In addition, I lead the Critical Incident Response Team, providing a service to schools and other setting when incidents occur in and provide training to the 10 multi-agency members.

1b. Research Background and Training

Having been a qualified teacher for nine years, working in the Primary and Early Years sector, I subsequently completed a BSc in Psychology at the University of Central Lancashire, between 1997 and 2000. The course included research methods study. My final dissertation achieved a 1st grading and used experimental research methodology

investigating the “Impact of a Multi-sensory activities programme on the attentional skills of pre-school children” (Shannon, 2000). This area was chosen due to an emerging interest of attentional abilities as “malleable” and being necessary for “formal learning” and pertinent to educational outcomes. This course gave Graduate Basis for Registration with the British Psychological Society.

I completed a professional Master’s Degree of Education in Psychology in 2003 from the University of Manchester. This degree incorporated a “Professional Practice portfolio” containing reflective consideration of project and casework-based pieces of work throughout the year and included research associated with practice. The course included primary research and my thesis was concerned with the role of the Early Years Educational Psychologist, using interviews and questionnaire, which later formed a paper published in *Educational Psychologist in Practice* in 2005. (Shannon and Posada, 2005). This paper was also later included in report by the Association of Educational Psychologists (AEP) investigating EP multi-agency working. (AEP, 2008).

From September 2005 to January 2009, I embarked upon the Doctorate Programme in Educational Psychology at the University of Manchester. This course incorporated the three included research papers and the following seminars, associated with research methodology, as well as consideration of research projects via colleagues. Research across study and reading for the doctorate enabled me to develop understandings of theory, research, ethics and methodology. I have been able to apply these understandings within everyday practice as an Educational Psychologist.

Seminars attended during the course of the Doctorate are listed below:

- 1) Judging the Quality of Qualitative Research
- 2) Choosing your Statistical Test in Relation to Research Questions and Hypothesis
- 3) SPSS for Educational Psychologists
- 4) Applying Cognitive Behavioural Methods to Retrain Children's Attributions for Success and Failure in Learning
- 5) An Introductory Guide to Q Sort Methodology
- 6) Using Narrative Approaches in Evaluating Nurture Groups
- 7) On-line Skills Audit and Training
- 8) A Guide to Accessing the Electronic Databases and E-Journals
- 9) Getting Started with EndNote
- 10) Evidence Based Research on CBT with Adolescent Eating Disorders
- 11) Writing a Literature Review: Searching the Qualitative Literature; Appraising Qualitative Research; Synthesising the Qualitative Evidence; Synthesising Quantitative Evidence
- 12) An Introduction to Factor Analysis
- 13) Hypothesis Testing: an Introduction
- 14) Does Cognitive Behavioural Therapy work?

During the programme I attended and presented at relevant academic conferences both within the Manchester programme and via other Psychological/Educational focus.

Conference presentations

- Chevreau, M and Shannon, D. 2006. *Seaside Support Groups*. North West Professional Development Annual Conference. 14th December 2006. Woodlands Conference Centre, Chorley.
- Paton, H and Shannon, D. 2008. *Early Learning in Families – Multi-agency approaches*. Taking Applied Psychology beyond the school gates. Community Psychology Conference. 17th March 2008. University of Manchester.
- Shannon, D. 2009. *Early Learning in Families 2 – Initial findings from an early preventative programme*. North West Professional Development Annual Conference. 10th December 2009. Woodlands Conference Centre, Chorley.
- Chevreau, M and Shannon, D. 2009. *Primary “Sort it Out!” Developing Problem Solving skills in Key Stage 2*. North West Professional Development Annual Conference. 10th December 2009. Woodlands Conference Centre, Chorley.
- Whiteley, H and Shannon, D and Hutchinson, S. 2009. *Building early foundations for successful transitions*. Educational Transitions: British Psychological Society Education Section Conference. 1st November 2009. Broughton Park Conference Centre. Preston.

Publications

Shannon, D and Cooper, A (2013) Draft content re: background to CAN (unpublished paper) Blackpool SEND team. In Roffey, S and Parry, J. (2014) *Special Needs in the Early Years: Supporting collaboration, communication and co-ordination*. (3rd Ed.) London. Routledge.

Shannon, D. and Posada S. (2007) The Educational Psychologist in the early years: current practice and future directions. *Educational Psychology in Practice*. 23 (3). 257-272.

1c. Research Introduction

Research paper 1– Early Attentional Development: Risk, Resilience and Implications for Practice. Looking at attentional and self-regulation development with a focus on first and second year of life.

Research paper 2– Parental Involvement in Children’s learning at secondary transition. Research focusing on a Year 6 cohort making a transition into High School.

Research paper 3– An Exploratory Study of Process Evaluation in the “Real World”: Evaluation of the “Sort it Out!” programme. A study using realistic evaluation to examine implementation outcomes.

The three research papers sought to highlight three aspects of my own practice and represent themes around the core philosophies and some of the theoretical frameworks upon which Educational Psychology rests and which are of enduring interest to a practicing Educational Psychologist. All three pieces are set within the context of learning – in particular, the risks and resiliency factors which may impact upon successful engagement with learning and the potentially effective interventions which may be harnessed by those around a child to promote positive outcomes. The range of

theories utilised to inform the literature and research encompassed different branches of Psychological thought – cognitive, developmental, and social. Theory and research within the three research papers were influenced by social constructive as well as more positivist thinking, in relation to epistemology.

I consider that I take an interactionist approach to applied psychology and use a variety and range of psychological theory and methodology, which inform and influence my practice, in particular:

Developmental psychology	Personal construct psychology (PCP)
Social learning theory	Solution focused approaches
Risk and resilience	Cognitive and behaviourist
Ecological models	Behavioural analysis and techniques
Attachment theory	Counselling and listening skills
Self-Determination Theory	

The overarching, primary purpose of the research papers was an exploration of theory and research methodology based around the disruptions and risks to child engagement with learning and different ways to mediate these. In practice, each piece mirrored the daily experience of an Educational Psychologist working within a Local Authority at that time and informed subsequent real life intervention in “core” casework; programme development and in relation to informing whole authority strategic planning.

The first research paper focused on the development of learning engagement for younger children and this emerged from my role within Sure Start (2003 to 2008), which was

centred on the co-ordination, research and development of an existing two-generational programme called “Early Learning in Families”. The programme had been established several years previously by a Local Authority Educational Psychologist and was supported by 3 outreach worker staff who implemented the year-long, early learning programme with one year old children and their parents/carers. The programme was based around research findings emerging from studies such as the Olds model of home visiting (Olds, Henderson, Kitzman, Eckenrode, Cole and Tatelaum, 1998), but focused on learning rather than medical aspects of child development. My initial task was to extend the programme throughout the locality; develop and implement a training programme for the implementers and carry out research examining the efficacy of the programme. Unfortunately, due to internal funding issues this programme ceased in March 2008. However, in Sept 2008, a modified version of the programme was incorporated into 0-7 Partnership Scheme. This was a Department of Children Schools and Families national project aimed at easing the transition of children between early years and primary school and involved ten councils across the country. The scheme involved 5 strands, including dealing with early learning, transition, training and early language. My role was concerned with the development of the programme for toddlers and parents, and training the six staff. I was jointly involved in the development and implementation of a longitudinal evaluation of the programme, alongside partners within the University of Edge Hill and University of Central Lancashire.

Development of the programme led me to my first research paper, which focused on a literature review of early attentional development; the risk and resilience factors involved in this area in a “nature/nurture” context and the possible resilience factors and intervention which lead from that. This area is associated with the early development of

one of the characteristic elements of learning engagement and as such, was both important for the efficacy of the “Early Learning in Families” programme but also highly relevant to general Educational Psychology practice.

My second research paper developed from both my interest in early and later transitions between phases of schooling and the impact of this upon learning engagement. The local area has a high degree of transience across schools and this provided the impetus to focus on the question of transition, as being an associated risk. In addition to early transition issues associated with the 0-7 Partnerships Scheme, I was asked to be part of a whole Local Authority strategic steering group looking at transitions between different stages of schooling. Within the context of this group there was a growing conception that schools could develop practices and interventions to mediate the difficulties that many children faced when making a transition into Secondary schooling. However, individual schools tended towards variable support for children and families at transition points and one purpose was to aim for consistency across the area. Within the Educational Psychology team a colleague completed a doctoral thesis in which a programme “Move on Up!” was developed and implemented into the majority of local schools to enable children to prepare and gain a sense greater control at a time of transition. This programme was being used widely in schools to positive effect. In addition, I was asked as part of my role in the Local Authority Family Strategy Group to become involved in a national project concerned with “Parent Transition Sessions” and implementation of sessions into receiving Secondary Schools.

One aspect of the project, of particular theoretical interest, focused on parental involvement with their child’s schooling and the impact of this on learning outcomes.

Researchers such as Barnard (2004) had highlighted potential limitations with existing research and suggested a distinction between school-based and home-based parental involvement and the differing impact of each on a child's learning engagement. This research pointed to the potential of "home-based" parental involvement with children as being equated with the promotion and transmission of values and attitudes associated with learning and education. Whilst there was an abundance of research within the international field, there was limited UK based research and almost no local research to draw upon and learn from the experiences of children and families making the transition from Primary to Secondary. This led to developing experimental research to focus on parental involvement/engagement in Secondary transition within a local school and to explore whether or not parental involvement or engagement might contribute to the mediation of children's transition and learning engagement.

My third research paper focused on a different aspect of adjustment in relation to social and emotional problem solving skills. The research evolved from the development of an intervention programme called "Sort it Out!", which had been developed by a colleague and implemented in two Local Authority areas with Primary and Secondary children. As well as being involved in the training of EPs around the model and facilitators of the programme working in mainstream schools, "Diversity", Child and Adolescent Mental Health and Health Visitor teams, the programme had not been formally evaluated as to the efficacy and outcomes and I was tasked with implementing a process evaluation focusing on implementation and outcome. Given the complex nature of the factors involved in a "real world" context, I chose to use a Realistic Evaluation methodological framework in which to explore both the process and outcome factors involved.

Defining “Engagement”

The primary overarching theme, woven around the three research papers, is concerned with learning “engagement”. In relation to learning activities, the assumption from an educator’s perspective, may be that there is a direct causal relationship between “engagement” and learning and educational outcomes. In relation to studies illustrating this interaction, Angus, McDonald, Ormond, Rybarcyk, Taylor and Winterton (2009) found that in a large scale study of pupil engagement over two years, whilst 60% of pupils were engaged with learning, 40% were not (20% of this were classified as “disengaged” and 20% were seen as more actively resistant and un-cooperative). In relation to achievement whilst there was a difference between “engaged” and “disengaged/unco-operative”.

Due to the possibilities and implications of such studies, there has been a growing interest in this area in the research community over the past few decades due to the consideration that “engagement” is in some way responsive to change and can be manipulated via context or environment in order to address low pupil educational achievement. Finding ways of altering and improving pupil engagement to improve educational outcomes may then be seen as a “holy grail” of those involved in educating and supporting children to learn.

In relation, however, to what might constitute “engagement” for any given individual and what influences “engagement” to produce educational outcomes, there are a number of difficulties. This includes establishing a consistent and coherent definition of “engagement”, the ways in which “engagement” might be measured and the difficulty of

accounting for all the interacting factors which might mediate “engagement” in learning - including those, brought by the pupil, the school and home environment and the teacher, to name but a few.

If we confine ourselves to a consideration of the pupil and what they bring to the learning environment, firstly there are difficulties arising from a valid and operational definition of “engagement” and the components or constructs which constitute “engagement”. The standard dictionary definition of the word “engage” sees it as associated with “involvement in” in or participating in/with an activity and/or establishing a meaningful connection with something. (Oxford University Press, 2003). On a “surface” level, we might simply look at observable behaviour in the classroom in order to understand “engagement”. Using this structure one might assume that a pupil will learn and be engaged when they are observed spending time in the classroom and paying attention what is being taught. A definition of “engagement” might then contain within it constructs around “attention” or “persistence” and a useful measure would be to look at “time on task” in relation to achievement scores. However, in the “Beginning Teacher Evaluation Study” (Fisher, Marliave, and Filby, 1979) researchers found that “time on task” in itself did **not** correlate with learning outcomes for pupils. However, they found that “academic” learning time” – defined as when a pupil is actively engaged and focused upon what is being taught, **did** lead to increased achievement and this correlation also appeared to be associated with pupil feedback and success.

In another example, within early childhood education and research, the construct of “involvement” tends to be used as the observable manifestation of “engagement”. For example, Pascal, Bertram, Mould and Hall, (1998) suggest that “child involvement”, as

conceptualised by Laevers (1994), is a “process construct” which includes within-child aspects of attention, challenge, motivation and persistence and that these factors are likely to give rise to long-term learning. The above examples, illustrate different conceptions of what constitutes “engagement” and broadly include areas such as – attention and focus; motivation and persistence. However Kuh (2009) within the “National Survey of Student Engagement”, a research programme, which has measured the engagement and learning outcomes of 4 million higher education students since 2000, suggests that,

“Today, engagement is the term usually used to represent constructs such as quality of effort and involvement in productive learning activities” (Kuh, 2009. P6).

It is clear therefore, that “engagement” is defined in different ways and has a much more complex relationship to learning outcomes than might be assumed. Whilst the above examples illustrate the differing conceptions of engagement Fredricks, Blumenfeld, Friedel and Paris (2005) have suggested that many studies attempting to define and measure “engagement” do not consider all areas of contribution to “engagement” or regard it as a multi-dimensional construct.

Fredricks et.al. (2004) looked in detail at the concept and concluded three main components of “engagement” – Behavioural engagement, associated with participation in school life; Emotional engagement, associated with reactions to teachers and school and willingness to work and, Cognitive engagement, incorporating investment, motivation, effort and willingness. Subsequently, Skinner and Pitzer (2012) have further developed a framework, encompassing the various constructs associated with engagement in learning.

They have noted that a “motivational” conception of engagement includes aspects encompassing behaviour (e.g. effort, persistence, determination and perseverance); cognition (attention, concentration and focus) and emotion (enthusiasm, enjoyment and satisfaction). This “multi-level model” of “engagement” includes observable learning on a number of levels, which are mediated via motivation to produce “engagement in learning”.

The included research papers consider and explore different components of “engagement”, not as an “operational” research construct, but as an overarching and connecting theme, considering the relative contribution of behaviour, cognition and emotion within a framework of “engagement” as suggested by Skinner and Pitzer, and in relation to early attentional development, transition and social/emotional skills. The contribution of other mediating influences, such as home and school environment will also be discussed.

I have opted to consider each piece as a separate entity to aid both clarity and consideration of the particular methodologies and themes included. The literature contained within the three research papers produced between 2007 and 2009, has been updated in light of subsequent research findings and related to the overarching theme and will be discussed within the overall discussion.

The three research papers focused upon a number of aspects around learning engagement and potential intervention of interest to Educational Psychology practice.

2. Research paper 1:

**Early Attention Development: Risk, Resilience and
Implications for Practice.**

Deborah Shannon

AN RESEARCH PAPER SUBMITTED TO THE UNIVERSITY OF MANCHESTER
FOR THE DOCTORATE in EDUCATIONAL PSYCHOLOGY IN THE FACULTY OF
EDUCATION

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Attentional ability is seen as being central to children's academic functioning. (Blair, 2002). The nature and characteristics of early attentional development are presented, with a particular focus on visual attention and on the developing mechanisms of sustained and endogenous attention, during the first two years of life. The theoretical framework underpinning attention and early attention is presented. A description of the early development of attention is given. Risk and resiliency factors are discussed in relation to factors proximal to the child – individual, parental and environmental. The Implications of risk factors are discussed. Suggestions are made for possible preventative and intervention approaches, both within the home and school context. Suggestions are made for possible future research.

2.1 - Introduction

Anima ad ver tere – “to bend the mind towards”
(Latin definition of attention)

Attention is part of our adaptive response to the social and physical environment. The fundamental issue of attentional development and, one might argue, of learning in general, is how and with what success, the attention of an individual is modified and utilised to meet the demands of specific situations.

Attention may be seen broadly as,

“...how people selectively process information in the environment that is relevant to their behavioural goals”.

(Shulman, Astafiev and Corbetta, 2004 in Posner, 2004, p.114).

To function effectively within an academic arena, children, from an early age, are expected to be able to engage in different forms of attentional ability in relation to academic tasks. For example, on starting school and throughout their school career, children are expected to be able to “stay on task”. This implies that a child can engage with and focus on the task, persist with the activity; avoid social and other distractions and inhibit impulsivity. The child is therefore expected to select and attend to relevant information and switch in between the task and the teacher or peers, as required by the educational and social context. In addition, this may be within a context in which the given activity on offer may or may not be particularly intrinsically interesting to the child. A child consequently may need to modulate attention in line with the social expectations and demands of the context and regulate their own emotions around expectations. This implies a level of meta-cognition or awareness of the individual to their attentional processes and state.

The aspects of attention considered important for children to use effectively within a learning domain, illustrate what a diverse range of functions “attention” encapsulates. It

is not surprising then, that attention has, and continues to be, difficult to define. (Ruff & Rothbart, 1996) have suggested that attention is,

“... a complex and multi-dimensional construct. It depends on distributed neural systems; it is linked to multiple sources of information from the environment and to complex motor, emotional and motivational systems.”(Ruff and Rothbart, *ibid.* p. 5)

Attention may be seen as both multi-dimensional and multi-layered and may be considered in terms of individual, specific functions or in terms of increasing levels of functioning, perhaps controlled by an “executive” controlling network. Nonetheless, taken together aspects of attention are considered key cognitive functions and as such, are vital for children to develop and use effectively in relation to life and learning.

Indeed, the assumption from teachers appears to be that functional attentional skills are necessary to school readiness. Blair (2002) notes a survey of American kindergarten teachers from the National Centre for Education Statistics, in which teachers predominant concern for children starting school was not cognitive or academic aspects of the child, but attentional ability, associated with self-regulation. (Lewit and Baker, 1995 in Blair, 2002) Teachers were particularly concerned with,

“...the capacity of each child to be attentive and responsive and to become engaged in the classroom”.

(Lewit and Baker, 1995 in Blair, 2002 p.113)

Infants are born with “rudimentary” forms of attentional skills and within the early years of development, attentional structures, processes and functions interact, change and develop over time. From a developmental perspective, different forms of attention develop over the first and into the second year of life and these types of attention are all associated with an increasing ability to sustain and focus attention. In the second year of life, children become more able to sustain attention as they begin to play purposefully with objects (Weissberg, Ruff, & Lawson, 1990) and they gradually increase in their ability to focus attention in a wide variety of contexts.

As development progresses, planned, self-generated play with objects and problem solving increases in interaction with sustained attention, and in association with increasing physical skills. In the second year, children gradually become more aware of their own motivation and of distractions. Sustained attention becomes part of a wider overlapping construct of self-regulation as children begin to modulate their behaviour according to the cognitive, emotional and social demands around them.

The development of sustained attention and self-regulation are therefore important to cognitive, social and emotional aspects of development.

In relation to the significance of these areas in functioning, it has been suggested that attention skills may underpin a wide variety of cognitive skills and the National Institute of Child Health and Human Development (NICHD, 2003) authors point out that,

“...attention processes are implicated in almost all areas of psychological functioning”.
(NICHD, 2003. p 581)

More specifically, the prevalence of children with Attention Deficit Hyperactivity Disorder (ADHD) has been estimated at between 3 and 5% of the population in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV: American Psychiatric Association, 1994). In school, teacher-rated proportion of children displaying significant ADHD type “symptoms” has been estimated at between 8.1% and 17% (Tymms & Merrell, 2006).

It may be considered then, that an understanding of attentional development and the possible challenges to developmental processes and trajectories may be significant to those concerned with optimising children’s development and functioning.

The area of attentional development research has developed significantly over the past 15 years and this has brought substantial new understanding and knowledge around early attentional development. (Colombo, 2002) suggests that since the 1980’s a move to integrate cognitive and developmental research has resulted in research work around cognitive development increasingly becoming intertwined with cognitive science and

neuroscience. Equally, different disciplines have sought to integrate understanding of the development of cognitive functions generally. In this context the area of “development of attention” has become a primary focus for research. With this advance, multi-level descriptions of attention have enabled a greater understanding of what attention is and how it develops in young children.

Current literature and research point to some of the important findings in these areas of development, as being significant for both clinical and “real world” contexts. (Rothbart, 2003) for example, points to the importance of attentional and self-regulatory processes in the context of “school readiness” and transition.

Whilst attentional structures and functions are universal, trajectories differ between individuals and are influenced by different risk and protective factors. Significantly, the “window of opportunity” may be brief for the “effective” development of some attentional abilities, (Rueda et al., 2004) for example, suggest that whilst the attention network continues to develop to age 7/8 years, it is very stable following this until adulthood. The authors do not imply a “critical period” for attentional skills and other evidence has suggested that aspects of attention continue to develop, becoming mature only in adulthood (Davidson, Amso, Anderson, & Diamond, 2006). However, it may be considered that “earlier intervention/prevention” is likely to have more of an impact on developing attentional functions and processes than later input. (Rothbart, 2003) notes that,

“The plasticity of the executive attention system over the early years may allow for early interventions to promote the development of executive attention in at-risk populations”.
(Rothbart, *ibid.* p.1140)

Research is beginning to uncover the breadth and extent of impact of attention in development, both for general and “at risk” populations and is beginning to “signpost” fruitful directions for early intervention and early prevention of difficulties. So far, however, in the literature, there has been a paucity of EP focused research material and relevant information which might inform EP practice within the area of general attention development.

As an exception to this, (Cains, 2000) however in relation to ADHD, notes that particular knowledge and understanding around attentional development is vital to educational psychology professionals working with children,

“The cognitive psychology perspective on the complex nature of attention should also not be ignored by those who seek to help and intervene”.

(Cains, *ibid.* p 84)

For Educational Psychologists (EP), an evidence-based knowledge and understanding of attentional development stemming from this increasing body of research; an understanding of the risk and resiliency factors associated with attentional development and the possible implications for practice and intervention may be particularly useful.

The context within my own practice has been twofold – aimed at both early preventative and later intervention work. EP-led work within Sure Start associated with an evidenced based parenting outreach approach “Early Learning in Families”. The second contributory area has been work within a multi-agency team targeting children in school at risk of exclusion.

The primary purpose of this literature review is to provide an overview of the nature and characteristics of early attentional development and to investigate the risk and resiliency factors associated with early attentional development and consequent outcomes and trajectories. The review will evaluate the scope for possible early prevention and intervention, and suggest directions for useful and relevant practice.

To address these issues, within the review, six key questions are posed in consideration of the available, current literature and research findings:

- *How is attention defined and what are the associated constructs of attention, with particular emphasis on visual attention and sustained attention?*

- *What are the major theoretical explanations of attention generally and specifically around sustained/focused attention?*
- *What is the usual developmental trajectory for attention development and how do attentional mechanisms and processes develop in the first years of life?*
- What are the possible primary risk and resiliency factors associated with poor attentional ability impacting on later childhood, with particular focus on proximal factors around the individual?
- What are the possible directions or suggestions for prevention, early intervention and enhancements to early attentional development, which might promote resiliency and/or reduce the impact of risk factors.
- What are the possible areas of future research? What relevance might research have for practicing EPs generally and more specifically associated with early preventative intervention?

2.2 - Theoretical perspectives of attentional development

“My experience is what I attend to. Only those items which I notice, shape my mind-without selective interest, experience is utter chaos” (William James, 1890 p 402 in Coren, Ward, Enns, 1999)

2.2.1 Theoretical Perspectives of Visual Attention

This section aims to provide a general definition of attention and of what James (1890) referred to as the “varieties of attention”. Major theoretical frameworks and constructs encompassing attention will be discussed, providing an overview of different organising structures that might be imposed around attention, in general and in particular around sustained attention.

Attention has been conceptualised in a variety of ways with many theorists and researchers disagreeing on the extent to which phenomena apply to attention and in the variety and range of different functions, processes and structures that attention encompasses. Cohen (in Posner 2004) notes,

“An understanding of attention is arguably one of the most important goals of the cognitive sciences and yet has proven to be one of the most elusive”.

(Cohen in Posner *ibid.* p71)

Given this continuing debate there are a number of descriptions of attention from different perspectives which have relevance to early attention. Considering attention from a functional perspective, there are various components and activities thought to make up attention, Mesulum, 1981 in Ruff and Rothbart, (1996),notes,

“The effective execution of attention requires the flexible interplay among intense concentration, inhibition of distractibility, the ability to shift the centre of awareness from one focus to another according to inner needs, past experience and external reality”

(Mesulum, *ibid.* p 321-322)

Attention is not seen as a single process, but rather, as a diverse set of functions and processes with close associations with other cognitive functions. (Ruff and Rothbart 1996).

Whilst Attention is considered multidimensional, discrete aspects of attention may be detected early in infancy. Such abilities are also seen to show continuity over time (. Rose, Feldman, and Jankowskic, 2005;. Rose, Feldman, and Jankowski, 2004).

In respect of the possible underlying processes which mediate attention, some theorists have considered that attention operates within a hierarchical system. (Sohlberg & Mateer, 1989) have developed a hierarchical theoretical model of attention skills, categorising attentional skills in order of difficulty, from a functional perspective, and illustrates the possibility of differing levels of lower and higher level mechanisms possibly underlying attention.

It may be suggested that associated attention activities may be managed and directed in some way. The “executive attention system” has been considered as one possibility for an overarching mechanism by which attentional processes are directed. This construct encompasses “higher order” mechanisms, including working memory, attention and inhibitory control, for the purpose of planning and executing goal directed activity. (Bell & Fox, 1992).The “executive attention system” not only provides an explanation for how attention is allocated but it also implies a “mind within a mind”. (Sohlberg, Mateer, & Stuss, 1993) described Stuss’s three tiered model of attention conceptualised it as a,

“... hierarchy of interrelated, independent functions, each of which contains a feedback control function”.

(Sohlberg et al., 1993)

In this model (Below, Fig 1) attention is controlled by the organising structure of executive function, which is in turn mediated by higher level consciousness and meta-cognition. In developmental terms, this model would start to become prominent in the

second year of life, as infants begin to engage in goal directed behaviour and attentional control.

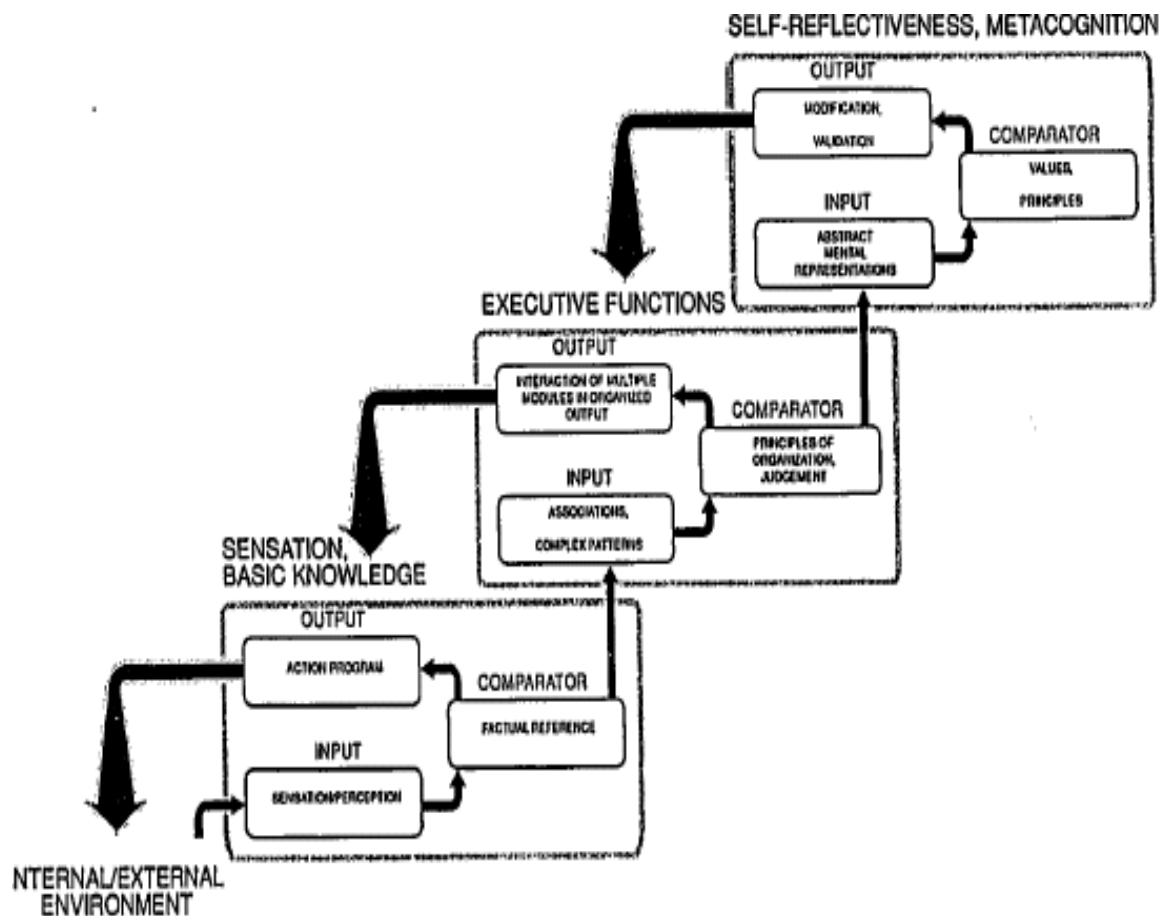


Fig. 1. Components of the conceptual framework of Executive Attention System. From Stuss (1991) *Self Awareness and the frontal lobes: a neuropsychological perspective*. In Goethaals GR, Strauss, eds. *The Self: An Interdisciplinary Approach*. New York.

There is evidence supporting some form of “executive” controlling system. For example, frontal lobe damage in the prefrontal cortex leaves specific cognitive abilities and general intelligence unaffected, whilst specifically damaging and impairing the functions of attention, planning, self-monitoring and responsiveness to impending reward or punishment (Eslinger, Biddle, Pennington, & Page, 1999).

Equally, research evidence concerning young children.(Hughes, 2002) notes that theoretical models of executive function make specific predictions of impaired executive

function around, for example, distractibility and impulsivity, which have been noted to occur. (Speltz, McClellan, DeKlyen, & Jones, 1999) found that “hard to manage” pre-schoolers, at risk from ADHD, perform poorly on tests of executive function.

The resolution of conflict is hypothesised to be a central function of the executive network (Botvinick, Braver, Barch, Carter, & Cohen, 2001) Botvinick argues that the prefrontal cortex monitors and resolves conflict between separate brain areas which are involved in specific tasks. The development of the prefrontal network would then be linked to the ability to exercise voluntary control leading to capacity for self-regulation. However, (Ruff & Rothbart, 1996) suggest that the term “executive” implies hierarchical explanation of brain function and notes that such explanations are “**no longer prominent**” *ibid.* (p28) noting that whilst the executive attention system is considered to be located within the frontal cortex. (Stuss and Benson, 1984), neural structures and pathways are to be found distributed throughout the brain, and specific pathways are associated with specific functions (Posner, 2004). Equally, whilst particular frontal cortex areas of the brain appear to be associated with conscious and cognitive planned activity, many attentional functions are determined, at least in part, by emotional and motivational factors, located in sub-cortical pathways. (Tucker and Derryberry, 1992).

Taken together, this evidence points to a diverse and diffuse distribution within “higher order” controlling mechanisms of the brain, rather, than one overriding system at work in one particular area. Ruff and Rothbart *ibid.* note that modulation of attention in the brain is essentially dynamic and the extent to which “higher” order processes, are involved may vary considerably depending on the attentional function used and the specific situation and this may change during the course of any particular event.

Rather than a single controlling attentional system, Norman and Shallice (1980) propose a model in which “higher level control” is theorized to be involved specifically in “novel” situations, as opposed to 'automatic' or frequently occurring contexts, which may be explained by “schema” type approaches and this appears more consistent with early developmental explanations of attention. Norman and Shallice propose five contexts in which “higher level” control might be employed. Situations which involve,

- Planning or decision making.
- Error correction or troubleshooting.
- Situations where responses are not well-learned or contain novel sequences of actions.
- Perceived to be dangerous or technically difficult situations.
- Situations which require response inhibition.

Given the current debate and state of knowledge in this area, it is difficult to determine whether or not an overriding, controlling executive system may or may not be at work; the extent of coverage of such a system if in existence or the extent of flexibility and plasticity within such a system. However, it seems likely that some form of executive function is at work and given the emphasis of research at present a more detailed understanding of this area will follow in the near future.

This understanding may possibly emerge from genetic and neurological perspectives which have recently begun to uncover a greater level of knowledge around attention.

Posner (2004) have suggested three main attentional brain systems to account for attention. The Anterior system (located within the frontal lobes), A Posterior system, in the parietal and occipital lobes, which is associated with orienting and perceptual attention and an Arousal system (sub-served by brainstem neuro-modulating systems) associated with sustained attention.

As well as brain function, recent explanations have been proposed around genetic contribution to attentional ability. Genes that influence specific cognitive functions, such as attention, have been discovered by relating individual differences in the performance of attention tasks to different versions of the gene (alleles). The genes discovered are involved in developing the common attentional networks used by everyone – so they both have a universal function, but also variations associated with individual difference. Posner (2007), (Rueda, Posner, & Rothbart, 2005) and (Parasuraman, Greenwood, Kumar, & Fossella, 2005) have so far found five genes responsible for attentional areas. Differences in attentional ability have been related to physiological and neurological variation, for example, differences in autonomic reactivity and degree of inhibition

exercised by the frontal cortex. (Porges, 1992). Due to the nature of attention, which appears to be based on distributed but interrelated neural networks there are considered to be many possibilities for variation in neural structure. (Posner, 2004).

Colombo, 2001, in considering the neurophysiological structures implicated in early attentional development, suggests that the role of attention in development should be considered as an,

“...interaction among different systems at different levels of maturity during the first years of life”.

(Colombo, 2001, p 183)

Whilst attentional functions may be described in many ways - in terms of specific functions, processes and structures or a part of the whole cognitive system or from a top-down or bottom-up perspective, it appears that it is ultimately the interaction between the varieties of attentional functions within the cognitive system, over the course of development, that produces the successful operation of attention in any individual.

2.2.2 Theoretical Perspectives of sustained/endogenous attention

With regard to adult models of sustained attention, the earliest theoretical explanations considering such attentional abilities were following Mackworth's (1948) study of vigilance, associated with performance decline of RADAR operators. Inhibition Theory (Hull, 1943) through a behaviourist perspective theorised that vigilance performance dropped as response inhibition increased and would be improved either by stopping or reinforcing the vigilant behaviour.

From a cognitive information processing perspective Attentional Filter Theory (Broadbent, 1958) and Expectancy Theory (Baker 1959 and Craig 1978) were concerned with the errors and anomalies of vigilance behaviour. Other theories such as Arousal Theory (Hebb, 1955) suggested that vigilance depended on arousal. Resource Theory (Kahneman 1973, Moray, 1967) proposes that the amount of sustained attention is dependent on the capacity or resources allocated to the task. Subsequently, Pasuaraman

and Davies 1977 have noted that task characteristics are an important determiner of sustained attention performance.

Whilst separately these theories may explain significant aspects of sustained attention, none constitute an “all-encompassing theory” of sustained attention. However, together they represent a range of explanations from which different perspectives of infant sustained attention may be taken.

Basic forms of various attentional functions are present at birth and those functions change and develop over time to produce more mature and efficient structures and processes. (Colombo, 2001)

The study of the development of attentional abilities in infants was initiated by Fantz in 1950's who used habituation studies as a means of investigating other cognitive abilities.(Fantz, 1963; Fantz & Miranda, 1975; Fantz & Nevis, 1967) Traditionally, early attentional skills were seen as a matter of simple encoding and schema. Sokolov's Comparator model (1963) conceptualised early infant attention as being distributed to a stimulus as a function of a match between a stimulus and “engram” or “internal representation” of the stimulus. The comparator model suggests that an infant is continuously and actively engaged in processing whilst looking at a stimulus and would explain behaviour seen during visual habituation. This model assumes that an infant engaging in brief looking would indicate that the stimulus has been encoded accurately, whereas prolonged looking in an infant would indicate a mismatch between stimulus and internal representation. This would imply that as infants mature, brief looking indicates more efficient encoding. (Osofsky, 1987). This brief looking behaviour appears somewhat different to behaviour seen in relation to more mature or adult based sustained attention. However, later work has suggested more complex underlying mechanisms at work within the development of sustained attention noting that,

“...infant looking represented a variety of attentional states and components, including orienting and engagement of attention, maintenance of attention, disengagement of attention and shifting attention”.

(Johnson, Posner and Rothbart 1991, p 394).

(Colombo, 2001) suggests a neurophysiological explanation for early sustained attention and notes that brainstem reticular activating systems are linked to attention and arousal, implicated in four ascending pathways from the brainstem to neocortical areas. The first ascending noradrenergic system is closely linked to “anticipatory readiness” and is also associated with the locus coeruleus area of the brain. This area has been shown to be highly active during periods of alertness or vigilance and is also associated with increases of norepinephrine in the cortex. (Aston-Jones, Rajkowski, Kubiak, & Alexinsky, 1994).

The second area - the cholinergic pathway, determines psychophysiological responses associated with sustained attention. Two other pathways (Dopaminergic and Serotonergic) are not well understood, but are associated with activation of behaviour and the mediation of aspects of behavioural inhibition, associated with sustained and endogenous attention.(Colombo, 2001).

A developmental/ethnological theoretical perspective which has relevance to development of attention is that of Attachment Theory. Ruff and Rothbart (1996) note that,

“Several authors have suggested that attention is influenced by parenting processes”
(ibid. p137)

According to Attachment Theory, parents who are less sensitive to a child’s distress are thought to contribute to the development of insecure mental representations of attachment. This context will then go on to influence not only emotion and behaviour but also cognitive processing ability, impacting on attention. Bowlby (1980) suggested that individuals selectively attend to information to avoid information “overload” and this appears largely consistent with the Resource Theory of attention (Kahneman 1973). Attention is seen as biased in line with what fits the mental representation of the individual.

Pasco Fearon and Belsky, (2004) suggest that Bowlby (1969) highlighted the stress regulation function in attention performance. In the “Strange Situation” measurement paradigm (Ainsworth, 1978), high levels of cortisol have been detected with the “disorganised” category of insecure infants. Stress impacts on a wide range of cognitive processes, including attention and the authors suggests that attachment is related to stress regulation, which in turn impacts on attentional processes, noting,

“There are inferential grounds for hypothesising that attachment may be directly associated with attentional skills because of the stress proneness of insecure children”
(Pasco Fearon and Belsky, *ibid.* p1678)

The connection between attention and stress has been supported from other perspectives, such as Beck (1976) whose Schema model of cognitive processing in psychopathology, suggested an attentional bias towards threat stimuli. This would, for example, predict hyper-vigilance within anxiety disorder.

From a theoretical perspective, there are differing lens through which attention may be seen, coming from different diverse theoretical positions. Recently an integration of research and literature from different realms - cognitive, neuro-physiological and developmental has drawn together findings and established developmental trajectories concerning attention. (Kochanska, Murray, & Harlan, 2000). Other theoretical standpoints relevant to both the development of attention and risk and protective factors, such as that of Attachment Theory have significant implications in relation to intervention and prevention.

2.3 - The development of attention in infants – an overview.

"Tell me what you pay attention to and I will tell you who you are."

Jose Ortega y Gasset (Spanish philosopher, 1883-1955)

From a functional perspective, over the first year “novelty” may be considered an overriding director of attention for infants – not only in attracting an infant’s attention but in mediating the duration of sustained/endogenous attention. Repeated experience allows infants to notice a greater number of features and increase in the complexity of what is interesting for them. (Ruff and Rothbart, 1996)

Early functions with most influence on developing attentional abilities, associated with the developmental processes of sustained and endogenous attention are “alertness”, orienting to and disengaging from stimulus and maintaining and sustaining looking over time.

2.3.1 Alertness

Alertness may be defined as a state of readiness for incoming information. Alertness is seen occasionally in the first month of birth. In the first two weeks of life babies are awake for only between 11-19% of time. Dittrichova & Lapackova, (1964) and within this duration, periods of wakeful alertness are very brief, however, when they occur, they appear organised. Fantz, (1963) noted that infants showed preferences in selection and looked for longer durations at patterns and objects with large features and high contrast as well as showing preference for looking at curved rather than straight lines (Fantz & Miranda, 1975).

Colombo 2001 suggests that prior to three months alertness is initiated by external events and arousal, rather than by endogenous or volitional mechanisms. However, as the Infant’s duration of alertness increases, it does so in interaction with and alongside other skills. For example, physical abilities develop and interact with attentional development

so that texture and ability to grasp become mediators of attentional ability and develop into preferences mediated by manipulation. (Ruff and Rothbart, 1996)

2.3.2 Infant looking

Infant “looking”- comprises the functions of orienting to and disengaging from a stimulus; maintaining and sustaining looking over time and focusing attention to a stimulus. Collectively, these functions may be considered pre-cursors to “sustained or endogenous” attention.

Infant’s ability to initially orient to and then shift attention are associated skills to the ability to look for prolonged periods and are developed over the first year. Infants show particular behaviour associated with physical immaturity of the brain structures mediating attention. For example, new-born Infants track moving objects, showing a characteristic “lag behind” the object. (Aslin, 1987 in Osofsky, 1987). Equally, when infants look at a face, they tend to visually scan portions of external contours, increasing in scope as they develop.

New-borns have difficulty in disengaging from a stimulus but gradually improve in the control of shifting attention within the first four months. Before about 2 months of age infants have difficulty disengaging once attention has been captured and distress usually follows disengagement. (Stechler and Latz, 1966 in Ruff & Rothbart, 1996) noted that 10 day old infant duration of looking varied from 54 seconds to 35 minutes and the lengthier durations were associated with distress on disengagement.

A major developmental transition occurs at 2 months (Emde, Gaensbauer, and Harmon, 1976 in Ruff and Rothbart, 1996). At this time infant attention skills increase, partly in response to maturation of the visual system and infants begin to look more accurately, more often and for longer periods. (Ruff and Rothbart, 1996). After 2 months, an infant is more likely to make eye contact and stay alert. Kaye and Fogel, (1980) noted that at 2 months, infants looked at their parent in a non-engaged or dull, glassy fashion for 24% of time awake, however at 3 months this type of looking had decreased to 8%. This early transition has significant implications for interaction and communication within close

relationships and thus has a significant influence on social development. (Lavelli & Fogel, 2005)

The development of attention over the first year is seen primarily in terms of duration of looking. Young infants of 3/4 months will look for longer periods than older infants of 7/8 months and, whilst there is variability within ages, individual differences are considered “moderately” stable. (Colombo and Mitchell 1990) Work with primates and toddlers suggest that infant looking is not viewed as a strict linear decline over infancy and childhood. (Bell & Fox, 1992). Distinct phases have been suggested. (Colombo, 2001) (Ruff and Rothbart, 1996). These have been suggested as,

- 8-10 weeks – look duration increases (a function of arousal and emerging alertness, mediated by brain stem and higher areas of the cerebral cortex)
- 3-5/6 months – look duration reduces (due to developmental changes in disengagement ability and object perception)
- 7-12 months – look duration plateaus or gradually increases. (reflecting the development of endogenous or sustained attention)

Infant looking is considered significant due to the implications it has for cognitive development as a whole. The implication being that long looking is a reflection of slower processing across and within ages, indicating that some infants encode faster or more efficiently than others. This has been supported empirically by evidence showing that infants with prolonged looking tend to perform less well on visual recognition tasks than short lookers. (Colombo and Janowsky 1998).

