Purpose and quality of education in England

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Submitted in a personal capacity.

1. Rationale for submission

1.1 I am a developmental psychologist with an acknowledged international reputation as an expert in early child development and early childhood education. These are areas in which I have written over 100 publications, including articles in academic journals, book chapters and books. I have recently acted as the W. European editor for a major new Routledge International Handbook of Early Childhood Education, and have recently been appointed by Sage to be the lead editor of an International Handbook on Developmental Psychology and Early Childhood Education.

1.2 Before moving into higher education I taught in the early years of Primary schools for 12 years, from 1974-86. From 1986 -2001 I was a senior lecturer at Homerton College, Cambridge, where I taught on and finally directed the Early Years & Primary PGCE course for 17 years. Since the amalgamation of Homerton within the university in 2001, I have taught developmental psychology at Masters level and have supervised 29 PhD students in the areas of early cognitive and emotional development.

1.3 Over the last 30 years I have directed numerous research projects in this area, funded by a total of around £2m of external grants. I have undertaken consultancies with a number of international educational organisations, including the International Baccalaureate and the World Innovation Summit for Education (WISE), and have given invited seminars in countries across the world, including the USA, Canada, Chile, Poland, Germany, China & Finland. I am currently a Principal Research Associate and Director of the PEDAL research centre, funded by the LEGO Foundation.

1.4 My reason for submitting to this inquiry is that I wish to present to the Committee the very clear and abundant research evidence that the provision of high quality early childhood education (ECE) is of significant advantage to children's development as powerful learners, as innovators and flexible problem solvers, and in relation to their emotional well-being and a range of life-enhancing social skills.

1.5 These are, I would contend, precisely the abilities which we should be seeking to enhance in our population, if we wish to develop within the UK a

sustainable and successful economy, to the advantage of all our citizens, and a vibrant cultural and entrepreneurial society. As things stand, however, ECE in the UK fails to capitalise on the evidence as to how this can be achieved, and so is in need of radical reform if it is to contribute, as powerfully as it could, to what I would suggest should be the purpose of our educational provision.

2. Executive summary

2.1 There is strong and consistent evidence that high quality Early Childhood Education (ECE) impacts upon children's academic development and on their emotional and social well-being more powerfully than any other phase of education. This is particularly significant for children from relatively deprived or chaotic home backgrounds. In addition, it has been shown that such ECE programs initiated worldwide have many long-term economic and cultural benefits for societies.

2.2 At the same time, what is understood by high quality is often not well defined. I argue that, in order to assess and promote quality in ECE , we must identify which aspects of children's early experience and development support and predict high levels of cognitive, academic, emotional and social functioning in later life. Analysis of developmental psychological research suggests that children who are emotionally secure, playful, with well-developed oral language and self-regulation abilities, will be most enabled to develop as powerful learners and emotionally and socially healthy individuals.

2.3 ECE settings which support these developments are characterised by emotionally warm and supportive social interactions, by the provision of playful learning opportunities, by dialogic and collaborative talk, and by support for child-initiated activity and children's autonomy.

2.4 A vast amount of research has been carried out on aspects of quality which can be regulated by policy makers. One of the most prominent indicators of quality is teacher education and training.

3. Importance of investing in ECE

3.2 Evidence now exists from around the world of the long-term benefits of high quality ECE. Following on from the original Perry Preschool Project (Schweinhart, 1993), there have been further studies in the US (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002) and many other countries. Significantly, much of this evidence has further shown that ECE programs specifically benefit children from low socio- economic backgrounds. For example, results from longitudinal studies, such as the Abecedarian Project (Campbell et al., 2002) in the US, showed that enrolment in ECE significantly enhanced adult outcomes such as further education, employment, participation

in healthy behaviors, and reduced crime rates, particularly in disadvantaged children.

