



Talk To Your Baby

The early language campaign of the
National Literacy Trust
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Highlights from a literature review prepared for the Face to Face research project

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Between March 2009 and March 2011, Talk To Your Baby has been engaged in a research project, under the title of Face to Face, to identify key messages for parents and carers in relation to communicating with babies and young children, and has examined the most effective ways to promote these messages to parents and carers.

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The Face to Face project commissioned the University of Dundee to produce:

- a synthesis of the evidence for why communicating with babies matters, in order to produce a definitive profile of the main issues from all relevant disciplines
- a knowledge review to identify the challenges and barriers for parents and caregivers in communicating with babies in order to elicit the most effective ways of encouraging parents and carers to communicate with babies

These have brought together a significant evidence base from a wide range of disciplines and perspectives including linguistics, psychology, education, social science, medicine and parenting.

Methodology:

Two strategic database searches were undertaken for relevant literature using key words. These predominantly focused upon:

- studies of children in their early childhood (birth – 3 years)
- parent-infant interaction in developing language in early childhood

Fifteen electronic databases were searched. While over 5000 hits were made only 81 papers were sufficiently evidence based to be included in the reviews.

Findings:

There is general agreement that infants are predisposed to communicate, reciprocate and connect with other people. Interestingly, the word 'infant' comes from the Latin *infans* which is derived from *in* (not) and *fari* (to speak), i.e. 'speechless'.

Three key areas were identified in relation to the aspects of parenting that matter in relation to communicating with babies:

- (i) Contingency, i.e. babies and carers being 'tuned in' to reciprocal communication
- (ii) The nature and types of parent-infant interaction
- (iii) The importance of the home literacy environment

Research on early brain development shows that in the first few years of life 700 new neural connections are formed every second. The architecture of the brain is influenced by the "serve and return" relationship between children and their parents, and other caregivers, in relation to the acquisition of speech, language and communication.

Babies and young children reach out for interaction through babbling, facial expressions and gestures. If they do not get a response, or the response is inappropriate, then the brain's architecture does not form as expected.

(i) Contingency – a reciprocal relationship

Contingency is the extent to which a communication is produced *when the intended recipient is fully oriented towards receiving and processing it*. This means that the baby and the parent are engaged in reciprocal activity. In other words, they are cueing in, and responding, to each other, so they are 'in tune'. This is also known as sensitivity or responsiveness. Child and adult gestures and child gaze are very important non-verbal communication.

High levels of joint attention and reciprocity are associated with more effective communication and more rapid child language development. Parents who take their lead from the child have more effect than those trying to direct the child.

Contingency between parents and babies is important:

- psychologically and cognitively in order for babies to form secure attachments
- linguistically in developing children's gestures, vocalisations, speech and syntax

Communication opportunities depend upon *mutual* engagement:

- Early maternal contingency predicated later maternal responsiveness in both behaviour and emotion and the importance of the quality of the mother-infant relationships as reflected in infant attachment status was critical in shaping later toddler behaviour and quality of dyadic interaction. (Donovan et al 2006)
- Parents who frequently produce contingent replies to their infant's early verbalisations subsequently develop syntax in their infant's communications more rapidly than those of less contingent mothers. (Snow et al 1987)
- Children who at 14 and 15 months are better at joint-attentional engagement with their parents develop language more rapidly than other children. (Mundy and Gomes 1998; Carpenter et al 1998)
- Time spent in mother-child joint attention when the child is under 18 months predicts subsequent vocabulary growth. (Carpenter et al 1998; Laakso et al 1999)

- Infants of more responsive mothers begin to talk sooner and may reach a 50 word vocabulary at a younger age than do children of less responsive parents. (Tamis-LeMonda et al 1996)
- Mothers who frequently react verbally to their children's play and vocalisations supply their children with more effective language input than mothers who respond occasionally. These responsive replies are likely to often be expansions, or recasts, of children's prior utterances, which have been shown to be positive predictors of language development. (Newport et al 1977; Nelson et al 1973)
- More rapid vocabulary development in children (particularly those under 19 months) is associated with maternal input that *follows* the child's attentional focus, rather than input that attempts to *redirect* the child's attentional focus. (Akhtar et al 1991; Harris et al 1986; Tomasello and Farrar 1986)

Depression, mental illness and anxiety impact on contingency along with having an impact on fathers.

(ii) The nature and types of parent – infant interaction.