Colombo *ibid.* note that when looking at a stimulus, adults and older children process the whole stimulus before the finer detail. However, infants who are long lookers tend to focus on smaller visual features, rather than the whole, “bigger picture”. This is also consistent with the possibility that long look infants become “stuck” on specific features and are unable to disengage or inhibit attention to shift away. McCall and Carriger (1993) have noted that disengagement during habituation, rather than being reflective of infant encoding may be reflecting an infant’s ability to inhibit a response. This type of

difficulty is linked to the development of mechanisms in the frontal or parietal areas of the brain. (Jankowski and Rose 1997) note that look duration is,

“directly related to their ability to disengage from a visual stimulus”. (Frick, Colombo and Saxon, 1999, p197)

In relation to attention specifically directed towards a task, Ruff and Rothbart (1996) define “focused” attention in relation to attention specifically directed to objects and toys and described it as,

“narrowed selectivity and increased cognitive energy expended in the selective activity” (Ruff and Rothbart, 1996, p184.)

Infant ability to focus is seen from 5 months onwards in relation to objects and toys. It is increasingly seen over the duration of infancy in response to novelty or during tasks that are complex. (Oakes and Tellinghausen 1984, Ruff, 1986).

Parrinello and Ruff 1988 showed that individual 10 month old infants focus on toys to different extents, in that some infants focus for short periods and some for long periods on individual objects. Ruff and Lawson, (1990) suggested that within-child focused attention to objects was stable across time and in their study noted that a global rating of focused attention made at 2 years was significantly related ($r = .39$) to duration of focused attention at 3.5 years. Equally, when similar processes are assessed in infancy across differing situations, such as playing with toys alone or playing with a toy on a parent’s lap) there is consistency (Ruff and Saltiarelli, 1993). However, in later childhood, given the different demands of different situations (such as via motor activity) this consistency across situations reduces (Ruff, Weissberg et al 1995).

2.3.3 Self-regulation

Self-regulation may be considered to be a key aspect emanating from attention and is considered to be the basis of inhibitory control and self-monitoring and problem solving strategies. (Berger, Kofman, Livneh and Henik, 2007).

The development of self-regulation may be seen in conjunction with the rise of endogenous attention and executive function and may be seen functionally in the differing regulating strategies of parents. Colombo 2001 notes that visual alertness in infants is increased by tactile stimulation vestibular action and stimulation of modalities other than vision, such as picking up, rocking, talking and interacting. He notes that common care-giving actions, invoke changes in norepinephrine in the brain and have impact on infant arousal. (Harman, Rothbart, & Posner, 1997) has noted an interaction between attention and soothing, in that prior to three months parents tend to use tactile strategies (rocking and holding) to sooth and promote state regulation in an infant. At 3 months to around 12 months parents report using distraction to orient an infant to an alternative non-distressing stimuli. (Berger et al 2007), (Harman et al., 1997)

Into the second year of life children become less influenced by novelty and more influenced by social aspects of attention and they more generally attend to what other people attend to or they direct attention according to a socially oriented perspective. Gradually, infant's attentional ability becomes dominated by "higher order" control in an increasing effort to carry out purposeful and outcome-based activity, rather than general sensory or physical exploration seen at the earlier ages.

From around the first year, Infants and then toddlers become increasingly aware of their own attentional levels and control, being aware of distractions, such as noise. They are able to manage attention and not wholly determine attentional focus in line solely with intrinsic motivation, they begin to take into account the social context. During this period social aspects influence the development of attention skills associated with endogenous/sustained attention and the development of self-regulatory mechanisms.

Rothbart, Ellis, Rueda, Posner (2003) argued that "Effortful control" in 2 to 3 year olds is positively related to the development of conscience and appears as a protective factor in the development of behaviour disorders. The authors note that this skill begins to emerge at between 6 and 12 months and is required for self-regulation, expression of emotion and socialisation.

Recent studies have identified separable networks of neural areas that carry out the functions of achieving and maintaining the alert state, orienting to sensory input and voluntary control of thought and emotions. (Posner and Raiche 1994). Kopp (1982) in Kochanska (2001), noted that children become capable of self-control, in terms of awareness of social demands, ability to initiate, maintain and stop behaviours and comply with caregiver requests between 12 and 18 months. By 24 months children are able to regulate their behaviour in the absence of a parent or adult (Kochanska, 2001) The findings suggest that differences in ability to inhibit responses may play an important role in temperamental regulation when executive attention skills are first appearing.

In relation to early play behaviour, Bullock and Lutkenhaus (1988) showed a consistent developmental pattern in the development of volitional behaviour at this time, in that children focus on producing outcomes, they monitor, correct, and control activities, and react to their outcomes with positive affect.

Neurodevelopmental changes in attentional abilities across the first two years influence adaptiveness and success in children's behavioural regulation. (Posner and Rothbart, 2000). As brain development occurs children are provided with increasingly elaborate and flexible mechanisms for self-regulation – however, the appearance of higher level regulation abilities may depend on the pre-cursor ability to control attention – in terms of shifting and maintaining/sustaining attention. (Pollack, 2004 in Posner, 2004).

In later years, Jones, Rothbart and Posner (2003) found that self-regulation abilities of inhibition increased between 3 and 4 years of age and that children tend to use physical rather than verbal control strategies at this time (for example, clasping hands to stop from responding), but nearing 4 years children use verbal strategies, such as positive self-talk.

Emotional influences on attention increase through the first and second year.

For example, Stipek, Recchia and McClintic (1992) explored 2 to 5 year olds reactions to success and failure conditions within tasks, manipulating a stacking puzzle so that they could not complete the task, as the experimenter had done. Stipak found that during the failure condition all children would withdraw attention away from the task, often by

looking away, turning bodies away, adopting a closed body posture and by frowning. In relation to tasks asked of children in school setting attention and motivation are influenced by their experience of failure or success and mastery.

From a cultural perspective, Bakeman, Adamson, Konner and Barr (1990) in a study looking at Kung! Infant-mother interaction, found universal behaviour for infant attention towards objects at 6 months, which was then culturally directed in different ways through social interaction later on. For example, whereas in western societies a parent tends to direct a toddler's attention towards different objects to look at or play with, in Kung! society infants are more often directed towards objects for the purpose of giving the object to other people.

Across early development variability in attentiveness is seen at all stages of development. Within this, individual differences are assumed to show stability within the individual across time. In general, research has shown that differences in reactivity and sustained attention, in the form of duration of looking appear to be largely stable across time in infants, children and adults. (Colombo 1987) in relation to different situational factors, Ruff, Capozzoli, & Weissberg, (1998) have noted that,

"...children have stable tendencies to focus and sustain attention in particular contexts but that their attention varies with the demands of the task and their ability or interest in meeting those demands."

Ruff, Capozzoli, & Weissberg, (1998)

2.4 - Risk and Resiliency Factors associated with Attention development

“Life is not so much a matter of holding good cards, but sometimes of playing a poor hand well”

(Robert Louis Stevenson)

The emphasis of the following section of literature review will be to determine significant early factors associated with general and specific risk outcomes later in life, associated with attention, self-regulation, cognitive and emotional function. A particular focus on proximal, rather than distal factors around the child will be examined, and in particular, those factors deemed to have more opportunity and capacity in relation to prevention, influence and change. Discussion of risk factors is linked to table 1. which shows risk factors, when the risk factors emerges, when the risk impacts and what form the negative impact takes. (See Table 1- Risk factors and Impact)

2.4.1 Factors associated with biological risk and the pre-natal period

In relation to innate biological factors, Posner (2004) has found strong links between heredity associated with attention variation and risk, as have a number of studies examining neurological functioning and genetics. (Canli et al (2005) and Posner (2004). (See Table 1.)

As well as genetic contribution, intergenerational risk factors are proposed to impact upon later risk. (Huizink, Robles de Medina, Mulder, Visser, & Buitelaar, 2002), found that with first time mothers, parental perceived stress and pregnancy anxiety explained 5% of the variance of attention regulation at 8 months and perceived stress during pregnancy accounted for 8.2% of the variance of parent reported “difficult behaviour” of the 3-month-old infant.(See Table 1) (O'Connor, Heron, Golding, Beveridge, & Glover, 2002), found a similar association between stress in late pregnancy with children’s inattention and hyperactivity at age four, with particular impact on boys, even accounting for any parental stress following birth. (See Table 1)They noted a key clinical implication,

“Reducing maternal anxiety in pregnancy could have protective, preventative effects for children”

((O'Connor et al., 2002)p 507)

In relation to acquired pre-natal factors such as parental alcohol and drug use and pre-natal exposure to toxic substances, these are also pertinent risk factors associated with later attention difficulties. (Nigg, 2006). For example, Streissguth, Sampson, Olson, Bookstein, & et al., 1994) noted that parental consumption of alcohol during pregnancy has a later significant impact on focused/sustained attention, measured at 4, 7 and 14 years and showed increasing effects, the greater the consumption. (See Table 1)

Early pre-natal biological development, such as with infant pre-maturity, low birth weight, motor maturity are thought to have a significant impact on later functioning. Teachers tend to rate pre-mature and low birth weight children as having poorer concentration and attention skills on entry to school. (Low et al 1992). These biological factors contribute to other individual and parental factors to produce negative outcomes.

Examining early factors, Jacobvitz & Sroufe (1987) found that motor immaturity, seen in 7-10 day new-borns constituted a risk for hyperactivity at 5-6 years. Jeyaseelan, O'Callaghan, Neulinger, Shum, Burns,(2006), equally found that motor difficulties in low birth weight infants at 2 years are associated with later parental and clinical measures of attention at 7-9 years. (See Table 1)

Lawson and Ruff (2004) examined early focused attention at 7 months in pre-mature children, and found that it was predictive of hyperactivity and impulsivity at 4 to 5 years and of cognitive abilities from 2 to 5 years. Rose, Feldman and Janowski, (1999) in a study of processing speed in the first year of life with pre-mature and full-term infants at 5, 7 and 12 months found that at all ages, premature infants required longer processing time. Slower processing was also associated with greater medical risk. (See Table 1)

In relation to later accumulation of risk, in “small for gestational age” (SGA) and “appropriate for gestational age” (AGA) infants at 8,12 and 18 months Halpern, 2001

)found that infant temperament and mothers' play behaviour (maintaining child's attention on objects) showed distinct patterns of association with infants' subsequent cognitive development within both groups. Significant factors for SGA were interactions between temperamental factors (attention and negative/positive emotionality) and parental reciprocal play. In AGA a different interaction was found to produce cognitive outcomes, namely between temperamental factors ("difficultness" and attention); the quality of parental play behaviour and parental sensitivity. (See Table 1)

Jacobvitz, et. al 1987) found in premature, low birth weight (LBW) infants at 6 months, maternal sensitivity contributed to negative outcome in terms of hyperactivity. Landry, Smith, Miller-Loncar, & Swank, 1997) examined early parenting behaviours between 6 and 12 months in LBW children and full term children. Parenting behaviours which showed sensitivity to the infant's focus of interest and did not highly control or restrict the infant predicted greater increases and faster rates of cognitive-language and social development at 40 months, in both groups, with relationships stronger for infants with "high medical risk". (See Table 1)

It appears that prior to birth, genetic, intergenerational and biological factors are significant mediators of risk, associated with attention development. Biological factors such as low birth weight, SGA and pre-maturity may interact with later individual factors such as, slower processing and motor immaturity to determine attention and other outcomes. Early parental behaviour also has a significant part to play in later outcomes, seen both, in full-term, as well as more biologically "vulnerable" infants.

The above studies point to the possibility that whilst biological and temperamental factors have a major impact on the development of attention and cognitive outcome, particular parent behaviour can provide specific support for more vulnerable children to optimise development and may provide significant support for all infants to establish an optimal early foundation for later development.

2.4.2 Factors associated with individuals

Temperament

Attention may be considered as a temperament trait. Parent reported “difficult” temperament has been seen to include a constellation of early difficulties associated with attention and self-regulation.. Campbell and Ramey (2008) in a longitudinal study with 2-3 yr. olds noted that such temperament difficulties remained constant until 6 years, when 30% of the children met the clinical criteria for ADHD. However, psychometric and observational measurement did not show any significant differences between the two groups at 6 years.

Infant Processing

In relation to more specific measurement of attentional ability in early infancy, shorter duration of looking in infants, is associated with greater infant responsiveness to novel toys, more mature motor development and more mature concept formation and discrimination. Duration of looking at 2 months has been shown to be predictive of cognitive performance at up to 8 years. (Bornstien and Sigman 1986, Colombo 1993, Fagan, 1984 and McCall and Carriger 1993) Long looking has also been associated with poor visual recognition measures (Colombo and Janowsky, 1998). (See Table 1)

Individual differences in look duration and processing may well be reflected in children with attention difficulties, who are often rated as “less mature” cognitively, than peers (Alessandri 1992). Rose and Feldman (1997) note that,

“Processing speed is an important component of individual differences in infant cognition...this factor shows some continuity through childhood”

(Rose and Feldman, 1997 p 693)

In later development, Choudhury and Gorman (2000) (See table 1) have suggested that this effect continues and have noted that toddlers with more frequent and brief “off-task glances” were also shown to have,

“longer attention span, were more successful at problem solving and had higher scores ...than peers with fewer off task glances”.

(Choudhury and Gorman, 2000. p.127)

Inhibition of attention and ability to disengage from familiar stimuli are significant aspects of early looking and processing. These aspects have been related to early recognition measures in Infancy (Columbo 2001) as well as to performance in a variety of cognitive domains, such as verbal self-regulation, processing memory and IQ (McCall 1994).

The above research suggests that long looking duration, inability to disengage and inhibit a response in early infancy is a risk with impacts primarily within cognitive development. Jankowski, 2001 showed through that it is possible to “train” infants to look in more effective ways and noted that by encouraging infants who look longer to shift fixations more frequently, this had a positive impact on object recognition.

Rueda et al 2005 suggests,

“Given the wide range of individual differences in the efficacy of attention... attention training could be especially beneficial for those children with poorer initial efficiency, children with pathologies that involve attentional networks, children with genetic backgrounds associated with poorer attentional performance or children raised in different types of deprivation.”

(Rueda *ibid.* p. 26.)

Negative emotionality

Children able to shift and maintain focus are theorised to be able to regulate negative emotionality. (Rothbart, Ziaie and O’Boyle 1992) found that children who were more prone to distress were also less attentive.

Belsky (2001) in examining negative emotionality and attentional abilities in more detail, noted that early attention difficulty and difficulty in regulating negative emotion, showed itself within the ability to persist in later childhood. Belsky et al found that high levels of

negative emotionality were associated with low levels of social competence, but only when attentional “persistence” was poor. High levels of negative emotionality and “high” attentiveness predicted high levels of “school readiness”. (See Table 1)

It appears then, that attentional persistence may act as a protective factor in balancing the risk factor of negative emotionality.

Pollack 2004 in Posner (2004) further examined the link between negative emotion and attention in examining “threat sensitivity” in the development of abused children. Pollack argues that exposure to maltreating environments impacts on children’s perceptual and attentional processing of emotional information. The authors suggest that abused children become “*experts at anger detection*” (ibid. p364) this has a cost in terms of attention and self-regulation.

“Physically abused children overly attend to threatening cues at the expense of other contextually relevant information”.

(Pollack 2004 p. 359).

As well as emotional regulation “effortful control” has been used as a construct of self-regulation. The ability to use effortful control as a means of reducing negative emotion may be considered an important link between cognition and emotion which arises in infancy.

Zhou(2007) found that over time, children between 5 and 10 years patterns of effortful control strengthened to produce outcomes. Children with high and stable patterns of effortful control tended to exhibit low levels of externalizing problems, whereas those with lower and/or less stable patterns of effortful control showed more externalizing problems. (See Table 1).

(Caspi, Henry, McGee, Moffitt, & et al., 1995) in a study including 800 children noted that emotional lability, restlessness, poor attention and self-regulation at 3 years was implicated in the development of externalising behaviours in adolescents at aged 15 years. (See table 1). (Wills, DuHamel, & Vaccaro, 1995) examining young people’s

temperaments and “risky behaviours” at aged 12 years found that insufficient control of impulse, motivation and negative affect was linked along with low parental support levels to substance misuse and inappropriate peer associations. They note,

"Difficulties in self-regulation may precede or co-occur with manifestations of aggressive and antisocial behaviour".

Kochanska (2001) found that between 14 and 45 months self-regulation constituted a risk factor for males. Cartindale, Laurie-Rose and Bennett-Murphy (2007) found that pre-school girls were better able to inhibit responses than boys. Those who were competent at discriminating target signals from distracters on a vigilance task were better at noticing and responding to social cues and were generally more socially skilled. (See Table 1).

In terms of risk factors associated with this, Olson, Bates, Sandy and Schilling, (2002) examined infant and toddler precursors of impulsivity and inattention in school age children and found that measures of caregiver–child interaction, child temperament, and child cognitive competence during the toddler period significantly predicted variations in children’s later impulsive functioning at age 8. (See Table 1).

It therefore appears that attention and self-regulation reported via early temperament difficulties by parents shows some continuity across time and such behaviour may not be discernible by certain measurement.

2.4.3 Parental factors

Whilst undoubtedly, there is an interaction between individual and parental factors, examining how a parent contributes to emerging attentional skills may illuminate risk and resiliency factors. Parent factors appear to be implicated in almost every aspect of attentional development and self-regulation and these appear in interaction with more individual or infant temperament factors to produce negative outcomes.

In relation to key environmental factors associated with parents, Roberts, Bornstein, Slater and Barrett (1999) indicated that socio-economic status and parental educational level had an increasing effect on infant's attention in the first two years of life. Parental status in terms of age may also have an impact on outcomes. Lemelin, Tarabulsy Provost (2006) looked at infant temperament and parent sensitivity with infants between 6 and 36 months, with adult and adolescent mothers. Results showed that all three classes of variables – temperament, maternal sensitivity and social risk (mother's age) contributed to infant persistence, anger proneness and cognitive development at school age. (See Table 1).

Other studies have demonstrated a similar link between individual factors and parent-child relationship. (Shaw, Keenan, & Vondra, 1994) found that at 12 months infant persistence and lack of maternal responsiveness resulted in later externalising difficulties at ages 2 and 3 yrs. (See Table 1).

There have been a various theoretical standpoints from which such parental factors may emerge. For example, Belsky, (1980). These factors may be associated with the sensitivity and responsiveness of parental interactive behaviour in the first year, seen via the attachment relationship; through parental temperament or via specific behaviours shown by the parent towards the child.

Attachment

Belsky (1980) notes that,

“numerous investigations of maternal influence on infant functioning have ... revealed the positive role that attentive, warm, stimulating, responsive, and non-restrictive caregiving plays in promoting healthy early development”

In relation to attention and attachment there have been only a handful of studies. (Bornstein M. H., 1997) hypothesised that parental sensitivity to infant distress at 5 months would indicate attachment security and be predictive of attention, symbolic play and self-regulation, at 13 months. However, Bornstein found that rather, it was parental non-distress responsiveness that predicted higher levels of attention in infants and this

was associated with prompt, contingent and appropriate response, as opposed to an intrusive response from the parent to the child. This study was based on 36 participants, from a high socio-economic background and as such may not have been fully representative. However, Bornstien suggests that parents with more knowledge of child development were able to enhance the child's abilities in attention and learning. (See Table 1).

A later and perhaps more representative study examining the relationship between attachment and attention was by Pasco Fearon et al (2004). The study examined the interrelation of attachment and attentional performance, in conjunction with two other risks for poor attention: male gender and social-contextual adversity, using data from 918 children. Findings indicated that children with secure attachment were less susceptible to the effects of cumulative risk and gender on attentional performance than insecure children. Children classified as "avoidant" and "disorganised" showed poorer attention. "Resistant" girls were more "alert". (See Table 1). This research adds to evidence regarding anxiety and threat bias influences on attentional skills, regarding increased threat awareness and the authors note that the study,

"...provides evidence for connections between attachment and attention...".
(Pasco Fearon et al 2004).

Belsky 1980, looked at specific parent behaviours associated with attachment and attention and noted an increase in parent's verbal attention-focusing behaviour and in physical attention-focusing strategies between 9 and 18 months; linear increases in a variety of measures of infant exploration; and positive associations between maternal stimulation and infant exploration. (See Table 1). Belsky suggests that by appropriately directing infants attention to objects and events and by scaffolding infant play, the parent teaches the infant how to gain control over and focus his/her attention. In relation to implications for intervention Jayaseelan et al 2006 note that,

"...intervention targeting mother's attention related activity could have long term effects on self-regulatory and cognitive outcome through their influence on focused attention"
(ibid. p 405)

Parental Joint attention, scaffolding and attention directing

Research has found an association between joint attention and ability to follow gaze at 6 months, attention to objects and self-regulation and distractibility. (Morales & C.E.F., 2005) (See table 1), (Lawson, Parrinello and Ruff,1992), (Raver, 1996) Raver suggests,

“socially contingent interactions with parents may provide toddlers with important self-regulatory skills such as directing attention away from sources of distress”. p851.

Early play is characterised by joint attention and (Bigelow A. E., 2004)Bigelow, MacLean and Proctor (2004) examined maternal sensitivity within joint attention, which was rated on two measures: following infants’ interests and scaffolding infants’ activities. Results showed that more mature, functional and appropriate relational play was associated with joint attention and more immature, stereotypical play was evident when not engaging in joint attention. This suggests that the parent’s ability to scaffold infants’ activities within joint attention may be particularly facilitative to infants’ development.

Kelley, Brownell and Campbell 2000, explored the impact of parental feedback and control with 2 year olds. Negative maternal feedback at age two related to expression of “shame”, especially when feedback was linked to children's actions or products. However, positive maternal and corrective feedback was related to children's later attention; mothers who engaged in more autonomy-supporting control with their 2-year-olds had children who were less likely to avoid challenging activities at age 3.

Valentino, Cicchetti, Toth and Rogosch (2006) explored play and social factors in 12 month old infants from maltreating(abusing and neglecting) and non- maltreating families. Infants from abusing families demonstrated more imitative and less independent play than infants from other groups. Maternal behaviours predicted the child play style. The authors found that in abusing families, mothers showed less attention-directing and limit setting behaviour.

Parent temperament and attitude

Kochanska (2000) found that at 9 months, parent's responsiveness and personality predicted self-regulation and regulation at 22 months. The authors found that personality factors which were significant were prudence, acceptance of cultural rules, patience and persistence and suggest that parents may not only provide good models for self-regulation but may value such qualities and so promote them more vigorously. (See Table 1).

Smith, Landry, Miller-Loncar, and Swank (1997) examined the characteristics that help parents maintain their infants' focus of attention, with infants aged between 6 and 24 months. Four distinct clusters were identified for disadvantaged mothers and these were childrearing history, childrearing attitudes, self-esteem and social support. The authors suggest that the ability of these parents to adapt to their infants' changing needs was significant and suggest the early identification of mothers' who may have greater difficulties in these areas. (See Table 1).

Valentino et al (2006) note,

"...interventions that strive to increase parental knowledge about normative child development and facilitate maternal engagement in attention-directing behaviours may lead to fewer negative consequences for maltreated infants."

(Ibid. p483)

2.4.4 Environmental factors

Situational and context factors

Situational and contextual factors have a significant impact on functioning and interact with individual and parental factors to produce outcomes around attentional ability.

Peters-Martin and Wachs(1984)(Peters-Martin & Wachs, 1984) found that correlational analyses on measurement including infant temperament, and a home observational scale indicated significant stability of temperament at 1-6 months and at 6-22 months. Cognitive functioning was higher when Infants were reared in organized home

environments. Other studies have shown similar findings in terms of the impacts home environment has on developing attention. (Wachs, 2000; Wachs & Gandour, 1983)

The NICHD (2003) study, using data from 1,002 children and their families on children's sustained attention, impulsivity, and school readiness and quality of the family environment, until 5 years. Results showed that children's sustained attention partially accounted for an association between family environment, achievement and language outcomes. Impulsivity partially accounted for a link between family environment and achievement, social competence, and externalizing behaviours.

However, in a school context there are a number of factors contributing to attentional and self-regulation outcomes for children. There are a number of variables determining the level of distractions present in the environment – factors associated with the systems within the school, environmental, teacher, and individual factors.

Alessandri (1992) in a study comparing children up to aged 4- 5 with and without ADHD found that children with ADHD played less and played at a lower developmental level in school. They showed higher levels of transitional behaviour, were less attentive, more distractible during free play and less co-operative during group activities. The authors suggest that when the activity was physically active and structured both groups were matched in responses.

Lopez (2005) examined children's abilities to sustain attention within a classroom context. The authors noted that in classrooms up to the age of 5 years the most significant distracter for children was "social interference". This resulted in children showing only short periods of sustained attention. This perhaps illustrates the dynamic social nature of classrooms and the situational demands placed on children's attentional capacity. The authors noted nonetheless, that children's abilities in sustained attention increased in a linear type trend across the school years.

Whilst individual and environmental risk and resiliency factors may be significant, within the NICHD (2005) study, the authors asked about the extent to which parental sensitivity and school environments would predict developing skills in attention,

memory, and planning. They found a cumulative effect of the child-rearing environment related to attention and memory but not to endogenous attention and planning in 700 children, between 6 months and 5 years. They noted that that the quality of the family environment was more strongly associated with performance in attention and memory tasks than was the quality of child care and of school.

Family environment appears more relevant to attentional development than school, nonetheless, schools could provide appropriate targeted interventions to address attentional needs. Blair (2002) notes that such programmes would allow,

“...children to stop and inhibit impulsive tendencies, to identify feelings, to think of alternative solutions to problems and to plan and implement solutions”.

(ibid, p.243)

Table1. Attention Risk Factors and Impact - showing age when risk emerges and age when risk impacts and type of risk impact.

Risk factors	When risk emerges	When risk impacts	What type of impacts
Pregnancy specific anxiety (Huizink et al 2002) Stress in pregnancy	pre-natal	3 m 8 m	attention
Low birth weight (LBW) + motor diff (Jeyaseelan et al 2006)	Birth+2yrs	7-9yrs	attention
Alcohol consumption in pregnancy (Striessguth et al. 1994)	Pre-natal	4,7, 14 yrs	Focused/sustained attention
Parental responsiveness (Bornstien et al. 1997)	5 m	13 m	Sustained attention Symbolic play
Socio-economic status /attitudes to child rearing, parent self-esteem, social support and adaptation (Smith et al. 1997)	6 m	1-2yrs	Maintaining focus of attention
focused attention, inattention, interaction (Lawson et al 1992)	12 m	1 yr.	Focused attention
Attachment, gender, socioeconomic context (Pasco-Fearon et al 2004)	15 m	5 yrs	Attention
SGA+Neg. emotion+attention+parent reciprocal play (Halpern et al 2001)	Birth+8 m	12, 18 m	Cognitive development
LBW+temperament Reciprocal play Parent play quality (Jeyaseelan et al 2006)	At birth 8 m	1yr	Cognitive development
Premature+medical risk+Processing speed (Rose et al 1999)	Birth+5,7,12 m	2-5yrs	Cognitive ability
Look duration (Fagan, 1984,Bornstien et al 1986, Colombo, 1993, McCall et al 1993)	2m	Up to 8yrs	Cognitive development
Infant + affect and short/long looking (Rose et al 1999)	5 m	9m	Learning capacity
Parental scaffolding (Pridham et al 2000)	8 m	8m	Infant exploration (Cognitive)
“difficult”+attention+ quality of parental play+ parental sensitivity(Halpern et al 2001)	8 m	12,18 m	Cognitive development
Parental Verbal attention focusing behaviour, physical attention (Belsky, 1980)	9 m	18 m	Infant exploration (cognitive)
Parental education level and socioeconomic status Parent age(Roberts et al 1999)	12 m	27m	Cognitive
Parental depression (Breznitz and Friedman 1988)	16 m	3 yrs	Infant exploration (Cognitive)
Attention + off task glances (Choudhury and Gorman, 2000)	17m-2yrs	2yrs+	Problem solving+cognitive
Infant visual tracking(Morales et al 2005)	6 m	2 yrs	Emotional regulation
Focused attention Parent responsiveness (Kochanska et al 2000)	9 -22m	33 m	Emotional regulation Inhibition
socialisation , effortful control(Kochanska et al 2000)	22 m	33 m	Emotional regulation Inhibition
Duration of orienting +Joint attention(Morales et al 2005)	2yrs	2yrs	Emotional Regulation
Stress in late pregnancy, gender (O'Connor et al 2002)	Pre-natal	4 yrs	Hyperactivity/inattention
Motor immaturity, intrusiveness (Jacobvitz et al, 1987)	Birth+ 6m	5-6yrs	Hyperactivity
Pre-maturity+Focused attention (Lawson and Ruff 2004)	birth +7 m	4-5 yrs	Hyperactivity/Impulsivity
Prematurity LBW sensitivity (Jacobvitz et al 1987)	6m	5-8yrs	Hyperactivity
Persistence Parent responsiveness (Shaw, 1994)	12m	2-3yrs	Externalising behaviour
Committed compliance, gender(Kochanska et al	14 m	22m	Internalisation of maternal rules Compliance
Attention self-regulation emotion (Caspi et al 1995)	3yr	15yr	Externalising behaviour
Attention effortful control (Zhou et al 2007)	5yrs	10yrs	Externalising behaviour
Attention persistence and negative emotionality (Belsky et al 2001)	15m	3 yrs	Social competence
Sustained attention perceptual sensitivity, gender(Bennett Murphy et al 2007)	3 yrs	5 yrs	Social competence
NT/genex Canli et al 2005)(Posner, 2007)	pre-natal	throughout	Negative affect, Aggression Emotional, Cognitive control
LBW+high medical risk, Sensitivity to infant focus Control/restrictiveness(Landry et al 1997)	Birth 6-12m	40 m	Cognitive, Language Social competency
Cognitive stimulation effortful control(Olson et al 2002)	6 m	6 yrs	Impulsivity, Attention Self-regulation
Young mother sensitivity infant temperament (Lemelin et al 2006)	6m	3yrs	Attention Negative emotion Cognitive
Sensitivity to infant focus, Control/restrictiveness(Landry et al 1997)	6-12m	40 m	Cognitive, Language Social competency
Maternal sensitivity maternal cognitive stimulation attention + inhibition(NICHID, 2003)	6 m to 3 yrs	4-5 yrs	Cognitive, Social competence, Attention, Impulsivity

Colour code for Impact: attention (yellow) Cognitive (teal) Emotion (green) Hyperactivity (grey) Behaviour (purple) Social (orange) Various (blue)

Table 2. Individual and Parenting Risk and Protective Factors Matrix

Age	Individual Factors	Parenting factors	Prevention and intervention
Pre-natal	Neurobiology Heredity Gender	Pregnancy anxiety Stress in pregnancy Stress Parental education level Socioeconomic status Alcohol consumption during pregnancy	<ul style="list-style-type: none"> • Social support for at-risk parents/at risk babies • Pre-parenting programmes • Baby development knowledge • Pre-natal medical
0-1	Low birth weight LBW + high medical risk Pre-maturity Motor difficulties Infant tracking Focused attention Processing speed/look duration Temperament Reciprocal play Affect Inhibition Effortful control	Intrusiveness Attitude to/ perceptions of child rearing Self esteem Social support Sensitivity to infant focus/attention focusing Parent availability Tactile stimulation Depression Cognitive stimulation /responsiveness/ scaffolding Verbal /physical scaffolding Socialisation Control/restrictiveness Parent age	<ul style="list-style-type: none"> • Out-reach home visiting • Parent focus skill based training • Baby development knowledge • Parenting programmes • Prompt medical support • Baby massage • Parent social support • Attachment development support
1-2	Low birth weight Processing speed Negative emotionality Cognitive Language skills Motor difficulties Orienting duration Attachment security Sustained attention Persistence Inhibition Gender Socialisation Effortful control	Depression Sensitivity Cognitive stimulation /responsiveness Parent socialisation Joint attention Socioeconomic status Sensitivity	<ul style="list-style-type: none"> • Out-reach home visiting • Parent-focus skill based training • Parenting programmes • Toddler development knowledge • Prompt medical support • Toddler socialisation and skill based training • Parent social support • Parenting style input

2.5 - Discussion

There are a number of implications emerging from research that suggest possibilities for prevention and intervention. The following discussion will refer to Table 2. in discussion of relevant intervention and prevention measures and will suggest possible directions for future research.

With regard to risk factors associated with Individual factors for negative developmental outcomes these may be within a variety of domains – genetic, cognitive, social, emotional and behavioural across the pre-natal and first two years. The relationship between parent and child appears fundamental to attention and self-regulation and specific attitudes, beliefs and behaviours from parents in interaction with individual factors and situation factors contribute to positive or negative impact.

In the pre-natal stage, the risks are primarily from genetic and acquired factors, associated with parental social-economic factors, parental behaviour and stress. The theory of “developmental programming”, proposing that high levels of cortisol in pregnancy are transmitted to the foetus during gestation pre-disposing the newborn to respond differentially in relation to possible threat, may partly account for the types of findings above. (Weinstock, 2001). This theory is equally consistent with research discussed around threat-bias and parent-child attachment and psychopathology. (Bowlby, 1980) (Bretherton, 1990) (Beck, 1976).

Findings have implications which might usefully focus on parental support in pre-natal and early in the post-natal months, particularly with “at-risk” families. A focus on enhancing parent-child relationship; knowledge of infant development and supporting parents medically and emotionally may of be particular merit, particularly in relation to also reducing the likelihood of maltreatment and enhancing outcomes for those children with a higher medical risk due to pre-maturity etc.(Pollak 2004 in Posner 2004),(Valentino et al (2006). This is also a time when expectant and new parents are traditionally thought of as being “open” to such information.

Findings around contextual and parental risk factors indicate that the context of home environments, as well as the amount and quality of stimulation within those environments have a significant impact. (Wachs, 2000; Wachs & Gandour, 1983) Following from this, increasing parental awareness of these impacts, through early home visiting programmes targeted at “high risk” parents offers both opportunities for social support and knowledge and training in ways enhancing early development in infants. Indeed, “What Works in Parenting Support? A Review of the International Evidence” (Moran, Ghate and van der Merwe, 2004) suggest that home visiting approaches, offering child development information and parental support and which target and retain “hard to reach” families are an effective form of Parenting support during this early period.

In relation to early parental behaviour in very early development, Colombo (2001) notes that attention and self-regulation in infants is increased by tactile stimulation. Baby massage courses may be a useful way of addressing this in particular and encouraging effective early parent-baby communication and interaction may constitute an early mechanism to enhance alertness, disengagement and influence brain development in new-borns and in the early months of life.

Findings regarding look duration and processing in low birth weight and premature infants, in particular, intervention emphasising parental strategies and behaviour in early infancy may act as a protective factor for later attention difficulties. The area of duration of looking in infants has received interest associated with attention associated with learning contexts and Janowski’s (2001) provides suggestions for opportunities for more “real world” prevention within early developmental programmes. This might take the form of enhancing parent abilities to direct infant attention early in development through more general outreach parent programmes or via specific parental targeted skill-based training.

It is evident that parent interaction within play and specifically, joint attention, feedback and sensitive, attention-directing behaviours have a significant impact on attentional development as well as in other cognitive and emotional areas. Early “difficult” behaviour, as perceived by parents appears to remain consistent across time and early

processing individual differences may have significant implications for an infant's attention abilities, cognitive abilities and emotional regulation.

Negative emotionality seems particularly associated with attentional persistence in combining to produce negative outcomes in "school readiness" and social competence. In vulnerable children a particular trajectory within the interaction between emotion and cognition appears to be that of attentional bias towards threat but has a cost in terms of "re-routing" attention to other areas. However, there also appears to be interactions between other risk factors such as gender. Caspi et al 1995 and Wills 1995 point to early self-regulation difficulties having a major contribution to later adolescent difficulties and suggest that the areas of negative affect, motivation and low sustained attention contribute to these difficulties, as does the contribution made by parental factors.

It is possible that by "reformulation" of abused children's behaviour in the light of Pollak and Schell (2003) and Valentino et al (2006) research, may allow practitioners to develop practical intervention based on skill training for those no longer in abusive environments and the possibility of targeting specific parental behaviours in those who remain in such contexts. Within a larger context the possible application of "threat bias" may allow for more universal prevention and intervention, aimed at parental behaviour within the areas of attention directing and limit setting. Attention training may be useful in this context. (Rueda et al 2005)

Given the research on attention risk and resiliency perhaps a most fruitful direction for intervention in school-based and possibly in family contexts might be early skill based programmes, directly working on enhancing specific pre-cursor abilities to self-regulation, emotional literacy, attention and problem solving. There are several programmes available that target attention, self-regulation and incorporate emotional literacy and problem solving, such as. Shure and Spivack's (1972, 1974, 1982) "I Can Problem Solve". Later, school-based training programmes such as Attention Process Training (APT) has led to executive attention improvements in children with ADHD (Kerns, Esso and Thompson 1999).

The emerging research in the area of early attention development is, in itself, in its 'infancy' and the change in emphasis around attention research has enabled a fresh perspective and new knowledge about risk and resilience factors. Colombo (2001) suggests that new and significant issues will be addressed in the following decades. However, the available research also raises more questions than it answers, such as how significant is the parent-child attachment relationship in relation to attention development? The NICHD 2003, Belsky et al (1980) and Pasco-Fearon et al (2004) studies give possible clues as to the potential relationship between attachment and attention, indicating that the early parent-child relationship may be characterised by the "teaching" of attention and that secure and insecure categorisation corresponds with effectiveness of transmission of attentional skills from parent to child. However only significant further research will be able to suggest what the nature of this relationship is.

2.6 - Summary

Sustained and endogenous attention and self-regulatory processes emanating from these forms of attention are considered to be vital to children's development and learning. (Colombo, 2001; Rothbart, 2002; Blair, 2002). Across the first two years of life developmental change and adaptation occurs within attention processes, mechanisms and structures. Of particular significance to the development of effective attention, is the emergence of sustained and endogenous attention, in which look duration and disengagement are key areas in infant development, allowing children to function in a number of domains, particularly associated with attention, cognitive abilities, social interaction, cognitive and emotional regulation. (Colombo, 2001).

It appears that many of the developing functions are universal and stable, however, baseline attentional abilities may vary from individual to individual and attentional processes can be shaped by the social/environmental context. In relation to risk, early developing attentional abilities may be compromised by a number of factors – individual, Parental and associated with the situational context. It has been suggested that whilst intervention around attention skills may be useful generally, the most fruitful, targeted intervention and prevention would take place early in a child's life (Fagan & McGrath, 1981).

2.7 - Appendix 1. Methodology

This section will outline the methodology used and will outline the key concepts and definitions employed. The difficulties and limitations around definitions of attention and other related constructs will be examined. The search strategy parameters will be explained. Limitations of the literature review process will be delineated.

The Literature Search strategy

The literature search was conducted within two phases. The initial phase consisted of a general search for literature using key words. The second phase was initially prompted from reading within a key text. Ruff & Rothbart, (1996) “Attention in Early Development: Themes and Variations”. A manual search identified relevant literature associated with early development and attentional development from this key text. Other texts were subsequently obtained via key journal articles.

The following databases were searched:

- Educational Resources Information Centre (ERIC)
- Psycinfo
- Ovid Medline
- Educational Research Abstracts

The following keywords and wildcard prefixes were used in various combinations:

Education	vigilance
Development	Parent
Infancy	Child
Attention	Effortful control
Sustained	Emotional
Focused	Executive
Self-regulation	Exploration
Pre-school	Toddler
Early Childhood	Risk
Attachment	

A number of Journals of high relevance were searched and this search was restricted to the period 1997 to 2007.

Child Development

Educational Psychology in Practice

Educational Psychology

A number of websites were accessed including

<http://www.google.co.uk>

<http://www.scholar.google.com/>

<http://www.dfes.gov.uk>

<http://nice.org.uk>

Approximately 100 relevant references were sourced using these procedures. A key relevant article (Berger et al.) 2007 came to light as the majority of the writing of the review was completed; however reference to this article was subsequently included. This omission highlighted one limitation of the search process in a fast changing and developing field, in which terminology used for searches was extensive it was possible to omit relevant literature and it is therefore likely that this Research paper is not an exhaustive compilation of the literature.

Terminology, definitions and core constructs

For the purposes of this review and in the interests of brevity early development will be discussed and structured in relation to the development of attention functions, processes and structures in the first two years of life, with particular reference to the early, primary “pre-cursor skills” required for later attentiveness and self-regulation. The following definitions and terminology have been included within the review and those areas omitted are discussed.

Visual attention

Whilst there is here a brief discussion of attention in general, visual attention is taken as the focus in this review, being the form of attention that represents outward directed attention - focused on objects and the social and learning environment. Visual attention represents a form of attention which is involved in,

“...directing the eyes towards a source of information and maintaining a visual focus long enough to acquire information or solve a problem.” (Ruff and Rothbart, 1996, P4)

Equally, visual attention represents a form of attention which is accessible from a research and controlled experimental perspective. (Eysenck and Keane, 1995).

Physical development of the visual system is mentioned in the review; however, this area is not discussed in detail, as focus is kept to the pertinent, psychological aspects of development of the attention system. Discussion of the early physical development of the visual system may be found in texts such as (Osofsky, 1987) and Slater and Bremner,(1989).

Sustained/focused Attention

Whilst it is recognised that attention is multi-dimensional, the particular constructs of sustained, focused and endogenous attention – are emphasised as the likely forms of attention which specifically develop into the attentional abilities required within learning contexts.

- **Focused attention:**

This is considered to represent attention which is directed and considered to respond discretely to specific visual, auditory or tactile stimuli. (Solberg & Mateer, 1989) Cohen (1993) considers an example of focused attention might be when attempting to solve a complex mathematical problem, in which we direct concentrated effort into different solution *“the amount of information selected at a given time relative to the temporal-spatial constraints of the situation”*.(Cohen, 1993). Focused attention might be considered using the analogy of a “zoom lens” (Erikson, 1990) in that there is an attentional spotlight and the beam can be adjusted to encompass a wider or

narrower focus. Eysenck and Keane (1995) note that attention may be focused on a part of the visual environment and the area encompassed by this is variable. However, focused attention is also considered flexible and may be directed to particular elements within a visual area.

- **Sustained attention:**

To maintain a consistent response during continuous and repetitive activity. (Solberg and Mateer, 1989). Sustained or vigilant attention is seen to be the performance of a long duration task, which places extra demands on the system.

- **Endogenous attention :**

The directing of attention due to top-down mechanisms that is under the control of the individual and requiring motivation and effort. For example, when following instructions given by an adult, rather than more automatic attention, captured due to the sudden appearance of a stimulus. (Posner, 2004).

Sustained, focused and endogenous attention types (that is - attention that is volitional, goal directed or planned, requires effort and is prolonged) are the three constructs of attention most closely allied to the everyday concept of “attention” and are the forms of attention most closely allied to the concept of “on-task behaviour”, within an academic situation.(Colombo, 2001) Colombo, 2001 has noted that,

“Interest in the emergence of endogenous attention is likely to increase, as it reflects the emergence of components that are more colloquially regarded as attention ... that likely underpin the development of a number of cognitive and intellectual skills”.
(ibid. p199)

The specific pattern of attentional processes defined above will be referred to, in this review, as, “sustained” and/or “endogenous” attention”.

Consciousness

The executive attentional control systems will be discussed, in the context of research findings and literature on attention, with regard to the development of purposeful,

sustained attention and self-regulation in the second year of development. It is recognised that within an executive attention network attention impinges on and interacts with other allied constructs, such as memory and consciousness. For example, one definition of attention is,

“That which controls access to conscious experience”

(Baars, 1993), p 302).

This may be seen in a context in which consciousness represents the ability to report consciousness of an event and independent verification of the accuracy of that report (Baars, 1993). However, given the age range in consideration in this review (primarily in the first two years of life) access to such direct evidence of constructs, such as consciousness, is problematic. Evidence from adult study of attention allows some extrapolation of indirect evidence, however downward extrapolation of adult to infant processes may not necessarily occur within these areas. For these reasons consciousness and similar areas have been excluded from the scope of this review. However some references have been made to higher level and meta-cognitive processes through discussion of Executive Attention system.

Self-regulation

Self-regulation refers to the changing, adjusting and overriding of responses to bring about behaviour or state in line with some form of standard, such as a goal or following rules. Baumeister and Vohs (2007) define self-regulation as,

“...the self’s capacity for altering its behaviours”

(ibid. p2)

Effortful control

“Effortful control” is a construct encompassing response inhibition and self-regulation and it is seen in terms of being a temperament trait (Rothbart, 1989). Attention underlies temperamental effortful control and allows a child to suppress tendencies - seen specifically in conflict situations. Effortful control is linked to the development of

empathy and conscience and includes a motivational element. Kochanska (2000) defined effortful control as the,

“ability to suppress a dominant response to perform a subdominant response”.