3.3 OECD reports, however, have demonstrated that provision alone is not sufficient to achieve these positive outcomes. The quality of the provision is also crucially important. Indeed, while lower quality ECE provision may reduce operating costs and might be an incentive for providers to expand access, the research clearly demonstrates that children are more likely to have language, social, and developmental problems in low-quality provision. The effects of quality variations are also strongest, perhaps not surprisingly, for children living in poverty and whose parents have little education (OECD, 2001, 2006).
In addition, research carried out by economists has shown that high quality ECE programs have many long term economic benefits (Heckman, 2006, 2011; Heckman, Pinto, & Savelyev, 2013). High quality ECE interventions targeting disadvantaged children in the US have been shown to have an annual return rate of 7-16 percent (Heckman, 2011; Rolnick & Grunewald, 2007). A recent report by the World Bank concludes that: "the evidence on the returns to investment in ECD [early childhood development] is clear. […] Investing in ECD has high potential to help achieve the Bank's twin goals of eliminating poverty and increasing shared prosperity" (Sayre, Devercelli, Neuman, & Wodon, 2015, p. xiv).

3.4 Furthermore, it has been shown that remedial education interventions targeting young school drop-outs or adults with poor basic skills are far more costly than early interventions such as ECE and are of limited benefit. Setting high minimum standards is therefore an investment not only in children but also in the future of society in general (OECD, 2006).

4. Achieving quality in ECE

4.1 The current proposed universal Education for All indicators of quality, developed by UNESCO (2015), reflect much of the recent literature concerned with quality in early childhood education (ECE), and involve a wide range of indicators, including space and furnishing, personal care routines, listening and talking activities and interactions with children, program structure, relationship with parents and staff, and response to staff professional development needs. These various indicators are categorized as related to either (i) structural or (ii) process quality. While structural quality concerns organizational and administrative aspects of ECE provision, including the physical environment of settings, staff qualifications and training, leadership, adult/child ratios, duration and dosage of children's experience and parental and community involvement, process quality is concerned with the direct experience of the child in social, emotional, and physical interaction with materials, peers, and teachers within the ECE setting (Tietze, Cryer, Bairrão, Palacios, and Wetzel, 1996).

4.2 Perhaps not surprisingly, process quality has been found to be more directly predictive of child outcomes such as well-being and learning outcomes than structural quality (Litjens and Taguma, 2010). In a recent report, I have argued that the essential elements of process quality in ECE are practices which provide opportunities for young children to learn through playful activities which, in turn, support their oral language and self-regulation development (Whitebread, Kuvalja, & O'Connor (2015). However, process and structural quality cannot be viewed as two separate entities as, in their turn, a number of structural features have been shown to be significant predictors of process quality. One of the most consistent indicators of process quality is the level of qualifications of teaching staff and the opportunities for in-service professional development (NICHD Early Child Care Research Network, 2002; Slot, Lerkkanen, & Leseman, 2015). Pianta et al. (2005) found that teachers' education, training, and experience with four year olds significantly predicted classroom quality. ECE practitioners with specific training in ECE and children's development have been found to engage in more interactions with children and have been rated as more positive and less authoritarian in their instructional style (Arnett, 1989). Children in the classes of such teachers have been found to have greater social, language, and cognitive abilities as opposed to children of teachers without specific training (NICHD Early Child Care Research Network, 2000).

4.3 Nevertheless, it is clear from the intervention literature in a number of related areas, that, without specific training in relation to effective practices known to improve the quality of children's outcomes, even qualified and experienced practitioners struggle to implement them effectively. Bennett, Wood & Rogers (1997) and Cheng (2001), for example, have documented the difficulties experienced by ECE teachers of translating their beliefs concerning play and learning into effective practice. Similarly, in the area of self-regulation, Dignath, Buettner & Langfeldt (2008) report that interventions were generally effective across the primary age range, but that effect sizes were significantly higher for interventions that were introduced by researchers rather than by the children's regular teachers.

4.4 One strongly indicated cause of educational practitioners' difficulties in this regard appears to relate to the relatively shallow level of their theoretical understanding of the processes through which young children learn. In a review of a number of meta-analyses of effective teacher professional development, for example, Cordingley (2015) emphasised the central significance of research, and of programs that support teachers' abilities to critically engage with research evidence and relate it to their own practice. In relation to the essential ingredients of quality in ECE proposed in this submission, a number of studies have also illustrated this, and begun to explore means by which this might be supported. Wood & Bennett (2000) demonstrated this in a study documenting the development of effective play-based practices with Reception class teachers in the UK. Cheng (2008, 2010), in