Babies communicate from a very young age through gesture, gaze, touch and sound.

- At 3 – 5 days babies have a capacity for detecting the complex elements of verbal communication in that their 'cry melodies' accord with that of their mothers'. (Mampe et al 2009)
- Gestures not only precede language but are fundamentally linked to it. Many of the lexical items that a child produces initially in gesture later moves to that child's verbal lexicon. Children who were first to produce gesture-plus-word combinations conveying two elements in a proposition were also first to produce two-word combinations. (Iverson and Golin-Meadow 2005)
- Communicative pointing has been related to both expressive and receptive language development at 24 months. (Desrochers et al 1995)
- A child's gesture use at 14 months was found to be a significant predictor of vocabulary size at 42 months. (Rowe et al 2009)
- As babies' communicative abilities develop, their mothers' speech increases in amount and complexity, so extending the child's communication. (Henning et al 2005)

- There is evidence of differences between mothers' and fathers' language input, and functions, which thus provides the child with increased interactive negotiation, the crucial factor in language development. (Pansofar and Vernon-Feagans 2006)
- Adult-child conversations are strongly associated with healthy language development. (Zimmerman et al 2009)
- The amount and type of talk are important and, in particular, reminiscing about events is a particularly effective way of helping young children understand, and use, words. This involves a context that is a personally meaningful elaboration by the parent, the use of questions and explanations (Reese 1995). Peterson et al (1999) found that critical aspects of an effective reminiscing style include maternal elaborations, 'wh' questions, contextual information and explanations.
- Parents can enhance their children's language and literacy by talking about interesting events daily and encouraging children to do the same. An elaborative style (including varying intonation, information about causes and effects, peoples' motivations, descriptions of objects and actions) is important for language and for enhancing children's understanding of emotion and mind. (Beals 2001)

(iii) The importance of the home literacy environment

- The importance of verbal language during infancy has led researchers to highlight that lexically rich, naturally occurring conversations are significant to a child's language skills and literacy development. (Dickinson and McCabe 2001; Weizman and Snow 2001)
- Shared book reading, particularly when it includes open-ended questions and encourages the child responding, is a powerful means of enhancing children's spoken language skills and literacy development. (Huebner and Meltzoff 2005)
- Fathers' book reading predicted children's cognitive outcome. (Duursma et al 2008)
- Young children map words on to existing concepts or cognitive structures. This enables them to organise language and knowledge about familiar objects and events. (Bloom 1998)
- Shared book reading facilitates young children's vocabulary development, phonemic skills, print concept knowledge and positive attitudes towards literacy. (Raiks et al 2006)

- The time parents spent reading to their preschool children was related to children's language growth, emergent literacy and reading skills. (Bus et al 1995)
- In addition to reading, parents engage their child in other activities that promote the development of children's receptive and expressive language skills:
 - going to the library or museum (Payne et al 1994)
 - reciting nursery rhymes and playing rhyming games (Baker et al 1995)
 - learning the alphabet, numbers and letters (Parker et al 1999)
 - telling or discussing stories (Saracho 2002; Watson 2002)
- The number of picture books in the home has been positively linked to children's receptive and expressive language skills. (Payne et al 1994)
- Familiarity with storybooks has been associated with preschoolers' vocabulary and reading skills. (Senechal et al 1996)
- Early exposure to toys that facilitate symbolic play and the development of children's fine motor skills has been shown to relate to receptive language skills at 21 months. (Tomopoulous et al 2006).
- The Effective Provision of Pre-school Education Project found that while the social class and levels of education of parents were related to child outcomes, the early years home learning environment was more important than family socio-economic status and income effects. (Sylva et al 2003)

When and how much do parents talk to children? Does it make a difference?

- Parents tend to overestimate the amount they talk to their children.
- Children with advanced language skills have parents who talk more. Talkative parents have talkative children.
- Early parent talk predicts later language ability.
- Most talk between parents and children aged 2 to 48 months typically occurs at the end of the day (Gilkerson and Richards 2009)

Exploring parental influences

There is evidence that the age of the mother, parents' socio-economic status, ethnicity, first language and mental health have an influence on children's language development.