For example, waiting to be given a sweet by a parent, rather than grabbing at it.

Risk and Resiliency

Within the literature review the constructs of “risk” and “resiliency” have been used to delineate research from which suggestions are made regarding preventative approaches and interventions around attention and self-regulation.

The risk vs. protective factor taxonomy has emerged from medical perspective in which negative outcomes are increased or decreased in relation to particular factors (Little, Axford, & Morpeth, 2004). In clinical terms,

“...risk factors are variables associated with high probability of onset, greater severity, and longer duration of major mental health problems. Protective factors, in contrast, refer to conditions that improve people’s resistance to risk factors and disorder”.

(Coie, Watt, West, Hawkins, Asarnow, Markman, Ramey, Shure, Long, 1993, p.1013)

In relation to inattentive behaviour, the relationship between risk and protection is complex. Factors may be associated with various negative outcomes around inattentive behaviour in itself or be part of associated behaviour such as social competence, emotional difficulties, ADHD or conduct disorder. No one risk factor will determine an outcome of inattentiveness, rather, a combination and accumulation of factors may interact through development to increase the likelihood of risk and negative outcome. Certain risk factors predict negative outcome only at specific stages of development, whereas other factors constitute risk at any age.(Coie et al., 1993) suggests that there are some “fixed” genetic and biological risk and protective factors, but that there are more flexible “environmental factors that offer opportunities for developing intervention and preventative approaches.

Environmental factors associated with culture, sub-culture, social class and socio-economic status, deprivation and social support networks are considered to significantly impact on children's attention. There are numerous variables in this category thought to influence the outcome of attention as well as other cognitive skills. However, Wachs (1990) taking Bronfenbrenner's (1976) classification of environmental levels of influence, suggest a move away from purely descriptive and "distal" environmental variables such as social class, and instead propose an emphasis on a process-orientated approach, in which salient factors associated with **"individual in his or her day to day settings"** (p.163) are delineated. This would include factors around the social context of parent-child interaction and physical environment. Coie et al. (1993) suggest "individual" characteristics (temperament, dispositions and behavioural and cognitive skills) and environmental factors associated with contexts to the child, such as with parent (parental warmth, discipline etc.) and childcare/school are profitable directions in the context of protective factors that may specifically limited childhood difficulty and disorder. Coie et al. note that protective factor are considered to act to,

"...decrease dysfunction directly, interacts with the risk factor to buffer its effects, disrupt the mediational chain through which the risk factor operates to cause the dysfunction, or prevent the initial occurrence of the risk factor".

Coie 1993, suggests in addition, that preventative intervention should be targeted early in the period before any given risk factor becomes less amenable to influence, and that intervention should influence across different domains – individual, family, schools, peers and community and cover both universal and targeted populations.

(Gottlieb & Blair, 2004) examined an early compensatory education intervention programme beginning at birth (Abercedarian Project – Ramey, 1991) and contrasted this with similar animal and human intervention studies suggesting that environmental enrichment following prolonged "deprivation" has a limited long term effect. The authors suggest that for children at high risk for poor intellectual development, school based intervention have only short lived affects, even those interventions starting at three years show little long term sustained benefit in intellectual and developmental terms. The

authors suggest that with regard to intervention the earlier the intervention, the better, in preventing negative outcomes with regard to learning.

Research Definitions and measurements

Using a variety of theoretical standpoints within which to explore early attention poses methodological limitations. In particular, the conceptualisation of attention varies widely and with it the methods used to measure attentional constructs can be divergent.

(Belsky, Freidman, Hsieh.,, 2001) for example, highlighted that parent factors around attention associated with parental sensitivity and responsiveness may stem from very different theoretical standpoints, such as from an “Attachment”, “temperament-based” or “behavioural” stance and this may influence the conceptualisation and operationalisation of constructs used within research. The authors suggest that the clarity of definitions may sometimes be questioned within some research in this area.

Belsky et al 2001 equally suggest that within research in the area of attention and parental responsiveness, parent report or observation may be used as a sole measurement of attention within an early age group. (Belsky, 1980) suggest that in addition, research on maternal influence on infant development can be criticized on the basis of its limited ability to make strong causal claims.

In consideration of measurements, Jeyaseelan, et. al.2006 highlighted the differences in measurement of attention in relation to “real world” contexts. Jeyaseelan et al found that the clinical and parental measures rather than psychometric measures in their study detected attentional difficulties in children raising questions of sensitivity and specificity of psychometric assessment in this area. Ruff and Rothbart, 1996, suggest that,

“The greater challenges posed by the requirements of school...may make the school setting better than the laboratory setting for detecting problems in attention and behaviour...”.

(ibid, p204)

In relation to the above difficulties, where possible, research studies using a consistent definitions and a range of measurements have been used, rather than those employing single methods. Where such difficulties have occurred and a study is included, this has been highlighted in the text, however, it is recognised that very different constructs, measurements and research design have been used in many of the studies mentioned and these may not always be equitable.

2.8 - Research paper 1 - Examiners feedback

First Examiner's Report

1st Year Research paper : Early Attention Development: Risk Resilience and Implications for Practice (Literature Review)

This is an ambitious Research paper and you cover a lot of ground using many sources and a few key references. The purpose and research questions are clearly set out on p 9. You manage to draw all of this together in Table 2 – this seems a bit underplayed given the amount of work and conceptualisation that you have done to make sense of the literature.

In the write up you sometimes use side headings and paragraphs that guide the reader through the text. These are really helpful and could be extended to show how the Research paper is organised.

You have drawn on one key text to identify themes that you might use and develop. You need to consider the limitations of this approach. For instance a lot of the work cited seems to use Atkinson and Shiffrin's cognitive model of working memory as a basis for their discussion of the role of the central executive in regulating attentional control. Given this, it would have been helpful to have this model explained and some discussion of its current relevance and whether more recent research supports the use of the model.

There seem to be a lot of secondary citations and you have not been to the primary source to check the views being expressed by the original authors – this is a major weakness for this level of academic work.

Section 2 of the Research paper covers the methodology for the literature search. This section is generally good and meets the criteria for a pass. It could be improved with some re-reading and editing e.g. you talk about the use of wildcards but do not explain what these are (e.g. child\$ gives child, child's, children, childish etc.).

Much of the work cited is taken at face value and lacks critical reflection. For instance, what do you think about the correlation of 0.39 (p 23)? You also need to think about the structure within each section. When you are writing think about these questions:

- What is the story that you are telling?
- How do the bits fits together?
- Do they agree? Or disagree?
- Have theories changed over time?
- What evidence are they built upon?
- Do you agree with them?
- Is this what you see in your day-to-day practice?
- In the discussion section, have you revisited and answered your RQs?
- What does it mean for teachers and parents (and EPs)

Next Tutorial

We could spend a bit of time looking at academic writing skills in the next tutorial:

- **Abstract** – This is the hardest part to write. Read Chapter 3 of Sternberg (2000) and then have a go at re-writing your abstract and bring it to the next tutorial with me.
- We need to cover how to cite work and reference it correctly.

A good book to have a look at to help with the technical aspects of writing reports is Sternberg, R.J. (2000) *Guide to Publishing in Psychology Journals*. Cambridge: Cambridge University Press.

Garry Squires 23 November 2007

2nd Examiners Comments

1st Year Research paper – ‘Early Attention Development: risk resilience and implications for practice’ (Literary Review)

I agree with Garry that this is an extremely ambitious Research paper. You have covered some interesting literature although there is, perhaps and overuse of secondary sources (the way you use references needs to be checked).

My main concern is that the Research paper lacks a certain degree of coherence. It’s only on page 9 that it is clear what the aims and research questions are. I think it would have been better to have had a shorter introduction in which you presented ‘a problem’ that this literature review was going to address, and this then would be followed by the key questions. However, I also think that you have too many questions and that hence there is some inevitable superficiality to the way each is addressed. Indeed it is not always clear when you are addressing them in the main body of the text.

I also think that some of the literature is quoted somewhat uncritically and that this is something you should work on in future Research papers.

Garry has mentioned the abstract – I agree this needs to be re-written and to be made slightly less ‘academic’.

All in all, I think this is a commendable effort. In future I suggest you are slightly less ambitious and you concentrate on providing a coherent, logical structure to future Research papers.

Peter Farrell

30.11.07

3. Research paper 2

**ONWARDS AND UPWARDS: PARENTAL
INVOLVEMENT IN CHILDREN'S LEARNING AT
SECONDARY TRANSITION**

DEBORAH SHANNON

**A RESEARCH PAPER SUBMITTED TO THE UNIVERSITY OF
MANCHESTER FOR THE DOCTORATE IN EDUCATIONAL PSYCHOLOGY
IN THE FACULTY OF EDUCATION**

**EDUCATIONAL SUPPORT
AND INCLUSION**

DECEMBER 2008

Following literature indicating variables associated with Parental Involvement, the study aimed to provide exploratory research evidence of associations between parental involvement and variables related to transition and child academic outcomes. Questionnaires were completed by sixty eight parent-child pairs, where children were about to transfer to High school. Quantitative data obtained were analysed using descriptive statistical analysis and variables were analysed using Multiple Regression. Results indicated a large effect size of all variables upon parental engagement, $F(7, 48) = 4.174, p < 0.001$, and suggested associations between parental involvement, transition support and child perception of parental engagement. Implications of this study were that home-based activities, incorporating values and attitudes around learning, are useful directions for parental intervention, rather than school-based activities. Implications for research and practice are discussed.

3.1 - Introduction

Historically, it has been assumed that parents and significant carers have a powerful influence on the developmental, educational and behavioural directions and outcomes for children, for example, Francis Xavier a Jesuit in the 16th century is supposed to have commented, “Give me a child until he is seven and I will give you the man”. (N.B. the term “parent” will hereafter refer to the child’s parent or other significant home carer).

Equally, in relation to a research and evidence-based consideration of Parental Involvement (PI) and educational outcomes, there has been a broad consensus that PI is beneficial in terms of children’s educational outcomes (Pomerantz, Moorman, and Litwack, 2007). However, the first question that arises is that of the association between these two constructs. Do parents really matter in relation to a child’s academic outcomes and what other factors might be influential in determining a child’s attainment?

Secondly, if parents are a prime “factor” in determining educational outcomes, what then are the processes and mechanisms by which this occurs? These questions may be considered to be important to those professionals who are interested in improving educational outcomes for all and for those children who are more vulnerable within the education system. The implications of an association between PI and child attainment is that parent factors may be regarded as being “alterable” and an understanding of the questions above would allow for possible policy and intervention to enhance children’s school success.

From a political perspective, the issue of parental impact upon children's academic outcomes has become an increasingly central area to policy and strategy direction over recent years. Every Parent Matters (Department for Education and Skills (DfES), 2004) is a recent key government document describing future policy for supporting and engaging parents in their children's education. Prior to this, the DfES published the Schools White paper "Higher Standards, Better Schools for all – More choice for Parents and Students" (DfES, 2006). Underpinning both these documents is the key principle that PI in education is vital for children's school achievement and that parents have a key role to play in raising children's achievement through their involvement and engagement with their child's learning and education both at-home and at-school.

Within this context, "Every Parent Matters" places parents firmly at the centre, in terms of parental ability to mediate children's attainment and achievement in school and the document sets out a number of key actions for Local Authorities to deliver between 2007 and 2010, encompassing parent support - with the intention of encouraging parents to become more involved in their child's education. This is suggested to occur via a systemic mechanism of support directed towards parents at universal, targeted and statutory levels, such as providing "Parent Support Advisors"; "Information sessions for parents"; "family Intervention projects" and greater parental responsibility. The document charges all Local Authorities to have a Parent/Family Strategy in place by March 2008. (DfES, 2007). "Every Parent Matters" notes that by early 2008,

All parents [should be] increasingly likely to be offered information sessions around the time their child enters primary and secondary school. (DfES, 2007. p 46.).

Parent Transition Information Sessions are suggested as a vehicle to promote the issue of PI at transition from Primary to Secondary school and used as a means of engaging parents in PI with their child and at-school, particularly in “hard to reach” groups. As part of implementing these sessions into pilot schools in The Local Authority I was asked to undertake an evaluation of PI around one High School with parents and children making a transition from Primary schools. The intention of the entire evaluation was to feedback to schools information about the importance of PI to children’s attainment as well as good practice from those schools involved in the pilot study in engaging parents from “hard to reach” groups. (See Appendix 1 – Contextual Background to the Study).

Whilst the data for the entirety of schools would be analysed separately, I decided to focus on one secondary school in relation to PI as an exploratory examination of PI characteristics and variables associated with PI at the time of transition.

General questions that arose from a psychological perspective, with regard to the project were associated with the nature and characteristics of PI and the possible impact of Parent Sessions to address PI and children’s academic outcomes. The general questions were specifically,

- What are the political and other research perspectives in the area of PI?
- What constitutes “PI”?
- How much does PI matter to later attainment outcomes?
- How does PI mediate a child’s educational attainment – what are the mechanisms and processes?
- What factors are associated with PI in relation to transition?

PI or participation has been defined widely as encompassing any learning-orientated or school-based activity, support, behaviour, belief and practice, conducted by the parent for the benefit of the child, including items such as the provision of learning related resources at-home, attendance at parent's evening and aspirations which parents hold for their children as well as the transmission of parental educational and learning associated beliefs, motivation and self-efficacy to the child. (Pomerantz et al., 2007; Barnard, 2004; Fan, and Chen, 2001; Bandura, Barbaranelli, Caprara, and Pastorelli, 1996). For example, Seginer, (2006) defines PI as,

...different parental practices ranging from educational beliefs and academic achievement expectations to the multiple behaviours parents employ in the home and in the school to advance children's educational outcomes. (ibid, p.1.)

The primary purpose of this study is to investigate the associations between possible variables of PI and child and the nature and characteristics of specific variables contributing to PI. The study was intended as a small scale exploratory study incorporating analysis around PI and other factors with the purpose of informing future practice in the area of parental involvement and engagement.

To address these issues the study will broadly focus on major issues arising from the above questions and will explore using an action research study the following key questions,

1. What is the association between parent ratings of home-based and school-based involvement?

2. Are parent reported measures of parent home-based engagement associated with parent reported child educational attainment?
3. Are parent reported measures of parent home-based engagement associated with parental requested support mechanisms via school seen as useful to enable their child to settle and at transition time and progress educationally?
4. Are parent reported measures of home-based engagement associated with frequency of concerns expressed by parent about their child's transition?
5. What types of aspirations do parents have for their child? Are parent reported measures of home-based engagement associated with parental aspirations for their child with regard to highest level of educational involvement and future employment aspirations?
6. Are parent reported measures of parent home-based engagement associated with child reported measures of perception of the involvement of parent?
7. What are the implications of PI and associated variables for future practice within schools with regard to PI generally and at educational transition times?

The study will investigate the research questions by means of a self-report questionnaire sent to a convenience sample of parent and children pairs, making a transition from primary to Secondary schooling. The questionnaires will incorporate descriptive, rating

scale and open-ended questions. Child questionnaire responses on one question will be used as a means of extracting a variable and in order to triangulate perception of PI. Questionnaires will be analysed using a mixture of descriptive statistical analysis and Multiple Regression Analysis.

3.2 – Review of the Literature

The literature review will critically examine the research and theoretical literature in the area of parental involvement, with reference to broad questions posed in the introduction and to definitions, political and theoretical frameworks, and associations with achievement and in relation to other variables. In addition, particular themes emerging from within the literature – research limitations, attitudes, values and self-efficacy, will be discussed. The literature search strategy parameters will be explained. (See Appendix 2 – Literature Review search parameters).

3.2.1 - What are the Governmental and other research perspectives in the area of Parental Involvement?

The general political understanding, as reported in governmental documentation, around PI and academic outcomes suggests that PI is significant in a number of ways, associated with raising child achievement, aspirations and addressing transition issues, especially in “hard to reach” groups. The impetus from the government perspective for improving PI in school appears to come primarily from factors associated with a recent historical deterioration in social mobility and a subsequent impact on economic prosperity. (Feinstein and Symons, 1999; Margo and Dixon, 2006).

In relation to the transition aspects of child academic outcomes, it is recognised that many children find the transition from primary to secondary education problematic and government strategy has pointed to the importance of providing “smooth transitions” to alleviate this issue. (DfES, 2004). School transition has been seen as an important factor in its own right in determining academic trajectories and more negative transitions have

been associated with other variables, such as low socio-economic status, bullying, as well as lower academic outcomes related to achievement. (Evangelou, Taggart, Sylva, Melhuish, Sammons, and Siraj-Blatchford, 2008). However, the parental contribution to this process has so far, been understudied. (Ratelle, Guay, Larose, & Senecal, 2004).

The research from which attitudes around PI appear to have been formed at a governmental level have come from a variety of directions. In particular, two “think tank” studies included in the “Every Parent Matters” document, using data from the National Child Development Study of 17,500 children born in 1958, appear to have influenced government direction. A study from the Institute of Public Policy Research noted that social mobility had reduced and that children today are more likely than previous generations to be influenced by their backgrounds and upbringing in respect of aspirations. (Margo and Dixon, 2006).

The second key research study is Feinstien and Symons, (1999) study, from an economic perspective. Findings suggests that “parental interest” is a more significant factor than family background, family size, level of parental education, school or peer influence and suggests that the influence of PI accounts for up to 24.40% of variance in children’s educational achievement. However, they also questioned the then intended government policy to “actively teach parenting skills” and suggested that,

...the inputs corresponding to parental interest are derived from an optimisation over parental time and resources of a utility function conditioned by deeply ingrained tastes. These may prove difficult to change by schools or government. (Feinstien and Symons, (1999). p.318.)

Put simply, this suggests a difficulty in changing amount and quality of PI in children's educational development, linked to parental motivation, values, attitudes and perceptions associated with education and learning.

With regard to educational and psychological research informing government, Desforges and Abouchar, (2002) examined literature over a brief, two month period and wrote a Research Report commissioned by the DfES which comprised of a literature review targeted around PI and educational achievement. The review concluded that PI was strongly related to social class, maternal level of education, child's attainment level and mediating child factors as well as parental efficacy. Involvement was seen to reduce as the child developed through school. Desforges et al. (2002) also concluded that,

...parental involvement... has a large and positive effect on the outcomes of schooling. This effect is bigger than that of schooling itself. Research consistently shows that what parents do with their children at-home is far more important to their achievement than their social class or level of education. It would seem that if the parenting involvement practices of most working class parents could be raised to the levels of the best working class parents in these terms, very significant advances in school achievement might reasonably be expected. (Desforges et al, p. 87.).

The authors pointed to particular variables important to later outcomes, including "at-home" activities, parental aspirations and indirect activities associated with promotion of pro-social, pro-learning and self-concept in the child. However, the authors noted that

their predominant search strategy consisted primarily of asking those researchers most active in the field which papers to read and this may have limited the validity of the review.

In relation to UK based studies, which have been influential at a governmental level, the EPPE longitudinal study looked at 2500 children between 3 and 11 years in relation to early experiences and later cognitive outcomes. (Melhuish, Phan, Sylva, Sammons, Siraj-Blatchford, and Taggart, 2008); (Sammons, Sylva, Melhuish, Siraj-Blatchford, Taggart, Grabbe, and Barreau, 2007). The entire study looked at family, home learning environment, child, peer and pre-school/school factors in relation to attainment. The authors concluded that as children developed there was an increasing influence of school and peer group and that the combination and accumulation of experiences was key to outcomes at 11 years. However, they pointed to the early home learning environment (HLE) at 3 years, as the most significant predictor of cognitive attainment at aged 10. HLE was made up of 7 items associated with being read to, going to the library, being taught and playing with letters and numbers, painting/drawing and engaging in songs/poems/rhymes. This research implies that early home-based PI, is a significant factor in later educational outcomes. (Sammons, Siraj-Blatchford, Sylva, Melhuish, Taggart, and Elliot. 2005); (Sammons et. al. 2007).

The political agenda associated with PI and transition appears to be around attempting to ultimately increase social mobility and thereby influence UK economic prosperity. To this end, government have drawn on particular aspects of research to inform possible directions of influence to improve PI as well as transition difficulties associated with poor educational outcomes. Research which appears to have informed policy at a

governmental level has pointed to a significant impact of PI and has pointed to factors such as the HLE, parental activities and aspirations, motivation and self-efficacy as being most pertinent to improving outcomes.

3.2.2 - Research Limitations

Reviews, meta-analysis and research in this area have suggested possible limitations to the positive outcomes intended by government strategy. Some authors have suggested that it is difficult to draw conclusions on what works in encouraging PI. The importance and scope of the “PI” factor has been seen as “debatable”, in relation to the many other factors that might influence a child’s development. (Maccoby, 2000). Equally, research has come from a variety of theoretical perspectives, often with different levels of explanations, competing models and inconsistent definitions of “PI”. (Hoover-Dempsey and Sandler, 1997).

Methodological limitations have been also been suggested in the existent research which may impact on the effectiveness of findings. Desforges et al. (2002) argued “academic” studies, often use historically dated data sets, as has been illustrated by two key studies. (Margo and Dixon, 2006; Feinstein and Symons, 1999). Small scale evaluation studies, in contrast, are limited by design flaws, such as no control groups, being post hoc and involving small samples. (Desforges et al. 2002). Bronstein (1998) suggested that large scale studies tend to rely on reports of multiple areas from one informer, which lead to the inflation of correlations.

In relation to generalisability, authors have pointed to limitations in the existent research data – in that, the majority of research in this area comes from the USA and covers differing educational systems. (Akos and Galassi, 2004,).

Overall, these limitations may suggest that determining effective and specific implications and intervention formats is problematic and implies that attempting to address a myriad of issues (PI, academic achievement, socio-economic status and transition) within the context of Parent Transition Information Sessions or in more general response to PI, may be over optimistic.

Given the diversity and limitations of research associated with PI, the psychological perspective may offer a more readily applicable starting point with which to uncover the “what”, “why” and “how” of PI and possible directions for useful evidence-based intervention. Hoover-Dempsey et.al., (1997) in a review of theory recognise that “PI” has been seen from political, sociological, anthropological and economic perspective and note that psychological input, coming primarily from the perspective of the individual in relation to behaviour, allows for examination of constructs, processes and mechanisms from the parent perspective. The authors note that psychology in particular,

...offers one window on the full range of issues influencing parental involvement”
(Hoover-Dempsey et al. p.5.).

3.2.3 - What constitutes “Parental Involvement”?

Studies in this area differ in relation to definitions placed around involvement and according to subsequent operationalised measures given for “parental involvement”. Fan et. al. (2001) noted that the research was inconsistent and because of this, some empirical studies found positive effects of PI on educational outcomes whereas others found little measurable effects. They suggest,

Despite its intuitive meaning, the operational use of Parental Involvement, has not been clear and consistent” (ibid. p. 3).

Different conceptions of PI have been used in research. For example, Dearing, Kreider, Simpkins, & Weiss. (2006) in a longitudinal study of 281 primary aged children defined “involvement” in relation to mother’s in-school involvement – attendance at parents evenings, social events, performance and PTFA and volunteering. Alternatively, Reynolds (1992) used diverse activities such as reading with, cooking, discussing school progress and going on outings in a 14 year study with over a thousand children. Other studies have used parental supervision, parental monitoring, parent academic values and attitudes, child safety needs, home-school communication and decision making. (Keith, 1986; Epstein, and Dauber,1991).

A useful way of differentiating between forms of involvement has been suggested by Green, Walker, Hoover-Dempsey, & Sandler. (2007) who argue that making a distinction between home-based and school-based activities may be useful as such activities represent common but distinct activity types. This has been supported by other authors (Crozier,1999). Green et al. 2007 suggest that home-based activities are defined

by the learning-orientated interactions that take place between the child and parent outside of school and are related to behaviour, attitudes or strategies adopted by the parent in relation to academic involvement. School-based activities typically are undertaken around school and focus on school issues or needs. Green op. cit. also suggest that PI decreases during child development as a function of increasing independence and focus on peers and this suggests that activities and functions of PI will alter as a child grows.

Barnard, (2004) suggested that parents and teachers have differing views of what constitutes PI and in order to account for inconsistency in findings, home and school input from parents should be kept separate in order to distinguish between different types of involvement, with at-home involvement being more equated with values and attitudes around education or engagement, as opposed to school-based involvement. Keith, (1991) suggested that the reporter of PI is influential in indicating involvement which is likely to be associated with later outcomes and that the child's perception of PI is particularly important in this area.

Jodl, Michael, Malanchuk, Eccles, & Sameroff. (2001) suggest that particularly with adolescent pupils, involvement in home-based activities equate with the attitudes and beliefs held by parents and with the quality of parent-child relationship. The authors note,

...parents foster interests and activity choices through the experiences they provide in the home and their specific parenting practices" (ibid. p. 248.).

And suggest that-school-based involvement,

...might signify a reaction on the part of parents to a child having academic difficulties, rather than an active promotion of academics” (ibid. p. 258.).

In relation to “hard to reach” groups, Crozier (1999) has argued that generally low levels of achievement in children from families with lower socio-economic status can be explained in part by limited PI.

PI activities have encompassed a wide range of activities. The construct encompasses “at-school” and “at-home” activities as well as the transmission of beliefs and attitudes around the value of learning and education. Equally the type and frequency of activities will differ according to age of child. Research points to the value of distinguishing between at-home and at-school PI and suggests that the parent and child as reporter of PI are particularly valuable in determining educational outcomes.

3.2.4 - How much does Parental Involvement matter to later attainment outcomes?

Within research there is broad agreement that PI has benefits for children’s academic development, however research findings have been inconsistent (Fan et. al., 2001, Jeynes, 2005). This has been particularly true of involvement associated with the home context. (Lee, and Bowen, 2006). This variability may in part be due to methodological issues. Barnard (2004) found no significant correlations between parent-rated home and school involvement and child outcomes. However, measurement techniques in the study used a 3pt scale, in which many parents rated themselves as “highly” involved on items and this may have contributed to limited validity due to lack of variation.

Maccoby, (2000) discussed differing perspectives within an overarching, “nature-nurture” perspective and suggested the major influencing contexts within a child’s developmental trajectory were genetic factors interacting with environmental factors. However, in asking how much of this influence is directly attributable to parental influence, the author suggests the available research points to a significant, direct impact of parent factors on child outcomes, suggesting that variables associated with parents accounted for 20-50% of the variance of child educational outcomes.

Other authors have suggested differing amounts of variance explained by PI in relation to the reporter of involvement. Bakker, Denessen, & Brus-Laeven. (2007) suggested that teacher rather than parental perception of PI was more effective in determining student achievement and that the key features of PI - parent contact with the teacher; parental influence over child; participation in-school, involvement at-home and being informed, accounted for 46.6% of variance in child academic outcome.

Fan et. al. (2001) in a meta-analysis of 25 studies, including only Pearson correlations, generally noted small to moderate associations between PI and child outcomes with the average correlation coefficient being .25. They suggest however, that such an effect size continues to show a noticeable effect and should not be dismissed. In addition, the authors noted, that some dimensions of PI showed stronger effect sizes than others – namely, parent aspirations and expectations ($r \approx .40$). Green et al (2007) noted that parent self-efficacy beliefs were a positive predictor of home-based involvement (.24, $p < .01$). Bandura (1996) suggested that parent self-efficacy variables accounted for 58% of the variance in academic achievement.

Whilst methodological issues and reporter of PI impact on inconsistency of findings, research has pointed to PI accounting for a significant amount of the variance of child academic outcomes and that parenting factors, associated with expectations, aspirations and parent self-efficacy are significant.

3.2.5 - How does Parental Involvement mediate a child's educational attainment – mechanisms and processes?

There have been a large number of theoretical frameworks accounting for the mechanisms by which PI acts on child academic factors. Models categorise involvement activities and/or account for the mechanisms by which involvement acts on child achievement.

Alexander, Eckland and Griffin (1975) developed the Wisconsin social psychological model of socio-economic achievement from a social framework using Blau and Duncan's, (1967) *The American Occupational Structure* (cited in Alexander et al. 1975) framework and related it to education and schooling. They argued that parental socio-economic status and financial resources determined parental expectations and that such expectations exerted the most impact upon children's educational attainment.

Neuenschwander, Vida, Garrett, & Eccles (2007) taking the above "social capital" model examined the generalisability of the model in differing educational systems (Switzerland and USA) in a cross sectional study of 3000 eleven year olds, in 1990's. They suggested that parent expectation was related to child achievement and mediated other variables – parent income, prior child performance and child self-concept.

Signer (2006) in a review of 60 studies, draws on Bronfenbrenner's developmental ecological framework and relates PI to contextual systems. Signer suggests that PI encompasses the Microsystem - via home-based involvement (influenced by family characteristics such as family size, parent characteristics and physical environment); the Mesosystem, as related to parent-teacher communication and school culture; the Exosystem in relation to parental social networks, workplace and community and the Macrosystem associated with social class, culture and belief systems.

Hoover-Dempsey et al, (1997) propose a model which categorises different forms of involvement using Bronfenbrenner's ecological framework and suggest five levels of involvement starting with initial decisions about PI, influenced by parent role construction, parent efficacy for supporting the child and demand for involvement by the child and school. Following that is involvement choice, influenced by parent skill and knowledge, time, motivation and demand from child and school. Thirdly, is a level around parental methods of transmission to child – reinforcement, modelling and direct instruction. Fourthly, there are mediating factors, such as parental use of developmentally appropriate strategies and the “fit” between PI and school expectation. These levels influence child outcomes which interact with child skills, knowledge and sense of efficacy.

Involvement varies according to the perspective of the reporter and a possible framework was proposed by Epstein & Dauber (1991) who examined five types of involvement from a teacher perspective. They suggest that teachers want parents to fulfil 12 parental

responsibilities, in relation to children's behaviour, expectations of learning and skill development.

From a child perspective, Ratelle et al. (2004) used Self Determination Theory, Deci and Ryan, (2000, cited in Ratelle, 2004), suggesting that pupils would show greater levels of intrinsic motivation towards school when parents were autonomy supportive of the child's education.

On a qualitative and purely parental level, Mapp (2002) in a case study of 18 highly involved primary school parents from deprived socio-economic backgrounds suggested that parents were aware that PI was important in their child's academic progress; wanted their child to do well and were involved both at-home and at-school. Main areas of involvement included:

- Verbal encouragement and support
- Encouragement and direct help to do homework
- Involvement in outside activities – clubs, sports etc.
- Attending parent's evenings
- Communication with teachers
- Volunteering
- Participation in school governance

Parents noted that impetus for involvement centred around cultural values, role expectation, beliefs and experiences of school.

From a parent/child interactive perspective, Wigfield and Eccles, (2000)

suggest a Expectancy-Value Theory regarding PI, in which an individual's choice, persistence and behaviour is explained by their beliefs around self-efficacy and the value of the activity and this would relate to both parent and child in interaction.

Equally, Bandura, 1996 from a social cognitive theoretical perspective, argues that parenting efficacy in promoting children's academic development and the aspirations parents have for their children, impacts upon children's beliefs about their educational efficacy and aspirations as well as pro-social aspects of peer choice. Bandura argues that parent-held positive belief influences a child via general parenting and academic related endeavour. This occurs through interactions between parent and child, the transmission of academic self-regulation efficacy from parent to child and children's beliefs around managing motivation and learning.

Pomerantz, Moorman and Litwack (2007) have pointed to two mechanisms behind PI suggesting that the key factors are,

...parental perception of child's competence and expectations of children's performance. (ibid. p. 376.).

Pomerantz et al. suggest a variety of interactions arising from these factors which influence outcomes, associated with the accuracy or not of parental perceptions of child's attainment, in which parent response to perceived poor performance is increased parental academic involvement. Indeed, several studies have shown a link between increased PI in areas such as homework and increased behaviour problems (Hill, Castellino, Lansford,

Nowlin, Dodge, Bates and Pettit, 2004) or academic difficulties (Pomerantz and Eaton, 2001).

A large number of theoretical frameworks have suggested differing perspectives on PI. In general, all frameworks proposed point to models incorporating an interaction between parent and child factors mediating child outcomes. In addition, parent variables associated with educational values, beliefs and self-efficacy appear to direct behaviour associated with involvement in order to produce child outcomes.

3.2.6 - What factors are associated with Parental Involvement in relation to transition?

Several studies (Stone, 2006; Ratelle, Guay, Larose, and Senecal, 2004) have highlighted the paucity of research in this area and the importance of exploring the transition between primary and secondary schooling and PI as being,

...a critical direction for future research.(ibid., p. 518).

(Duchesne, Larose, Guay, Vitaro, & Tremblay, 2005) suggested that stable early emotional climate has a protective influence on the child's ability to cope with stressful events and transitions. This implies that those children who find most difficulty with Primary-Secondary transition are those children who have limited coping skills generally, due to early relationship difficulties and experiences.

(Bronstein et al., 1998) in a small scale evaluation of an early parenting programme noted that following transition, those parents who reported child disengagement had also earlier reported relationship difficulties associated with empathy, interest and parent

efficacy. In relation to later transition (de Bruyn, 2005) suggested a mechanism of “role strain” being a triggering factor to transition difficulties, in which an individual attempts to attain an equilibrium in a novel situation with new rules, values and expectations. The authors suggest parental “role strain” and adolescence interact to produce poor academic outcomes.

(Ratelle et al., 2004) in a college study, point to existing vulnerability in terms of self-efficacy, as contributing to declines in motivation following transition, impacting upon academic outcomes. (Ratelle et al., 2004) found that students perceptions of high PI - defined as “provision of resources” and parent promoting student autonomy and intrinsic motivation predicted positive outcomes. (Ratelle et al., 2004).

Zeedyk, Gallacher, Henderson, Husband and Lindsay, (2003) in a British study, suggest that parent and child views around primary-secondary transition concerns tend to be similar - bullying, getting lost, workload and relationships are significant concerns. However a significant number of parents and children had no concerns (24% and 20% respectively). The authors note that efforts to improve transition should be directed at both child and parent issues, particularly around liaison and coping skills.

Whilst there are limited research findings to draw upon in the area of transition, the available research suggests that parents and children have similar concerns about and that factors associated with child outcomes include coping skills, motivation, social skills and parent self-efficacy.

Despite differing theoretical frameworks and methodological limitations around the reporter of PI and measurement techniques, research continues to highlight the importance of PI to child academic outcomes. The main mechanisms of PI appear to be associated with home-based, as opposed to school-based factors and are associated with parental **engagement** in learning, particularly around aspirations and self-efficacy and learning-based behaviours directed by these areas. This also appears to be consistent within a small number of studies associated with PI and transition.

3.3 – Methodology

This section will outline the methodology used and will outline the key concepts and definitions employed.

3.3.1 - Design of the Investigation

The primary purpose of the investigation was to gain a “snapshot” of possible variables relating to parental participation, primarily from the parent perspective, at the time of children’s transition from Primary to Secondary mainstream school. Parental Involvement is defined as a multi-dimensional factor which is made up of a variety of activities associated with home or school – the general theme of the study being the associations between “parental engagement” which is equated with home-based activity in interaction with other variables – parent perceived child attainment, parent requested transition support, parental concerns, parental aspirations for child, parent perceived rating of highest educational level child will attain and child’s perception of parent’s involvement/engagement. The implications of these interactions for schools and at a Children’s Services Authority level are discussed.

From this perspective seven key research questions were posed. In light of the above literature review the following areas were explored in detail in relation to the key questions:

Key Question 1. – Association between parent rating of home and school-based involvement.

In relation to the literature review above the definition of PI is seen as a multi-dimensional construct, made up of both at-home and at-school-based activities, which

were divided into Parental “Engagement” (at-home) and Parental “Participation” (at-school). Parental engagement was defined as including active engagement in educational activities with their child within the home context and from a framework around the parental perceptual importance of education and learning and transmission of educational values. This was made up of four categories:

1. Active parent-child support

- Helping with homework
- Reading

2. Learning/routine related activities with child

- Going on educational related visits – e.g. Museums, theatre, art galleries, farm parks etc.
- Getting child to school on time.

3. Framework around the importance of education

- Helping child feel confident about learning and education.
- Talking about the importance of school and/or working hard.

4. Provision of learning related resources and environmental context

- Providing educational related resources – books, activities, computer programmes etc.
- Encouraging extra curricula activities – after school, sports.
- Encouraging interests and activities.
- Encouraging sports.
- Providing extra lessons/tutor.

“Involvement” was defined as being associated with school-based activities and was made up of four categories relating to direct school-based activities associated with

individual child's progress; school governance; school/community participation and no involvement.

1. Child progress

- Attending parent's evenings.

2. School governance

- Being on the PTFA.
- Being a parent governor.

3. School/community participation

- Attending social events.
- Helping with social or sports activities, plays etc.
- Being a school helper.
- Helping on trips.

4. No involvement

Key question 2 –Parental engagement in association with child attainment

This area was determined through examination of the data in relation to parent perception of their child's attainment. Literature suggests that parental perception of attainment impacts upon PI in that parent are more likely to become involved when there child is perceived as having academic difficulties. (Pomerantz et al., 2001).

Key Question 3. – Parental engagement and transition support

This area was determined by examination of the frequency of items requested as being "useful" to enable the child to settle quickly at school following transition and progress educationally.

Key Question 4. – Parental engagement and general concerns about transition.

This area was explored in relation to frequency of parental responses regarding the concerns they had at that time regarding their child's transition.

Key Question 5. – Parental engagement and Aspirations

This was examined in two ways – firstly, in relation to a qualitative question asking parents to name a type/name of job that they would expect their child to achieve in later life. Secondly, responses were categorised according to employment types and given a score (1-7) associated with socio-economic status. This data contributed to a variable “parent aspiration”. Parental responses indicating the highest level of education parents would expect their child to achieve contributed to an “education level” variable and these variables were examined in association with PI.

Key Question 6. – PI and child perception of PI

Research literature points to the interaction between parent and child factors being important to level of involvement and child academic achievement through the mechanism of transmission of parent attitude and values. (Bandura, 1996) This area will be examined through the association of parent and child rated engagement.

Key Question 7. – Implications for future practice

This area will be examined through above descriptive and correlational data in relation to parental involvement and transition.

Method

A mixed quantitative and qualitative within-subjects design was employed using a self-report questionnaire. As part of the larger study questionnaires were sent to two secondary schools and three primary schools and to all parents of children attending either reception class or Year 7 in pilot schools in September 2008. Three questionnaires were used as part of the wider study – parent, child and teacher. Only the results from one secondary school will be reported in this document. The parent questionnaire and one question from the child questionnaire will be reported for the purposes of this study.

A mixed correlational design, used a self-report questionnaire was employed. (See Appendix 1. Parent Questionnaire). To minimise the effects of extraneous variables all questionnaires were of consistent format.

Procedure

Characteristics of the target Secondary School

The secondary school is a medium sized school in The Local Authority (1000+ on role). The school's 2006, Ofsted Inspection Report, notes that the local environment is economically deprived and suffers from a high transient population. It notes that the majority of pupils in the school are below average ability, mostly white, with low rates of "English as an additional language". Particular issues associated with the school noted, are underachievement, attendance, behaviour and high SEN (without statements). It is rated as an "improving school". This school was chosen as being representative of medium-sized secondary schools within the area.

Participants

The sample was the total number of parent-children dyads expected to attend Year 7 in the academic Year 2008-9 based on school admissions estimate of 158. However, it should be noted that The Local Authority area generally suffers from high transience and estimates vary prior to actual school admission. However, the demographic characteristics of the school suggest that the sample was reasonably representative of the population of the Local Authority area.

Questionnaire

A parent and a child questionnaire and letter were sent to all prospective year 7 parents by the school and were included with other administrative documentation associated with the child starting high school. A pre-paid envelope was included with the documentation. This method was used to ensure a representative return rate.

In order to ascertain questions for inclusion in the questionnaires, the author presented a half-day session on “Transition sessions for parents” for key school staff, within which possible inclusion of questions for the questionnaire were discussed with the staff of schools involved in the larger study. In addition, a consultation meeting was held with the Year 7 head of the target school in order to ascertain particular questions and themes associated with PI and transition. Questionnaires were developed and amended on the basis of views obtained.

A pilot study was completed prior to commencement of the questionnaire survey to ascertain the appropriateness of form of words used within questions and to ascertain

manageability and age-appropriateness. As part of this, three parents of Primary/Secondary aged children were asked for comments regarding readability and appropriateness of the parent questionnaire. Two primary aged children (7-8 yrs) were asked for their views of the child questionnaire – the age range chosen to ensure appropriate readability and understanding in 11 year olds. The questionnaires were amended to take account of the views obtained. (See Appendix 4 - Parent Questionnaire and Appendix 5 – Extract from Child Questionnaire).

Ethical considerations associated with the study were associated with confidentiality and conducting studies with children. Questionnaires were distributed with a covering letter to the parent, which described the purpose of the study, content of the questionnaires and directions for usage. Participants were informed in the covering letter that the study had been designed to be conducted in accordance with ethical guidelines of the British Psychological Society and the Data Protection Act. Participants were informed that all responses would be anonymous and questionnaires would be seen and analysed by the researcher only. (See Appendix 3. Parent covering letter).

3.3.2 - Measurement Techniques

Two questionnaires containing fixed-choice, descriptive, open-ended and rating scale questions was used. (See Appendix 4 and 5 - Parent Questionnaire and child questionnaire extract). The Dependent variable was “parental engagement”. Involvement at school was an Independent variable as items were considered to be exclusive from one another and should therefore be kept separate for the purposes on analysis. (Barnard, 2004). Independent variables were those variable indicated from literature review

possible association with the dependent variable and impacting on long term educational outcome – PI at-school, parent perceived child attainment, parent transition concerns, parent transition support, parent aspirations, parent rated highest educational level and child perception of PI.

The questionnaires

The items included within the questionnaires were developed to gather data to address the main research questions described above and also as part of the wider study. In the parent questionnaire nine questions were used as part of this study. The remaining questions were used for the wider study and Part two of the questionnaire (completed following the Parent Transition session) was not used for this study. Of the child questionnaire one of the questions presented was used.

Parent questionnaire

The questions used for the purposes of extracting variables from the parent questionnaire comprised of seven questions:

- Q2 –Parental indication of frequency and categories of concerns around transition – 10 items and included a “nothing worries me” item.
- Q3 – Parental indication of frequency and types of at-home involvement with education and learning during primary education – 11 items
- Q4 – Parental indication of frequency and types of at-school involvement with education and learning during Primary education – 10 items and “no involvement” item.

- Q8 – Parental indication of types of support required from school during and following transition to enable the parent to help their child settle and make progress – 7 items and “no support or information needed” item.
- Q9 – Parental indication of highest educational level child would be considered to gain – 6 items.
- Q5 – Parental estimate of Child Attainment – an indication of attainment as perceived by parent in English, Maths and Science in “above average” “average” or “below average” categories.

(NB. All the above questions included a space for qualitative information regarding “other” items).

- Q10 – One open-ended question was associated with parental aspirations for their child and asked participants to name “What job would you like to see your child doing as an adult?”

In addition, a question asked parents to rate their perception of the importance of school,

- Q6 – Parental rating of the importance school to child’s future – (Likert scale from 1 “not important” to 5 = “very important”).

Child Questionnaire

One question was used from the child questionnaire in order to triangulate data regarding parental engagement and involvement and to extract a variable “child perception of parental engagement”.

3.3.3. - Analysis

Key Question 1. PI – Engagement and Participation.

The prominence accorded to different PI activities was measured by participant indication of the types and frequency of activities parents participated in during their child's primary education. Engagement at-home included 11 items and Participation at-school included 7 items plus "no involvement" item. Associations between parental engagement and participation were measured.

Key Question 2. Parental engagement and Child Attainment.

The level of parental perceived child attainment was measured by participant indication of level of attainment "above average" (3), "average" (2) or "below average" (1) in three curriculum areas – English, Maths and Science. These three scores were averaged into a combined score ranging from 3 to 9 for each participant. Associations between parental engagement and attainment were measured.