studies with Hong Kong kindergarten teachers, demonstrated that the crucial development of what she terms 'meta-learning', in relation to effective play practice, can be achieved through video-stimulated reflective analysis of their practice. Perels, Merget-Kullmann,Wende, Schmitz, & Buchbinder (2010) showed that five 2 hour sessions of self-regulation training for German kindergarten teachers, concerning their own self-regulation and methods to foster self-regulation in children at preschool age, resulted in significant improvements in levels of self-regulation for the children in their classes, compared to a comparison group of teachers who did not receive this training. In a number of studies within my own research, I have demonstrated that conducting research with teachers as co-researchers is also strikingly effective in enhancing their deep understanding of how children learn most effectively, and how practices which support their natural playfulness, enhance their oral language skills and support their self-regulation abilities significantly enhance their progress as learners (Coltman et al, 2013; Pino-Pasternak, Basilio, & Whitebread, 2014).

4.5 As Cheng (2010) comments, alongside many other researchers and commentators in the area of play and learning, the lack of consensus regarding the essential components of play certainly contributes to the difficulties of teachers developing effective practices in this area. I have also argued elsewhere that, as part of an understanding of the role of play in learning, it is important for teachers to understand the mechanisms through which it might influence children's development as learners (Whitebread, Coltman, Jameson, & Lander, 2009). In the remainder of this submission, therefore, I briefly explore the evidence regarding the inter-relationships between play (both free and guided), oral language and self-regulation and the evidence of their combined impact upon young children's development. The submission concludes with a consideration of the emerging evidence of the role of the adult educator and the implications for policy and practice if we are to move towards achieving high quality in ECE within the UK.

5. The impact of play, oral language and self-regulation on development

5.1 The impact of playful experience, oral language development and self-regulation on cognitive and emotional outcomes for young children, both in the short and long-term, are now well documented.

5.2 As regards play, there are several strands of evidence which all point towards the importance of play in young children's development. Individual differences in playfulness have been shown to be associated with measures of cognitive development (Tamis-LeMonda & Bornstein, 1989) and of emotional well-being (Berk, Mann, & Ogan, 2006). Neuroscientific studies have supported this view of play as a central mechanism in learning. Pellis & Pellis (2009), for example, have reviewed numerous studies with simple mammals,

showing that playful activity leads to synaptic growth, particularly in the frontal cortex, the part of the brain responsible for all the uniquely human higher mental functions. Within psychological research, the superior learning and motivation arising from playful as opposed to instructional approaches with children has been consistently demonstrated (Whitebread, Jameson, & Basilio, 2015).

5.3 Within educational research, a number of longitudinal studies have also indicated the strong predictive relationship between early playful experience and short and long-term outcomes. Marcon (2002) demonstrated that, by the end of their sixth year in school, children whose pre-school model had been academically-directed achieved significantly lower marks in comparison to children who had attended child-initiated, play-based pre-school programmes.

5.4 As regards oral language, Hoff (2013) has recently provided a review of the extensive evidence of the significant individual differences between young children when they begin their schooling and the implications these have for their literacy development and broader academic trajectories. These differences, often associated in the research literature with SES, are significant by age 3 and increase with development. They have been documented in relation to vocabulary size, grammar, length of spontaneous utterance, narrative skills, phonological awareness and speed of language processing. Moreover, numerous longitudinal studies have shown that the relation between SES and academic achievement is moderated by oral language skills (Walker, Greenwood, Hart & Carta, 1994)

5.5 The crucial role of oral language in development has been further demonstrated by the extensive research within psychological and educational studies on the interplay between dialogue and learning. For example, Littleton, Mercer, Dawes, Wegerif, Rowe & Sams (2005) showed that, when exposed to a dialogic pedagogy that supported their ability to engage in genuine collaborative problem-solving, young children in UK Year 1 classrooms could produce and effectively use high level 'exploratory talk'. This involved them in making progress in their ability to argue their case and provide explanations for their views, and was associated with significant gains in both the general quality of their oral language and their non-verbal reasoning skills.

5.6 As regards self-regulation, the evidence of the crucial impact of children's early development of their awareness of their own mental processes, and thereby their ability to develop effective strategies to regulate their emotions, and to use their cognitive abilities to best advantage, is now incontrovertible. In a range of comprehensive studies of educational factors impacting on learning, children's self regulatory abilities have been shown to be significantly stronger predictors of academic achievement and emotional

well-being than any other developing abilities, including general intelligence (Veenman & Spaans, 2005), and early literacy and numeracy (McClelland, Acock, Piccinin, Rhea & Stallings, 2013). Further, in his meta-analyses of studies of educational interventions, Hattie (2009) identified those supporting children's self-regulation as by far the most effective.