The effects of socio-economic status on children's language environments and language development are robust and substantial. There is consistent evidence across cultures that:

- higher SES mothers talk more to their children than do lower SES mothers.
- the speech of higher SES mothers is more frequently uttered for the purpose of eliciting conversation than the speech of lower SES mothers.
- the speech of lower SES mothers is more frequently uttered for the purpose of directing their children's behaviour than the speech of higher SES mothers. (Hoff et al 2002)

Age of mother is a significant variable: adolescent mothers (mean age 15 years) have been found to speak less, produce fewer utterances with joint attention, provide fewer object labels, produce less affectionate speech and issue more commands than young adult mothers (mean age 23 years). (Culp et al 1996)

Children for whom a second language constitutes less than 25% of their language input (according to parental report) tend not to acquire that language (Pearson et al 1997). However, given sufficient input for language acquisition to occur, the rate and course of language development in children acquiring two languages has been described as similar to the rate and course of monolingual development. (Genesee et al 2004; Petitto et al 2001)

Trust, rapport and respect are key to effective communication from professionals. For example, mothers responded well to being considered equal partners in the care of infants in NICU, and parents of hospitalised children are considered "experts by experience". (Jones et al 2007)

Depressed mothers are less contingent and use touch less. (Paris and Bolton 2009) Partners of depressed women demonstrated less optimal interaction with their infants, indicating that fathers do not compensate for the negative effects of maternal depression on the child. (Goodman 2008)

Mothers with more extensive social networks had more positive interactions with their infants than mothers with less extensive networks. (Gutman et al 2009)

Exploring the role of siblings and peers

Child to child speech plays an important role in the development of communication, speech and language. Very young children (1 – 2 years) engage in sound play with peers and from 2 years on peers provide language socialisation opportunities, e.g. engaging in joint planning, negotiating conflicts, providing explanations, telling stories and engaging in a variety of types of multi-party interactions. Friends, in particular, may provide opportunities for using advanced language to express and resolve conflicts.

Mothers of twins were less likely to provide a 'strong elaborated communicative interaction' across play and book reading. (Rutter et al 2003)

Talk To Your Baby's emerging thinking on messaging:

- Parents do like to know about brain development. This needs to be put very succinctly (e.g. Parents As First Teachers programme). There is fascination and amazement when watching a DVD of very young babies copying facial gestures.
- Babies can recognise different sounds from 3 – 5 days old. Babies' own crying can be identified as French or German within days of birth, by their varying tone copied from the sounds that they hear around them. (Mampe et al 2009). Do parents know how clever their infants are?
- Focussing on interaction and the building of a relationship is a starting point for the development of contingency / being 'in tune'.
- Talking about shared past events and extending conversations through more complex language is a very important point to get across to parents and practitioners. It links to sustained shared thinking and with story comprehension skills and print concepts. Mother-child reminiscing was a more powerful predictor of children's print and semantic skills than was book reading. (Reese 1995)
- Being 'in tune' is important for secure attachment and communication. The importance of this first relationship with parents for future friendships and success at school needs to be emphasised.
- Children learning two languages develop language similarly to children using one language. Developing and maintaining a strong first language is important as well as developing English.
- Parents listen to those they know and trust/feel comfortable with, so the context is important. Peer to peer approaches through parents who are "skilled up" with messages to pass on could be a way forwards.
- Child to child speech plays an important role for even very young children.
- Professionals should encourage parents to take responsibility for the healthy social, emotional and cognitive development of their children.