Key Question 3. – Parental engagement and transition support

The level of transition support was measured by participant indication of the frequency and type of activities that the parent would find of use from school to enable the parent to support the child's transition. There were 7 items included, such as "Information on how to help my child do well" and "being able to talk 1:1 to staff", plus a "no information or support needed". Associations between parental engagement and transition support were measured.

Key Question 4. – Parental engagement and transition concerns

The level of parental concern at transition was measured by participant indication of the frequency and types of concerns (10 items and “nothing worries me” item). Associations between parental engagement and transition concerns were measured.

Key Question 5. – Parental engagement and Aspirations

The highest level of educational involvement which parent aspired to be attained by the child was measured by parental indication of what highest level of education ranging from 1- “High school and into a job” to 4 – “University to masters level and above”. Associations were measured between parental engagement and highest educational level. In addition, in relation to qualitative analysis parents were asked to name a job or type of job “...they would like to see your child doing as an adult”. This information was categorised into employment types within socio-economic bands. This information was used in two ways, firstly a score associated with socio-economic bands (1-7) was assigned to each response and contributed to the variable “aspirations” which was then measured with parental engagement. Secondly, employment types were compared to actual employment and socio-economic bands at a local, North West and National level contributing to descriptive analysis.

Key Question 6. – Parental engagement and child perception of Parental

Involvement

Research literature points to the interaction between parent and child factors being important to level of engagement and child academic achievement through the mechanism of parent attitude and values. Child perception of parental involvement/engagement included 10 items corresponding to 7 home-based and 3

school-based activities included in the parent questionnaire. This area will be examined through the association of parent rated engagement and child rated PI or PE.

Key Question 7. – Implications for future practice

This area will be examined through multiple regression analysis and via the descriptive analysis of questions around the variables.

Analysis of Questionnaire

Questionnaires were analysed using The Statistical Package for Social Scientists – version 10.1. Frequency and descriptive analysis was carried out on the descriptive data.

A Multiple Regression analysis was used to examine the association between independent variable of parental engagement and seven dependent variables. Pearson correlation (one-tailed) was conducted on interval level data and correlations were calculated for all variables. An ANOVA model compared explained and unexplained variance. A coefficients model compared all variables and produced unstandardised and standardised regression coefficients.

Analysis of parent aspirations in relation to type of future employment was carried out in comparison to National Statistics socio-economic classification (NS SEC, 2001) (Erikson and Goldthorpe, 1992 cited in Office for National Statistics). The employment mentioned was categorised into standardised socio-economic classifications and compared with statistics obtained from 2001 census regarding actual socio-economic status statistics for The Local Authority, the North West and England - for the adult population.

3.4 - Results

Of the total Parent/child return rate of the parent questionnaire and child questionnaire following the Parent Information Session was 43% (68/158) of total estimated Year 7 intake at that time. However, the school reported that 60% (95) of prospective Year 7 parents attended the Parent Information Session. Based on this figure, the return rate was 68/95 (72%).

In this analysis 68 matched parent/child questionnaires were used. In addition, eight other “unattached” child questionnaires were returned without parental questionnaire. These questionnaires could not be matched with parental questionnaires and were not therefore used as data.

In relation to questionnaire items, Question 6 – a parental Likert-based rating of the importance of school to the child’s future was not used. All but two parents rated importance level as “5” - “very important” and this result did not represent the diversity required for analysis. However responses indicated a baseline that regardless of behaviour, parents considered education as being very important for their children.

A standard multiple regression was conducted between parental engagement as the Dependent Variable and PI, parent rated attainment, parental concerns, parent rated educational level, parent rated transition support, parent rated aspirations, child rating of parent engagement as Independent Variables. In relation to Multiple Regression Analysis, 56 data set scores were used, from the 68 data sets of scores, having accounted for missing scores.

Table 1. below shows the correlations between variables, the unstandardised regression coefficients (B) and intercept, the standardised regression coefficients (β), the semi-partial correlations and R (.612), R^2 (.374) and R^2 adjusted (.283). R for regression was significantly different from zero, $F(7,48) = 4.174$, $p < 0.001$, representing a large effect size of all variables upon parental engagement. Adjusted R^2 was not used in this calculation due to numbers being over 50, which Harris, (1985, cited in Coolican, 2004) recommends as a minimum to produce a meaningful estimate of the relationship between predictor and criterion variables. (See Table 1. below).

Overall, 37.4% of variability in parental engagement was predicted by the seven variables. (See Appendix 6 - Full Correlations, Multiple Regression and Descriptive Statistics models output.).

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612 ^a	.374	.283	1.964

a. Predictors: (Constant), Parental concerns, Parent rated educational level, Parental Involvement, childParengage, Parental rating of aspirations, Parent rated Transition support, Parent rated Attainment

b. Dependent Variable: Parental Engagement

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.460	1.928		2.313	.025		
	Parent rated Attainment	-.270	.204	-.166	-1.322	.193	.823	1.215
	Parental Involvement	.038	.202	.023	.190	.850	.919	1.089
	Parent rated educational level	-.025	.187	-.017	-.132	.896	.778	1.286
	Parent rated Transition support	.422	.175	.298	2.409	.020	.850	1.177
	childParengage	.589	.188	.385	3.132	.003	.863	1.158
	Parental rating of aspirations	-.156	.177	-.106	-.877	.385	.898	1.114
	Parental concerns	.031	.167	.022	.187	.853	.919	1.088

a. Dependent Variable: Parental Engagement

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.724	7	15.818	4.100	.001 ^a
	Residual	185.205	48	3.858		
	Total	295.929	55			

a. Predictors: (Constant), Parental concerns, Parent rated educational level, Parental Involvement, childParengage, Parental rating of aspirations, Parent rated Transition support, Parent rated Attainment

b. Dependent Variable: Parental Engagement

Table1. Tables showing output from multiple regression analysis (SPSS) for the Dependent and Independent variables – Model summary, coefficients and ANOVA.

Variables (DV and IV)	Strength of effect
Parent engagement and Child rated parent engagement	.385
Parent engagement and Parent rated transition support	.298
Transition support and education aspiration level	.277
Transition concerns and education aspiration level	.250
Parent engagement and Employment aspiration for child	.106
Parent engagement and Parent involvement	.023
Parent engagement and educational aspiration level	-.132
Parent engagement and parent rated child attainment	-.166
Parent rated child attainment and educational aspiration level	-.380

Table 2. Table summarising effect sizes of Dependent and Independent variables in order of magnitude.

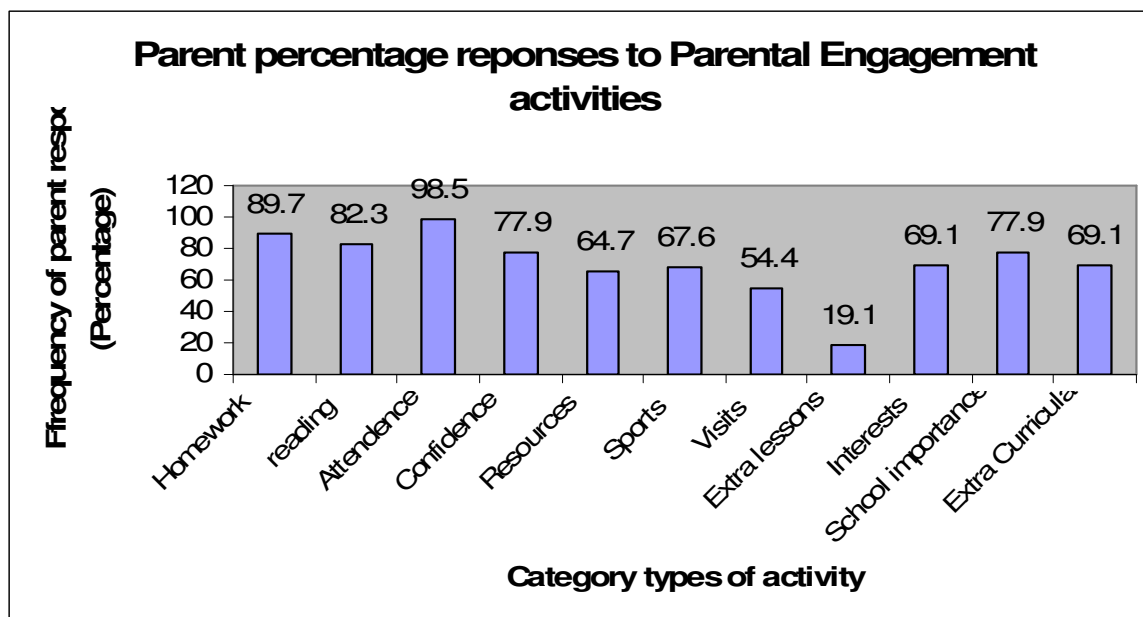
Multiple regression analysis of parental engagement indicated no relationship with PI and this was not significant ($\beta=.023$), suggesting that parental educational activities at-home and activities at-school were not related.

Descriptive analysis between the two types of functions – at-home or at-school, show that parents responded with more frequency to “engagement” activities (mean: 7.72), rather than “involvement” activities (mean: 1.82).

Two independent variables contributed significantly and positively to parental engagement - child rating of parental engagement ($\beta = .385$, $p=.003$) and parent rated transition support ($\beta = .298$, $p=.020$). Children who reported more parental

engagement activities at-home had a moderate, positive and significant effect on parental reported engagement suggesting that where parental perception of engagement was high, child perception of parental engagement and involvement was high. Multiple regression show that the parental reported transition support variable was weak but, positively and significantly contributed to parental engagement, suggesting that where parent engagement was high parents responded to more types of transition support activities from school which they considered would enable their child to settle and progress at High school.

Descriptive analysis results show that the most frequent three areas of parental engagement, were around active and routine support areas - 98.5% of parents responded that they made sure “their child attended every day on time” (67/68). 90% of parents responded that they had helped their child with homework (61/68) and 82% of parents responded that they had engaged in reading with their child regularly during the Primary phase (56/68). In relation to items associated with attitudes and values, 77.9% respectively, noted helping child feel confident about learning and education and talking about the importance of school and/or working hard. (See Table1. below).



Graph 1. Parent percentage response to parental engagement activities.

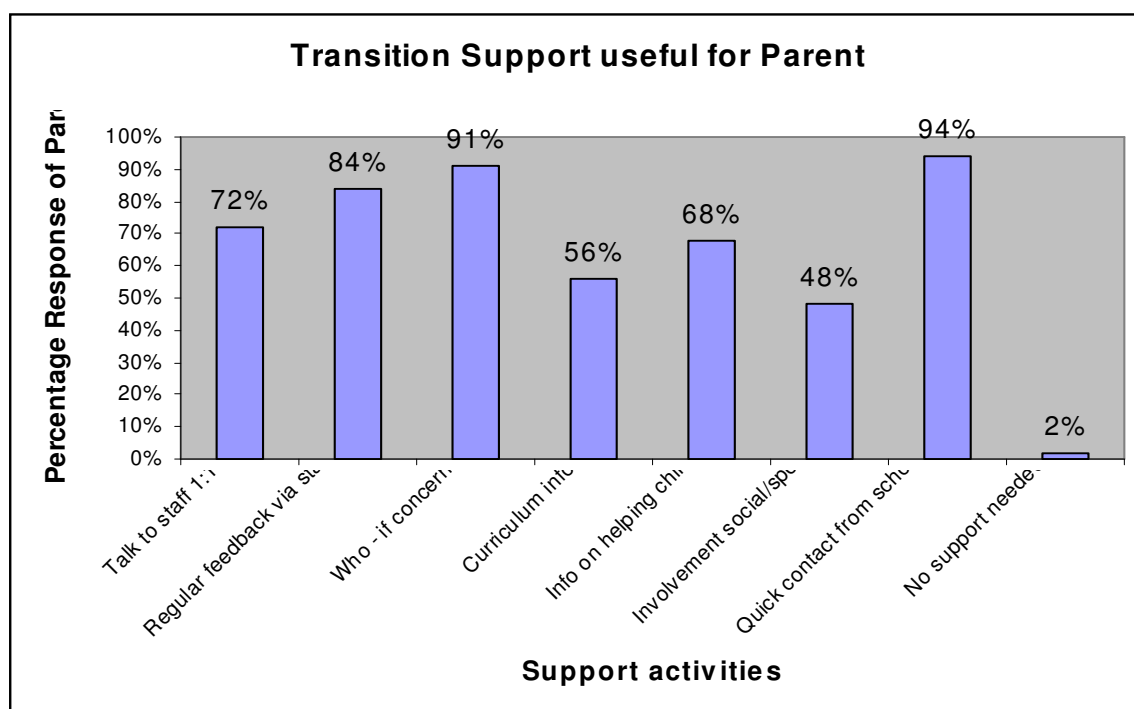
PI at-school did not correlate with any other variables measured in regression analysis and was not significant ($p > 0.5$).

Descriptive analysis show the most frequent PI activities associated with school. 84% (57/68) responded that they had regularly attended Parents evenings; 46% (31/68) of parents responded that they had attended social or sports events at-school and 18% (12/68) indicated that they had gone on “school trips” with their child.

Parent rated child attainment contributed weakly and negatively to parental engagement and was not significant ($\beta = -0.166$, $p > 0.5$). Pearson correlation show that attainment was related weakly, negatively and significantly to parent rated educational level aspired to. (-0.380 , $p = .002$) suggesting that where perception of child attainment is high parents rate educational level aspired to as being reduced.

Pearson correlation analysis show that Transition support variable was weakly, positively and related to educational level aspired to by parent for their child (.277, $p=.019$) at the $p<0.05$ level. This suggests that where educational aspirations are high parents responded to more types of transition support items which they considered would enable their child to settle and progress at High school.

Descriptive analysis show that of the three most frequent responses from parents were being able to have “quick contact from school” (94%), knowing who to approach if there was a concern (91%) and having regular feedback from staff, (84%). (See graph 1 below)



Graph 2. Percentage parental response to items of transition support activities from school.

Parent concerns about their child at transition did not contribute to engagement or the other variables measured in regression analysis and was not significant (beta .022).

Parent concerns about transition did however correlate at the <0.05 level positively and weakly with Parent employment aspirations (.250, $p=.032$), suggesting that where parent aspirations are high, concerns about transition are high.

Descriptive analysis results were that 10.2% of parents responded that they had “no worries” about their child’s transition to High school. 90% of parents, who responded, noted that they had some concerns about their child’s transition to high School. The average number of concerns marked by parents who had concerns was 3 each. 79% of parents who responded noted that “Bullying” was a concern about their child going to High school, followed by “Making friends” (60%) and “Other children’s behaviour” (36%).

Parent perceived highest educational level did not contribute to parental engagement measured in regression analysis and was not significant (beta -.132). Parent rated employment aspirations did not significantly contribute to parental engagement (beta -.106) and these variables did not correlate with each other significantly.

In relation to qualitative results, a question was asked regarding the type/s of employment parents might like the child to do following education. The National Statistics socio-economic classification (NS SEC, 2001) (via Erikson and Goldthorpe, 1992) was used to categorise employment into standardised socio-economic classifications. (See Appendix for all employment types included). Parents did not indicate any “Unskilled Manual (E)” employment types and this category was not included. Of the 75 employment types mentioned by parents, these broke down into the following,

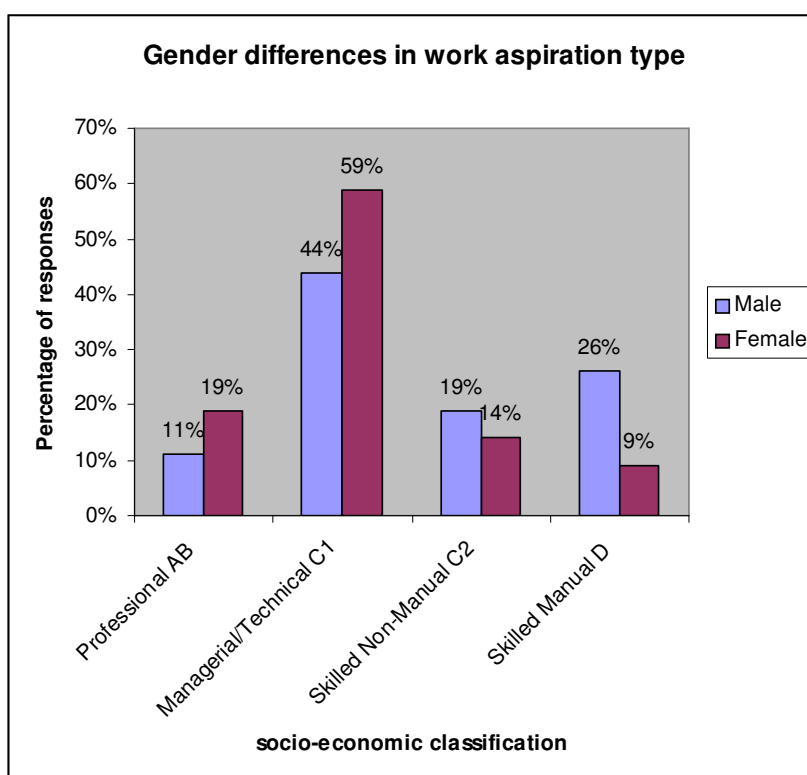
- Professional (I) = 17 (22.6%)
- Managerial/Technical (II) = 34 (45.3%)
- Skilled Non-Manual (IIIN) = 10 (13.3%)
- Skilled Manual (IIIM) = 14 (18.7%)

Parent employment aspiration responses were compared with statistics obtained from 2001 census regarding actual socio-economic status statistics for The Local Authority, the North West and England, for the adult population. (See Table 3. below).

Socio-economic classification	Total cases (75)	Actual Socio-economic classifications (excluding "E" Unskilled manual" (Census, 2001)		
		The Local Authority	North West	England
Professional (I) (AB)	23% (17)	13.12	19.79	22.19
Managerial/Technical (II) (C1)	45% (34)	32.14	28.19	29.72
Skilled Non-Manual (IIIN) (C2)	13% (10)	15.35	15.32	15.06
Skilled Manual (IIIM) (D)	19% (14)	20.84	19.24	17.03

Table 3. Percentage of employment types categorised into socio-economic classification according to employment type and compared to Census information of actual employment classifications in the Local Authority, the North West and England, for the adult population.

49 of the “Aspiration” responses also had gender information and these were correlated across job categories. A difference between parents of males and females in level of aspirations was evident, with parents of females showing a generally higher aspirational level than males. 55% of males’ parents aspired to employment in the AB/C1 categories compared with 77% of females’ parents and 45% of parents of males aspired to jobs for their sons in the C2/D categories, in comparison with 23% of females. 26% of males’ parents aspired to Skilled Manual (D) employment for their sons. (See Graph 3 below)



Graph 3. Percentage parent response of employment aspiration type according to socio-economic classification and gender.

3.5- Discussion

This study found a large effect size in which 37.4% of the variance overall in parental engagement was accounted for by the variables of child perception of parent involvement, transition support, transition concerns, attainment, educational and employment aspirations. This supports previous research findings around this area. (Maccoby, 2000)

One might argue that if a parent is engaged with learning and education that this would be evident in a high level of parental involvement in home and school-based activities associated with child's education and learning. The data was examined in relation to this by dividing the overarching construct into parental activities based at-home, labelled as "Parental Engagement" and activities based in school, labelled as "Parental Involvement". This overtly made a distinction between the types of activities, as well as possible attitudinal differences determining differing types of behaviour. The findings reported that there was a moderate and positive association between at-home activities associated with learning and child perception of their parent's engagement, whereas there was no such association between parental or child perception of in school involvement activities, implying that school based activities do not determine child or parent perception of parental engagement, associated with attitudinal transmission of values and this is consistent with previous research. (Desforges et al.2002).

In relation to engagement activities, parents rated routine and active items most frequently – attendance, homework and reading. However, the two items associated with transmission of values and academic efficacy, were rated by 78% of parents,

respectively. Parents tended to rate themselves as being highly involved in their child's learning generally – illustrated by the question which was not used in analysis which asked parents about how important parents considered school to be, to which nearly all answered at the highest level possible. However, these results may suggest that within the overarching value base of thinking that education is important and that parents should help their child - some parents actively promote self-efficacy and transmission of educational value with their children, whereas other do not. Future research might distinguish between these groups and associated behaviours in order to further establish the groups of parents who might particularly benefit from support from the school and Children's Services Authority.

Within results there was a weak and positive significant association between engagement and transition support coming from school which parents thought would be useful to help their child settle and progress. This suggests that when parent engagement is high parents valued various support mechanisms coming from school.

Although there were no direct associations between engagement and educational and employment aspirations, transition support was correlated with the highest educational level aspired to by parents for their children suggesting an indirect association between transition and engagement, possibly mediated by parent positive orientation and practical application of support mechanisms to help a child settle.

Equally, both engagement and transition support were not correlated with transition concerns. Concerns mentioned by parents were similar to those reported in previous research associated with social concerns. However, 10% of parents noted they had “no

worries” which was lower than the 24% of parents suggested in other research. (Zeedyk et al., 2003).

In relation to parent perception of attainment, results showed a weak and negative correlation with engagement, perhaps suggesting that some parents were more likely to become involved if they perceived their child had academic difficulties, as suggested by Pomeranz et al., (2003). However these results were not significant.

In comparison with actual statistical evidence associated with socio-economic grade and employment, given that parents were noting aspirations rather than actual employment, one would expect aspirations to be at a higher level generally than actual statistics in this area. This appeared to be evident in comparison with The Local Authority figures.

However, it can be seen that the actual employment statistics in The Local Authority show a lower level of professional (AB) and Managerial (C1) employment (when taken together) and higher skilled Manual (D) employment in comparison with England as a whole and to some extent with the North West. This might indicate that in this area parents experience a context of lower levels of employment and socio-economic status and consequently have lower aspirations for their children than in other areas of the country. Equally, from the perspective of future practice in schools and at an authority level these findings may indicate a need for targeting “raising aspirations” generally in the Local Authority with both parents and children.

Results suggested that parents of boys had lower aspirations than for girls and intervention might also fruitfully be targeted around raising parental aspirations for parents with male children, as well as for the children themselves.

In relation to transition, the results of the study suggested that transition support is associated with parental engagement, in that, where parents had high engagement levels they also reported more frequent responses in relation to transition support mechanism from school which would help their child settle and progress. Zeedyk et al. (2003) suggests that the issue of liaison in helping children settle into high school and an increased focus on parents during transition is meaningful due to the similarity of concerns and attitudes towards transition.

In relation to limitations of this study due in part to an effort to have a high return rate and to limit questions to a manageable level no parent characteristics or socio-economic status questions were asked and an assumption was made based on the school catchment area and high level of children in the school eligible for free school meals that the sample represented a largely “working class” type characteristic. This may however not have fully accounted for the socio-economic factors present.

Although in the design of the study PI was divided into home and school input and aspirations were included, the construct of PI used here may have limited validity and there may be many other aspects of PI not accounted for in the items used. Therefore actual parental engagement in relation to at-home activities may not directly correlate with child’s perception of parental engagement/involvement and transition factors but be illustrative of other factors within parental engagement.

Effect size were strong in this study around PI and the other variables, however as McCartney, & Rosenthal (2000) have pointed out that the practical significance of size

effects should be considered within the context of the situation. This study has contributed a small “window” on what happens in one secondary school and this may not be representative of schools as a whole – however, it suggests that parental interest in education is a more significant factor than getting parents involved school and perhaps educational policy needs to reflect this more fully in relation to intervention by programmes that address working with parents at-home with their children around changing attitudes to education and learning, perhaps in the early years, as a protective measure.

These findings suggest that a focus on “getting parents in” to school may not be effective in enabling children to make successful transitions and progress educationally and rather success may be mediated by parent attitudes and beliefs about the value of learning and by parental behaviour at home. In later schooling interventions may be appropriate at a borough wide level via awareness raising, as well as more directed work at a primary level engaging parents in the education and learning of their child on a home-based level.

Engagement was associated with the types of support parents would like to receive at transition time points and this may suggest possibilities in engaging parents at these particular times. Parent Transition sessions may therefore go some way to provide a context within which relationships can be developed.

In relation to psychology service implications, this study highlights the variety of diverse activities undertaken by psychologists, including around “school improvement” areas and adds to a current and future climate suggested by Mackay, (2002), who suggests that,

The future cannot lie in the narrow functions of educational psychology in relation to special educational needs and statutory assessment. (ibid. p.248).

It also provides a uniquely psychological perspective on this area which might be useful for future development of intervention and support. Hartas (2008) has suggested that understanding of parent-school collaborative working has important implications and points to developments within the Special Educational Needs context as promoting an effective conceptualisation of successful working relationships, in which parents and professionals are,

...responsive to, and respectful of each other's views, and through parents being capable of exercising agency, enacted with self-reflection, advocacy, and a sense of shared power and responsibility. (ibid. p. 150).

Psychologists are in a prime situation to promote such working practices and to promote both collaboration between home and school and the promotion of home-based learning and parental involvement.

3.6 - Summary and Conclusions

The government agenda has placed parental involvement as a high priority within services and recent developments heralded by the Every Parent Matters document has suggested that services should be focusing efforts on engaging parents in their child's education and learning. The overarching aim of the study was to provide exploratory research evidence from one cohort of children and parents of those children transferring from Primary to secondary school regarding analysis of the current context regarding parental involvement and the variables which are significant to it. This future possible directions and emphasis within early years work were sought.

A parent questionnaire utilising descriptive data, open-ended questions were analysed. One question from a Child questionnaire was used both as a variable and in order to triangulate data.

Results revealed a high importance given by parents to involvement generally and a difference in home and school based activities engaged in by parents. A large effect size in which 37.4% of the variance in parental engagement was accounted for by the variables of child perception of parent involvement, transition support, transition concerns, attainment, educational and employment aspirations. Parental engagement was correlated with child perceptions of parental involvement and with transition support. Descriptive analysis indicated low employment aspirations in the sample, which was particularly evident with parents of boys.

Implications of the study suggest that intervention should be directed at early protective support for parents regarding home based engagement and at a Borough wide level regarding parental awareness-raising. Transition to secondary may offer schools the opportunity to engage parents further. In all these areas Psychologists are well placed to promote effective liaison between home and school and home-based parental involvement and engagement.

3.7 - Appendix 1 – Contextual Background to the Study

Why did the Educational Psychology Service become involved?

In July 2007, the Local Authority Family Strategy Group was formed with a remit to develop the Local Authority Children's Service Authority Family and Parenting strategies. Due to my background in developing and implementing programmes in the authority associated with PI in children's early education and learning (pre-school) I was asked, with two other EPs to be part of the group. Along with strategy development and an audit of parenting services and area which the EPS were asked to become involved in was "Transition Information Sessions" for parents. EPs were considered to have knowledge of both parenting issues and school context. Interestingly, there was a distinct lack of enthusiasm from the school improvement service for becoming involved with the project, as this was not considered by them to be part of their remit.

Transition Information sessions for Parents

Sessions were intended to be significantly different in nature to usual "induction" meetings– for example by conducting sessions promoting an effective relationship between school and home – using ideas such a "pamper sessions" to entice parents into school and using a variety of ways to get "the PI message across" such as showing a short film including "top tips" to increase parental engagement and involvement – providing an appropriate environmental context at-home for children to learn, showing engagement by becoming involved in learning activities and providing resources and experiences for learning at-home.

(www.parentscentre.gov.uk/webchatsinterviewsvideos/gettinginvolvedshortfilm/ - Windows Media Player).

I was asked to develop and implement a pilot study for these sessions alongside a School Improvement Advisor and the Early Years Consultant. Five schools – three primary and two secondary schools were invited to take part and were given a small budget to implement the sessions (£500 for primary schools and £1000 for secondary schools). Sessions were intended to be “rolled out” to all The Local Authority schools from the Summer term 2009.

The Early Years Consultant and myself attended a training day provided by the Family and Parenting Institute and subsequently developed an action plan for the sessions. We developed and conducted training in early May for the key staff in the schools to inform them of the purpose and remit of the sessions and gather their views.

As part of evaluation I developed questionnaires for the parents, children and staff of the schools. The questionnaires were intended to yield information associated with PI from the three perspectives (Parent, Child and Teacher) and to determine process information regarding the sessions themselves. Schools conducted sessions in June and July 2008 and returned questionnaires in late July 2008.

Appendix 2 - The Literature Search Strategy

The search strategy consisted of keyword searches using the following databases:

- Educational Resources Information Centre (ERIC)
- Psycinfo
- Ovid
- Educational Research Abstracts

The following keywords were used in various combinations and within wildcard prefixes, within a ten year period between 1998 and 2008:

- Parental/family Involvement
- Educational Achievement/attainment
- Education involvement
- Parent
- School
- Transition

This revealed a high number of Journal articles (Over a thousand). Limits were placed on search to obtain a manageable sample of material. Searches were limited to:

English language only

Non-disordered populations

This obtained 182 Journal articles of high relevance. A visual inspection of these articles led to further limits being placed on included articles. Due to the paucity of literature covering UK based study and the abundance of US based research studies, certain

articles which included English systems were included, regardless of the exclusions below.

Exclusions:

- Case studies
- Specific subject-based articles (i.e. PI and Maths achievement)
- Specific ethnic groups or specific socio-economic classes
- Specific interventions or PI programmes
- Studies regarding Non- western countries with significantly different educational systems

This revealed 49 relevant articles which were included in the literature review. These studies came from a wide variety of sources and Journals, predominately via Educational Psychology, Education research and Sociological research.

In addition, a number of websites were accessed and a number of government documents, research briefs and reports were obtained,

<http://www.google.co.uk>

<http://www.scholar.google.com/>

<http://www.dfes.gov.uk>

<http://nice.org.uk>

<http://IPPR.org.uk>

www.Number10.gov.uk

Appendix 3 - Parent letter.

Dear Parent,

This year your child's High School is taking part in a **pilot study** trying some new ideas to make the move to high school easier for you as a parent and to help your child settle in to high school.

Later this term, you will be invited to a High School information or induction session at your child's new school. This year, several High Schools in The Local Authority will be doing their sessions in a slightly different way – staff will be including new information and support to help you in your role as a parent of a secondary school pupil. These changes are in order to help you and your child make the transition to high school more successful.

As part of this pilot, the Council is carrying out an evaluation to see how useful and successful these changes are.

We really need your views about your child's education - about the move to big school, what you hope for your child's education and any concerns you may have. We will also be asking for your ideas about the new-look information sessions.

We will be asking you, your child and teachers at High school to complete a short questionnaire. Your child's and your Parent questionnaire are enclosed and I would ask you to complete and post back in the pre-paid envelope with other documents enclosed to your child's proposed high school.

If you have any difficulty filling in the questionnaires, but would like to, or if you have any questions please contact the researcher (contact details below). If you have any queries or concerns about your child's transition to High School or general education, please contact staff at your child's High School.

The questionnaires will not have your/your child's names or identifying details on it as we will be using the information about **groups** rather than individuals.

The completed questionnaires will be collected in their envelopes by school administration staff and passed to the researcher unopened. They will be analysed only by the researcher (D. Shannon – Chartered Educational Psychologist). General recommendations will be discussed with school staff following the evaluation. A subsequent report and recommendations will be published and available for parents, if you request this, from your child's high school.

This study will be completed in accordance with strict ethical rules about conducting research from the British Psychological Society and in accordance with the Data Protection Act.

Can I thank you in advance for your support!

Yours Sincerely,

Debbie Shannon
(Chartered Educational Psychologist on behalf of The Local Authority Council)

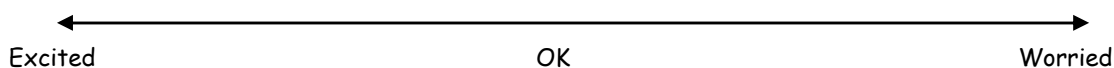
(contact details provided here)

Appendix 4 - Parent Questionnaire

Moving up to high school - what do you think?

Parent Questionnaire

1. How do you feel about your child going to high school? (Please make one mark through the line.)



2. Do you have any concerns about your child going to high school? (Please tick all that apply)

- | | |
|----------------------------------|-------------------------------|
| 1. The work being too hard | 7. Getting to and from school |
| 2. Making the right friends | 8. My child's behaviour |
| 3. Bullying | 9. Other children's behaviour |
| 4. Knowing where to go in school | 10. Getting on with teachers |
| 5. Uniform | 10. My child not working hard |
| 6. Work being too easy | 11. Nothing worries me |

Other things.....

3. How have you helped your child at Primary School? (Tick the things you have done regularly with your child in Primary.)

- | | |
|--|--|
| 1. Helping with homework. | 7. Going on educational visits. |
| 2. Reading. | 8. Providing extra lessons/tutor. |
| 3. Making sure he/she goes to every day on time. | 9. Encouraging interests |
| 4. Helping child feel confident. | 10. Talking about the importance of school and working hard. |
| 5. Providing educational books | 11. Getting him/her to do after school |
| And/or computer activities | 6. Encouraging him/her in sport. |

Other things.....

4. Have you had involvement in school with any of these areas? (Please tick)

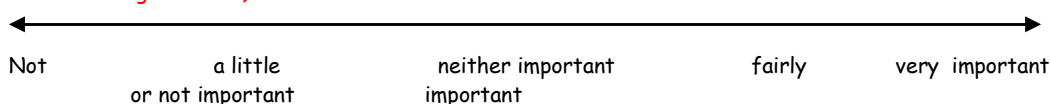
- | | |
|--------------------------------|----------------------------|
| 1. Attending parent's evenings | 5. Being on the PTFA |
| 2. Helping with social/sports | 6. Being a parent governor |
| 3. Being a school helper | 7. Helping on trips |
| 4. Attending social events | 8. No involvement |

Other things.....
 ...

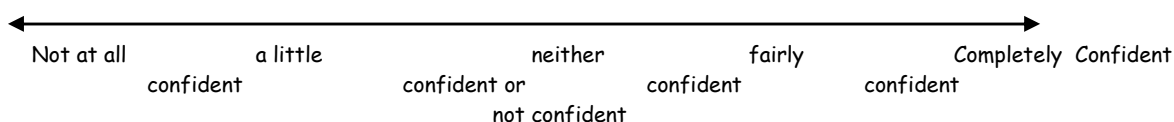
5. What level would you say your child is at in their education at the moment in the following areas? (Please tick)

	Above average	average	below
average English	
..... Maths	
..... Science

6. How important do you think school is, to your child's future? (Please make a mark through the line).



7. How confident do you feel at the moment about going into high school and talking to staff about your child's education and progress? (Please make a mark through the line)



Please comment on why you feel that way.....

8. What types of support would you, as a parent, find useful to helping your child settle in and progress at High school? (Please tick all that apply)

- 1. Being able to talk 1:1 to staff.
- 2. Regular feedback from staff.
- 3. (implied)
- 4. (implied)
- 5. Info on how to help my child do well.
- 6. Involvement in social/sports events.

3. Knowing who to go to if there

7. Being contacted quickly if there is a concern

4. Information about curriculum.

8. No support or information needed.

Other

.....

9. What would be the highest level of education would you expect your child to do? *(Please tick one)*

High school and then into work

Vocational training or two year college course

University - three or four year course

University to Masters level/above

Something else?.....

10. What job would you like to see your child doing as an adult?

.....

11. Are you planning to go to the High school Induction or Information session?

Yes No don't know

If you said "no" can you say why not?

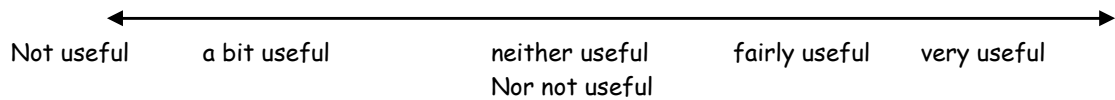
.....

Please make a comment if you would like to about any area of your child's transition from Primary to High school - (eg. concerns, hopes, helping your child settle in and information or support you would like).

Part 2 - Please fill this page out following the Information/Induction session at school. Thank you.

Thank you for your help!

1. How useful in answering your questions has this session been? (Please make a mark through the line)

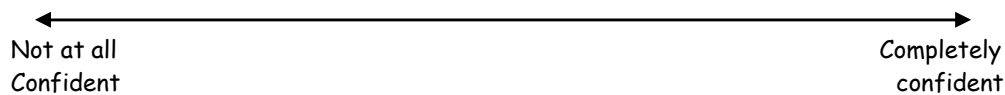


2. What was most useful? (Please tick those that apply)

1. Information about practical aspects of going to school
2. Information about how to help my child learn
3. Information about how my child will learn in school
4. Information about areas of concern
5. Staff helping me with areas of concerns
6. Making contact with teaching staff and being able to talk with them
7. Knowing what to do and where to go if I have a concern or problem
8. Other (please state)

What else would you have liked?

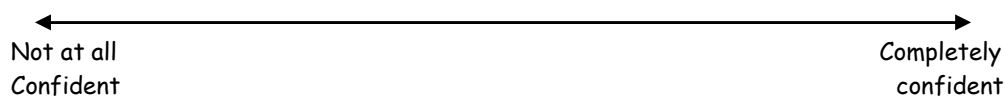
3. How confident do you feel at the moment about going into high school and talking to staff about your child's education and progress? (Please make a mark through the line)



4. If you don't feel confident, why not?

5. Do you have any concerns about your child going to high school?

6. How confident do you feel at the moment about helping your child with their learning and education? (Please make a mark through the line)



7. Please make any comment you wish to and Thank you!

Appendix 5 - Extract from child questionnaire.

5. How do your mum and dad help you at Primary school? Tick the ones your mum and dad have done during the time you have been in Primary school.

Homework

Reading with me

Making sure I go to school every day

Helping me feel happy and confident

Making sure I have all the things I need to learn

Saying that-school is important

Giving me extra lessons out of school

Talking to teachers about my learning

Helping in school - in class or on trips

Going to see me in plays/sport events

Other things.....

Appendix 6 Employment types according to socio-economic categories

Professional

Vet = 4

Surgeon = 1

Lawyer/ solicitor = 4

Doctor = 1

Palaeontologist = 1

Accountant = 2

Mathematician = 1

Psychologist = 1

Archaeologist = 1

Managerial/technical

Teacher = 6

Engineer = 1

Pilot = 1

Journalist = 2

Ecologist = 1

Arts performer = 8

Sports player = 13

Nurse = 2

Skilled non-manual

Police officer =6

Military = 3

Animal worker = 1

Skilled Manual

Driver = 1

Mechanic = 4

Builder =2

Plasterer = 1

Hairdresser = 3

Beautician = 2

Chef = 1

DOCTORATE IN EDUCATIONAL PSYCHOLOGY FEEDBACK

3.8 Research paper 2 action research projects (8000 to 10 000 words)

Student Deborah Shannon

Title **Onwards and upwards: parental involvement in children's learning at secondary transition**

Summary comment

This is an interesting project that deals with the question of how much parental involvement can impact on successful transition and then explores what factors are important. Quantitative data is appropriately analyzed to look for associations between the different factors. It was helpful to see a section exploring the limitations of previous research. There is a good considered tackling of the literature and thinking through of the implications for the current study. There are clear links between the background reading and the design of the questionnaires used. It does represent a serious attempt to engage with some advanced quantitative techniques. I enjoyed reading this Research paper and thought it made a positive contribution to understanding the topic.

The area for considering improvement is really around how data is presented to contribute to the developing argument e.g. having a simplified table for correlations and the degree of variance accounted for by each variable and its relevant contribution to the concept of Parental Involvement. Some of the scatterplots could have been included in the results section to help illustrate correlations. This would then lead into considering the implications of where to invest energy or financial resources to get the best returns for the effort made. There is some interesting data in this study to contribute to such an analysis. While I could see the relevance of correlations for this study, I was not convinced about the reason or need for multiple regression – what model was produced as a result of this? How did the ANOVA fit in to this study?

In terms of the measures themselves, then some discussion/reflection is needed about whether the questionnaire design captured the parents real views of engagement and this might be dealt with through further explanation of how the items were scored, how reliable (stable and consistent) the measures were (in a pilot study) and some indication of their validity (they do seem to have face validity for instance).

Second marker's comments

This is an ambitious Research paper – two questionnaires, large sample and complex analysis. On the whole you take the reader through the findings in a systematic and logical way – but some of your tables are too complex and should be in the appendix. Perhaps you could have been a little more critical of your measure and there is definitely scope for a study comparing findings from the measure with interview data from parents. This would confirm or otherwise, its validity. You make some interesting and helpful comments about the potential impact of this study.

Doctoral Criteria	Insufficient evidence Working towards Achieved	Assessment evidence	Improvement suggestions
Capacity to pursue research and scholarship	Achieved	<p>Throughout the project there must be evidence that you have accessed the literature, planned and carried out an investigation and have been able to make sense of information that you have collected.</p> <p>We will be looking for the following characteristics:</p> <ul style="list-style-type: none"> • Overall approach • Clear and logical story line • Evidence of a critical approach to concepts and methodology • Evidence of analytical thinking <p>The standard expected is that it must be suitable for publication in a journal. Some students decide to write specifically for a journal and then try to get the article published – this is catered for in our Research paper guidelines.</p>	
Produce an original contribution and substantial addition to knowledge	Achieved	<p>This might be evident in the way that the research is conducted (e.g. using a new approach to investigate a problem); in the production of new understandings or knowledge; or in the application of the project’s findings to professional practice.</p>	
Demonstrate the relevance of the research to professional EP practice	Achieved	<p>In the discussion or conclusion sections you address the ‘So what?’ question: How does the research inform EP practice and develop or support the work that EPs do? What are the implications for Services or for service users?</p> <p>Reflective personal evaluation is included. A final section is added to the Research paper that relates what you have done to your own learning and development as a psychologist.</p>	
Communicate clearly, accurately and according to the conventions for presentation of academic work.	Achieved	<p>The material is organized logically and coherently so that it tells a story.</p> <p>There are well defined sections to the report including:</p> <p>Abstract Introduction Literature review</p>	<p>A minor point to watch out for is where the cursor is placed before using Endnote to insert a citation (e.g. p 14 and several places full stops appear before the citation).</p> <p>Table 1 is the output from SPSS, however this needs some work so that it communicates the</p>

		<p>Methodology</p> <p>Results/discussion/conclusion (these may be separate sections or written as one – it depends on the type of study and which approach most effectively communicates what you have done.)</p> <p>References</p> <p>The abstract is a brief statement (single spaced and no more than 250 words) of the area, why it is important and specific issues addressed. There is an outline of the methodology, summary of key findings and a reference to the implications of the study (e.g. on policy, practice or theory)</p> <p>The findings are presented clearly and in a way that is appropriate for the type of data collected (i.e. quantitative or qualitative or mixed methodologies).</p> <p>The presentation matches academic requirements and the references are in an accepted and consistent format (e.g. APA 5th)</p>	information that you want to the reader ie the correlations between parental engagement and each of the variables that you have identified – a much simpler table is needed to tell this part of the story in a clearer way – pp 43 as it stand could be relegated to the appendix.
Rationale is justified	Achieved	The introduction to the Research paper should justify why this research project was being undertaken. This could be a theoretical rationale for undertaking the work or it could be related to local policy and practice.	
Demonstrate rigorous and critical thinking in regard to the literature and theory	Achieved	<p>The material is presented accurately without bias</p> <p>There is evidence of critique throughout the Research paper with a critical approach taken when considering concepts, methodology and the impact of studies that have been done previously.</p> <p>There should be evidence that you have thought critically about the work that you have undertaken and how this relates to the previous literature.</p>	
Demonstrate how the topic of the research is related to a wider field of knowledge and research	Achieved	<p>Introduction section</p> <ul style="list-style-type: none"> • Well justified focus supported by key references • Clearly stated issue to be investigated and/or research questions <p>Literature review section</p> <ul style="list-style-type: none"> • Theoretical context/previous research justify present study • Up-to-date references relevant to the study 	

		<ul style="list-style-type: none"> • Consideration of how a study/reference contradicts or complements other work in the field <p>Results/discussion/conclusion section</p> <ul style="list-style-type: none"> • Consideration of how findings support, contradict or build on previous work 	
Demonstrate an understanding of the design and conduct of empirical research.	Partially Achieved	<p>In the Methodology section:</p> <ul style="list-style-type: none"> • Reflection on the interrelationship between concepts, research questions, data collection methods • Discussion of strengths and weaknesses of chosen methodology • The projects must conform to the ethical guidelines set out by the British Psychological Society. • Explicit account of procedure • Consideration of data analysis procedures <p>In the Results/discussion/conclusion</p> <ul style="list-style-type: none"> • Links between data collection and analysis of findings are clear and explicit • Consideration of how findings support, contradict or build on previous work • Evaluation/critique of study • Discussion of implications, e.g. for the project, professional practice, further research, deeper understanding of theory, methodology 	<p>Pp 33 was the sample of participants a total school sample or a representative sample of The Local Authority – if it was the latter – how do you know it matches the demography?</p> <p>Which items contributed to each key question and how were items scored? Pp 37 (I did not quite follow how this section mapped onto the questionnaire in the appendix)</p> <p>P 45 ‘did not correlate’ there will be some level of correlation (unless it really is zero) even when the result could be attributed to random noise (ie $p > 0.05$).</p> <p>The discussion starts by summarizing the results section – however, I don’t recall seeing a table in the results section showing how much variance was attributable to each of the variables.</p> <p>When there is a weak positive correlation (e.g. p 52) – what does this say about investing energy in providing this resource? Similarly pp 55 – the paragraph on effect size could be extended to say what this means in terms of implications for schools or LA.</p>

Any further recommendations for reading or skills training

Miles J, and Shevlin, M. (2001) *Applying regression and correlation* London: Sage

Pallant, J. (2005). *SPSS Survival Manual* (2nd ed.). Buckingham: Open University Press.