5.7 The crucial support in the development of self-regulation abilities in young children offered by play experiences and oral language are also beginning to be demonstrated and understood. A growing number of empirical educational studies suggest that early play experiences enhance young children's self-regulation, which is in turn related to academic achievement (Ponitz, McClelland, Matthews and Morrison, 2009). Children who attend pre-schools based predominantly upon models emphasising play rather than academic outcomes have also been found to achieve higher scores on measures of self-regulation (Hyson, Copple & Jones, 2007). Equally strong evidence is also emerging in relation to early language. An American study of 120 toddlers in New England, for example, showed strong relationships between vocabulary size at 14, 24 & 36 months and a range of observed self-regulatory behaviours (eg: the ability to maintain attention on tasks; the ability to adapt to changes in tasks and procedures) (Vallotton & Ayoub, 2011).

6. Implications for Policy & Practice

6.1 I have argued elsewhere that the present provision of ECE in the UK is in need of a radical overhaul if we are to gain the maximum benefit from it, in terms of the development of the full potential of the children it serves and of our society in general (Whitebread, 2013, 2015). There is a current crisis in childhood, both within the UK and throughout the world. This arises partly from increasing urbanisation and the increasing pressures on children today within our educational provision.

6.2 Children in modern urbanised societies are currently over-supervised, and their lives, both within education and in their domestic lives, are over-structured and directed by adults. At the same time, pressures on families, the increasing prevalence of screen –based leisure activities, and increasing homework demands, have all led to a worrying decline in the amount of informal adult-child dialogue occurring in the home context, which is known to be crucial in developing children's oral language abilities. This, combined with the lack of opportunities for children to engage in playful, self-initiated activities, is in danger of undermining their abilities to self-regulate their emotions and cognitions, to be resilient and resourceful, and to become creative, entrepreneurial and socially skilled members of society. This all places a particularly strong responsibility on us to provide the highest possible quality of experience for children within their educational provision and particularly within their ECE experience.

6.3 In order to achieve the elements of high quality ECE which I have highlighted in this submission, the evidence would support the following policy recommendations:

a) Pre-school provision should be available and fully funded by the state from the age of 6 months until children are 7 years of age

b) Educators working in ECE provision should be educated to degree level on evidence-based courses specifically designed to enable them to meet the developmental needs of children in this age range, and should contain training in methods of research

c) This initial training should be systematically supported by a structured program of in-service, continuing professional development, with the opportunity for practitioners to gain qualifications at Masters level

d) A culture of teacher as researcher should be supported

e) The focus of the ECE curriculum should be on supporting children's physical, emotional, social and cognitive development, in the round; key curricula priorities should include the provision of playful learning opportunities, the development of children's oral language abilities, their emotional awareness and regulation, their social understanding and skills, and their self-regulation abilities

f) Within ECE, high stakes, summative assessment of children's progress should be replaced by observation-based formative assessments which support their teachers' professional judgments about appropriate educational provision

g) The physical provision and materials in ECE settings should be designed to support the full range of play experiences, including physical play, exploratory, sorting and constructional play with objects, symbolic play with the full range of means of expression and communication, pretence and games with rules.

6.4 Above all, the quality of the practice and execution of these recommendations will, inevitably, be determined by the quality of the ECE workforce. As things stand, we have the least well qualified educators working in the phase of education that has the greatest impact on educational and life-long outcomes. The evidence reviewed in this submission indicates that a good deal is now known about the key aspects of early development which need to be supported in ECE, and how this can be achieved. However, it is also well-established that to enable ECE educators to translate this research into effective practice requires specific and extensive training,

including the ability to understand and have a critical awareness of research. Enhancing the education and status of ECE educators, in order to enable these changes to come about, is a key challenge and one which requires significant financial investment. The evidence from developmental psychology and from economics, however, suggests that this is money very well spent, from which the children will derive the abilities and dispositions to become powerful and emotionally intelligent learners, and the UK will derive a generation of creative problem solvers that we desperately need as we enter the twenty-first century.

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