REFERENCES

- Akhtar, N., Dunham, F., & Dunham, P. J. (1991). Directive interactions and early vocabulary development: The role of joint attentional focus. *Journal of Child Language*, 18, 41–50.
- Baker, L., Serpell, R., & Sonnenschein, S. (1995). Opportunities for literacy learning in the homes of urban preschoolers. In L. Morrow (Ed.), *Family Literacy: Connections in schools and communities*. Newark: International Reading Association.
- Beals, D. E. (2001). Eating and reading: Links between family conversations with preschoolers and later literacy. In D. K. Dickinson & P. O. Tabors (Eds.), *Beginning language with literacy: Young children learning at home and at school* (pp. 75–92). Baltimore, MD: Paul H. Brookes Publishing Co.
- Bloom, L. (1998). Language acquisition in its developmental context. In D. Kuhn & R. S. Siegler (Eds.), *Handbook of child psychology*. 5th ed. Cognition, perception, and language (Vol. 2, pp. 309-370). New York: Wiley.
- Bus, A. G., Van Ljzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research* (65), 1-21.
- Carpenter, M., Nagell, K., & Tomasello, M. (1998). Social cognition, joint attention, and communicative competence from 9 to 15 months of age. *Monographs of the Society for Research in Child Development*, 63(4), Serial No. 255.
- Culp, A. M., Osofsky, J. D., & O'Brien, M. (1996). Language patterns of adolescent and older mothers and their one-year-old children: A comparison study. *First Language*, 16, 61-76.
- Desrochers, S., Morosette, P., & Ricard, M. (1995). Two perspectives on pointing in infancy. In C. Moore & P. J. Dunham (Eds.), *Joint Attention: Its origins and role in development* (pp. 85-321). Hillsdale, NJ: Lawrence Erlbaum
- Dickinson, D. K., & McCabe, A. (2001). Bringing it all together: The multiple origins, skills, and environmental supports of early literacy. *Learning Disabilities Research and Practice*, 16, 186-202.
- Donovan, W., Leavitt, L., Taylor, L., & Broder, J. (2006). Maternal sensory sensitivity, mother-infant 9-month interaction, infant attachment status: predictors of mother toddler interaction at 24 months. *Infant Behavior and Development*, 30, 336-352.
- Duursma, E., Pan, B. A., & Raikes, H. (2008). Predictors and outcomes of low-income fathers' reading with their toddlers. *Early Childhood Research Quarterly*, 23(3), 351-365.
- Gilkerson, J., & Richards, M. A. (2009). *The power of talk. Impact of adult talk, conversational turns and TV during the critical 0-4 years of child development*: Boulder, CO: LENA Foundation.
- Genesee, F., J. Paradis & M.B. Crago (2004). *Dual language development and disorders. A handbook on bilingualism and second language learning*. Baltimore: Brookes.

- Goodman, J. H. (2008). Influences of maternal postpartum depression on fathers and father-infant interaction. *Infant Mental Health Journal*, 29(6), 624-643.
- Gutman, L. M., Brown, J., & Akerman, R. (2009). Nurturing parenting capability: The early years. Research Report 30. Centre for Research on the Wider Benefits of Learning, Institute of Education, University of London.
- Harris, M., Jones, D., Brookes, S., & Grant, J. (1986). Relations between the non-verbal context of maternal speech and rate of language development. *British Journal of Developmental Psychology*, 4, 261-268.
- Henning, A., Striano, T., & Lieven, E.V. (2005). Maternal speech to infants at 1 and 3 months of age. *Infant Behavior and Development*, 28, 519-536.
- Hoff, E., Laursen, B., & Tardif, T. (2002). Socioeconomic status and parenting. In H. Bornstein (Ed.), *Handbook of parenting. Ecology and biology of parenting* (Vol. 2, pp. 161-188). Mahwah, New Jersey: Lawrence Erlbaum.
- Huebner, C. E., & Meltzoff, A. N. (2005). Intervention to change parent-child reading style: A comparison of instructional methods. *Journal of Applied Developmental Psychology*, 26, 296-313.
- Iverson, J. M., & Golin-Meadow, S. (2005). Gesture paves the way for language development. *American Psychological Society*, 16(5), 367-371.
- Jones, L., Woodhouse, D., & Rowe, J. (2007). Effective nurse parent communication: A study of parents' perceptions in the NICU environment. *Patient Education and Counselling*, 69, 206-212.
- Laakso, M. L., Poikkeus, A. M., Katajamaki, J., & Lyytinen, P. (1999). Early intentional communication as a predictor of language development in young toddlers. *First Language*, 19, 207-231.
- Mampe, B., Angela, D., Friederici, D., Christophe, A., & Wermke, K. (2009). Newborn's cry melody is shaped by their native language. *Current Biology*, 19, 1-4.
- Mundy, P., & Gomes, A. (1998). Individual differences in joint attention skill development in the second year. *Infant Behavior and Development*, 21, 469-482.
- Nelson, K. E., Carskaddon, G., & Bonvillian, J. D. (1973). Syntax acquisition: Impact of experimental variation in adult verbal interaction with the child. *Child Development*, 44, 497-504.
- Newport, E. L., Gleitman, H., & Gleitman, L. R. (1977). Mother, I'd rather do it myself: Some effects and non-effects of maternal speech style. In C. E. Snow & C. A. Ferguson (Eds.), *Talking to children: Language input and acquisitions* (pp. 109-150). Cambridge: Cambridge University Press.
- Pansofar, N., & Vernon-Feagans, L. (2006). Mother and father language input to young children: Contributions to later language development. *Journal of Applied Developmental Psychology*, 27, 571-587.
- Paris, R., & Bolton, R. E. (2009). Postpartum depression, suicidality, and mother-infant interaction. *Archives of Women's Mental Health*, 12(5), 309-321.