Recommendation Pass Examiner Dr Garry Squires
Second examiner Peter Farrell

Date 15 January 2009

4 - Research paper 3

**AN EXPLORATORY STUDY OF PROCESS
EVALUATION IN THE “REAL WORLD”:
EVALUATION OF THE “SORT IT OUT!”
PROGRAMME.**

DEBORAH J. SHANNON

**A RESEARCH PAPER SUBMITTED TO THE UNIVERSITY OF
MANCHESTER FOR THE DOCTORATE in EDUCATIONAL PSYCHOLOGY
IN THE FACULTY OF EDUCATION**

**EDUCATIONAL SUPPORT
AND INCLUSION**

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Following literature associated with social problem solving and evaluation of programmes, the study aimed to provide exploratory research evidence around process evaluation of a Primary school-based programme “Sort it Out!”. Within the scope of the study what was of primary importance was to assess implementation factors and nature of implementation, using a Realistic Evaluation framework. A Focus group was completed with 14 trained facilitators; an interview was completed and 7 questionnaires were returned from a sample of 18 facilitators. Qualitative data obtained were analysed using Realistic Evaluation framework. Results indicated possible context and mechanisms related to positive and negative outcomes from the perspective of the facilitators. Due to lack of take up of the research by participants, the nature of the research changed over time and this will be recorded and the specific nature of process and limitations of “real world” evaluation will be discussed.

4.1 - Introduction

Personal, social and emotional difficulties (PSE) may follow a variety of mechanisms incorporating both risk and resilience factors, which have the potential to cause long term harm. Coie, Watt, West, Hawkins, Asarow, Markham, Ramey, Shure and Long (1993) suggest the two primary categories of risk and resilience factors. These are environmental factors, such as, social and family support and secondly, individually-based characteristics, such as dispositions, behaviours and skills which the child acquires or not, to enable them to cope with stressful situations. Preventative school-based interventions and programmes have sought to ameliorate negative factors by addressing environmental or within-child factors to varying degrees. Romasz, Kantor and Elias (2004) noted that over the past few decades many programmes have been developed which address children's social-emotional skills and are implemented directly in schools, at a preventative level.

Greenberg (2004) suggests that such programmes can significantly improve the,

...rate of problem behaviours and symptoms, as well as build protective factors that reduces further risk in child and adolescent populations. (ibid., p. 6.)

Elias (2006) has noted that whilst supporting children's social-emotional learning via preventative programmes has a general positive impact upon lifelong emotional intelligence as well as academic outcomes, skills should be taught in a systematic way, allowing for progressive internalisation and lifelong use. One potential candidate for a

targeted, individualised and systematic preventative programme, comes from a social problem solving theoretical framework.

Developed from D’Zurilla and Goldfried (1971) model, Chang, D’Zurilla and Sanna (2004) define social problem solving as,

... a self-directed cognitive behavioural process by which a person attempts to identify or discover effective or adaptive solutions for specific problems encountered in everyday living. (ibid., p. 24.)

Whilst the model was originally designed from an adult functioning perspective, social problem solving has increasingly been utilised within an education-based context.

Problem Solving Training (Pelligrini and Urbain, 1985) is a widely used variation of the model.

The programme “Sort it Out!” (SiO) was initially developed by Marc Chevreau (Senior Educational Psychologist) in Lancashire in the late 1990’s as a targeted and individual child-based development upon Thacker’s “Steps to Success – An Inter-Personal Problem-Solving Approach for Children” (Thacker, 1982).

Originally a Secondary-based programme, the aim of the programme is to teach and practice a “constructive” rational problem solving style, using a structured and systematic approach, through stages of problem solving, which is scaffolded by a trained facilitator - usually a teaching assistant or learning mentor. (See Appendix 1 - SiO Programme - Contextual Information).

Partly due to the general interest promoted by Social & Emotional Aspects of Learning (SEAL) (Department for Education and Skills, 2005), there has been an increased interest in schools in taking up the SiO programme and in 2005, a joint development group of Educational Psychologists of two Local Authority areas was established in order to provide a strategic approach to training, implementation and to develop further materials. I became involved with programme development and training at this point, as part of work within a multi-agency “Inclusion Support Team”.

In 2007, a Primary version of SiO was produced by the development group and was piloted by three psychologists across the two Local Authorities, working with six children in two schools in 2008. The psychologists facilitated and evaluated the programme with two children each across a half term, engaging in 5 sessions per child. The pilot aimed to obtain information about how developmentally appropriate the materials were for the primary age range – in terms of accessibility and engagement. This information was extracted via EP feedback of sessions and pupil comments during the intervention from Years 3, 4, 5 and 6 regarding the programme steps and materials. In feedback, pupil participants noted the following,

“It’s 100% better”.

“It feels like everything was back to normal”.

“It is how you can sort out problems”

The pilot evidence from facilitators and children prompted changes to the materials and a decision to implement training of facilitators in April 2009 and an evaluation of the implementation of the programme as well as outcomes in the summer term 2009.

As a starting point to evaluation, in order to establish the usage, maintenance and any difficulties associated with implementing the programme, a telephone-based facilitator survey was developed in 2008. However, this was not implemented at this time and it was intended that some of the questions contained in the survey would be included within the scope of a later evaluation. (See Appendix 3 - SiO Facilitator telephone Survey).

The Primary version of the programme was implemented from March 2009, following the training of facilitators, an evaluation including both quantitative, child-based outcome measures and qualitative implementation measures was planned for the first cohort. For the methodology of the evaluation as a whole, see Appendix 2 (SiO Evaluation – Facilitator Information).

The purposes of the evaluation as a whole, were intended to encompass the following key areas:

- To determine if children are able to use and maintain skills in problem solving (Child Skill Development).
- If children completing the SiO programme are more able to problem solve than those engaged in other one to one board game activities. (Child Outcomes)
- If children, staff and parents perceive changes in child's problem solving and other behaviours – social, emotional etc. over the duration of the programme.

In terms of impetus to undertake an element of the evaluation, I had previously experienced evaluation research studies, which had been limited due to inability of traditional evaluation methods to take account of contextualised and in-depth data associated with the changes which often take place during implementation. In addition, a particular study I was involved in suffered high dropout, the result of which was limited data and consequent inability to use findings to inform further development or generalisability.

The SiO evaluation provided an opportunity to explore evaluation in a different way, in order to obtain a greater level and depth of implementation data and in order to be able to prepare for and extract information which would be useful, given any eventuality.

Greenberg (2004) and others have argued that programme implementers should concentrate on which characteristics of programme quality are important to the success of a programme and that evaluation should monitor adherence to these core components during implementation. (Greenberg 2004; Dane and Schneider 1998).

Greenberg poses questions to consider when evaluating the implementation of a programme, of which two particular relevant questions are,

- What factors influence the quality of implementation?
- How do the environmental and systemic characteristics of a school affect the quality of program implementation?

In relation to the SiO evaluation, in addition to the child outcome-based measures planned for the whole evaluation, a focus on implementation process factors was planned to take place and this formed the author's doctoral research study. In particular, the two key questions above formed the overarching structure of the implementation evaluation.

Within this context, the study's aim would be to evaluate variations in implementer characteristics and support systems which may impact upon the SiO programme delivery and outcome. The purpose being, to identify contextual factors and mechanisms to account for differing levels of both child and facilitator outcomes, using a Realistic Evaluation framework and process.(Pawson and Tilley 1997). An overarching key question from this being,

- To determine factors which influence the “success or not” of the SiO programme, from the facilitators perspective.

In particular, the key questions associated with the evaluation study were,

- Is the programme implementation and outcomes successful or not – from the perspective of the facilitators?
- What context factors/variables are significant in terms of the success or not of the programme, from the perspective of the facilitators?
- What are the mechanisms by which the programme progresses positively or not, from the perspective of the facilitators?
- Is the programme implemented consistently across time and what are the key features and characteristics which are required, impacting upon positive outcomes.

- Given the evidence above, what changes and recommendations associated with training of facilitators, changes to the programme or materials and considerations associated with programme implementation should be considered?

Blamey and Mackenzie (2007) argue that from an evolutionary epistemological perspective, critical realism is a useful approach to the evaluation of programmes. Realistic Evaluation is concerned with constantly refining learning and information, identifying and capturing possible causal triggers to change and gaining an understanding of,

...psychological and motivational responses leading to behaviour change.

(ibid, p.446.)

Realistic Evaluation was considered as an appropriate method to be utilised within the evaluation of the programme, in order to take account of the complex nature of a school-based programme, set within a real world context. A mixture of methods using Realist interview-based focus groups, interviews and questionnaires were planned to extract data around context and mechanisms interacting to produce positive or negative outcomes, from which the key questions would be addressed and implications for programme development would be extracted.

4.2– Literature Review

An initial literature review has been undertaken which informs the theoretical framework and theory during the course of the evaluation and within which two major themes are explored. Firstly, the review briefly and critically examines the research and theoretical literature and defines terminology associated with the programme SiO. Whilst a brief understanding of the contextual framework of the programme is relevant to an understanding of the evaluation of the programme, the theoretical basis for the programme is not examined in detail, due to the emphasis being predominantly around evaluation of the programme.

The second theme of literature review is in relation to programme evaluation, with specific reference to process and implementation areas within evaluation of preventative programmes, associated with social-emotional areas within school-based programmes. This literature is also included within the body of the Research paper.

Literature search strategy parameters will be explained. (See Appendix 3 – Literature Review search parameters).

4.2.1. The Educational Context

In recent years SEAL has been promoted in schools as providing an explicit and structured whole-curriculum framework from which to develop children's skills in emotional literacy and as such, is divided into three waves from universal to targeted

individual approaches. It is also considered that outcomes should be monitored and measured within schools.

The SEAL framework uses five categories – Self-awareness, managing feelings, motivation, empathy and social skills. Within each of the areas is a set of skills to be explicitly taught, for example,

I can solve problems by thinking of all the options, identifying advantages and disadvantages, choosing a solution and evaluating it later on. (DfES 2005. p. 43.)

In terms of resources and materials, whilst there are whole class lesson plans associated with elements of social problem solving and classroom materials associated with the problem solving process, there is little guidance on individual skill development and practice, particularly associated with children with higher level needs, as advocated by Elias (2006). The SiO programme is one means to “fill this gap”.

4.2.2 Theoretical and research basis of SIO

The SiO programme draws from a model of social problem solving, initially introduced by D’Zurilla and Goldfreid (1971) from a cognitive-behavioural and social learning theory perspective. Goldfried, in the forward to the book “Social Problem Solving: Theory, Research and Training” (Chang, D’Zurilla and Sanna, 2004) notes that the application of social problem solving approach suggests a variety of outcomes associated with addressing typical difficulties that children may experience in school, leading to

adverse outcomes in behaviour and social/emotional difficulties. Goldfried notes about the approach,

Not only does it help to resolve the distress of encountering difficult life situations and their possible negative consequences, but with the experience of successful coping and increased competence also comes an enhanced sense of self-efficacy – an important key to psychological well-being. (ibid., p. xiii.)

D’Zurilla, Nezu and Maydeu-Olivares (2004) consider that a problem includes both external, situational components as well as a personal reaction, including thoughts and emotions. “Social problems” refers to the types of problems which occur within everyday life. The authors categorise these into problems which might impact upon psychological and adaptive functioning, such as,

personal problems, (e.g., insufficient finances), *personal or intrapersonal problems*, (emotional, behavioural, cognitive, or health problems), *interpersonal problems*, (e.g. family disputes), and *community and societal problems*, (e.g., crime).

From a social learning theory perspective, previous learning experience will determine how effective or not an individual is in responding to a particular problem. When an individual tends to behave ineffectively, in order to overcome problems, the individual will tend towards responding in several ways. For example, engaging in trial and error behaviour; gaining guidance from others or respond in a way which mimics other, more “effective” problem solvers.

D’Zurilla et. al. consider that in order to solve a problem, a process is undertaken in which existing problem orientation (positive or negative) interacts with problem-solving style (rational, impulsive or avoidance style) to produce outcomes, which may be positive or negative. The paths through this model produce either a constructive or dysfunctional problem solving style.

D’Zurilla and Goldfried (1971) suggest that alternatively, an individual can use prior learning stance to engage in novel learning – in effect, to “figure it out” him/herself. Alongside the solving of the problem there is also considered to be additionally a positive impact upon competency and self-efficacy. (Bandura, Barbaranelli, Caprara, and Pastorelli 1996). In general, with reference to previous studies, the authors consider that a number of cognitive operations or stages are mediated through in order to effectively solve problems:

- Orientation – attitude and “set”
- Problem identification – definition and formulation
- Generation of alternative solutions,
- Evaluation and selection - consideration of consequences and decision making
- Verification - planning and reviewing.

The SiO programme draws on the above theoretical framework and incorporates the “problem solving steps” within a child-based programme for use in schools.

4.2.3 Social Problem Solving programmes

With regard to school-based problem solving programmes, Wilson and Lipsey (2006) note that programmes tend to be associated with improving social behaviour by systematically teaching cognitively-based problem solving skills.

In relation to variations of the problem solving model as used within programmes in a Primary age range, the most widely used programme has been “I Can Problem Solve” (Spivak, Platt and Shure, 1976). This programme emphasises the processes of solution generation, consequential thinking and “means-end” thinking, as well as teaching emotional and concept language through a series of class-based scenario’s, storyboarding and puppets, in the form of scripted lessons. The programme is “formally” taught, as well as integrated into the curriculum and arises through every-day situations. The aim being to,

...teach children how, not what to think. (Shure, 1993, p.52.)

Whilst the I Can Problem Solve (ICPS) programme is directed at a universal population, it is suggested to have a positive and lasting impact upon those children considered as having difficulties with self-regulation. Evaluation has shown evidence of reducing impulsivity, aggression or emotional regulation in individuals. (Shure, 1993).

From a secondary level perspective, one British educational psychology influenced formulation of the model was developed as “Steps to Success” (Thacker, 1982). This programme was aimed at those children with self-regulation and transition difficulties,

following transition to the secondary phase of education. The approach incorporates, video, role play and cartoons into whole class scripted lessons, teaching each of the key skills/steps of problem solving. Within this approach group work, using cartoons, video and discussion were also incorporated and there was potential for individual sessions, in which children could work one to one with an adult utilising cartoons to problem solve their own problems. Building upon this programme, the SiO programme is an individual based programme, which systematically teaches social problem solving skills.

4.2.4 Evaluation of Social Problem Solving programmes

In terms of meta-analysis of programme outcomes, there are only a three reviews which evaluate social problem solving programmes.

Pelligrini and Urbain (1985) reviewed 20 studies associated with “at risk” children on the ICPS programme and pointed to positive outcomes including reduction in aggressive and impulsive behaviour and increases in pro-social and co-operative behaviour. However, they also note that due to the multifaceted nature of content and presentation of programmes, it was,

...difficult to determine what their “active ingredient” might be. (ibid, p.37.)

The authors suggested that within further programmes, it would be useful to distinguish between particular programme elements which were effective or not in producing outcomes.

In addition, Denham and Almeida (1987) in a meta-analysis of over 50 studies, suggest that, in general, problem solving programmes showed reliable effects across studies. Most promising were those studies where “at risk” children were included and those in which the programme was embedded into the school environment, showed more significant outcomes.

In a recent review of social problem solving programmes, Wilson and Lipsey (2006) reviewed 47 “Social Information Processing” programmes from 1970 to 2006, in a meta-analysis concerned with effect sizes around aggression outcomes. The authors note that most reviewed studies were USA-based and concerned with universal rather than individual-type programmes. They note that across all programmes reviewed overall positive effect size was .26 ($p < 0.01$) and there were a significant and negative effect between attrition and outcomes. The more effective programmes were associated with pupils already showing difficulties with behaviour, rather than those deemed at lower risk. More effective outcomes were seen in longer programme duration and group, as opposed to individual-based interventions. However, the authors used a high level of unpublished studies (45%) and high numbers of group, as opposed to individual-based programmes (10% individually-based) within the sample and this may have influenced the nature of findings.

An example of the difficulties associated with traditional evaluation methods and a social problem solving programme is that of evaluation of “Making Choices” programme. (Smokowski, Fraser, Day, Galinsky and Bacallao, 2004). The evaluation used a pre-post test control group design with 100 Primary children in one school, in which two classes experienced the programme and two were control groups. The measures were teacher-

report questionnaires associated with social and cognitive measures. The authors report that, within those studies reviewed, there were significant increases in social and cognitive skill areas and that “high risk” children benefited more than “low risk” children. The authors however, noted briefly, that a possible limitation of the evaluation was that two classes (one in each experimental and control groups), ...*failed to support the programme...*(*ibid.*, p.247.) It is notable, in this example, given that half the sample withdrew, that the authors do not detail what implementation factors were associated with this high drop out. Examination of such factors in the evaluation might be crucial to further implementation of the programme in other contexts.

Elias (2006) has pointed to some of the inherent difficulties of evaluating social-emotional based programmes, whilst arguing that evaluation should also be seen an imperative within implementation,

...whilst educators cannot guarantee the outcomes of all their efforts, they do have an ethical responsibility to monitor what they do and attempt to continuously improve it...using multiple indicators to ensure programmes are carried out as planned. (ibid., p.12.)

Social problem solving is an area which has created increasing interest in relation to school-based preventative programmes. Whilst this may be an effective area in which positive change can be promoted with individuals in schools, research evidence of evaluation of such programmes has been limited.

4.2.5 Evaluation of preventative programmes - limitations

Several authors have suggested that there has been a recent emphasis within research for evaluating programmes outcomes within an evidence-based context, in terms of examining and justifying effectiveness. (Steven, Dickinson and Pearson 2007, Blamey and Mackenzie, 2007). However, it has been pointed out that there are existent problems with evaluation as it stands currently, as there is not yet an accepted and fully effective method to evaluate programmes with. (Greenberg, 2004)

Blamey et. al. suggests that attempts to determine success or failure of programmes has ended in inconclusive results and O'Connor, Small, Cooney, (2007) suggest that an understanding of implementation process would enable clarity around results to be achieved more effectively.

,
Equally, Greenberg, Domitrovich, Graczyk and Zins, (2005) notes that a model is required that,

...systematically clarifies the relationship between implementation factors and processes, and the causal factors and processes that contribute to a program's potential effectiveness. (ibid, p.10.)

From a methodological perspective, traditional approaches to evaluation research have been via either a positivist, quantitative methodology or via a qualitative social constructivist perspective. However, both these perspectives have been argued to be inadequate for determining the efficacy of social programmes within a "real world"

context. (Steven, Dickinson and Pearson 2007, Blamey and Mackenzie 2007, Timmins and Miller 2007, Blamey and Mackenzie, 2007, Pawson and Tilley 1997).

Blamey and Mackenzie (2007) suggest that in relation to experimental, quantitative evaluation, in attempts to learn about the success or failure of a programme, there may be over generalisation of particular effects - assuming that a particular effect will occur regardless of context. In effect, that causal links are made between the original input and any subsequent changes in outcomes, without any consideration for the various alterations that occur within the context of the programme. The authors suggest that studies taking an experimental paradigm, see programmes as,

...unified entities, through which recipients are processed, and where contextual factors are conceptualised as confounding variables. (ibid., p. 440.)

An alternative evaluation approach has been suggested via social constructive approaches. However, Blamey et. al. suggest that the disadvantage of this perspective, is an over-emphasis on context, in that this becomes too narrow a focus, which is open to criticism regarding objectivity and sample.

As well as problems regarding the way in which programmes are evaluated and the scope with which different formats of design can illuminate contextual issues another issue is that of how programmes are implemented and the nature of processes within which a programme travels over time. Greenberg et al (2005) has suggested that a programme may work well initially but over time, fidelity and adherence may reduce the impact

upon a programme's potency, challenging a programme's sustainability. In addition, O'Connor, Small and Cooney (2007), point to "programme drift", in which an implementer gradually changes and adjusts the programme to fit the particular context.

Greenberg, Domitrovich, Graczyk and Zins (2005) raise the issue that later implementations of a programme may differ from original efficacy trials, which may be delivered in optimal circumstances and that this may not reflect what occurs in real life, school-based contexts.

Programs are not always implemented in the same way or with the same quality as when they were first evaluated. (ibid, p.2.)

4.2.6 Core Implementation factors and fidelity

O'Connor, Small and Cooney (2007) have noted that without fidelity to the original "blueprint" for an intervention, positive outcomes and results are less likely. However, they suggest that there is a differential effect of different factors which impact upon implementation and outcomes. For example, programme elements may be omitted or altered from a programme without impact. O'Connor et. al. suggest that such changes may be alterations to language used; modifying particular activities and images to be more developmentally or culturally appropriate or adding relevant, evidence-based content with the aim of making the programme more appealing. The authors suggest however, that programme developers need to identify the "core components" or active ingredients in a programme and ensure that these elements, where possible, are left unchanged.

Different authors have suggested that certain factors which are critical or not to programme implementation success. Dane and Schneider (1998) in reviewing 34 preventative programmes noted that with seven studies, stated higher fidelity to core components was related to stronger programme outcomes. They noted that only 59% of programmes had some measure of fidelity or tracking of essential components across evaluations. The authors specify 5 aspects of implementation quality to consider within both programme implementation and evaluation.

- Adherence – degree to which components are delivered as specified
- Exposure – frequency and duration of the programme delivered
- Content and affective quality – qualitative aspects of programme delivery
- Participant responsiveness to implementation
- Programme differentiation – non-intervention group not exposed to an unintended intervention.

Romasz, Kantor and Elias (2004) identified factors which helped or hindered programme implementation and fidelity in relation to the implementation of a programme they evaluated and these were,

- Receptivity to programme from staff at all levels
- Direct involvement from previous implementers
- “bringing along” management staff
- Infrastructure to implement
- Feedback into practice
- Timing – staff starting school year not having time to systematically benefit from knowledge gained

- New staff and turnover – ownership of programme, other priorities, trained population going elsewhere.

Chen (1998) has identified a number of characteristics associated with programme adherence over time, in thirty two “real-world” educational-based programmes. Factors such as implementer, organisational, programme and recipient characteristics were seen to impact upon programmes when they “go to scale”. Chen suggests that if programme developers want a programme to be delivered consistently, information and guidance is required to ensure that barriers to successful implementation are reduced and factors which compromise programme success are considered and circumvented.

4.2.7 Evaluation of Implementation

Greenberg (2004) has called for a re-evaluation of preventative programme implementation and evaluation using a variety of methodologies to ensure that programmes are fully integrated into school and community contexts and offer,

...high quality implementation and promote sustainability. (ibid., p.5.)

In order to construct the conditions with which a programme has the best chance of adhering to original, Greenberg suggests particular phases and tasks associated with the implementation of a programme. Pre-adoption – in which there is involvement of stakeholders and training, Delivery, in which there is on-going monitoring of implementation and Post-delivery, in which implementation of the programme is determined.

In addition, Greenberg recommends that research and programme evaluation should include:

- Routine assessment of implementation quality
- Using programme theory to guide changes in implementation
- Examining replications to confirm theory
- Examining variations in implementer characteristics and support systems which impact upon the quality of programme delivery

It may therefore be suggested that useful evaluation associated with programmes in an educational context need to offer **both** empirically valid and reliable information on what successful outcomes are achieved for children and families but equally need to account for the complexity of the social and interactive context in quantifying the routes and factors associated with sustaining successful outcomes.

4.3– Methodology

4.3.1. The Whole Evaluation – Phase 1

The study was intended to measure outcomes of year 4 and 5 children from the participating schools following facilitator training, using a mixture of experimental and qualitative methods. A letter explaining the evaluation was sent to all facilitators on the on first half day of training and the evaluation was described in detail. (See Appendix 2 – SiO Evaluation - Facilitator Information)

Within the programme manual and to ensure full access to the programme, criteria for child entry to programme was that,

- Child has no significant language difficulties (based on National Curriculum band).
- Child able to reflect verbally to some extent about own life and circumstances.
- Child who may have some difficulties in the area of behaviour, anxiety, emotional regulation, coping.

Two children from each school would be randomly assigned into either an experimental or control group. The SiO sessions were planned to take place between 1st June and 10th July – giving a possible 6 weeks timeframe to complete sessions with the children.

Facilitators were to be asked to complete 5 sessions with both the children, one per week.

There was an expectation that facilitators would have a “practice” session/s with a child (not child included in the study) between 27th March and 18th May. The children in the experimental group would engage in the SiO programme, whilst those in the control group would experience emotional literacy based board games.

Two measurement questionnaires were intended to be used to measure child outcomes:

Child Questionnaire – measuring how the child approaches and solves problems. This questionnaire was intended to be delivered to the child during the first session and at the last session.

Strengths and Difficulties Questionnaire (Parent and Class teacher version) –

measuring perceptions in changes in behaviours from the child over the duration of the programme – social and emotional. One questionnaire would be completed by the child’s class teacher and another by the child’s parent before the start of the sessions or in the first week of the programme and following that, during the last week of the programme. The end questionnaire would also include a space for comments regarding other noticed changes in the child’s behaviour and problem solving abilities.

In addition, facilitators would be asked to complete a brief diary of sessions recording environmental factors.

Given previous enthusiasm for SiO programme and research as indicated by supervision group discussions with individual facilitators, it was considered by those involved in developing the whole evaluation format, that a sample of facilitators would be willing to undertake the evaluation as a whole following training.

4.3.2 Implementation Evaluation

In addition, as part of the evaluation, key questions were established to triangulate with the above outcome data in order to gain an understanding of context and mechanism factors associated with possible outcomes of the programme and were particularly concerned with factors which influenced the “success or not” of the programme, from the facilitator’s perspective.

In particular, the key questions associated with the evaluation study were,

- Is the programme implementation and outcomes successful or not – from the perspective of the facilitators?
 - This would be measured by two focus groups which would take place on 18th May and 6th July 2009, at the beginning and end of the programme implementation and a sample of interviews which were planned using a Realistic Evaluation format.
 - The purpose of the measures would be to identify sub-groups and mechanisms/contexts to account for differing levels of child and practitioner success/non-success outcomes.

- What context factors/variables are significant in terms of the success or not of the programme from the perspective of the facilitators?
- What are the mechanisms by which the programme progresses positively or not from the perspective of the facilitators?
- Is the programme implemented consistently across time and what are the key features and characteristics which are required for it to show positive outcomes.
 - The above questions would be addressed and established by use of Realistic Evaluation format and progressively refined information from the focus groups and interviews. Information would be triangulated against outcome data – SDQ and child questionnaire.

- Given the evidence above what changes and recommendations associated with training of facilitators, changes to the programme or materials and considerations associated with programme implementation should be considered?

4.3.3 Implementation Evaluation Sample

The schools involved in the Primary SiO evaluation comprised of those whose staff had attended the March 2009 training course. Schools were from across The Local Authority area and comprised small Primary school in suburbs, as well as large, low-SES urban. The Local Authority area as a whole is seen as a deprived area, in which there is high transience.

Participants were a cohort of Local Authority area based facilitators of the Primary programme following a training course, which was planned to take place on 23rd March, 27th March and 18th May. It was intended that recruitment of the sample group would take place between 23rd March and 18th May. Facilitators were teaching assistants and learning mentors. Line managers were invited to the first training session.

4.3.4 The Qualitative Approach

In order to account for difficulties in evaluation noted in the literature review, it was considered that there were a number of ways that evaluation issues and limitations might be accounted for. In relation to possible methods to achieve in depth evaluation, Romasz, Kantor and Elias (2004) used an Action Research cycle approach and suggested that this was a useful means within which to evaluate, as,

...action research involves the idea of testing theories and methods by putting them into practice, evaluating their impact, and using the results to refine future theory, method and practice. (ibid., p. 94.)

Action research involves progressive cycles of problem analysis, programme design, field trials, (plan, do, review) leading to increasingly precise definitions of what works and how it works and taking into consideration the factors associated with targeting of programmes to different populations and altering circumstances. Similarly, it was considered that the process of implementation evaluation would engage with cycles of understanding within the framework of realistic evaluation, which would offer a greater level of methodological structure than action research alone.

Greenberg (2004) recommends that research and programme evaluation should use the particular programme theory to guide changes in implementation and in this case this would highlight the area of problem solving steps as applied to evaluation. For example, by using,

- Problem identification – definition and formulation
- Generation of alternative solutions,
- Evaluation and selection - consideration of consequences and decision making
- Verification - planning and reviewing.

Realistic Evaluation (Pawson and Tilley, 1997) suggests that,

...realistic evaluation can utilise a range of research designs...(ibid., p.182.)

The approach was considered to enable both a structured and in-depth appreciation of the implementation of the programme but also allow the use of different methods, such as

using the steps of SiO as a model which would permeate the process of the planned methodology.

Realistic Evaluation is a structured approach to evaluation of programmes which has increased in popularity in recent times and is from a critical realist perspective. It has been suggested as an alternative to polarised epistemology, in relation to evaluation Bhaskar (1989) suggested that in order to better understand and influence change, an emphasis should be made in identifying structures and patterns within events. (Blamey and Mackenzie, 2007).

As a methodology, Realistic Evaluation offers a possible means to examine what occurs within implementation of programmes in which information is gathered about the environmental and social context and the process of a programme, in order to gain a deeper level of understanding as to the factors impacting upon the success or not of a programme. Timmins and Miller (2007) see the purpose of an a “Realistic Evaluation”,

...to identify the resources and approaches supporting change, embodied in a particular programme. (ibid., p.10.)

Taking this approach, the programme and factors associated with implementation are conceptualised in terms of contexts (Cs), interacting with mechanisms (Ms) to produce outcomes (Os). Contexts are considered to be the environmental contexts within which programmes are situated (e.g. participants, implementer and developer motivations and organisational structures). Mechanisms are considered as the things which the people involved in the programme do or change in order to achieve particular outcomes. The

purpose of “Realistic Evaluation” is to establish which contexts trigger the particular mechanisms which then produce the desired outcomes. (Timmins and Millar, 2007).

It may be suggested therefore, that the nature, context and mechanistic trajectory of any given programme has significant implications for success or failure of a programme and that evaluation methodology should take this approach into account if an evaluation is to offer a useful and progressive insight. Realistic evaluation is constructive in approach in that it suggests the generation of possible contexts and mechanisms from both the theoretical frameworks associated with the area of study as well as the “theories” donated by those people implementing the programme.

Pawson and Tilley (1997) suggest that evaluators and subjects each have significant insights into the processes at work within implementation and that the task of the researcher is to capture relevant aspects of the subjects understanding,

...getting a fix on the action and beliefs of each stakeholder within a wider model of their causes and consequences. (ibid., p.164.)

It was therefore an important aspect of the evaluation that methods chosen were consistent with the idea of “information flow” (p164 ibid) between the expertise of the researcher and facilitator in a “teacher-learner” pattern. The Realist Interview approach was planned, in which the researcher shares information with participants, who then share information, which can be refined progressively. (Pawson and Tilley, 1997)

4.3.5 The Planned Evaluation – Phase 1

The intended route was planned to run alongside the other measurement of the evaluation as a whole. The intention was that triangulation of realistic evaluation would be achieved by matching outcome data of SDQ, child questionnaire and perceptions of outcome success via the facilitator. (See Appendix 5 – Evaluation Timetable Phase 1 and 2)

Focus group 1

The purpose of the initial Realistic Evaluation based focus group was to generate possible theories, which Pawson and Tilley (1997) refer to as “sharing hunches”. This was planned to follow a Realist Interview method.

The focus group was conducted following the training of the facilitators and was aimed at developing possible theories, in order to generate context factors and mechanisms which would be refined. This part of the research was undertaken prior to the facilitator’s implementing the programme, in order to examine possible starting “theories” with later implementation-based and then outcome-based theories with facilitators. (See Appendix 6 - Discussion Group format)

In order to inform and fully contextually locate participants within the research, a short presentation would be delivered to participants prior to discussion. This was to ensure that the research was equitable and that facilitator’s experience and knowledge was acknowledged and fully included. In order to set the context of the researcher’s conceptual structures, example theories were provided. Facilitators would be informed of

the nature of the focus group during the first training session and would be asked for informed consent to participate.

At the discussion group, two questions associated with key question 1 would be posed and discussed with the focus group:

Question 1: How much do you think the Sort it Out programme is likely to be successful or not with a child?

This was rated on a 10 point likert-type scale from 1= “not at all successful” to, 10= “very successful”.

Question 2: How likely or not is it that you would be able to implement the programme within your school within six months of that time.

This was rated on a 10 point scale from 1= “definitely not implement within six months” to 10 = “definitely implement within six months”.

Facilitators would then be asked to write down three factors around the programme, which would be likely to influence success positively or negatively, from their perspective. An interactive discussion around the generated theories would follow and recorded on paper by a scribe.

Individual interviews

Interviews with a sample of the facilitators were planned during the implementation phase of the programme. The interviews were planned to provide in-depth analysis during the intervention period in order to further refine the context and mechanisms.

Focus group 2

Following this a further Focus group 2 was planned to enable theories to be refined and confirmed or disconfirmed. Participant feedback would allow for the sharing of contextual and mechanistic paths to outcomes during the programme implementation.

Following this, data would be analysed in relation to the key questions and context and mechanism data would be compared with child outcome data.

4.3.6 Change of planned evaluation – Phase 2

Unfortunately by the closing date, which was following focus group 1, only one facilitator had “signed up” for the evaluation as a whole, despite further reminder emails being sent to schools.

At this point, a re-assessment was made of what was possible to achieve in discussion with the programme developer. Consent had been given by one facilitator to be interviewed and following this interview, it was planned that questionnaires would be developed and sent to remaining facilitators.

It was considered that one prime reason for lack of sign up to the original research plan was the possible “daunting” nature of what facilitators were asked to contribute and it was considered that a reduced “load” might enable some facilitators to contribute who were not otherwise able to.

In depth consideration of possible factors/constructs – Interview with one facilitator

In order to structure a Realist Interview with one individual, it was considered that a personal construct psychology (PCP) (Kelly, 1955 in Pope and Keen, 1981) approach would be useful method, within a brief interview, to determine relevant and meaningful constructs for that person, associated with the programme, which would allow for the development of a questionnaire. The purpose of which would be to refine, extend and confirm more widely held constructs, by a sample group, following programme implementation.

Banister, Burman, Parker, Taylor and Tindall (1994) suggest that from a PCP perspective, the individual is seen as actively constructing meaning. They note that,

...clearly individuals and their contexts interact...However, it is the individual's understanding, the personal importance or otherwise of the contexts in their construing, that is the emphasis of personal construct psychology. (ibid., p. 90.)

It was considered that PCP was consistent with the Realistic Evaluation theoretical approach as a measurement technique. Given that facilitator perception was regarded as central to key questions, it was considered that this approach would be a useful and

active method to develop meaningful constructs. A Repertory grid was used as a flexible but structured method to illuminate an individual understanding of the programme and allow for a comparison with other similar/dissimilar programmes used in schools. These constructs would then be rated against other similar or different programmes, of which the interviewee had experience and would be chosen by the interviewee.

Questionnaires

Following the in-depth interview, context and mechanism factors (from the focus group) and constructs (from the interview) were then incorporated into an attitude scale format. Two scales were developed – one associated with “Implementation” and one with “facilitator experience” elements of the programme. Twenty attitude-type statements in each area were developed from context/mechanism factors and constructs donated. Ten constructs were used for each scale and consisted of positive and negative statements randomly allocated to account for response bias. A likert-type scale was used. The intention was that this mechanism would provide validation to particular contexts and mechanisms embodied within constructs used. (See Appendix 7 – Facilitator Questionnaire)

Other items included in the questionnaire asked for the number and age of children engaging in the programme, as well as number of sessions completed at that time. In addition, facilitators were asked about the adult and child reasons for why they had been included in the programme.

Items asked about the skills and abilities facilitators had used during the programme and to rate on a 5 point scale as to where they considered they were at the current time and

where they would like to be in the future. This was rated from 1 = not effective at all, to 5= very effective.

A question item asked facilitators which elements of the programme they considered to be important to success or not and these were rated on a 5 point scale from 1 = not significant at all, to 5= very significant. Facilitators were asked to indicate the three most important areas to them.

4.4 - Results

4.4.1 Realistic Interview Focus group

Fourteen facilitators consented to take part in the discussion group from the training sample of eighteen. The facilitator's were asked firstly to rate how successful or not they considered the programme would be with children within their context, on a 10 point scale from 1= not successful at all to 10= the most successful a programme could be. Fourteen facilitators rated between 6-10.

Secondly, facilitators were asked if they thought that they would be able to implement the programme within their school within six months from that time. This was rated on a 10 point scale from 1= definitely not implement within six months to 10 = definitely implement within six months. No facilitators rated below five. Five facilitators rated 5 and nine facilitators rated between 6-10.

Facilitators were then asked to write down three factors around the programme, which would influence success positively and negatively.

Responses were collated and analysed according to attribution to the "high" or "Low" success categories and themed around categories of factors – "programme content/materials", "environmental", "pupil" and "facilitator" factors. Individual comments were categorised into those suggesting "context" "c" – existing conditions which would impact upon outcomes and "mechanisms" – "m" which would be considered possible pathways to different outcomes. One outcome (0) was also included in comments. (See Table 1 below for detailed results).

Theme	High success – context/mechanisms	Low success – context/mechanisms
Programme – content/materials		
Structured framework	<ul style="list-style-type: none"> • The structure helps the problem solving (c) 	<ul style="list-style-type: none"> • Structure of programme getting in the way of discussion – not comfortable for rapport.(c)
Child friendly	<ul style="list-style-type: none"> • Visual tool helps start discussion (c) • Tools give a positive example of how it will work (c) 	
Environmental		
Time/Capacity	<ul style="list-style-type: none"> • Hope that less time dealing with individual’s problems – free up staff. (o) 	<ul style="list-style-type: none"> • An hour not enough – running over. (M) • Teacher/ other staff – waiting until an appropriate time/ holding things up. (C) • Impact on other support mechanisms done by facilitator. (m)
Continuity		<ul style="list-style-type: none"> • Child absence or holidays – not having continuity to implement. (C)
Support from other staff		<ul style="list-style-type: none"> • Difficulty with teacher supporting and helping child work through the action plan – particularly with issues involving them. (m) • Referrals need to be agreed to by all. (c)
Parent support	<ul style="list-style-type: none"> • Co-operation from other adults in child’s life (parents) to support the action plan. (m) 	<ul style="list-style-type: none"> • Not given parental consent. (c)
Senior staff support	<ul style="list-style-type: none"> • Will work if programme given priority by management. (c) • Space/room (designated room space) given. (c) 	<ul style="list-style-type: none"> • Support from head teacher – decides timetable, room and space / needs to be part of a whole school approach. (c) • Timetabled time in (dependent on management). (c)

		<ul style="list-style-type: none"> Facilitator needs to cover elsewhere/ redirected by management. (m)
Pupil		
Ability	<ul style="list-style-type: none"> Higher ability more successful. (C) Literacy skills of child (c) 	<ul style="list-style-type: none"> Child with SEN not being able to come up with ideas. (M)
Age	<ul style="list-style-type: none"> Best for middle age group (C) 	<ul style="list-style-type: none"> Yr 6 pupil perception that it is babyish. (m) Upper key stages find it boring. (m) Young children – too hard. (m)
Motivation	<ul style="list-style-type: none"> “buy in” to the programme. (m) Gives scope for the child who is reluctant to talk. (M) 	<ul style="list-style-type: none"> Child may not feel the need to use the programme. (m) Belief that child can deal with own issues. (m) Child not co-operating - wanting the adult to “fix it”. (M) Types of problems brought may impact on motivation. (M)
Perception of need /Belief of child	<ul style="list-style-type: none"> Ownership of problems/ Empowers child (M) 	<ul style="list-style-type: none"> Perceptions of other adults conflicting with child’s. (c)
Child orientation to materials	<ul style="list-style-type: none"> Engagement with materials. (M) 	<ul style="list-style-type: none"> Child who switches off when presented with games. (c)
Facilitator		
Relationships	<ul style="list-style-type: none"> Relationship with child to start with. (c) Relationships already in place. (c) Helps with building relationship before addressing problem. (m) 	<ul style="list-style-type: none"> Limited experience of facilitator. (c)
Motivation	<ul style="list-style-type: none"> Will continue with it if there is some success – maintaining motivation. (m) Belief in the intervention. (c) 	<ul style="list-style-type: none"> Bogged down with other issues. (m)

Skills	<ul style="list-style-type: none"> • Given time to absorb the materials/ time to practice materials. (M) • Communication skills. (c) 	<ul style="list-style-type: none"> • Possible difficulties using the tools – skills of facilitator. (c) • Getting stuck with ideas. (m)
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Table 1. Themed “context” and “mechanisms” categorised into “high” and “low” programme success categories.

4.4.2 Interview

Phase two of the research was altered in light of low “sign up” to the evaluation. An interview with one facilitator was conducted. The purpose of this was to examine in more depth the above factors/constructs regarding possible contextual and mechanisms which were viewed as relevant to outcomes. It was considered that from the interview a questionnaire would be developed which would enable relevant factors in implementation to be established with the larger group of facilitators. The interviewee was firstly asked to generate possible constructs which would determine success or failure with the programme. The interviewee was then asked to consider the factors in terms of poles of constructs. The interviewee was then to rate constructs according to similarities or differences to a selected range of programmes and interventions, including SiO. The other programmes considered were chosen by the interviewee and were “Read Write Inc. a curriculum based literacy intervention, which was whole school, class based and had individual components; Circle time – a class based intervention and ELSA – an individual based programme associated with social-emotional learning.

Construct poles extracted from individual interview

“Generalised vs. personalised” construct poles

- Clear process and structure – logical for both the child and adult vs. generalised – not targeted to a particular child
- Teaching specific skills vs. teaching general e.g. Self esteem

- Small step approach, capacity for skills divided up for the individual vs. chunks, too big, not personalised.
- Individual and personalised vs. group, not personalised
- Empowerment for child in wider setting, practicing skills in wider setting vs. skills not explicit, not generalised.

“Child vs. adult control” construct poles

- Structure – child being in control vs. facilitator being in control
- Explicit skills (to the child) vs. hidden skills (to the child)
- Setting own targets – very clear vs. teacher setting targets

“Analysis vs. end in itself” construct poles

- Talking about progress – reviewing vs. giving a mark, no analysis or review

4.4.3 Questionnaires

Only five Questionnaires were returned by the closing date of the week before summer holidays (15th July 2009). The author then phoned the 13 remaining schools in the last week of term. Two more questionnaires were returned on this basis, however several facilitators noted that they did not usually either have access to a computer during their school day and/or did not check email and were reliant on other people passing information on to them. Of the remaining 11 school facilitators four were off sick due to flu epidemic which had been prevalent in schools in the weeks leading up to summer. Two facilitators had changed job. Five remaining were unobtainable due to being out on school trips or involved in class based work and a message was left with administration staff for these staff.

