

Understanding Physical Development

The Theory

Our earliest body movements are reflexes and happen without us thinking about them, in response to a specific stimulus. Each time that the action occurs it establishes a nerve pathway, which becomes engrained in the nervous system. As the different reflexes are activated they automatically expand the number of pathways. These new pathways, in turn, serve as foundations for future developmental progress. As the infant establishes new pathways, the myelin sheath steadily grows into new areas of the brain. The more the environment stimulates the reflexes, the more pathways will be laid down and the more functioning will be available.

Studies in neurophysiology have shown that physical experience creates especially strong neural pathways in the brain. When children participate in tactile/kinaesthetic activity, the two hemispheres of the brain are simultaneously engaged (Ayliff, 2011).

Movement Play Senses

Tactile sense (the sense of touch)

Touch is the first sense that we acquire and the sensory activity of the skin is a major factor in our development. Rich tactile experience has been shown to produce more highly developed myelin sheaths, bigger nerve cells, more advanced skeletal muscular growth, and better coordination.

Proprioceptive sense (the sense of body)

It is the name given to the awareness or perception of the location of the body in relation to where it is and what it is doing.

Proprioception underpins coordination as it supports:

- The ability to position the body and limbs to carry out an action;
- Judgement of what level of force to use;
- Planning how to carry out an action using experience of the feel of things in our limbs;
- Maintaining postural stability.

Without well-developed proprioceptive senses, lots of everyday tasks become frustrating and difficult.

Vestibular sense (the sense of movement)

This is the sense of relationship between the body, gravity and the ground. It is commonly thought of as the sense of balance.

- This sense helps to adjust the eyes when the head changes position – vital for comfortable orientation in the world as well as a basis for reading later;
- Knowing 'which way is up' is vitally important to our sense of self and sense of well-being;
- It helps to integrate the visual and vestibular systems – mis-match here produces motion sickness. (Greenland, 2008).

Children are biologically driven to move and thus they seek the movement experience they need to help them grow, develop and learn. Therefore to support children's physical development with the senses above, we need to make sure that children have the opportunity to indulge in the following ways of moving:

- Floor play: on their backs and on their tummies
- Belly crawling
- Crawling
- Push-pull-stretch-hang-buffet about
- Spin-tip-roll-fall.

How can adults support children's physical development?

- Understand and support the processes involved;
- Ensure that provision is consistent and continuous and that children have access to a wide range of tools, materials and open ended resources;
- Make sure that children can explore provision, make own choices and have time to repeat, practice and extend their interests;
- Evaluate the schematic possibilities in their provision and plan a rich diet of action rhymes, songs and games;
- Support children to be healthy, safe and to manage their own needs independently;
- Make decisions about where you stand on 'risky' play and how you will manage it for the children's benefits;
- Plan and provide opportunities for tummy time on a daily basis;
- Provide low hand rails and ensure that furniture is of appropriate height for young children to be able to curse;
- Provide space for floor activities and remove the chairs from the tables;
- Provide plenty of opportunities for outdoor play on a daily basis.

Referencing

Ayliff, S. (2011), *'This Way Up: Brain Building In Progress, EYE Focus, Vol. 13, No. 2.*

Greenland, P. (2008). *Development Movement Play: JABADAO.* Leeds: JABADAO National Centre for Movement, Learning and Health.

Trueman, L. (2012). *The Centrality of Physical Development in the Early Years Foundation Stage.* Huddersfield: Early Excellence Training and Resource Centre.

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