- Parker, F. L., Boak, A. Y., Griffin, K. W., Ripple, C., & Peay, L. (1999). Parent-child relationship, home learning, environment, and school readiness. *School Psychology Review*, 28, 413-425.
- Payne, A. C., Whitehurst, G. J., & Angell, A. L. (1994). The role of home literacy environment in the development of language ability in preschool children from low-income families. *Early Childhood Research Quarterly*, (9), 427-440.
- Pearson, B. Z., Fernandez, S. C., Lewedeg, V., & Oller, D. K. (1997). The relation of input factors to lexical learning by bilingual infants. *Applied Psycholinguistics*, 18, 41-58.
- Peterson, C., Jesso, B., & McCabe, A. (1999). Encouraging narratives in preschoolers: An intervention study. *Journal of Child Language*, 26, 49-67
- Pettito, L.A. & Holowka, S., Sergio, L. and Ostry, D. (2001) Language Rhythms in Babies' Hand Movements. *Nature* , Sept 6.
- Raiks, H., Pan, B., Tamis-LeMonda, C. S., Brooks-Gunn, J., Constantine, J., et al. (2006). Mother-child bookreading in low-income families: Correlates and outcomes during the first three years of life. *Child Development*, 77(4), 924-953.
- Reese, E. (1995). Predicting children's literacy from mother-child conversations. *Cognitive Development*, 10, 381-405.
- Rowe, M. L., Ozcaliskan, S., & Golin-Meadow, S. (2009). Learning words by hand: Gesture's role in predicting vocabulary development. *First Language*, 28(2), 182-199.
- Rutter, M., Thorpe, K., Greenwood, R., Northstone, K., & Golding, J. (2003). Twins as a natural experiment to study the causes of mild language delay: 1. Design: Twin-singleton differences in language, and obstetric risk. *Journal of Child Psychology and Psychiatry*, 43, 326-341.
- Saracho, O. N. (2002). Family literacy: Exploring family practices. *Early Child Development and Care*, 172, 113-122.
- Senechal, L., LeFevre, I. A., Hudson, E., & Lawson, P. (1996). Knowledge of storybooks as a predictor of young children's vocabulary. *Journal of Educational Psychology*, 88, 520-536.
- Snow, C. E., Perlmann, R., & Nathan, D. (1987). Toward a multiple-factors model of the relation between input and language acquisition. In K. E. Nelson & A. Van Kleeck (Eds.), *Children's Language* (Vol. 6, pp. 65-98). Hillsdale, NJ: Erlbaum.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2008). *Final report from the primary phase: Pre-school, school and family influences on children's development during key stage 2 (age 7-11)*. Effective Pre-school and Primary Education 3-11 project (EEPE 3-11). Research Report DCSF-RR061. London: Department for Children, Schools and Families.
- Tamis-LeMonda, C. S., Bornstein, M. H., Baumwell, L., & Damast, A. M. (1996). Responsive parenting in the second year: Specific influences on

- children's language and play. *Early Development and Parenting* 5, 173-183.
- Tomasello, M., & Farrar, M. J. (1986). Joint attention and early language. *Child Development*, 57, 1454-1463.
- Tomopoulous, S., Dreyers, B. P., Tamis-LeMonda, C. S., Flynn, V., Rovira, I., Tineo, W., et al. (2006). Books, toys, parent-child interaction and development in young Latino children. *Ambulatory Pediatrics*, 6, 72-78.
- Watson, R. (2002). Literacy and oral language: Implication for early literacy acquisition. In D.K. Dickinson (Ed.), *Handbook of early literacy research* (pp. 43-53). New York: The Guildford Press.
- Weizman, Z. O., & Snow, C. E. (2001). Lexical output as related to children's vocabulary acquisition: Effects of sophisticated exposure and support for meaning. *Developmental Psychology*, 37, 265-279.
- Zimmerman, F. J., Gilkerson, J., Richard, J. A., Christakis, D. A., Xu, D., Gray, S., et al. (2009). Teaching by listening: The importance of adult-child conversation to language development. *Pediatrics*, 129, 342-349.