Of the seven questionnaires returned, three were from facilitators who had not completed the programme with any children. Of those, comments as to reasons for not completing the SiO Programme were around timetable changes, which had hindered implementation. For example one facilitator noted,

I have not had adequate time within the timetable to work with this programme as yet. Time has been allocated in the next term in order for me to use this resource.

Of the four questionnaires remaining, facilitators had completed the programme with 6 children.

The low response rate indicate that questionnaire responses should be treated with caution as response represented only 22.2% of the sample of the total 18 trained facilitators. However, results of the questionnaires represented a culmination of data and are included as possible indicators to be confirmed via further research cycles.

The data suggested that problems children had from the adult perspective were associated with challenging behaviour in the classroom, social and emotional difficulties with peers and limited resources for solving problems. From the child's perspective, the primary reasons for programme inclusion were around "being blamed for things" and getting into trouble and difficulties understanding or getting on with peers and adults.

In addition, comments were included from one facilitator who did not continue the programme with a child, which suggests a possible mechanism for children who do not complete the programme. (See Table 2 below for detailed results).

Question naire number	Age of child	Session number completed	Adult view of reason for inclusion in programme	Child view of reason for inclusion in programme
1	8	2	Lack of strategies to solve problems	Always getting into trouble
1	9	1	Empathy towards others	Not understanding why other children reacted in the way they did when spoken to by him
3	10	3	Difficulties socialising with other children and inappropriate behaviour in school	Child felt he was always being blamed for things and it was never his fault
	10	3	Challenging behaviour, low self esteem, possible attachment difficulties	Child felt that most adults were against him – school and at home
4	10	3 –did not continue	Getting into trouble in class for repeatedly not following class rules.	Being blamed for things I haven't done Reason for ceasing: Child said that he was happy in class and did not need sort it out anymore. Facilitator comment: The child was fine during the brainstorming, planning stages but when it came to implementing the ideas he/she had written he/she could not move on to that step and said that he/she has sorted the problem out now and maintained all was well in class despite the teaching assistant and class teacher confirming the opposite.
5	8	10	Problems with friendships with the children in his class	Doesn't get on with children in his class

Table 2 – Information about children included in the programme – age, number of sessions completed and adult and child views of reason for inclusion.

Of the seven returned questionnaires, all had completed the attitude questionnaires, however, only four facilitators had completed sessions with children and only these responses were included in analysis.

In relation to “Implementation” attitudes, an average rating of the responses was calculated for each. Visual inspection of pairs of factors suggests polarisation in particular pairs. Item analysis using correlational analysis was not undertaken due to low response rate.

Responses suggest the facilitators **strongly agreed** with the following:

- The structure of the programme helps problem solving.
- The child sets their own targets.
- The programme is targeted towards individual need, rather than being general.
- The child is able to generalise and practice skills learned.
- That parental co-operation is important for success.
- That the materials are an effective tool for problem solving.

Responses suggest the facilitators **disagreed** with the following:

- That the child did not receive help from the staff in a wider context.
- That there was no review and analysis of the progress of the child.

However, the responses also suggests that the following should be considered in more depth,

- Whilst facilitators agreed that the child has control over the programme they also agreed that the adult has control over the programme.
- Whilst facilitators agreed strongly that the materials are easy to use and child friendly they also agreed strongly that the materials are only suitable for particular children with regard to age range/ verbal ability.(See Table 3 below for detailed results)

SiO – Implementation factors	Strongly Agree 1	Agree 2	Neither agree not disagree 3	disagree 4	strongly disagree 5
1a. The clear structure helps the child problem solve	1.75				
1b. Programme structure gets in the way of problem solving			3.75		
2a. The child is in control of using the programme		2.33			
2b. The adult has control over how the programme is used		2.75			
3a. The child can set their own targets	1.75				
3b. The adult tends to set targets for the child			3.75		
4a. The child and adult review progress in the session		2.0			
4b. There is no analysis or review of the child's progress				4.0	
5a. The programme can be targeted towards a particular child's needs	1.75				
5b. SiO is very generalised and not very personal.			3.75		
6a. The child is able to practice skills in the wider setting	1.75				
6b. The child has not practiced skills out of the sessions			3.75		
7a. The materials are child friendly	1.75				
7b. The materials are easy to use for the child	1.75				
7c. The materials only work for certain children – age, verbal ability etc.	1.67				
8a. The staff supported the child to work through the action plan		2.25			
8b. The child did not receive help from the staff in a wider context				4.0	
9a. The co-operation of parents is important to success for the child	1.75				
9b. The child's parent's did not have an influence over success			3.75		
10a. The tools are a great aid for the child to learn problem solving	1.75				
10b. The materials got in the way of problem solving for the child			3.75		

Table 3 – Implementation Factors from Attitude Questionnaire showing average rating scores.

Facilitator experience attitudes, were analysed in the same way as implementation attitudes.

Responses suggest the facilitators **strongly agreed** with the following:

- That the existing positive relationship between them and the child was important to success.
- That they were supported by senior management to complete the programme.
- That they had a designated room or area to implement the programme.

Responses suggest the facilitators **agreed** with the following:

- That in general, the programme had been a success.
- The child was more able to problem solve.
- They felt generally motivated during the programme.
- They would be working towards implementing the programme in the following year
- They had built a relationship with the child during the programme

Responses suggest the facilitators **disagreed** with the following:

- That they had become distracted with other work issues.
- That the programme has not changed the child's problem solving ability at all.
- That they would not be using the programme again.

The responses indicated that training should be considered in more depth in relation to,

- Facilitators agreed strongly that training helped them to implement the programme but agreed that training was insufficient to “skill me up” for the programme. (See Table 4 below for detailed results).

SIO – facilitator experience	Strongly agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Disagree strongly (5)
1a. The existing positive relationship between myself and the child is important	1.25				
1b. I have built a relationship with the child during the programme		2.0			
2a. I need to have some early success for my motivation to continue			3.50		
2b. I was generally motivated, even when things went wrong		2.0			
3a. I found I got bogged down and distracted with other work issues				4.25	
3b. Despite other work issues, I was able to maintain focus in the sessions		2.0			
4a. I did not feel supported by other staff in implementing SIO				4.0	
4b. School staff helped me maintain the sessions		2.0			
5a. I was supported by senior management to complete SIO	1.75				
5b. Key people on the staff did not help me to implement SIO				4.25	
6a. Finding a consistent room for sessions was a problem for me			3.5		
6b. I had a designated room/area to implement SIO	1.75				
7a. I feel the training I received helped me in implementing SIO	1.50				
7b. The training was insufficient to “skill me up” for this		2.50			
8a. I feel that in general, for me, SIO has been successful		2.25			
8b. The programme has not been a great success for me			3.50		
9a. I think that the child is more able to problem solve now		2.25			
9b. The programme has not helped the child				4.0	
9c. SIO has not changed the child’s problem solving ability at all				4.0	
10a. I will be working towards implementing SIO next year		2.0			
10b. I will not be using the programme again				4.25	

Table 4 – Facilitator Experience- Factors from Attitude Questionnaire showing average rating scores.

Facilitator skills and abilities responses were averaged across the four questionnaires. All facilitators responded that they would like to be “very effective” in all the skills in the future.

Facilitators suggested that skills they were “effective” in at the current time were:

- Active listening skills with child
- Helping child to make their own choices
- Brainstorming
- Helping child think about consequences
- Helping child to complete a step by step plan
- Creating an emotionally conducive environment

Skills and abilities they considered to be “neither effective not ineffective” were,

- Asking “wh” questions
- Teaching child the language of problem solving
- Asking the miracle question
- Using ABC’s
- Completing PMI
- Role playing solutions

(See Table 5 below for detailed results)

Facilitator skills	Now	Facilitator skills	Now
Active listening skills with child	effective	Brainstorming	effective
Helping child to make their own choices	effective	Helping child think about consequences	effective
Asking “wh” questions	neither	Completing PMI	neither
Teaching child the language of problem solving	neither	Helping child to complete a step by step plan	effective
Asking the miracle question	neither	Role playing solutions	neither
Using ABC’s	neither	Creating an emotionally conducive environment (soler)	effective

Table 5 Facilitator responses showing average scores of effectiveness for facilitator skills.

Factors considered to be important to success or not of the programme were rated from 1 = not significant at all, to 5= very significant and facilitators were asked to indicate the three most important areas to them. The responses were averaged across the four questionnaires.

Facilitators considered the following as being “very significant” to the success of the programme.

- Keeping to ground rules
- Keeping the child’s motivation up
- Senior management support
- Finding a room
- Finding time to do a session
- Being directed to do something else

All facilitators indicated that “senior management support” was most important factor associated with success and this was also considered “very significant”. Facilitators indicated “Keeping to ground rules”, “finding time to do a session” and “school staff being supportive” were most important to success.

In terms of comments, one facilitator commented that the programme was able to be generalised out to other areas of the curriculum and gave an opportunity to practice skills.

The skills learned by the adult in sort it out can be transferred to other areas of PSHE and also general relationships with children and adults. I feel that the programme highlights and gives the opportunity to practice life skills which are crucial to our wellbeing.

4.4.4 Supervision group discussion

At a supervision group 14th September 2009 there was an opportunity for facilitators to feedback about child and implementation outcomes. Discussion with the group extracted particular themes.

- **School based – time consumption.** For some it was difficult to justify working with one child, rather than a group and difficulties establishing which child “needed the programme most”. Certain facilitators altering the programme to become a group-based intervention.
- **Programme based – differentiation.** Difficulties of facilitators in differentiation of the programme for different ages and stages. Difficulties around facilitators “not leading the child” in problem solving and leading a child away from a “negative orientation”.

Reflection between the programme developers following this discussion raised concerns and possibilities for further action in the future in relation to the programme parameters of SiO.

- Facilitators appear to be using the programme more flexibly than assumed due to school based factors – as facilitators are “testing the programme out” this may lead to altered outcomes which may have an impact upon motivation to continue.
- If the programme is “routinised” and strict adherence is required, this might lead to reduced motivation, due to lack of creativity being used within the programme.
- Need to know a. how many facilitators are actively using the programme; b. factors associated with those not using the programme and those maintaining the programme

and c. How many of those using and not using the programme have altered parameters, which elements have been altered and what impact has this had upon withdrawal or maintenance.

4.4.5 Reflection on Key Questions

In relation to the first and fourth key question,

- Is the programme implementation and outcomes successful or not – from the perspective of the facilitators?
- Is the programme implemented consistently across time and what are the key features and characteristics which are required for it to show positive outcomes.

Given the low rate of response it is difficult to suggest that these have been addressed fully. The purpose of the measures was to identify mechanisms/contexts to account for differing levels of child and practitioner success outcomes. It was not possible to use outcome data to confirm or disconfirm context and mechanisms and this question was not supported.

In relation to question 2 and 3,

- What context factors/variables are significant in terms of the success or not of the programme from the perspective of the facilitators?
- What are the mechanisms by which the programme progresses positively or not from the perspective of the facilitators?

The above questions were addressed and established to some extent by use of Realistic Evaluation format and progressively refined information from the focus groups and

interview. It was possible to determine areas in which facilitators perceived that the programme would be successful or not associated with materials, environmental context and associated with people involved in the programme. These results may form the basis of further evaluation to be triangulated against outcome data in the future.

In relation to the fifth key question,

- Given the evidence above what changes and recommendations associated with training of facilitators, changes to the programme or materials and considerations associated with programme implementation should be considered?

4.4.6 Outcomes and Implications

The following proposed next steps regarding SiO programme and evaluation were developed during the course of and following the results of the evaluation. Following on from the dissemination of results and discussions with programme developer, members of the development group and with facilitators, several outcomes are proposed associated with both the SiO programme and on-going evaluation:

- A plan to further evaluate the number of facilitators implementing the programme
- A possible plan of yearly registration for use of the programme, in order to ensure on-going implementation information and to ensure fidelity to programme core components.
- A plan to consider in more detail if “effective” and “neither effective nor ineffective skills” constitute “core components” within the programme and to consider if training in these areas is necessary within the initial training or considered as components that should be added to practice as “top up” courses.

- A plan to explore in further detail for which age range/verbal ability materials are suitable and to check the differentiation which facilitators use to enable suitability.
- In order to utilise the information regarding implementation factors and fidelity one implication of the study was to develop a self-evaluation audit based on Greenberg, Domitrovich, Graczyk and Zins (2005) which could be used for both SiO, as well as other school-based programmes in relation to examining in more depth which components are core and those which are not. (Appendix 8 – Self Audit for evaluation)
- Information associated with the evaluation will be disseminated to a group of Educational Psychologists at North West CPD Conference in Dec 2009, partly in order to discuss the possible implications for evaluation of programmes and implementation factors associated with programmes.
- A planned supervision session in Jan 2010 will incorporate a feedback of information around evaluation and implementation factors, in light of Zins, Bloodworth, Weissberg, and Walberg (2004) suggestion that practitioners require preparation and increased training around areas associated with programme implementation and fidelity.

4.5 - Conclusions

It may be argued that the purpose of research undertaken by applied educational psychologists in the workplace differs from that of more theoretically based researchers, in that there is a need for methods and outcomes which may be seen as usable and “useful” within a real world context, in which research is often squeezed into limited time and resources. This study illustrates some of the difficulties associated with “real world” research and explores the use of a possible methodology for overcoming some of the barriers of this situation, whilst still achieving useful outcomes.

The purpose of this study was to define more accurately what implementation factors – context and mechanisms were significant in achieving positive or negative outcomes within a preventative programme.

In relation to SiO, facilitators in the focus group agreed that the programme has the potential to be successful in both being able to be implemented in certain schools effectively and in resulting in real change for individual children. The context and mechanisms offered during the focus group allowed the programme to be viewed from a Realistic Evaluation perspective and provided a format in which to track success or failure of this programme. It also allowed for insights into the facilitator perspective of implementation from the start of the programme, which had not been gathered previously and contributed to the programme developer’s understanding of the programme. Significantly, one outcome has been the understanding that the SiO programme may be used with greater flexibility by facilitators than first assumed by the developers. This may have major impacts upon training, implementation and sustainability issues.

This study did not go according to the original plan and was beset by difficulties in terms of lack of “buy in” to the research initially, which progressively altered what was possible to achieve. West and Hanley (2006) suggest that one key element in their research “failure” were the assumptions made around techniques used and,

...the uncharted nature of processes undertaken (ibid., p.211.)

This was encountered in the current study in which factors such as participant access to computer were assumed and where unaccounted for factors impacted, such as the prevalence of flu in the population at that time.

West et al also point to a possible “one chance” context with participants, which was evident within this evaluation in relation to the initial focus group, which was intended as one of two. It was not possible to achieve a full “context, mechanism, outcome” series of pathways to different outcomes. However, the range of context and mechanisms provides a starting point from which to check outcomes against, in the future.

Whilst it might be argued that the undertaken evaluation was limited by the assumptions made and the small sample, it was still possible, to obtain a substantial amount of useful information to inform later programme planning and evaluation for the SiO programme.

In general, the responses indicated that training should be considered in more depth in relation to, facilitators acknowledging that whilst training helped them implement the programme, it was possibly insufficient for some elements of the programme. In addition, whilst facilitators agreed that the materials are easy to use and child friendly, they highlighted

possible difficulties in terms of differentiation or suitability for particular age ranges and verbal abilities of children. This will need to be explored in greater detail to ensure materials and programme implementation of materials are effective.

Greenberg (2004) argues that there is a generally, limited evidence base on,

...measurement of implementation, on the factors that influence the quality of implementation and on the relationship between the quality of implementation and the outcomes obtained... (ibid., p.2.)

An assumption around programme adherence and fidelity is that the nearer the programme is to the original, the more likely it is to work successfully. (O'Connor, Small and Cooney, 2007). However, questions remain around fidelity being a valid assumption – does it matter if a programme departs slightly and when does a programme cease to be an effective programme? Should programme designers and developers be strict in asking for absolute adherence in a “real world” context? Greenberg would suggest that examining core components of programmes would enable programme developers to better ensure successful outcomes and this will be pursued in subsequent evaluation. Greenberg et. al. 2005 has called for an increased level of awareness, thinking and understanding of the factors around programme processes in order to address such questions.

In order to utilise the information regarding implementation factors and fidelity one implication of the study was to develop a self-evaluation audit based on Greenberg et al., which could be used for both SiO, as well as other school-based programmes. (Appendix 8 – Self Audit). The audit includes “questions to ask yourself” regarding the preparation, process

and evaluation of a programme and is intended as an aid to increasing fidelity and improving the chances of programme success.

Given the recent emphasis on EPs being able to demonstrate effectiveness within their work this would represent one way of showing, not only the complexity of factors associated with implementing change mechanisms within school with individuals but also give a way of monitoring interventions. Such a tool might offer an opportunity for the start of discussion with schools about the importance of a variety of factors to implementing programmes and interventions.

However, given the import of implementer factors in programme implementation it would also be useful to examine in more detail implementer factors within programme implementation. What this study highlighted was that for those implementers who had “bought in” to the programme **and** were able to circumvent environmental and other issues, the programme appeared to be more successful than where those interactions did not occur. Other authors have also highlighted these areas for further investigation (Lochman, Powell, Lewczyk Boxmeyer, Lixin Qu, Wells and Windle, 2009). For EPs, one implication is that within programme implementation we should aspire to enable implementers and if possible, to closely monitor implementation, if we want success.

4.6 - Appendix 1 - The Sort it Out! Programme – Contextual information

The “Sort It Out!” programme incorporates the model in a similar way to Thacker’s (1982) programme, however, it is presented via one to one sessions, between an adult facilitator and individual child. The presentation is in the form of a board game incorporating practice from concrete to more abstract - through initial practice of scenario’s or practice sessions to solving own problems, supporting progressive internalisation of the model steps. (See Fig 1. Programme model and steps.)

The programme has a comprehensive manual elaborating the theoretical framework and orientation of the programme as well as specific components and process of implementation.

The primary version of the programme differed from the Secondary version in terms of developmental accessibility of materials and style of presentation by the facilitator. Additionally, some of the cartoon characters illustrating SEAL posters are present in the Sort It Out! Materials (with DCSF consent), adding a visual and conceptual link to the SEAL programme and work in school.

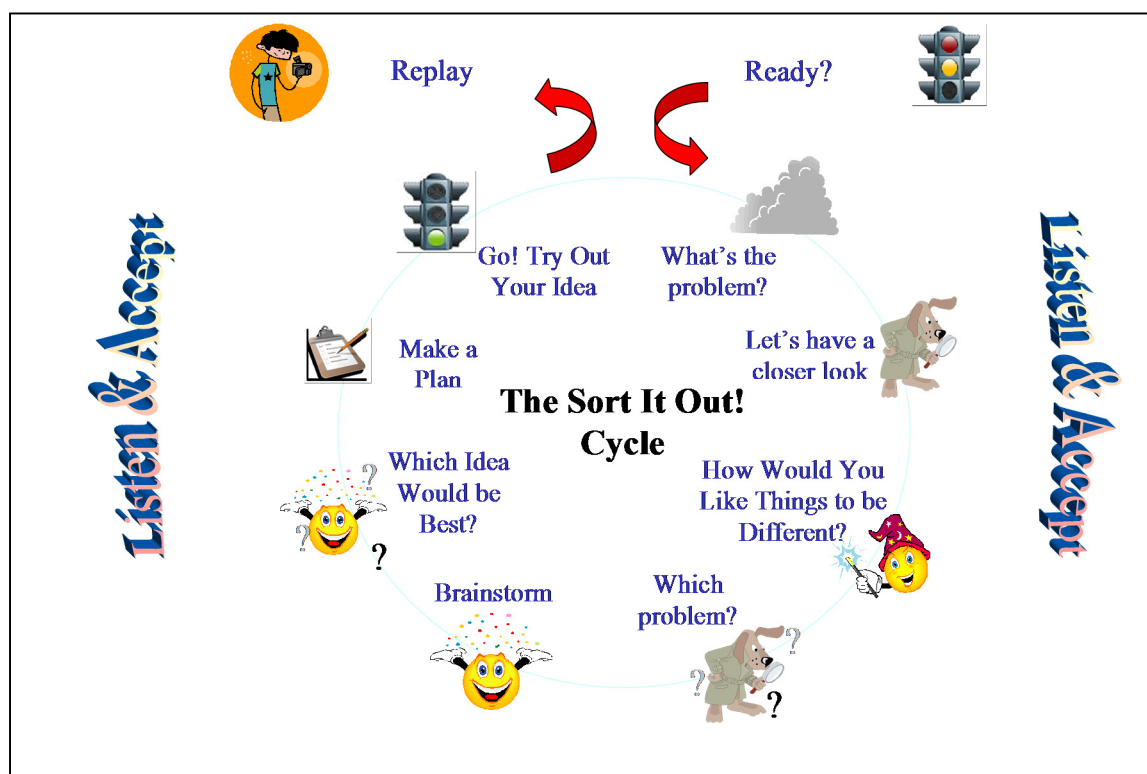


Fig 1. Programme Model and Steps

Current context of Sort it Out! programme

There are currently 65 facilitators across the two Local Authorities trained to implement the programme, comprising of 12 High schools, 14 primary schools and 5 special schools. Facilitators tend to be support assistants, learning mentors or be in the position of being able to implement a one to one based programme on a regular basis. Training has also been

completed with facilitators in other contexts in local Authority support teams, such as Tier 1-2 CAHMs, School Nursing/Health and Mentor Service. In Lancashire and The two Local Authority areas there are 27 Educational Psychologists who have completed training to enable them to “train the trainers”.

Training consists of an introductory session, which includes the line manager of the facilitator, to ensure as far as possible that the required context for the programme can be put into place. Following this is a full day session of training in the programme elements and theoretical background and around 6 weeks later there is a follow up session. This assumes that the programme will be practiced in the intervening period. Further training in communication techniques is given at this time and the session allows for feedback and support.

On-going Supervision sessions are implemented on a termly basis and include a support, feedback and extension training components. The development group meets on a termly basis to co-ordinate training, strategy and development. This comprises of a core group of five EPs.

Previous evaluation/pilots of Sort it Out! programme

Initial evaluation of the secondary version of the model was undertaken in 1999 within the Lancashire Pupil Support Project and comprised a group of 6 Year 8 pupils, in a small scale research project. The purpose of the research was to examine self-esteem impacts and pupil recall of problem solving steps, as well as obtain facilitator and pupil views. Pupils were selected on the basis on Verbal CAT scores 3-7 (82-118), an assumption being that the programme and materials required average verbal skills in order to access. Participants were selected on the basis of low self-esteem and low scores on a personal evaluation items. Self-esteem was measured using the B/G Steem Self Esteem Scale (Maines and Robertson, 1988). Approximations of pupil ability to goal set and time manage, as well as self-esteem, confidence, motivation anxiety and relationships were measured on a self-report questionnaire, with items obtained from Bernard (2001). In addition, teachers were asked to rate pupil behaviour in the classroom. Measures were taken as a baseline, at the end of eight weeks and at the end of the programme.

The sample were divided into two groups, one starting the programme eight weeks after the first, to provide a small control group. Group A followed the programme for 18 weeks and group B for 8 weeks. Groups were gender balanced. Participants engaged in the programme for an hour per week, with a trained facilitator.

Measures were analysed using a Mann-Whitney (U) and showed that in the first 8 weeks Group A showed statistically significant increase in self-esteem on the B/G Steem and self-motivation and relationships on the self-report questionnaire, ($p=0.05$). Self-esteem and self-motivation increased across time, over the three measurements. In contrast, the same areas decreased with group B across time, however self-motivation increased during intervention.

The questionnaire results showed that 83.3% of participants rated themselves better at problem solving and felt they would continue to use the strategy by themselves. In terms of recall of steps, Group A were able to recall 6/9 steps and group B were able to recall 2/9. All pupils reported that they had successfully solved a problem using the programme.

This evidence of this small scale research was inconclusive in terms of determining the efficacy of the programme and the mechanisms by which it led to improvements for pupils or not. The evidence of a decrease of many items from measures in Group B may be interpreted as suggesting that the programme may only be efficacious given a long duration or that facilitator factors (in terms of individual attention, motivation etc.) accounted for the group A's more positive results. It was noted that further exploration of these areas was required, in which larger numbers of participants were assessed and in which comparisons were made with other resources.

Appendix 2 – SiO Evaluation – Facilitator Information

1. Introduction and Study Purpose

Last year we completed a **small scale pilot study** of the “Sort it out!” programme, in several schools. This pilot showed some initial, promising and positive outcomes for the children involved and we would now like to explore this in more detail with a more robust and wider-scale study.

The purposes of the study are:

- To determine if children are able to use and maintain skills in problem solving (Child Skill Development).
- If children completing the Sort it out! programme are more able to problem solve than those engaged in other one to one board game activities. (Child Outcomes)
- If children, staff and parents perceive changes in child’s problem solving and other behaviours – social, emotional etc. over the duration of the programme.
- To determine factors which influence the success or not of the programme, from the facilitators perspective.

2. Children involved in the Study

Two children will need to take part from each school. One child will be randomly assigned by the researchers into the “programme” group and one into the “control” group. These will be assigned randomly by the researchers and facilitators will be informed about this prior to starting the sessions.

Children will need to be in either **Year 4 or Year 5**.

Criteria for child entry to programme

- Child has no significant language difficulties (based on National Curriculum band).
- Child able to reflect verbally to some extent about own life and circumstances.
- Child who may have some difficulties in the area of behaviour, anxiety, emotional regulation, coping.

3. The Study Timeline

The study sessions will take place between **1st June and 10th July** – giving a possible 6 weeks timeframe to complete sessions with the children. We will want you to complete **5 sessions** with the children, one per week.

There will be an expectation that facilitators will have a “practice” session/s with a child (not a child who is included in the study) between 27th March and 18th May.

4. Sessions

Sessions in school for both “programme” and “control” child will last about an hour. Sessions should take place in the same location/room each time. The room should contain a table and chairs and sessions should not be disturbed or interrupted by others. Think carefully about when the session will occur for each child. Try to hold session at times when both children will experience similar situations. For example, if one child were to have a session on a Friday afternoon, following PE this child may feel more tired than a child having a session on Monday morning first thing.

5. Content of the sessions

“Programme” child activities

The facilitator and child will be engaging one to one in a board game called “Sort it Out!” which is aimed at promoting problem solving skills. Children will present a problem at each session and practice a systematic way of problem solving. During the session there is opportunity for the facilitator and child to discuss the problem. **(Please refer to Sort it Out! manual for a more in depth explanation of the programme)**

“Control” child activities

“Control” children should experience the same length of session time. Activities completed should be one to one with the facilitator and consist of emotional literacy based board games which you have in school.

6. Questionnaires and measures

There will be two questionnaires used in the study.

Child Questionnaire – This questionnaire is concerned with how the child approaches and solves problems. This questionnaire will be delivered to the **child** during the first session and at the last session. It will be read aloud by the **facilitator to the child**.

SDQ Questionnaire (Parent and Class teacher version) – This questionnaire is concerned with perceptions in changes in behaviours from the child over the duration of the programme – social and emotional. One questionnaire will be completed by the **child’s class teacher** and another by the child’s **parent** before the start of the sessions or in the first week of the programme and following that, during the last week of the programme. The end questionnaire will also include a space for comments regarding other noticed changes in the child’s behaviour and problem solving abilities.

All 6 questionnaires associated the study (Child Questionnaire – before and after; Parent SDQ before and after, Class teacher SDQ before and after) will be sent to facilitators via email once parental consent has been returned and groups assigned.

Questionnaires need to be completed and sent back to the researchers by **10th July** either via email (preferable) or delivered to Progress House/Whitegate Manor in person (please do not send material through the post).

7. Evaluation focus groups

Facilitators will be invited to take part in two focus groups – initial on **18th May** following the “communication training session” (2.30-3.30pm). This will be examining facilitators expectations and views about the programme at that point in time.

There will also be a focus group following the study on **6th July** (2.00-3.30pm) exploring facilitators view, feedback and evaluation of the programme. **It is expected that facilitators will attend both focus groups, where possible.**

Diary of sessions

Facilitators will also be asked to keep a brief diary of sessions, recording, environmental factors and things that went well or not so well.

8. Data protection, Confidentiality and ethical considerations.

All data will be treated in accordance with the data protection act and British Psychological Society rules with regard to ethics, security and confidentiality for doing research with children. A copy of these rules are available from the researchers, if required.

Facilitators will be expected to hold a short meeting with the parents of possible children you would like to include in the study **between 30th March and 18th May**. This will ensure that parents have informed consent to allow their child to take part. All parental consent forms need to be returned to the researchers on or before 18th May (either via email or in person) otherwise the child/ren will not be able to take part in the study. Facilitators may use this information sheet to give details of the study to parents and should answer any questions, queries or concerns. If facilitators are unsure of any answers they should contact a researcher and feedback to parents.

Facilitators should gain informed consent from children. They should explain in child appropriate terms the nature of the study and what the child will be doing during the sessions and the need to complete a questionnaire before and after the study.

When consent forms are returned before or on 18th May the children will be divided into “programme” and “control” groups. This will be done by “matching” demographic data – age, gender and National Curriculum Language level.

Names of children will be recorded and data stored by the facilitator at school over the duration of the study until the end of the study. Data will be sent to the researchers. Following the collation of data by researchers no names or identifying details will held, recorded or published by researchers and data will be treated as “group” rather than individual data.

Any child who, over the duration of the study indicates that he or she wishes to withdraw from the study should be allowed to do. Any parent withdrawing consent during the duration of the study should be allowed to do so. It is expected that in the case of any child becoming distressed during the course of the sessions or study that the facilitator will respond sensitively and appropriately to the situation and ensure that the child’s needs are met appropriately. Facilitators will need to inform and feedback to the researchers regarding any child who has shown distress and/or withdrawn from the study.

Feedback information sheet, about the study as a whole, will be sent to schools in the Autumn term 2009, containing brief feedback about the outcomes of the study. Facilitators can give this out to parents, if this is requested. Facilitators may wish to hold their own school-based brief parental feedback meetings with parents following the end of the sessions – this will be separate from the study.

9. Researchers and facilitators

The researchers are all qualified Educational Psychologists who work for Children and Young People’s Services in the Borough. One researcher will be using the facilitator data obtained as part of a doctorate Research paper at Manchester University. It is expected that findings drawn from the study will be reported and published in both Borough-wide documentation and relevant professional journal/s. No individual data will be used.

Facilitators have been trained to deliver the Sort it Out! programme and to conduct one to one work with children.

Thank you for considering to take part in the study. If you have any questions which have not been answered or have other queries, questions or concerns please contact

Debbie Shannon Tel 01253 476741 or
(email) debbie.shannon@gov.uk

If you would like to take part in the study please complete the contact detail sheet at the full day session 27th March or contact Debbie Shannon, above. The final closing date for agreeing to participation in the study will be 18th May.

Appendix 3 - Sort It Out Facilitator's Survey

General introduction, then ask if facilitator has 5 minutes free to answer a maximum of 12 questions about their views on Sort It Out (SIO), If no time available ask when would be convenient to phone back. Explain that they can at the end decide whether they want their response to be anonymous.

1) Have you had the opportunity to use SIO yet?

If "yes" go to Q2

If "no", then

1a) What are the barriers preventing you?

1b) Do you have a solution in mind to overcome these barriers?

If "yes" go to Q2

If "no", suggest facilitator attends next supervision session on (date), and go to Q5

- 2) With how many, and what type of children (age, presenting problem) have you or do you intend to use SIO?
- 3) Do you use (or plan to use) SIO as a standalone programme in its entirety, or to dip in and out of in conjunction with other interventions?
Explain Lickert scale on response sheet
- 4) Do you use (or plan to use) SIO as a tool to resolve a particular problem, or to teach general problem solving skills
Explain Lickert scale on response sheet
- 5) Have you been able to attend SIO supervision sessions?
If "yes" go to Q6
If "no", then
5a) What are the barriers to attending supervision meetings?
Then go to Q9
- 6) How useful have supervision sessions been to you?
Explain Lickert scale on response sheet
- 7) What do you value from supervision group meetings?
- 8) What do you find unhelpful/ difficult about supervision group meetings?
- 9) How could we improve supervision arrangements?
- 10) If follow up training were available, how would it best be delivered (where, when, in what groupings): and what content would you want (more in depth problem solving, or associated issues such as communication skills)?
- 11) If you have problems, issues with SIO, who would you contact and how easy are they to get in touch with?
- 12) Do you feel that you are kept up to date with new developments of SIO (eg new format for Key Stage 3 SIO, development of Key Stage 2 SIO), if not how can we better keep you updated?

Are you happy for your name to be attached to this questionnaire response?

Appendix 4 – Timetable of Evaluation – Phase 1 and 2

Phase 1								Outcome
timeline	23-27 th March	27 th March	18 th May	18 th May	1 st June- 10 th July (5 wks)	1 st June- 6 th July	1 st June- 6 th July	
Proposed mechanisms and tasks	Training of facilitators completed	Introduction of study to facilitators	Consent gained. Experimental/Control group identified.	RE. Focus group 1- initial - 18 May	Implementation of programme	Questionnaires Child (start/end) Class teacher (start/end) Parent (start/end)	RE Interview s/Focus group end	
Cycle 1 - outcomes	Completed with 14	Completed at 27th March session	One participant consented by 18th May Extended the study deadline - 25th May. Emailed all participants. No response.	Completed following training. Data – obtained 14 respondents – context and mechanisms	By unknown numbers – possible up to 14.	Not completed due to lack of “sign up”	Not completed – one facilitator only willing to be interviewed	Unable to continue with proposed overall study – altered to Phase 2
Phase 2								
Timeline	Mid June	Mid June	First week of July	15 th July deadline - 20 th July (Last week of term)	Sept			
Proposed mechanisms	Interview with one facilitator in- depth – PCP format	Check focus group 1- context factors and mechanisms via in-depth interview	Developed questionnaire based on RE context and mechanisms.	Questionnaire returned	Supervision group discussion			
outcome	Interview completed PCP approach	Data obtained	Questionnaire developed including previous data. Sent to 14	7 replies only obtained.	Qualitative information obtained from 4 facilitators			

Appendix 5 - Sort It Out Primary Research Pupil Questionnaire B



Pupil Details:

Name:

Boy/Girl

School

Date:

Today, I'd like to ask you about problems and what you do when you have one. I don't mean the sort of problem your teacher might give you in numeracy or science! Instead, we're going to think about the sorts of problems that bother us, times when we know we have to change things or try to make things better.

We could have a problem with:

- Breaking up with friends
- Not getting school work done
- Getting up too late
- Having lots of arguments with a brother or sister
- Bringing the wrong clothes to school
- Forgetting things

Can you think of other problems children might have?

(Elicit several problems to ensure child's understanding of "problem" fits with Sort It Out. It may be necessary to prompt for relationship problems as well problems managing everyday events.)

OK, now that we know the sort of problems we mean, I'm going to ask you some questions. Try to be as honest as you can and say what you really think or do when you have a problem. There are no right or wrong answers.

Here's an example of how to answer the questions.

	Very like me	Quite like me	A bit like me	Not like me at all
I always watch TV as soon as I come home from school				√

If you don't watch TV as soon as you come home from school, you would tick "Not like me at all". (Work through situations, in imagination, where the other 3 answers might be given.)

Please read questions aloud for the child.

	Very like me	Quite like me	A bit like me	Not like me at all
I always know when I have a problem that needs to be solved				
When problems come along I usually try to forget about them				
When I have a problem, I work out exactly what is bothering me				
I like trying to solve problems				
When I have a problem I know how I'd like things to change				
When I have a problem, I think of different ways to solve it and then choose the best one				
When I have an idea to solve a problem, I work out what I'm going to do step by step				
Problems are scary				
When I have a problem, I like to work at it until it's sorted out				
When a problem comes along, I never know what needs to change				
When I have a problem, I think about how things could be if the problem went away				
When I have an idea to solve a problem, I just try it straight away without working out exactly how to do it				
When I try to make a problem better, I usually try the first thing I think of				
I never know when I have a problem				

If I had a problem today, this is what I would think and do

(Please record in detail; the child may tell you about a particular problem rather than give you a "method")

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Without looking at any of the Sort It Out! materials, I wonder how many of the problem-solving steps you can remember? What do we always start with? (Prompt: *What's next?* Please record steps overleaf.)

Appendix 6 – Discussion group

NB. The discussion group appendix was not available at the collation phase of the current research paper due to being stored on an old computer and the material was no longer accessible.

Appendix 7 – Facilitator Questionnaire

Sort it Out! Evaluation Questionnaire for Primary Facilitators July 2009

Please complete the 9 questions below to help us with future training and development of Sort It Out! – your views are very important to us!

This questionnaire will be anonymous. No record of sender will be retained. The questionnaire will adhere to ethical guidelines of the British Psychological Society and in line with the Data Protection Act.

Please complete and send back electronically by Weds 15th July at the latest. If you have any problems completing this please phone Debbie on 476741 or Marc on 476

Q1. Age of children with whom you have completed Sort it Out!?

Child 1 Child 2 Child 3 Please tick/cross if you have **not** completed SIO with any children. (go to Q4)

Q2. How many sessions have you completed with the children?

(Please indicate number of sessions completed to date).

Child 1 Child 2 Child 3

Q3. Please note the reasons for the child/ren starting the programme from the adult perspective and the child's view of problem.

	Reasons for child involvement in SIO	Child's view of the problems
Child 1	<input type="text"/>	<input type="text"/>
Child 2	<input type="text"/>	<input type="text"/>
Child 3	<input type="text"/>	<input type="text"/>

Q4. What are your reasons for not completing SIO with children?

Continued on next page

Q5. In your view please rate the following statements about the factors which help SIO work or not. Please tick/cross the relevant box for each statement.

If you have not completed SIO with a child tick/cross those statements which apply to your knowledge of the programme.

SIO – Implementation factors	Strongly agree	agree	Neither agree nor disagree	disagree	Disagree strongly
The clear structure helps the child problem solve					
The child did not receive help from the staff in a wider context					
There is no analysis or review of the child's progress					
The child can set their own targets					
The tools are a great aid for the child to learn problem solving					
The co-operation of parents is important to success for the child					
The materials are easy to use for the child					
The child is able to practice skills in the wider setting					
Programme structure gets in the way of problem solving					
The child is in control of using the programme					
The materials only work for certain children – age, verbal ability etc.					
The adult has control over how the programme is used					
The adult tends to set targets for the child					
The programme can be targeted towards a particular child's needs					
The materials got in the way of problem solving for the child					
The child's parent's did not have an influence over success					
Sort it Out! is very generalised and not very personal.					
The child has not practiced skills out of the sessions					
The materials are child friendly					
The staff supported the child to work through the action plan					
The child and adult review progress in the session					

Q6. Thinking about the skills and abilities you have used when doing SIO, rate where you are **now and where you would like to be in the **future**. Give yourself a mark out of 5. If you have not practiced the skill, leave blank.**

- 1 = not effective at all,
 2 = not effective,
 3 = neither effective nor ineffective,
 4 = effective,
 5 = very effective

	Now	Future		Now	Future
Active listening skills with child			Brainstorming		
Helping child to make their own choices			Helping child think about consequences		
Asking "wh" questions			Completing PMI		
Teaching child the language of problem solving			Helping child to complete a step by step plan		
Asking the miracle question			Role playing solutions		

Using ABC's			Creating an emotionally conducive environment (soler)		
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Q7. In your view please rate the following statements about your experiences of SIO. Please tick/cross the relevant box for each statement.

If you have not completed SIO with a child tick/cross those statements which apply to your knowledge of the programme.

SIO – facilitator experience	Strongly agree	agree	Neither agree nor disagree	disagree	Disagree strongly
School staff helped me maintain the sessions					
I had a designated room/area to implement SIO					
I will not be using the programme again					
I was supported by senior management to complete SIO					
SIO has not changed the child's problem solving ability at all					
Despite other work issues, I was able to maintain focus in the sessions					
The programme has not been a great success for me					
I will be working towards implementing SIO next year					
Finding a consistent room for sessions was a problem for me					
I need to have some early success for my motivation to continue					
I found I got bogged down and distracted with other work issues					
I feel the training I received helped me in implementing SIO					
Key people on the staff did not help me to implement SIO					
The existing positive relationship between myself and the child is important					
I was generally motivated, even when things went wrong					
I did not feel supported by other staff in implementing SIO					
The training was insufficient to "skill me up" for this					
I feel that in general, for me, SIO has been successful					
I have built a relationship with the child during the programme					
I think that the child is more able to problem solve now					
The programme has not helped the child					

Q8. Rate how significant these items have been for you in the success or not of SIO. Give a mark out of 5. If you have not experienced an item, leave blank. Please also tick/cross the 3 most important areas.

- 1 = not significant at all
 2 = not very significant
 3 = neither significant nor insignificant,
 4 = significant
 5 = very significant

	Rate	Tick/cross		Rate	Tick/cross
Keeping to ground rules			Finding a room		
Keeping my motivation up			Keeping to time during session		
Keeping the child's motivation up			Finding time to do the session		
School staff being supportive			Parental support		
Senior management support			Being directed to do something else		

Child absence					
Please insert any other areas you think are important below					

Q9. Please comment on the page below about anything else you wish to say about Sort It Out! Or factors which have helped or hindered you in implementing the programme.

Thank you for your time in completing this questionnaire!

Please comment below

Please complete and send back electronically by Weds 15th July at the latest. If you have any problems completing this please phone Debbie on 476741 or Marc on 476

Appendix 8 – Self Audit for Evaluation of Programmes

Self-evaluation audit for essential components of the development and process of a programme in school.

	Fully achieved=3 Partially achieved=2 Working towards=1 Not in place=0	Evidence	Action
1. Clear programme theory/theoretical model – conceptual basis for design and operation			
Programme implementation			
2. Dosage –does the frequency and duration of programme delivered match what was intended?			
Programme materials			
4. Are the materials appealing?			
5. Are materials user friendly?			
6. Are materials age appropriate and/or able to be differentiated?			
7. Are materials culturally sensitive?			
Instructor manual			
8. Is the manual comprehensive?			
9. Is a sequence chart included in carrying out the programme?			
10. Is the theoretical rationale explained?			
11. Is theory linked to session content?			
12. Are “teaching strategies” included?			
13. Are there clearly stated programme objectives?			
14. Does the manual include detailed, organised and easily understood “lesson” plans?			
Technical support available			
15. Training – is training comprehensive – does content reflect essential components?			
16. Is the working relationship between trainer/s and implementers effective?			

17. Is the training collaborative and engaging?			
18. Is there respect of individual needs/skills/learning styles during the training?			
19. Are there open channels of communication?			
20. Is joint problem solving available?			
Quality of delivery - evaluation			
21. Degree of engagement of implementer- is the implementer engaged?			
22. Is there evidence of effective use of techniques?			
23. Have intervention concepts been generalised to other areas?			
Target Audience -evaluation			
24. Has the target population been reached – others targeted/absenteeism?			
25. is the programme acceptable to the child?			
Pre-planned organisational factors			
26. Is there a perceived need for change in the school?			
27. Do staff show readiness for change?			
28. Does school have capacity to effect change?			
29. Is there school awareness for change?			
30. Is there school commitment or engagement?			
31. Is there evidence of school incentive for change?			
32. Is there a history of effective change at school?			
33. Is there a general responsiveness to the programme?			
34. Is the child supported by classroom context and peers?			
35. Is there logistical support in the school?			
36. Is there admin support, if required?			
37. Is there a consistent timetable for the programme which is supported?			
38. Is there the ability to “make room” for the programme within the organisation?			

39. Is there support from key management staff?			
40. Is there an understanding of implications by key staff?			
Implementer readiness following training			
41. Has the person effective skills to carry out the intervention?			
42. Has the person sufficient knowledge about theoretical basis?			
43. Does the person feel positive about the programme?			
44. Is the person committed to the goals of the programme?			
45. Does the person have confidence in their own skills – efficacy?			
46. Does the person have awareness of children’s social and emotional needs?			
47. Does the person have awareness of their own social and emotional needs and competencies?			
Local Authority level			
49. Is the funding sustainable?			
50. Is there motivation to implement the programme?			
Community level			
51. Is there collaboration and co-operation between parents and school for the programme?			
52. Is there understanding and liaison between different services in supporting the programme?			
Total score			

scores= 105-156 (high)

53-104 (medium)

1-52 (low)

Audit based on:

Greenberg, M. T., Domitrovich, C. E., Graczyk, P. A., & Zins, J. E. (2005). *The Study of Implementation in School-Based Preventive Interventions: Theory, Research, and Practice*. Vol. 3 of *Promotion of Mental Health and Prevention of Mental and Behavioural Disorders*. DHHS Pub. No. (SMA). Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

4.7 - Research paper 3 – Examiner’s feedback



DOCTORATE IN EDUCATIONAL PSYCHOLOGY FEEDBACK

Research Paper 3 action research projects

Student Deborah Shannon

Title *An exploratory study of process evaluation in the real world: evaluation of the ‘sort it out’ programme*

Summary comment

First Marker’s comments

This is an interesting project that tries to look at how Marc Cheverau’s package (Sort-it-out) is evaluated using Realistic Evaluation to explore the process of programme implementation and the facilitators view of success (or otherwise). Difficulties with carrying out the research project are reflected on (with reference to William and Terry’s paper). On the whole, the Research paper is well written – there are a few points to improve clarity suggested below.

There is a mixture of older references with more recent literature – sometimes it is clear as to why this is the case. Sometimes older references are given as much status as more recent material without any justification. There is a clear discussion of issues related to programme fidelity and an overview of interventions used with children.

Although this study forms part of a wider study it is not necessary to keep saying as ‘part of the doctoral element’ – the Research paper should be written as a self-contained piece of work. The method section could have been organized around the RQs – I found myself wondering what the overall approach was. There seemed to be realistic evaluation, a comparison group design, a focus group, individual interviews etc. – how these related and fitted together was not clear. A simple table could have been added that indicated what the RQs were and which methods or approaches were being used to address each before trying to go into detail (see handbook – thesis section)

The thematic analysis and contrasting of high success with low success seems to have worked well. I wasn’t sure how the interview data fed into the focus group analysis.

I thought the appendices were useful additions (the photograph of the materials was interesting in showing the reader what the package is about)

Second marker’s comments

I agree with the first marker’s comments. This is a ‘real world’ evaluation in every sense, where original plans have to be revised and the study re-thought. You have drawn on an extensive range of literature to justify your approach.

A minor point perhaps, but the abstract is a bit muddled. There is no overview of the ‘Sort it Out’ programme or of what it seeks to achieve.

<p>As you move into the thesis stage you need to pay some attention to your writing style. For example paragraphs should always contain more than one sentence. You need to use commas more frequently. Your use of tenses is inconsistent. Some sentences are not a sentence, e.g. sentence 3 of the introduction. Finally some of the quotations are very brief and do not really add anything.</p>			
Doctoral Criteria	Insufficient evidence Working towards Achieved	Assessment evidence	Improvement suggestions
Capacity to pursue research and scholarship	Achieved	<p>Throughout the project there must be evidence that you have accessed the literature, planned and carried out an investigation and have been able to make sense of information that you have collected.</p> <p>We will be looking for the following characteristics:</p> <ul style="list-style-type: none"> • Overall approach • Clear and logical story line • Evidence of a critical approach to concepts and methodology • Evidence of analytical thinking <p>The standard expected is that it must be suitable for publication in a journal. Some students decide to write specifically for a journal and then try to get the article published – this is catered for in our Research paper guidelines.</p>	
Produce an original contribution and substantial addition to knowledge	Working towards	This might be evident in the way that the research is conducted (e.g. using a new approach to investigate a problem); in the production of new understandings or knowledge; or in the application of the project’s findings to professional practice.	While this evaluates an un-evaluated programme, I wasn’t convinced about it leading to new understandings. This will be an important area to consider in the thesis.
Demonstrate the relevance of the research to professional EP practice	Achieved	<p>In the discussion or conclusion sections you address the ‘So what?’ question: How does the research inform EP practice and develop or support the work that EPs do? What are the implications for Services or for service users?</p> <p>Reflective personal evaluation is included. A final section is added to the Research paper that relates what you have done to your own learning and development as a psychologist.</p>	

<p>Communicate clearly, accurately and according to the conventions for presentation of academic work.</p>	<p>Working towards</p>	<p>The material is organised logically and coherently so that it tells a story.</p> <p>There are well defined sections to the report including: Abstract Introduction Literature review Methodology Results/discussion/conclusion (these may be separate sections or written as one – it depends on the type of study and which approach most effectively communicates what you have done.) References</p> <p>The abstract is a brief statement (single spaced and no more than 250 words) of the area, why it is important and specific issues addressed. There is an outline of the methodology, summary of key findings and a reference to the implications of the study (e.g. on policy, practice or theory)</p> <p>The findings are presented clearly and in a way that is appropriate for the type of data collected (i.e. quantitative or qualitative or mixed methodologies).</p> <p>The presentation matches academic requirements and the references are in an accepted and consistent format (e.g. APA 5th)</p>	<p>The abstract needs a title. The first two sentences are very convoluted and could have been written in a more straightforward way (see Chomsky’s ideas on linguistic transformations). Tenses need to be checked and a few additional commas would help the reader further.</p> <p>You have tried to identify quotations by printing them in bold – a more accepted way is to indent the paragraph from both sides. If a different font is needed then some authors use italics.</p> <p>Goleman is cited but not referenced. References need to be in a consistent format (e.g. APA 5th).</p> <p>Table 3 and table 4 could have been done as bar graphs.</p>
<p>Rationale is justified</p>	<p>Achieved</p>	<p>The introduction to the Research paper should justify why this research project was being undertaken. This could be a theoretical rationale for undertaking the work or it could be related to local policy and practice.</p>	
<p>Demonstrate rigorous and critical thinking in regard to the literature and theory</p>	<p>Achieved</p>	<p>The material is presented accurately without bias</p> <p>There is evidence of critique throughout the Research paper with a critical approach taken when considering concepts, methodology and the impact of studies that have been done previously.</p> <p>There should be evidence that you have thought critically about the work that you have undertaken and how this relates to the previous literature.</p>	

<p>Demonstrate how the topic of the research is related to a wider field of knowledge and research</p>	<p>Achieved</p>	<p>Introduction section</p> <ul style="list-style-type: none"> • Well justified focus supported by key references • Clearly stated issue to be investigated and/or research questions <p>Literature review section</p> <ul style="list-style-type: none"> • Theoretical context/previous research justify present study • Up-to-date references relevant to the study • Consideration of how a study/reference contradicts or complements other work in the field <p>Results/discussion/conclusion section</p> <ul style="list-style-type: none"> • Consideration of how findings support, contradict or build on previous work 	
<p>Demonstrate an understanding of the design and conduct of empirical research.</p>	<p>Achieved</p>	<p>In the Methodology section:</p> <ul style="list-style-type: none"> • Reflection on the interrelationship between concepts, research questions, data collection methods • Discussion of strengths and weaknesses of chosen methodology • The projects must conform to the ethical guidelines set out by the British Psychological Society. • Explicit account of procedure • Consideration of data analysis procedures <p>In the Results/discussion/conclusion</p> <ul style="list-style-type: none"> • Links between data collection and analysis of findings are clear and explicit • Consideration of how findings support, contradict or build on previous work • Evaluation/critique of study • Discussion of implications, e.g. for the project, professional practice, further research, deeper understanding of theory, methodology 	

Any further recommendations for reading or skills training

RECOMMENDATION:

(First Examiner to make recommendation, Second Examiner to contact First Examiner if they do not agree, or sign below to confirm the recommendation. Second Examiner to return the work and feedback sheets to First Examiner.)

<p>A. Pass</p>	<p>Please mark with an X</p>
<p>(i) With no corrections</p>	

(ii) Subject to corrections being made to the satisfaction of the first Examiner (work to be achievable within one week for full-time students and two weeks for part-time students). COMPLETED.	X
B. Refer for Major Revisions	Please mark with an X
Permitting submission of a revised research paper to be seen by both Examiners (work to be achievable within one month for full-time students and two months for part-time students).	
C. Deferred pending viva	Please mark with an X
The research paper needs exploration of some issue that cannot be ascertained from the text alone.	
D. Fail	Please mark with an X
Not permitting resubmission.	

Signed First Examiner:	Garry Squires	Date:	28 Jan 10
Signed Second Examiner:		Date:	

	Yes/No
Do you wish the School Office to send the Research Paper to the External Examiner?	
Reason for sending to External Examiner	Please mark with an X
The First and Second Examiners cannot agree a mark	
The Research Paper is a resubmission (previously failed)	
Part of the sample	

FIRST EXAMINER PLEASE ENSURE: The original copy of the Examiners' reports and one copy of the Research Paper is sent to Christine Chadwick, School Office Room B3.8. This will be sent out to the student and a copy of the feedback kept on student file.

EXTERNAL EXAMINER'S RECOMMENDATION:

Name:		Institution:	
Signed External Examiner:		Date:	

5 Overall Discussion

This chapter discusses each research paper with regard to the main conclusions of each paper; a reflective critique of each and the outcomes of the research. The three research papers will be considered in relation to highlighting their contribution to knowledge and research methodology within Educational Psychology, with reference to the academic and research skills and knowledge gained and what learning development occurred. The limitations of the three research papers set within the context of learning over time will be discussed with reference to examiner feedback and emerging themes for future development.

5.1. Research paper 1

5.1.1 Summary of main conclusions

The purpose of the literature review was to bring together the theoretical and research evidence around early developing attention in children and the risk and resiliency factors which emerge in the first years of life. The development of early attentional abilities was seen as having a causal link to later learning outcomes. From this starting point the intention was to develop evidence-based preventative intervention within an early learning programme focused around parents and one to two year old children. The imperative for the research paper was around specific potential application arising from research which would be of benefit to my particular work with young children and families within the home and in early years settings as well as to other applied educational psychologists. The key questions addressed considered the following questions.

- *How is attention defined and what are the associated constructs of attention, with particular emphasis on visual attention and sustained attention?*
- *What are the major theoretical explanations of attention generally and specifically around sustained/focused attention?*
- *What is the usual developmental trajectory for attention development and how do attentional mechanisms and processes develop in the first years of life?*
- *What are the possible primary risk and resiliency factors associated with poor attentional ability impacting on later childhood, with particular focus on proximal factors around the individual?*
- *What are the possible directions or suggestions for prevention, early intervention and enhancements to early attentional development, which might promote resiliency and/or reduce the impact of risk factors.*
- *What are the possible areas of future research? What relevance might research have for practicing EPs generally and more specifically associated with early preventative intervention?*

The literature review centred around the organisation of theory and research into the main risk factors, their impact throughout the early age range and possible protective intervention or preventative measures. This allowed the development of a matrix which showed the main risk factors according to age and across two areas of within-child and environmental context

and potential prevention and intervention which could address risk factors at relevant time period. (Research paper 1. Table 1. Attention risk factors and Impact - showing age when risk emerges and when risk impacts and type of risk impact; Table 2. Individual and Parenting risk and protective factors Matrix.).

Attentional risk factors were seen within a number of domains – genetic, cognitive, social, emotional and behavioural. Additionally, the impacts of risk became evident in a number of areas and at different ages, for example, alcohol consumption in pregnancy was shown to have a negative impact upon a child's focused and sustained attentional ability at 4, 7 and 14 years.(Striessguth et al 1994). The review illuminated the relative importance of interactions between individual and environmental factors, particularly in relation to parental attitudes, beliefs and behaviours and their contribution to positive or negative outcomes for the child. The findings implied the efficacy of a focus upon parental support associated with developmental and emotional aspects, within the child's first two years, particularly with families with greater "at-risk" markers.

5.1.2 Reflective critique and limitations

The primary limitation of the first research paper was around the self-imposed focus of attempting to incorporate and cover all available knowledge of wide area, which left limited time for organising, reflection and critical analysis. More usually perhaps, a literature review would set the theoretical foundation for a subsequent research study and be part of that. Sternberg (2000) suggests a number of different purposes for literature reviews – answering old or new questions; a vehicle for analysing and evaluating predictions and testing of existing or new models or theories. Sternberg suggests that the review should be a process

which, defines and clarifies a problem; summarises and analyses previous and current research and discusses potential ways of solving the problem set.

The overarching purpose of the first research paper was to organise and summarise the existent knowledge around early attentional development around questions about definition, theory, developmental trajectory, risk and resiliency factors impacting at different points of development, as well as potential directions for intervention, prevention and research. I was able to cover the “body of research” within the area, but due to the size of the task, was unable to do it justice, within the research paper, within the time allotted. I was able to summarise the literature and, the resultant matrix was a useful prompt within practice. However, the wide focus and subsequent endeavour left very little time for an organising structure, coherence of “narrative” around the material or critical analysis of the material reviewed. The reviewers referred to the “ambitious” nature of the research paper reflecting this difficulty.

Due to an interest in the area of attentional development and the difficulty of specifying via keyword/wildcard the specific area of interest, the initial search strategy yielded a vast number of general and but often only peripherally-related references, primarily from cognitive and developmental perspectives. Given the time spent on reviewing these texts (around 150) a more focused and earlier stage, reductive approach would have been beneficial. A key text emerged during this time which was a recent integration on the development of attentional function and process through the lifespan, focussing on early life. Ruff and Rothbart, in “Attention in Early Development: Themes and Variations” (1996), sought to bring together current thinking within the area; highlight the later implications of variations in early attentional development and noted that it was possible to enhance and

impact upon attentional development. This text therefore acted as a second, more focused starting point, within the specific area of interest, albeit from a particular theoretical perspective.

In subsequent research papers, the lessons learned from the first research paper, were those regarding specificity of literature review constructs and definitions and attempting to narrow the focus of what was it was possible to do within the time available. In effect, it encouraged a greater consideration towards the balancing of breadth against specificity. In addition, it promoted reading around and consideration of audience, critique and structure within research papers.

5.1.3. Contribution to knowledge and research methodology – academic and research skills

Theoretical Frameworks and conceptual development

Research undertaken within the literature review provided the opportunity to study the “body of knowledge” within a specific area, in detail. During the course of study, a number of outcomes emerged associated with theory, research skills and conceptual development. The following chapter considers the process and outcomes of learning development gained.

Given the relative importance of attentional and self-regulation development to a wide variety of cognitive functions considered vital to later educational classroom-based performance and engagement - such as problem solving and attentional control, there appeared only a limited specific, theoretical and research-based consideration, in relation to risk and resiliency factors

and subsequent educational implications for very young children, in the general literature. Instead, there appeared to be a much greater focus on school-age attentional development and on overt consideration of later-occurring “deficit” areas and impacts, such as within ADHD. This seemed to have emerged due to the historical path taken, in which the subject/theme of “attention” was largely “owned” within particular theoretical perspectives.

The increase in research into attention via a combined cognitive and neurological lens since the 1990’s, gave the hope was that there may be potential fruitful extrapolated and associated research and preventative approaches focusing upon young children arising from this psychological stance, which might be utilised in relation to attention and the overarching area of engagement.

The theoretical framework from which the study of attention developed was via 19th Century philosophy, from which there had been consideration of memory, perception and how processing capacity and speed are influenced by different variables. Psychologists, such as William James and Freud had both noted the relative importance of the area of attention but it was not until the philosophical to move to “Realism” and Cognitive Psychology in 1970’s that the area became a more popular subject within theory and research study. Emerging from cognitive psychology at this time came a number of influential models both within the areas of Attention and Working memory:

Attention

Broadbent – filter model of attention

Triesman – Feature integration

Posner – multiple resource model

Working memory

Akinson and Shiffrin – multi-store model

Baddley and Hitch – multi-component model

Norman and Shallice – Executive functions

In parallel, a clinical based and neurological stance of work focused on the neural correlates of cognitive processes in relation to neurological recovery or deficit. Robert Wurtz in 1970's noted the firing of neurons in the superior colliculus, directly related to attention in apes and subsequent model of Sohberg and Mateer (1989), theorised a hierarchical model determining attentional processes derived from recovery from coma and specific brain damaged areas of the brain.

Within Developmental Psychology, study of general cognitive functions was influenced by theories of Piaget focused on habituation studies, such as via Fantz; and via Bowlby's Attachment Theory, around mental representations and the impact of stress or threat. Attachment Theory, as referred to in "Attachment and Loss" (Bowlby, 1969 revised eds.) proposes that the relative sensitivity of caregiving would impact upon a child's ability to progressively regulate early emotion and enable attentional control to take place and allow for exploration. Whilst an overarching system determines "attention" within the theory, there is no specific reference to attention, as a distinct area. Research from a developmental and ethnographical perspective was incorporated into the review briefly. However, there has been, so far, a limited contribution from researchers coming from developmental, ethnographical and psychodynamic perspectives to define and elaborate on early attentional development specifically and a hope would be that further collaboration and integration of research from different disciplines would produce a greater level of understanding relevant to applied educational psychology.

Whilst ontologically, Educational Psychologists tend to take an interactionist approach, the vast majority of very recent interest and research in the area of attention has emerged from a

cognitive/neurological stance. From a learning perspective, the process of literature search did not fully correspond to Sternberg's conception, in that, analyses was limited by time. However, the process allowed for clarification and refining and provided a thorough and significant amount of understanding of attentional processes, generally and specific to young developing children, which has gone on to inform my research practice and knowledge of the contribution of a number of areas within developing attentional ability and their subsequent relationship with learning engagement . Equally, my understanding has developed around the process of theoretical perspective taken around a particular area of interest and how this may be influenced by context. Subsequent literature reviews within research were improved by the above theoretical and practical lessons learned.

5.1.4. Outcomes within professional practice

The first research paper focused upon the early attentional development of children within the first three years of life. The literature review directly informed the development of a two generational programme aimed at alleviating risk factors with both parents and children. The findings of the review as illustrated by the resultant matrix, established the evidence-base and potential efficacy of implementing a skills-based element and a support-based approach to sessions between parents, children and support worker. In addition, the research paper informed the development of a baseline measurement which included a review of individual, parental and environmental risk factors and parent and child engagement measures. The results of the subsequent programme were largely positive for the 80 families included and were reported in a whole programme report, the executive summary of which is included in Appendix 1. ("Closing the Gap. Developing school readiness in severely disadvantaged

children: Final report for the ELF2 Project” Executive Summary. Whiteley, Hutchinson, Shannon, Pullan and Lambert, 2011).

In relation to subsequent outcomes associated with my practice as an Educational Psychologist, the literature review informed later and present, “core” work within assessment, planning and intervention around children with Special Educational Needs. In 2009, I became a Senior Educational Psychologist, with my role split between management of the Educational Psychology team for the local authority and as the Early Years Educational Psychologist. This latter role encompasses all early years children identified with Special Educational Needs and strategic work associated with Early Years children in the borough.

There has been an increase nationally in frequency of children identified with regard to early need and of the complexity of needs identified Special Educational Needs and Disability green paper “Support and Aspiration” (DfE, 2011). This has been seen, in part, to be due to increased numbers of pre-mature/low birth weight children surviving, where they would have not previously, due to improvements in neo-natal medicine and care. However, the cost of survival has been an increase in severity and complexity of children’s developmental disabilities and learning needs. Both within this group and the wider group of children identified at an early age with Special Educational Needs, the nature of children’s difficulties are wide ranging. However, aspects associated with attention and self-regulation appeared to be increasing in this group and these factors constitute a significant barrier to learning. Whilst these difficulties had been recognised for the later age range, the review and subsequent extension of my consideration of risk and resilience factors, including those within the research paper, associated with “within child” factors of neo-natal development continue to inform my work as Early Years EP.

One significant implication arising from the first research paper followed on from disseminating research from the literature review more widely within the Local Authority. There was an increasing recognition that children's development over the first few years is interactive, accumulative and highly varied, in light of the review. Meeting need in relation to individual developmental trajectory does not always correspond with process-driven systems, such as statutory assessment processes. In an effort to place "meeting need" promptly in consideration of risk and resilience factors highlighted within the research paper, myself and an Early Years manager within the Local Authority developed a system of multi-agency early years-focused processes which would address early assessment, changing needs and parental engagement with greater flexibility. The Chronicle of Additional Need (CAN) was developed locally via the mechanism of national "Innovative projects" run by Brian Lamb for the Department for Education. The findings from the CAN project have gone on to directly inform the format and characteristics within Education Health and Care (EHC) plans currently being developed in Pathfinder Local Authorities which will replace Statutory Assessment under the reformed SEN Code of Practice in September 2014. via the Children and Families Bill currently due for committee stage in the House of Lords in October 2013.

Another direct impact from the research was within the development of policy within the Local Authority. Following the development of a draft policy document, focusing on Fetal Alcohol Syndrome and broad but potentially ineffective interventions, I was able to further develop the debate within the authority, within a policy document (The Impact of harmful alcohol consumption on families and young people – prevention and reduction plan, 2013, in preparation) using the knowledge and framework developed during the literature review and was able to consider subsequent research findings, bringing some of the work up to date and

allowing for a considered review of research and potentially useful intervention. Within the original paper, for example, one risk factor for sustained attention at later ages was associated with maternal alcohol consumption (Struissgarth, 1994). Subsequently, research findings have highlighted more specifically the nature of the risk – the frequency, quantity and timing of alcohol consumption as having specific differing outcomes for the child in later life, for example, (May and Gossage, 2011).

Regarding learning outcomes from the literature review, the complexity of risk and resiliency and outcome paths have been a key learning outcome. For any particular individual, the number and impact of risk factors prior to birth, during birth and in early childhood vary as to positive or negative outcomes developmentally and educationally. Genetic, biological, acquired and environmental risk and resiliency factors are certainly not easy to disentangle as to specific outcomes. However, a knowledge and understanding of the body of research and the interactions and complexity involved, allows for a measured consideration of the body of knowledge at any given time in order to develop potentially effective prevention measures.

5.2. Research paper 2

5.2.1. Summary of main conclusions

Building on previous learning outcomes and feedback gained from tutors, the second research paper allowed for exploration via the medium of an empirical study around learning engagement, with a focus on the contribution of parent and child perceptions of learning at a time of transition from primary to secondary phase of learning.

The outcomes of the research centred around perceptions of child and parental engagement, particularly associated with child perception of parental engagement, transition issues, child's attainment and aspirations. Questions posed within the paper were associated with the nature, characteristics and interaction of child and parental involvement and the possible impacts of this to children's academic outcomes. The general questions posed were,

- What are the political and other research perspectives in the area of parental involvement?
- What constitutes "parental involvement"?
- How much does parental involvement matter to later attainment outcomes?
- How does parental involvement mediate a child's educational attainment – what are the mechanisms and processes?
- What factors are associated with parental involvement in relation to transition?

In relation to the results of the research, the overall variance in parental involvement/engagement was accounted for by several factors:

- child perception of parent involvement
- child attainment
- transition concern and support
- education and employment aspirations

There was a distinction made between at-home and at school-based involvement of the parent. "At-home activities" were associated with positive learning outcomes and child's perception of parental input and this accorded with other research evidence associated with the transmission of attitudes having a direct influence on children's learning (for example, Bandura et. al. 1996). The study suggested that simply "getting parents into school" was not

enough and unlikely to have much bearing on either the parent or child engagement on subsequent learning behaviour or academic outcomes. However, those parents who had the highest engagement levels (as perceived by the child) also tended to give more support at transition and at-home with regard to learning support. With regard to pupil perception, Hattie (2012) has more recently suggested that student “high expectations” ranked as the highest influence in relation to student learning (effect size= 1.44) and “home influences” had a medium influence on learning (effect size=0.52).

The concept of “efficacy” within the area of learning may have some relevance to the outcomes of learning – both from the perspective of the child and of the parents. A consideration of the possible mechanisms of “transmission of learning values and attitudes” may allow for the promotion, at least in part, of the transmission of positive learning attitudes and high expectation of capability. In relation to young children, Ardel and Eccles (2001) have hypothesised that there are interactive relationships between parental efficacy, promotive strategies and child academic success and highlight the possible transmission mechanisms of these factors. (See Figure 1. below).

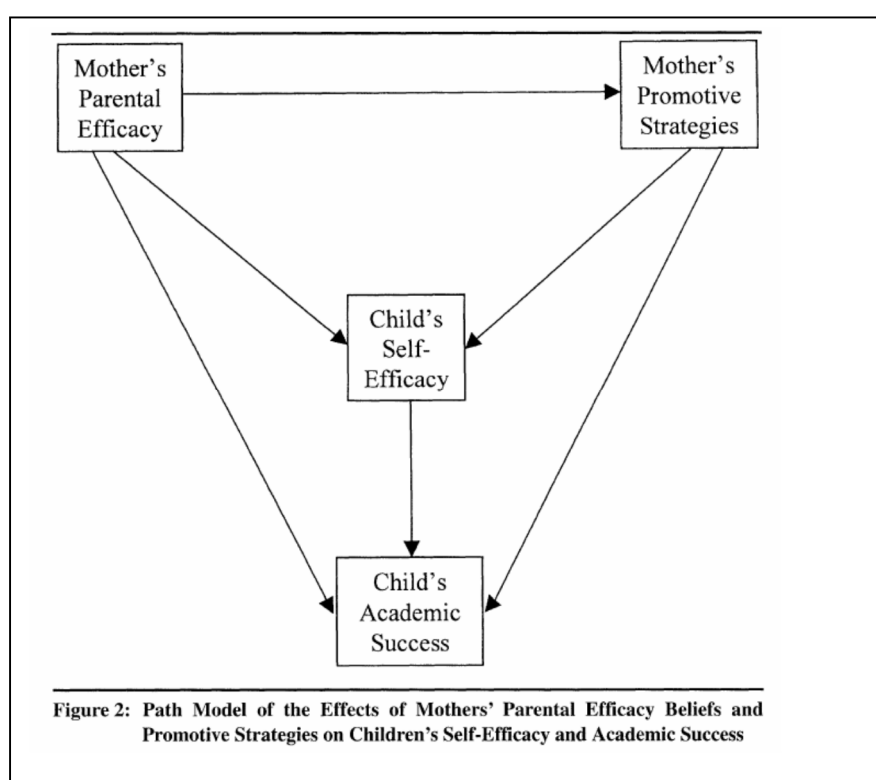


Figure 1. Path model of the effects of Mother' parental efficacy beliefs and promotive strategies on children's self-efficacy and academic success.

This pathway suggests the importance of both, the parent's own self-efficacy in relation to learning and the actions they use to promote learning with their child/ren and the potential usefulness of both addressing learning efficacy early with parents and promoting pupil self-efficacy as the child learns.

5.2.2. Reflective critique and limitations

In relation to the methodology chosen and the method of analysis, the overall effect size obtained (37.4%) has traditionally been seen as being of "moderate" or "high" level. However, the effect size would be considered to be of limited impact in relation to recent conceptions of effect size and variance. Hattie (2012) has focused on the magnitude of impact and proposes models based upon relative magnitude effects. Following consideration of 50,000 studies and 800 meta-analyses in order to compare the relative importance of factors associated with learning outcomes, Hattie suggests that an effect size of 0.40 is a "hinge point" and, as such, is the point at which a specific improvement in student learning is caused specifically by the factor, rather than progress which would be expected anyway. To aid clarity, a table showing the variance levels from each factor was subsequently included in the research paper.

A related limitation, referred to in the research paper was around difficulties of obtaining consistent and definitive definitions of parental involvement and engagement in the literature

(as well as within the study). In particular, within the paper, it was debatable if the various factors chosen around observable actions in school and at home, were related or not to either/or “engagement” or “involvement”. Skinner and Pitzer (2012) have suggested,

...it has become increasingly important for researchers to clarify their conceptualisations, both of the definition of engagement itself and the larger assumptions and models explaining how it operates. (ibid. p.2)

This limitation within the study has been a focus of further consideration and is referred to in the following section on academic and research skills.

5.2.3. Contribution to knowledge and research methodology – academic and research skills

Learning and Theoretical conceptual development.

Following on from the main limitation of the study around clarity of definition, the prime development in terms of research skills encapsulated issues around this area. Defining “engagement” as related to learning seems a particular difficulty, as it encompasses a number of both observable and “hidden” elements. For example, when one observes a child “on-task” and potentially learning, in a classroom, there may be a number of environmental and personal factors at work. From a theoretical multi-level consideration of engagement, as suggested by Skinner and Pitzer (2012), the promotion of engagement is seen as linked to motivation conceptually, in that the concepts share core features,

Motivation refers to the underlying sources of energy, purpose, and durability, whereas engagement refers to their visible manifestation (ibid. p22)

From this perspective engagement is seen as the “action” component of the motivational model. Skinner and Pitzer’s multi-level model of within learning comprises four levels, from the general to specific and the model is also related to risk and resilience factors. The “Institutional Level”, refers to the involvement in school as a pro-social institution and this is suggested as a protective factor associated with delinquency. The second level of “School Activity” refers to the academic and extra curricula involvement, associated with protective factors such as school completion, absenteeism and drop-out. The third level of “Classroom” is associated with work completion enabling learning. These levels feed into the “engagement with learning level” through motivation. (See Figure 2. Below)

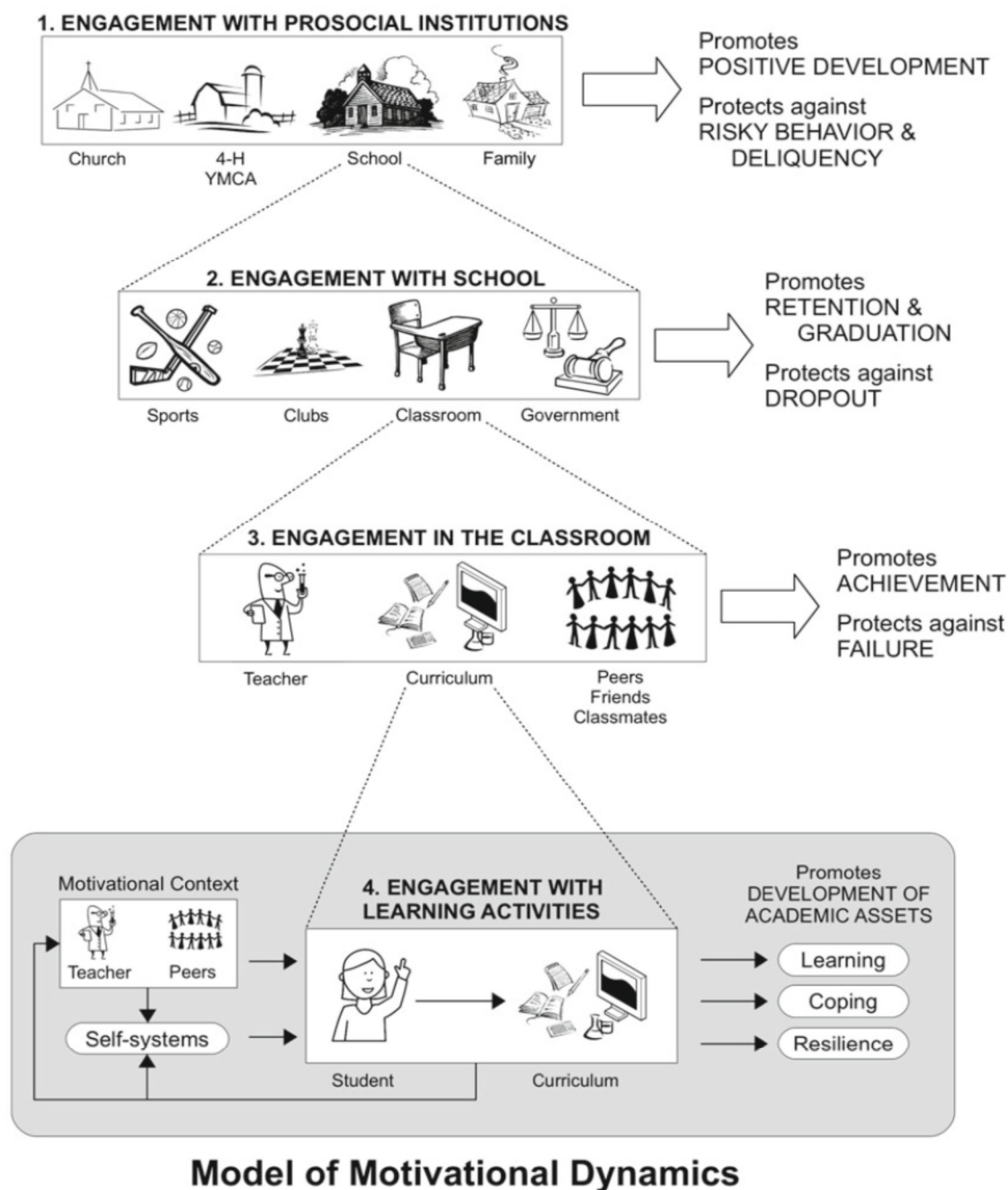


Fig. 2.1 A multilevel perspective on engagement with school that highlights student engagement with learning activities as central to an understanding of the development of motivational dynamics

Within this conceptualisation, the teacher, parent, peers and the pupil themselves have important contributions to make in order to promote engagement successfully. In relation to parental input, parents are considered to shape children's classroom engagement via

promoting in their child intrinsic motivation, a preference for challenge; valuing and commitment to school and enthusiasm, enjoyment and interest in school work.

In relation to my academic and research learning outcomes, a consideration of engagement within research paper 2 has allowed further consideration within the area of Self-Determination Theory, which has informed both ideas around definition and academic rigour and the complexity and specificity of constructs as well as theoretical conceptualisation around the area of engagement, which links the three research works completed.

5.2.4. Outcomes within professional practice

There were a number of outcomes of research paper two which were planned, primary from a systemic perspective. However, systemic-based outcomes were significantly compromised by increasing change and shifting agendas at that time both within the local authority and within schools. For the school involved in the research, changes in management and a subsequent poor Ofsted assessment, shifted management focus to other areas and disseminating findings was limited to a summary paper of the research and no follow up from key staff within the school. Implications within the school were primarily taken forward by the Educational Psychologist, Special Educational Needs Coordinator and Year 7 Head of year and were primarily related to individual children, who were considered to be at risk of “disaffection” in learning.

The implications of the research pointed towards the link between engagement and child aspirations as holding potential benefits and a process of change incorporating these two

aspects was implemented. This involved an active consideration regarding novel ways in which a child's aspirations could be understood and action within the school to implement engagement activities. Two examples, illustrate the subsequent positive outcomes, which centred around a shift in school practices and thoughts/narratives around children showing limited engagement in learning or "disaffection".

With one boy, referred to me in 2009 on the basis of significant language and literacy difficulties as well as increasing "self-esteem" and behavioural difficulties, focus was shifted by dissemination of theory related to the research and resulted in an emphasis on engaging him in working towards his aspirations, increasing skills and learning efficacy and engaging both him and his parents in his learning. Initial intervention implemented by the Educational Psychologist and determined/controlled by the child were discussions around his aspirations and goal setting around this. Strands of action completed by the school encompassed increasing his literacy skills, improving his confidence within social interactions, frequent discussions of values, progress and planning at school and at home. These strands were consistent with the outcomes from the research completed and theory of self-determination around engagement in learning. Subsequent outcomes were that he started attending and working in lessons within the classroom; he joined and contributed to the school council and joined a Local Authority Youth Forum and most recently in 2013 he appeared on a Youth Forum produced video promoting the "voice of the learner", shown throughout the area. In a recent planning meeting with the Senco, she noted that his progress had directly related to strands of intervention implemented and was connected to his original goal of becoming active in the political arena. In relation to theory, his progress is an interaction between increasing competence, positive interactions and connectivity to peers and teachers with increasing engagement.

In another example, in 2010, a Year 10 girl with moderate learning difficulties and significant social and behavioural difficulties was in danger of exclusion. She was progressively engaged in learning and into social interactions within the school at multiple levels via her interest in cookery and she was enabled to work towards her goal by gaining a food hygiene certificate via a local college; cooking for events at the school and subsequently joining the armed forces to train in a food-related capacity.

5.3 Research paper 3

5.3.1 Summary of main outcomes

The outcomes of the research were centred around process evaluation of the problem solving programme. Greenberg (2004) suggested that two questions were central to an evaluation of this type,

- What factors influence the quality of implementation?
- How do the environmental and systemic characteristics of a school affect the quality of program implementation?

The evaluation used a Realistic Evaluation framework, which aimed to achieve a level of depth in order to establish the “core components” of the programme. Outcomes centred around the contextual factors, associated with the facilitator, child and parents and mechanisms associated with particular paths of influence and what factors impacted upon successful implementation. In relation to context and mechanisms, the main factors important to the successful implementation were regarding the relationship and rapport between

facilitator and child, and co-operation of parents. In relation to mechanisms the structure of the programme, the engagement of the child (incorporating the belief of success, motivation to attend and the autonomy of the child) was significant. Findings were consistent with Blamey and Mackenzie (2007) consideration that there are a number of, *...psychological and motivational responses leading to behaviour change. (ibid., p.446.)*

Issues of fidelity and adherence to the programme, as written, had an influence on outcome. It was established that facilitators used the programme in a more flexible manner than anticipated by the programme developers. This led to a consideration of the importance of creativity, flexibility, fidelity and adherence and a consideration of the potential “core components” at work within the programme, alteration of which would render the programme ineffective. The findings suggested the utility of exploring further the nature of “core components” via discussion with facilitators and a plan of training, which could incorporate these vital elements and highlight issues around fidelity and adherence.

5.3.2. Reflective Critique and Limitations

On review of the research, alterations were made to enhance clarity and communication, which were identified as being limitations of the work. The complexity of the evaluation, involving a number of different elements – questionnaire, interview, focus group, and the complexity of the methods chosen, Realistic Evaluation, focusing on “what works for whom in what circumstance” (Pawson and Tilley, 1997. p220) and the variety of methods employed – interview, focus group and questionnaire made for a very complex picture, with significant amounts of data produced within the cycles. The study was subsequently significantly altered

in light of limited take up for the interviews and questionnaire and this hindered the process of inquiry within the realistic evaluation cyclical format. Partly, this also related to choosing too broad a conceptualisation of the aims of determining the positive or negative factors around implementation and also attempting to evaluate outcome, and partly around the study being part of a larger study, focusing on other issues. Pawson and Tilley (1997) suggest that the purpose of a realistic evaluation is to produce ever more detailed understandings and is a process of theory building and theory testing in a unique and dynamic social situation. The data highlighted some very significant mechanisms in the efficacy of the programme implementation and outcomes for children, which went on to inform and influence further development of the programme.

5.3.3 Contribution to knowledge and research methodology – academic and research skills

Within the research paper realistic evaluation was chosen as a way of capturing the complexity within the programme and its implementation. During study a focus on theory around evaluation and realism were the two main areas of academic development. The paper allowed for exploration within background reading into the philosophical and epistemological stances, particularly around empiricism, comparing positivist and critical realism and constructivist thought about the nature of knowledge and what is observed or “true”. This was able to inform understanding of realistic evaluation and how this might be consistent with process evaluation.

5.3.4. Outcomes in professional practice

Outcomes of the research centred around the implementation factors. The programme itself continued to be used by schools and training of staff continues, with a “secondary” programme training course being planned at the present time. In addition, there is interest from several early years based EPs to develop a programme aimed at younger children in the late pre-school or reception age group.

In relation to implementation, the knowledge of the importance of implementation factors with preventative programmes emerged from the research and following the research were incorporated into an “audit”. The audit has subsequently been used in the preparation of further programmes manuals, both associated with the programme, itself and programmes unrelated to Sort it out!. Following the research, the findings were discussed during supervision sessions for those staff implementing the Sort it Out! Programme (as well as other school-based programmes). Discussion focused on implementation factors and in particular those factors which might influence a programme detrimentally. Implementers voiced their view that they see themselves as creative and being able to alter or change a programme to fit a particular situation or within the dynamic context of a school day. This poses a difficulty for the implementation of all preventative programmes associated with fidelity to programme factors and that with time the actual factors which allow the programme to have an impact are likely to “drift”. Set against this, is the motivational factor associated with implementers should feel “ownership” and the ability to flexibly alter the programme according to individual need, which allows the programme to be implemented successfully. Identifying and disseminating the “active ingredients” of the mechanism of

change emerged as the way in which implementers were able to identify what could and could not be changed and this element was added to the training course for implementers.

5.4. Final comments

This thesis considers particular areas associated with “learning engagement” of the pupil/student, from a number of perspectives and through the progress of education. The first paper examines the contribution of “attentional” development and the ways in which child, parental and environmental factors can contribute to or hinder learning-focused attentional abilities. The second paper looks at the impact of parent and child attitudes and values on motivation and achievement at a time of transition. The third paper considers some of the difficulties of implementing a programme aimed at supporting children to become engaged in learning.

In relation to later engagement in the “learning journey”, this theme emerges within higher education and in relation to my own experience and learning. The contextual experience of the individual within a community of practice is considered a significant factor in the transformatory journey of a doctoral student, by Hyatt (2013). My own progress through the doctoral programme and the three research papers produced brought into sharp focus the highlights, challenges and realities of studying and applying research within a real world and changing political context. There are particular moments when external pressures from political, policy and day to day directions can, be at odds with the pursuance of research and these inevitably can limit, compromise, influence and impact upon the journey undertaken for the individual.

Within a research and theoretical perspective, the work completed has allowed for myself the development of a multitude of learning outcomes, both within a research context and within my practice. In particular, exploring aspects of the theoretical and research landscape rigorously and “in-depth” has been of particular value. Within the consideration of “engagement” as a construct, a number of conceptualisations were explored – the nature of “engagement” via aspects of child development - in the areas of attention and within the context of learning and transition through school; the contribution of parental engagement and the difficulties associated with implementing programmes designed to support pupil engagement in learning.

Emerging difficulties with studying children’s engagement in learning became evident during the course of the completing the papers. Research studies aimed at different ages and from different perspectives do not have a common “language” or consideration of the area. Within the different considerations of “engagement” there is a diversity of individual constructs making up this “meta-construct”. To some extent, the complexity of considering “engagement” was aided via the framework provided by Pitzer and Skinner (2012), which allows for an overarching model, from which to consider “engagement”. Using this model as an organising structure in the consideration of “engagement” has allowed a greater unification of the areas of enduring interest to me and informed a number of alternative ways of viewing children’s learning, which will go on to inform and inspire my practice and application of psychology . Equally, large scale meta-analyses, which focus upon these areas, such as Hattie’s “visible learning” allows a greater focus on what matters and what works, as well as the opportunity to use evidence-based approaches in this area.

Within the research consideration of “engagement” this construct is seen as a malleable one, which can be shaped by interaction and environment - from earliest infancy and throughout childhood. Skinner and Pitzer, 2012 consider that,

The same personal and interpersonal resources that promote engagement may shape students reaction to challenges and obstacles, with academic coping and especially important bridge back to re-engagement. (ibid p 5.)

In addition, engagement appears to have a predictive capacity in terms of learning outcomes for children. The three elements of behaviour, emotion and cognition are considered to be key within research and have been explored within the three research papers. (See Figure 3 below). As such, the area of engagement, should be of particular interest to and academic study for Educational Psychologists, in intervening, facilitating and enabling children and young people to enjoy, succeed and flourish within the learning environment.

	Engagement	Disaffection
Behavior Initiation Ongoing participation Re-engagement	Action initiation Effort, Exertion Working hard Attempts Persistence Intensity Focus, Attention Concentration Absorption Involvement	Passivity, Procrastination Giving up Restlessness Half-hearted Unfocused, Inattentive Distracted Mentally withdrawn Burned out, Exhausted Unprepared Absent
Emotion Initiation Ongoing participation Re-engagement	Enthusiasm Interest Enjoyment Satisfaction Pride Vitality Zest	Boredom Disinterest Frustration/anger Sadness Worry/anxiety Shame Self-blame
Cognitive Orientation Initiation Ongoing participation Re-engagement	Purposeful Approach Goal strivings Strategy search Willing participation Preference for challenge Mastery Follow-through, care Thoroughness	Aimless Helpless Resigned Unwilling Opposition Avoidance Apathy Hopeless Pressured

2 A motivational conceptualization of engagement and disaffection in the classroom

Figure 3. A Motivational conceptualisation of engagement and disaffection in the classroom.

Despite factors which hinder engagement in learning, developing an understanding of the impact of promoting resilience and active acknowledgement of ways in which to overcome barriers for the learner is a role undertaken by those supporting learners and by the individual themselves in employing resources they possess at that time. Through the medium of Educational Psychology, it is via the progressive description and understanding of the mediating risks and resiliencies through research and finding potentially effective ways of intervening to promote engagement through application in real world contexts that enable the learner to overcome barriers and succeed.

Appendix 1.

Closing the Gap: developing school readiness in severely disadvantaged children.

Final Report for the Xxxx 'ELF2' Project

March 2011

H. E. Whiteley, J. M. Hutchinson, D. Shannon, J. Pullan & S. Lambert

Executive Summary

Overview

This report summarises a two generation preventative project designed to enhance the life chances of children from 'hard to reach' families. We worked with severely disadvantaged 2 year old children and their families, both in the home and in nursery, across a 12 month period to bring about significant changes that are likely to have a major positive effect on their life chances. In spite of starting with very low baseline vocabulary skills, the intervention demonstrates significant catch up in both aspects of vocabulary, significant catch up across a range of developmental measures (including play, self-help, eye-hand co-ordination), good attendance at nursery, increased ability to sit and pay attention for sustained periods and generally increased parental engagement with their children's learning, closer parent/child relationships and improved behaviour management skills. The prognosis for these children is much improved: the gap between their actual abilities and their expected abilities given their age is greatly reduced (and completely closed on some measures), and with parents who are now engaged in their learning and regular attendance at nursery, all the indications are that these children will go on to do well on school readiness measures and be far better placed to take advantage of their schooling.

Background

Two recent influential reports highlight the gap that exists between children from the poorest families and their middle income peers (Field, 2010; Allen, 2011). It is well established that many children from disadvantaged backgrounds are already educationally up to a year behind by the age of 3 and that early skills gaps are predictive of long term underachievement and reduced economic and social well-being (Waldfogel & Washbrook, 2010). The Field report identifies key drivers of life chances throughout childhood which include parenting and home learning environment, high quality childcare and parent's aspirations and engagement as important factors in the early years. This intervention builds on the established research and on previous pilot work within the Xxxx Authority with the aim of closing the gap between the abilities of disadvantaged children and their more affluent peers, improving school readiness and laying the foundations for a successful and prosperous future.

Participants

The intervention involved 80 families and their 2 year old children (83: 37 female, 46 male). All families were classed as 'hard to reach' and all qualified for the 2 year nursery grant. The families had a range of existing risk factors beyond economic disadvantage, for example, 16.9% were on the child protection plan, 22% were experiencing domestic violence, 37.3% were involved with mental health/psychiatric services, 15.3% were involved with substance/alcohol abuse.

Method & Measures

Five outreach workers (all qualified nursery nurses) received 1 week of specialised training tailored to delivering the intervention (Dialogic Reading, Home Visiting, Attachment theory). A range of measures was used to establish a baseline and then at termly intervals in order to evaluate progress, these included standardised quantitative measures and specifically designed qualitative measures. For example: the Receptive and Expressive One Word Vocabulary Tests (Brownell, 2000), Leuven Involvement Scales (Laevers, 1994), Developmental Checklist (NFER, 2005), parent/child video (interacting with a book) and parent questionnaires.

Outreach Workers (OW) made weekly home visits to families in the first term, reducing to fortnightly visits in the second term and monthly visits in the third term.

OW/family interactions focussed on parenting skills, play, dialogic reading techniques, signposting, encouraging access to courses/activities at the Children's Centre and ensuring that children attended nursery. The OW acted as a support for transition from the home to the nursery.

Findings

Figure 1 shows mean scores on the measures of receptive and expressive vocabulary at 3 points in time for the children participating in the intervention (labelled ELF (early learning in families) and the scores that would be expected given their age (labelled std). T1 shows the baseline performance before the intervention began. It should be noted that the intervention children are severely delayed in both aspects of their language development at T1, with many of the children having little or no intelligible expressive language at the start of the programme, in spite of being on average 28 months old.

The time period from T1 to T3 was 6 months. Mean receptive vocabulary started at 17m (11m delay). Across a 6 month intervention period, children made the equivalent of 15 months progress, showing considerable catch up to leave them with a negligible delay of just 2 months. Mean expressive vocabulary began at a level of just 15 months, but again, there was evidence of significant catch up with the children making 12 months progress across a 6 month period. Given that vocabulary is a major factor in school readiness measures, these children are now much better placed to be equal to their 'better off' peers when that time arrives.

Figure 1: Mean scores and expected scores on receptive and expressive vocabulary measures.

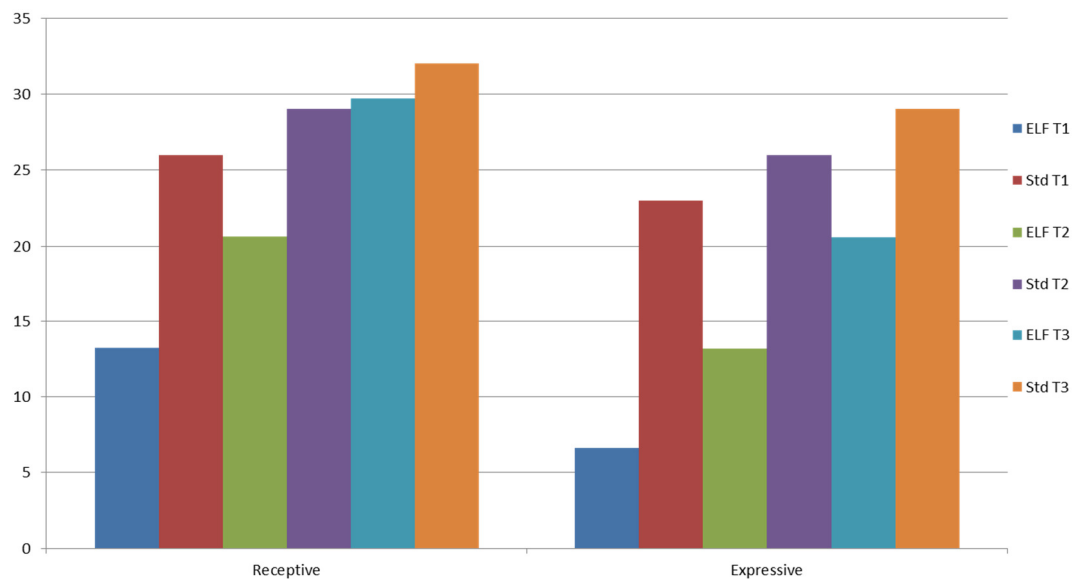


Figure 2 shows progress from T1 to T3 on 6 subscales of a developmental checklist. At T1, children were within the normal range (20 – 25) for their age on the physical skills scale, however, on all other scales, the children were scoring at levels much lower than expected for their age. By T3, significant progress had been made on all scales and at this point, the children were scoring within age appropriate levels on all of the scales.

Figure 2: Mean Developmental checklist scores

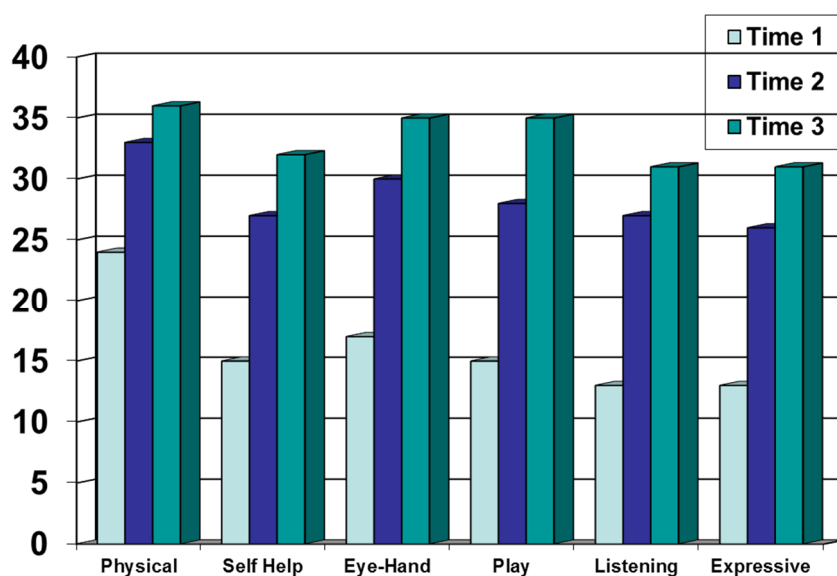
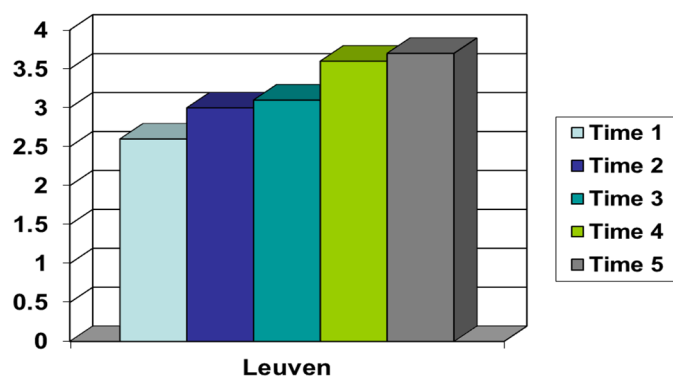


Figure 3 shows the mean scores on the Leuven Involvement scale across 5 points in time. Significant progress was made from T1 to T5 indicating an increased ability to

become engaged or involved with an activity (crucial for effective learning). This improvement was reinforced by video evidence where children were clearly happier at T2 to sit longer with their parents when reading a book and showed much greater engagement with the activity.

Figure 3: Leuven involvement scale mean scores.



Many more very positive findings emerge from the data including evidence of greater engagement with book reading, greater parental engagement generally with their child's learning, improved behaviour management and excellent nursery attendance.

Finally, the intervention was demonstrated to be equally effective on all measures for both genders and across all tiers of risk category.

Conclusions

The Field Report stresses the need for greater equality in terms of school readiness to enable disadvantaged children to gain maximum benefit from the experience of schooling. This intervention demonstrates an effective way forward in achieving this equality: as recommended in the Field report, the intervention reported here is targeted at a specific population (the most disadvantaged 2 year olds); is intensive (with a phased reduction in support); involves voluntary participation; maintains fidelity to the original model (dialogic reading, home visiting) and works with both parents and children (Field, 2010). The Allen Report (2011) recommends the use of early intervention and investment in programmes that have proved to be effective, given the evidence, the intervention reported here would seem to be a prime contender to take this recommendation forward.

REFERENCES

1. Akos, P., & Galassi, J. P. (2004). Middle and high School transitions as viewed by students, parents, and teachers. *Professional School Counselling*, 7(4), 212-221.
2. Alexander, K. L., Bruce, K. Ekland, L. J. (1975). The Wisconsin model of socioeconomic achievement: A replication. *The American Journal of Sociology*, 81(2), 324-342.
3. American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (Revised 4th ed.). Washington, DC.
4. Angus, M., McDonald, T., Ormond, C., Rybarck, R., Taylor, A., and Winterton, A. (2009) Trajectories for classroom behaviour and academic progress. Edith Cowen University. Perth.
5. Ardel, M. and Eccles, J.S. (2001) Effects of mothers parental efficacy beliefs and promotive parenting strategies on inner city youth. *Journal of Family Issues*. 22 (8) 94-972.

6. Association of Educational Psychologists (2008) *Educational psychologists in multidisciplinary settings: Investigations into the work of educational psychologists in children's services authorities*. Durham. AEP.
7. Aston-Jones, G., Rajkowski, J., Kubiak, P., Alexinsky, (1994). Locus coeruleus neurons in the monkey are selectively activated by attending stimuli in a vigilance task. *Journal of Neuroscience* 14: 4467-4480.
8. Baars, B. J. (1993). *A cognitive theory of consciousness*. New York, NY: Cambridge University Press.
9. Bakeman, R., Adamson L.B., Konner M., an Barr R.G. (1990) Kung! Infancy: the social context of object exploration. *Child Development*. 61 (3)794-809.
10. Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, 67(3), 1206-1222.
11. Bakker, J., Denessen, E., & Brus-Laeven, M. (2007). Socio-economic background, parental involvement and teacher perceptions of these in relation to pupil achievement. *Educational Studies*, 33(2), 177-192.

12. Banister, P., Burham, E., Parker, I., Taylor, M. and Tindall, C. (1994) *Qualitative methods in Psychology: A researcher guide*. Open University Press. Buckingham.
13. Barnard, W. M. (2004). Parental involvement in elementary school and educational attainment. *Children and Youth Services Review*, 26(1), 39-62.
14. Bhaskar (1989) in Blamey, A and Mackenzie, M. (2007) Theories of change and realistic evaluation: peas in a pod or apples and oranges? *Evaluation*. 13 (4) 439-455.
15. Blamey, A and Mackenzie, M. (2007) Theories of change and realistic evaluation: peas in a pod or apples and oranges? *Evaluation*. 13 (4) 439-455.
16. Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. Oxford, England: International Universities Press.
17. Bell, M. A., and Fox, N. A. (1992). The relations between frontal brain electrical activity and cognitive development during infancy. *Child Development*, 63(5), 1142-1163.
18. Belsky, J., Freidman, S.L., Hsieh, K. (2001). Testing a core emotion-regulation prediction: Does early attentional persistence moderate the effect of infant negative emotionality on later development? *Child Development*, 72(1), 123-133.

19. Belsky, J., and Most, R. (1980). Maternal stimulation and infant exploratory competence: Cross-sectional, correlational, and experimental analyses. *Child Development, 51*(4), 1168-1178.
20. Berger, A., Kofman, O., Livneh, U., & Henik, (2007) Multidisciplinary perspectives on attention and the development of self-regulation.
21. Bigelow A. E., and, Proctor J. (2004). The role of joint attention in the development of infants' play with objects. *Developmental Science, 7*(5), 518-526.
22. Blair, C. (2002) School readiness: Integrating cognition and emotion in a neurobiological conceptualization of child functioning at school entry. *American Psychologist. 57*(111-127).
23. Bornstien, M. H., and Sigman, M.S.(1986) Continuity in mental development from Infancy. *Child Development. 57*, 251-274.
24. Bornstein M. H, and Sigman M.S. (1997). Maternal responsiveness and infant mental abilities: Specific predictive relations. *Infant Behaviour and Development, 20*(3), 283-296.

25. Botvinick, M. M., Braver, T. S., Barch, D. M., Carter, C. S., & Cohen, J. D. (2001). Conflict monitoring and cognitive control. *Psychological Review*, *108*(3), 624-652.
26. Bowlby, J. (1980). *Attachment and loss*. New York, NY: Basic Books.
27. Bretherton, I. (1990). Communication patterns, internal working models, and the intergenerational transmission of attachment relationships. *Infant Mental Health Journal*, *11*(3), 237-252.
28. Bronstein, P., Duncan, P., Clauson, J., Abrams, C. L., Yannett, N., Ginsburg, G., (1998). Preventing middle school adjustment problems for children from lower-income families: A program for aware parenting. *Journal of Applied Developmental Psychology*, *19*(1), 129-152.
28. Cains, R.A. (2000). Children diagnosed ADHD: Factors to guide intervention. *Educational Psychology in Practice*, *16*(2). 159-180.
29. Canli, T., Oui, M., Omura, K., Congdon, E., Haas, B.W. and Amin, Z. (2006) Neural correlates of epigenesis. *Proceedings of the National Academy of Sciences, USA*. *103*(43). 16033-16038.

30. Campbell, F.A. and Ramey, C.T. (2008) Effects of early intervention on intellectual and academic achievement: A follow up study from low income families. *Child Development*. 65(2) 684-698.
31. Caspi, A., Henry, B., McGee, R.O., Moffitt, T. E., Silva, P.A. (1995) Temperamental origins of child and adolescent behaviour problems: From age three to fifteen. *Child Development*. 66(1) 55-68.
32. Chang, E.C., D’Zurilla, T.J. and Sanna, L.J. (eds.) (2004). *Social Problem Solving: Theory, Research and Training*. Washington D. C: American Psychological Association.
33. Chen, H.T. (1998) Theory driven evaluations. *Advances in Educational Productivity*. 7, 15-34.
34. Choudhury, N. and Gorman, K.S. (2000) The relationship between sustained attention and cognitive performance in 17-24 month old toddlers. *Infant and Child Development*. 9, 127-146.
35. Shannon, D. and Cooper, A (2013) Draft content re: background to CAN (unpublished paper) Blackpool SEND team. In Roffey, S and Parry, J. (2014) *Special Needs in the Early Years: Supporting collaboration, communication and co-ordination*. (3rd ed.) London. Routledge.

36. Coie, J.D., Watt, N.F., West, S.G., Hawkins, J.D., Asarnow, J.R., Markham, H.J., Ramey, S.L. and Long, B. The science of prevention: A conceptual framework and some directions for a national research program. *American Psychologist*, 48(10). 1013-1022.
37. Colombo, J. (2001). The development of visual attention in infancy. *Annual Review of Psychology*, 52. 337-367.
38. Colombo, J. (2002). Infant attention grows up: The emergence of a developmental cognitive neuroscience perspective. *Current Directions in Psychological Science*, 11 (6) 196-200.
39. Coolican, H. (2004) *Research Methods and Statistics in Psychology*. (4th Ed.) London. Hodder and Stoughton.
40. Coren, S. Ward, L.M. and Enns, J.T. (1999) *Sensation and Perception*. (5th Ed.) New York. Harcourt Brace.
41. Crozier, G. (1999). Is it a case of 'We know when we're not wanted'? The parents perspective on parent-teacher roles and relationships. *Education Research*, 41(3), 315-328.
42. Curtindale, L., Laurie-Rose, C. and Bennett-Murphy, L and Hull, S. (1990) Sensory modality, temperament, and the development of sustained attention: a vigilance study in children and adults. *Developmental Psychology*. 43 (3) 576-589.

43. Dane, A.V. and Schneider, B.H. (1998) Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, 18 (1) 23-45.
44. Davidson, M.C., Amso, D., Anderson, L.C, and Diamond, A. (2006) Development of cognitive control and executive functions from 4 to 13 years: Evidence from manipulations of memory, inhibition and task switching. *Neuropsychologia*, 44(11) 2037-2078.
45. Dearing, E., Kreider, H., Simpkins, S. and Weiss, H.B. (2006) Family involvement in school and low-income children's literacy: Longitudinal associations between and within families. *Journal of Educational Psychology*, 98(4) 653-664.
46. De Bruyn, E.H. (2005) Role strain, engagement and academic achievement in early adolescence. *Educational Studies*, 31(1) 15-27.
47. Denham, S.A. and Almeida, M.C. (1987) Children's social problem-solving skills, behavioural adjustment and interventions: A meta-analysis evaluating theory and practice. *Journal of Applied Developmental Psychology*, 8, 391-409.
48. Department for Education and Science (2001) *Special Educational Needs Code of Practice*. Nottingham. DfES publications 581/2001.

49. Department for Education and Science (2004) *Every Child Matters: Change for Children*. DfES publications 1081/2004.
50. Department for Education and Science (2005) *Excellence and Enjoyment: Social and emotional aspects of learning*. Primary National Strategy. DfES publications 1378-2005 G.
51. Department for Education and Science (2006) “*Higher Standards, Better Schools for all – More choice for Parents and Students*”. London. The Stationary Office Ltd.
52. Department for Education and Skills (2007) *Every Parent Matters*. London The Stationary Office Ltd.
53. Department for Education (2011) *Special Educational Needs and Disability Green Paper. Support and Aspiration*. London. The Stationary Office Ltd
54. Department for Education (2012) *Draft Legislation on reform of provision for children and young people with Special Educational Needs*. London. The Stationary Office Ltd.
55. Desforges, H. and Abouchar, A. (2002) *The impact of parental involvement, parental support and family education on pupil achievements and adjustments: A literature review*. DfES Research Report. 433. London. The Stationary Office Ltd.

56. Duchesne, S., Larose, S., Guay, F., Vitaro, F. and Tremblay, R.E. (2005) The transition from elementary to high school: The pivotal role of mother and child characteristics in explaining trajectories of academic functioning. *International Journal of Behavioural Development*, 29 (5) 409-417.
57. Dittrichova, J. and Lapackova, V. (1964) Development of the waking state in young infants. *Child Development*. 35 365-370.
58. D’Zurilla, T.J. and Golfried, M.R. (1971) Problem solving and behaviour modification. *Journal of Abnormal Psychology*. 78 107-126.
59. D’Zurilla, T.J., Nezu, A.M. and Maydeu-Olivares, A. (2004) What is social problem solving?: Meaning models and measures. In Chang, E.C., D’Zurilla, T.J. and Sanna, L. (Eds.) *Social problem solving: Theory, research and training*. (pp.11-27). Washington D.C.. American Psychological Association.
60. Elias, M.J. (2006) *The Educators Guide to Emotional Intelligence and Academic Achievement. The connection between academic and social-emotional learning*. (Eds. Elias, M.J. and Arnold, A). California. Thousand Oaks.
61. Epstein, J.L. and Dauber, S.L. (1991) School programs and teacher practices in parental involvement in inner-city elementary and middle schools. *The Elementary School Journal*, 91(3) 289-305

62. Erikson, R. and Goldthorpe, J.H. (1992) *The Constant Flux: A study of class mobility in industrial societies*. Oxford. Clarendon Press.
63. Eslinger, P.J., Biddle, K., Pennington, B. and Page, R.B. (1999) Cognitive and behavioural development up to 4 years after early right frontal lobe lesion. *Developmental Neuropsychology*, 15(2) 157-191.
64. Evangelou, M., Taggart, B., Sylva, K., Melhuish, E. Sammons, P. and Sirai-Blatchford, I. (2008) *Effective pre-school, primary and secondary education 3-14 project (EPPSE). What makes a successful transition from primary to secondary School?* Nottingham. DCSF. Publications.
65. Fagan, J.F. and McGrath, S.K. (1981) Infant recognition memory and later intelligence. *Intelligence*, 5(2)121-130.
66. Fan, X. and Chen, M. (2001) Parental involvement and students academic achievement: A meta-analysis. *Educational Psychology Review*, 13 (1) 1-22.
67. Fantz, R.L. (1963) Pattern vision in newborn infants. *Science*, 140 (Whole No. 3564). 296-297.
68. Fantz, R.L. and Miranda, S.B. (1975) Newborn Infant attention to form of contour. *Child Development*, 46(1) 224-228.

69. Fantz, R.L. and Nevis, S. (1967) Pattern preferences and perceptual-cognitive development in early infancy. *Merrill Palmer Quarterly*, 13(1) 77-108.
70. Feinstein, L. and Symons, J. (1999) *Attainment in secondary schools*. Oxford Economic Papers. Oxford. Oxford University Press, 300-321.
71. Fisher, C., Marliave, R. and Filby, N.N. (1997) Improving teaching by increasing “academic learning time”. *Educational Leadership*. Association for the supervision and curriculum development.
www.ascd.org/ASCD/pdf/journals/ed_lead/el_1979_fisher.pdf.
72. Fredricks, J.A., Blumenfield, P.C., and Paris, A.H. (2004) School engagement: potential of the concept, state of the evidence. *Review of Educational Research*, 74 (1) (59-109).
73. Fredricks, J. A. and Eccles, J.S. (2005) Developmental benefits of extra curricula involvement: Do peer characteristics mediate the link between activities and youth outcomes? *Journal of Youth and Adolescence*, 34(6) 507-520.
74. Frick, J.E., Colombo, J. and Saxon T.F. (1999) Individual and developmental differences in disengagement of fixation in early infancy. *Child Development*, 70(3) 537-548.

75. Green, C.L., Walker, J.M., Hoover-Dempsey, K.V. and Sandler, H.M. (2007) Parents' motivations for involvement in children's education: An empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology*, 99(3) 532-544.
76. Greenberg, M.T. (2004) Current and future challenges in school-based prevention: The researcher perspective. *Prevention Science*, 5(1) 5-13.
77. Greenberg, M.T., Domitrovich, C.E., Graczyk, P.A. and Zins, J.E. (2005) The study of implementation in school-based preventative interventions: Theory, research and practice. Vol. 3 *Promotion of mental health and prevention of mental and behavioural disorders*. DHHS Pub No. (SMA). Rockville, MD. Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.
78. Greenberg, M.T. (2007) Commentary on "The role of emotion theory and research in child therapy development". *American Psychological Association, Clinical Psychology: Science and Practice*, 14 (4).
79. Halpern, L.F., Meyer, E.C. and Bendersky, K. (2001) The contributions of temperament and maternal responsiveness to the mental development of small-for-age and appropriate-for gestational-age infants. *Applied Developmental Psychology*, 22, 199-224.
80. Harman, C. Rothbart, M.K. and Posner, M.I. (1997) Distress and attention interactions in early infancy. *Motivation and Emotion*, 21 (1), 27-43.

81. Hartas, D. (2008) Practices of parental participation: A case study. *Educational Psychology in Practice*, 24 (2), 139-153.
82. Hattie, J. (2012) *Visible learning for teachers: Maximising impact on learning*. London. Routledge.
83. Hill, N.E., Castellino, D.R., Lansford, J.E., Nowlin, P., Dodge, K.A., Bates, J.E., and Pettit, G.S. (2004). Parent academic involvement as related to school behaviour, achievement and aspirations: Demographic variations across adolescence. *Child Development*, 75 (5), 1491-1509.
84. Hoover-Dempsey, K.V., and Sandler, H.M. (1997) Why do parents become involved with their children's education? *Review of Educational Research*, 67 (1), 3-42.
85. Hughes, C. (2002) Executive functions and development: Emerging themes. *Infant and Child Development*, 11 (2), 201-209.
86. Huizink, A.C., Robles de Medina, P.G., Mulder, E.J.H., Visser, G. H.A., and Buitelaar, J.K. (2002) Psychological measures of prenatal stress as predictors of infant temperament. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41 (9), 1078-1085.
87. Hyatt, D. (2013) The critical policy discourse analysis frame: Helping doctoral students engage with educational policy analysis. *Teaching in Higher Education*. <http://dx.doi.org/10.1080/13562517.2013.795935>.

88. Jacobvitz, D., and Sroufe, L. (1987) The early caregiver-child relationship and attention-deficit disorder with hyperactivity in kindergarten: A prospective study. *Child Development*, 58 (6), 1496-1504.
89. Jeyaseelan, D., O'Callaghan, M., Neulinger, K., Shum, D., and Burns, Y. (2006) The association between early minor motor difficulties in extreme low birth weight infants and school age attentional difficulties. *Early Human Development*, 82, 249-255.
90. Jeynes, W.H. (2005) Effects of parental involvement and family structure on academic achievement of adolescents. *Marriage and Family Review*, 37 (3), 99-116.
91. Jodl, K.M., Michael, A., Malnchuk, O., Eccles, J.S., and Sameroff, A. (2001) Parents' roles in shaping early adolescents' occupational aspirations. *Child Development*, 72 (4) 1247-1265.
92. Johnson, M.H., Posner, M.I., and Rothbart, M.K. (1991) Components of visual orienting in early infancy: Contingency learning, anticipatory look and disengaging. *Journal of Cognitive Neuroscience*, 3 (4), 335-344.
93. Jones, L.B., Rothbart, M.K., and Posner, M.I. (2003) Development of executive attention in pre-school children. *Developmental Science*, 6 (5) 498-504.

94. Kahneman, D. (1973) *Attention and Effort*. New Jersey. Prentice-Hallon.
http://www.princeton.edu/~kahneman/docs/attention_and_effort/attention_lo_quantity.pdf.
95. Kaye, K., and Fogel, A. (1980) The temporal structure of face to face communication between mothers and infants. *Developmental Psychology*, 16 (5), 454-464.
96. Keith, T.Z., Reimers, T.M., Fehrman, P.G., Pottebaum, S.M. and Aubey, L.W. (1986) Parental Involvement, homework and T.V. time: Direct and Indirect effects on high school achievement. *Journal of Educational Psychology*, 78 (5), 373-380.
97. Kelly, G. (1955) in Pope, M.L. and Keen, T.R. (1981) *Personal Construct Psychology in Education*. London. Academic Press.
98. Kochanska, G., Murray, K.T., and Harlan, E.T. (2000) Effortful control in early childhood: Continuity and change, antecedents, and implications for social development. *Developmental Psychology*, 36 (2), 220-232.
99. Landry, S.H., Smith, K.E., Miller-Loncar, C.L. and Swank, P.R. (1997) Predicting cognitive-language and social growth curves from early maternal behaviors in children at varying degrees of biological risk. *Developmental Psychology*, 33 (6), 1040-1053.
100. Lavelli, M., and Fogel, A. (2005) Developmental changes in the relationship between the infant's attention and emotion during early face to face communication: the two month transition. *Developmental Psychology*, 41 (1), 265-280.

101. Little, M., Axford, N., and Morpeth, L. (2004) Research review: Risk and protection in the context of services for children in need. *Child and Family Social Work*, 9 (1), 105-117.
102. Lochman, J.E., Powell, N.P., Lewczyk Boxmeyer, C., Lixin, Q., Wells, K.C., and Windle, M. (2009) Implementation of a school-based prevention program: Effects of counsellor and school characteristics. *Professional Psychology: Research and Practice*, 40 (5), 476-482.
103. McCall, R.B., and Carriger, M. (1993) A Meta-analysis of infant habituation and recognition memory performance predictors of later I.Q. *Child Development*, 64, 57-79.
104. Maccoby, E.E. (2000) Parenting and its effects on children: On reading and misreading behaviour genetics. *Annual Review of Psychology*, 51 (1) 1-27.
105. Mackay, T. (2002) Discussion paper: The future of Educational Psychology. *Educational Psychology in Practice*, 18 (3) 245-253.
106. Mackworth, N.H. (1948) The breakdown of vigilance during prolonged visual search. *Quarterly Journal of Experimental Psychology*, 1, 6-21.
107. Margo, J. and Dixon, M. (2006) *Freedoms Orphans: Raising youth in a changing world*. London. Institute for Public Policy Research.

108. May, P.A. and Gossage, J.P. (2011) Maternal risk for factors for fetal alcohol spectrum disorders: Not as simple as I might seem. *Alcohol Research and Health*, 34 (1) at <http://pubs.niaaa.nih.gov/publications/arh341/15.htm>.
109. McCartney, K and Rosenthal, R. (2000) Effect size, practical importance and social policy for children. *Child Development*, 71 (1), 173-180.
110. Melhuish, E.C., Phan, M.B., Sylva, K., Sammons, P., Siraj-Blatchford, I., and Taggart, B. (2008) Effects of the home learning environment and pre-school centre experience upon literacy and numeracy development in early primary school. *Journal of Social Issues*, 64 (1), 95-114.
111. Morales, M., Mundy, P., Crowson, M.M., Neal, A.R., Delgado, C.E.F. (2005) Individual differences in infant attention skills, joint attention and emotion regulation behaviour. *Journal of Behavioural Development*, 29 (3), 259-263.
112. Neuenschwander, M.P., Vida, M., Garrett, J.L. and Eccles, J.S. (2007) Parents' expectations and students' achievement in two western nations. *International Journal of Behavioural Development*, 31 (6), 594-602.
113. National Institute of Child Health and Human Development (2003) Do children's attention processes mediate the link between family predictors and school readiness? *Developmental Psychology*, 39 (3), 581-193.

114. Nigg, J.T. (2006) *What causes ADHD?: Understanding what goes wrong and why*. New York. Guilford Press.
115. Oakes, L.M. and Tellinghaisen, D.J. (1994) Examining in infancy: Does it reflect active processing? *Developmental Psychology*, 10, 124-130.
116. O'Connor, T.G., Heron, J., Golding, J., Beveridge, M., and Glover, V. (2002) Maternal antenatal anxiety and children's behavioural/emotional problems at 4 years: Report from the Avon longitudinal study of parents and children. *British journal of Psychiatry*, 180 (6), 502-508.
117. O'Connor, C., Small, S.A. and Cooney, S.M. (2007) Program fidelity and adaptation: Meeting local needs without compromising program effectiveness. What works, Wisconsin – Research to Practice, Series 4. Wisconsin-Madison and university of Wisconsin-extension. http://whatworks.uwex.edu/attachment/whatworks_04.pdf
118. Office for National Statistics. <http://www.ons.gov.uk/census>
119. Olds, D., Henderson, C., Kitzman, H., Eckenrode, J., Cole, R. and Tatelaum, R. (1998) The promise of home visitation: results from two randomised trials. *Journal of Community Psychology*, 26, 5-21.
120. Olson, S.L., Bates, J.E., Sandy, J.M., Schilling, E.M. (2002) Early developmental precursors of impulsive and inattentive behaviour: from infancy to middle childhood. *Journal of Child Psychology and Psychiatry*, 43 (3) 435-447.

121. Osofsky, J.D. (1987). *Handbook of Infant Development (2nd ed.)* Oxford. Wiley.
122. Parrinello, R.M. and Ruff, H.A. (1988) The influence of adult intervention on infant's level of attention. *Child Development*, 59, 1125-1135.
123. Pasco-Fearon, F.M. and Belsky, J. (2004) Attachment and attention: Protection in relation to gender and cumulative social-contextual adversity. *Child Development*, 75, 1677-1693.
124. Parasuraman, R., Greenwood, P.M., Kumar, R. and Fossella, J. (2005) Beyond heritability: Neurotransmitter genes differentially modulate visuospatial attention and working memory. *Psychological Science*, 16 (3), 200-207.
125. Pawson, R. and Tilley, N. (1997) *Realistic Evaluation*. London. SAGE publications.
126. Pellegrini, D.S. and Urbain, E.S. (1985) An Evaluation of interpersonal cognitive problem solving training with children. *Child Psychology and Psychiatry*, 26 (1), 17-41.
127. Peters-Martin, P., and Wachs, T. D. (1984) A longitudinal study of temperament and its correlates in the first 12 months. *Infant Behaviour and Development*, 7(3), 285-298.
128. Pomerantz, E.M., Moorman, E.A., and Litwack, S.D. (2007) The how, whom, and

why of parents' involvement in children's academic lives: More is not always better.
Review of Educational Research, 77 (3), 373-410.

129. Porges, S.W. (1992) *Autonomic Regulation and Attention*. Hillsdale, New Jersey. Lawrence Erlbaum Associates.
130. Posner, M.I. (2004) *The Cognitive Neuroscience of Attention*. London. Guilford Press.
131. Ratelle, C.F., Guay, F., Larose, S. and Senecal, C. (2004) Family correlates of trajectories of academic motivation during school transition: A semi-parametric group-based approach. *Journal of Educational Psychology*, 96 (4), 743-754.
132. Raver, C. (1996) relations between social contingency in mother-child interaction and 2 year olds' social competence. *Developmental Psychology*, 32 (5), 850-859.
133. Reynolds, A. (1992) Comparing measures of parental involvement and there effects on academic achievement. *Early Childhood Research Quarterly*, 7, 441-462.
134. Romasz, T.A., Kantor, J.H. and Elias, M.J. (2004) Implementation and evaluation of urban school-wide social-emotional learning programs. *Evaluation and Program Planning*, 27, 89-103.
135. Rose, S.A., Feldman, J.F. and Janowski, J.J. (2005) The structure of infant cognition and 1 year. *Intelligence*, 33, 231-250.

136. Rose, S.A., Feldman, J.F. and Janowski, J.J. (2004) Dimensions of cognition in infancy, *Intelligence*, 32, 245-262.
137. Rothbart, M. K., Ellis, L.K., Rueda, M.R., Posner, M.I. (2003). Developing mechanisms of temperamental effortful control. *Journal of Personality*, 71(6), 1113-1143.
138. Rueda, M., Posner, M. I., & Rothbart, M. K. (2005). The development of executive attention: Contributions to the emergence of self-regulation. *Developmental Neuropsychology*, 28(2), 573-594.
139. Rothbart, M. K., Ellis, L.K., Rueda, M.R., Posner, M.I. (2003). Developing mechanisms of temperamental effortful control. *Journal of Personality*, 71(6), 1113-1143.
140. Rueda, M., Posner, M. I., & Rothbart, M. K. (2005). The development of executive attention: Contributions to the emergence of self-regulation. *Developmental Neuropsychology*, 28(2), 573-594.
141. Rueda, M. R., Fan, J., McCandliss, B. D., Halparin, J. D., Gruber, D. B., Lercari, L. P. (2004). Development of attentional networks in childhood *Neuropsychologia*, 42(8), 1029-1040.

142. Ruff H A. and Lawson K.R. (1990) Development of sustained, focused attention in young children during free play. *Developmental Psychology*. 26, 85-93.
143. Ruff, H., & Rothbart, M. (1996). *Attention in early development: Themes and variations*. New York, NY: Oxford University Press.
144. Ruff H. A. and Saltiarelli L.M., Capozzoli, M and Dubiner, K. (1992) The differentiation of activity in infants' exploration of objects. *Developmental Psychology*. 11, 705-710.
145. Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., Grabbe, Y., and Barreau, S., (2007). Effective Pre-School and Primary Education 3-11 Project (EPPE 3-11) Influences on Children's Attainment and Progress in Key Stage 2: Cognitive Outcomes in Year 5. *Department for Education and Skills. Research Brief RB828*.
146. Sammons, P., Siraj-Blatchford, I., Sylva, K., Melhuish, E., Taggart, B., & Elliot, K. (2005). Investigating the Effects of Pre-school Provision: Using Mixed Methods in the EPPE Research. *International Journal of Social Research Methodology: Theory & Practice*, 8(3), 207-224.

147. Seginer, R. (2006). Parents' educational involvement: A developmental ecology perspective. *Parenting: Science and Practice*, 6(1), 1-48.
148. Shannon, D. (2000) The Impact of Multi-sensory activity programme on the attentional skills of pre-school children. (unpublished dissertation) University of Central Lancashire. Shannon, D. and Posada S. (2007) The Educational Psychologist in the early years: current practice and future directions. *Educational Psychology in Practice*. 23 (3). 257-272.
149. Shaw, D. S., Keenan, K., & Vondra, J. I. (1994). Developmental precursors of externalizing behaviour: Ages 1 to 3: *Developmental Psychology* Vol 30(3) May 1994, 355-364 American Psychological Assn.
150. Shure, M. B. (1993) I can problem solve (ICPS): Interpersonal cognitive problem solving for young children. *Early Child Development and Care*. Vol. 96. 49-64.
151. Skinner, E.A. and Pitzer, J.R. (2012) Developmental dynamics of student engagement, coping and everyday resilience. In Christenson S.L., Reschley A.L., and Wylie C. (eds.) *Handbook of Research on Student Engagement*. (pp.21-44). DOI 10.1007/978-1 - 4614 - 2018 -7_1 LLC 2012. Springer Science and business media.

152. Smokoowski, P.R., Fraser, M.W., Day, S.H., Galinsky, M. J. and Bacallao, M.L. (2004) School-based skills training to prevent aggressive behaviour and peer rejection in childhood: Evaluating the “Making Choices” program. *The Journal of Primary Intervention*. Vol. 25, (2), 233-251.
153. Sohlberg, M. M., & Mateer, C. A. (1989). The assessment of cognitive-communicative functions in head injury. *Topics in Language Disorders*, 9(2), 15-33.
154. Sohlberg, M. M., Mateer, C. A., & Stuss, D. T. (1993). Contemporary approaches to the management of executive control dysfunction. *Journal of Head Trauma Rehabilitation*, 8(1), 45-58.
155. Speltz, M. L., McClellan, J., DeKlyen, M., & Jones, K. (1999). Preschool boys with oppositional defiant disorder: Clinical presentation and diagnostic change. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(7), 838-845.
156. Spivack, G., Platt, J. J., and Shure, M. B. (1976). *The Problem Solving Approach to Adjustment*. San Francisco: Jossey-Bass.
157. Sternberg, R.J. (2000) *Guide to Publishing in Psychology Journals*. Cambridge:

Cambridge University Press.

158. Steven, A., Dickinson, C. and Pearson, P. (2007) Practice-based interprofessional education: looking into the black box. *Journal of Interprofessional Care*. 21(3) 251-264.
159. Stipek, D, Recchia, S. and McClintic, S. (1992) Self-evaluation in young children. Monographs for the society of research in child development. 57(1, serial number 226).
160. Streissguth, A. P., Sampson, P. D., Olson, H. C., Bookstein, F. L., & et al. (1994). Maternal drinking during pregnancy: Attention and short-term memory in 14-year-old offspring: A longitudinal prospective study. *Alcoholism: Clinical and Experimental Research*, 18(1), 202-218.
161. Stuss D.T., and Benson D.F., (1984) Neuropsychological studies of the frontal lobes. *Psychological Bulletin*. 95, 3-28.
162. Thacker J. (1982) *Steps to Success: An Interpersonal problem-solving approach for children*. Berkshire. Nefer-Nelson.

163. Timmins, P. and Miller, C. (2007) Making evaluations realistic: the challenge of complexity. *Support for Learning*. Vol. 22 (1) 9-16.
164. Tucker, D.M., and Derryberry, D. (1992) Motivated Attention: Anxiety and the frontal executive functions. *Neuropsychiatry, Neuropsychology and behavioural Neurology*. 5, 233-252.
165. Tymms, P., & Merrell, C. (2006). The impact of screening and advice on inattentive, hyperactive and impulsive children. *European Journal of Special Needs Education*, 21(3), 321-337.
166. Wachs, T. D. (2000). *Proximal environmental influences*. Washington, DC: American Psychological Association.
167. Wachs, T. D., & Gandour, M. J. (1983). Temperament, environment, and six-cognitive-intellectual development: A test of the organismic specificity hypothesis. *International Journal of Behavioural Development*, 6(2), 135-152.
168. Weinstock, M. (2001). Alterations induced by gestational stress in brain morphology and behaviour of the offspring. *Progress in Neurobiology*, 65(5), 427-451.

169. Weissberg, R., Ruff, H. A., & Lawson, K. R. (1990). The usefulness of reaction time tasks in studying attention and organization of behaviour in young children. *Journal of Developmental & Behavioural Paediatrics*, 11(2), 59-64.
170. West, W. and Hanley, T. (2006) technically incompetent or generally misguided: learning from a failed counselling research project. *Counselling and Psychotherapy Research*. 6 (3) 209-212.
171. Whiteley, H.E., Hutchinson, J.M, Shannon, D., Pullan, J and Lambert, S. (2011) Closing the Gap: developing school readiness in severely disadvantaged children: Final Report for the Xxxx 'ELF2' Project, unpublished report.
172. Wigfield, A. and Eccles, J. S. (2000) Expectancy-Value Theory of achievement motivation. *Contemporary Educational Psychology*. 25, 68-81.
173. Wills, T. A., DuHamel, K., & Vaccaro, D. (1995). Activity and mood temperament as predictors of adolescent substance use: Test of a self-regulation mediational model. *Journal of Personality and Social Psychology*, 68(5), 901-916.
174. Wilson, S. J., & Lipsey, M. W. (2006). The effectiveness of school-based violence prevention programs for reducing disruptive and aggressive behaviour: A meta-

analysis. *International Journal on Violence and Schools*, 1, 38-50.

175. Zeedyk, J. G., Henderson, M., Hope, G., Husband, B. and Lindsay, K. (2003). Negotiating the Transition from Primary to Secondary School: Perceptions of Pupils, Parents and Teachers. *School Psychology International*, 24, 67-79.
176. Zins, J.E., Bloodworth, M.R., Weissberg, R.P. and Walberg, H.J. (2004) *Building Academic Success on Social and Emotional Learning: What Does the Research Say. The Scientific Base linking Social and Emotional Learning to School Success.* Teachers College, Columbia University.
177. Zins J. E. (2001) Examining opportunities and challenges for school-based prevention and promotion: social and emotional learning as an exemplar. *The Journal of Primary Prevention*. 21. (4) 441-446.