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INTRODUCTION



This resource pack is designed to provide information and strategies for teachers and parents to support the development of co-ordination skills.

It includes sensory and motor components which are crucial in influencing both learning and behaviour. The strategies can be used in everyday classroom activities and all aspects of the curriculum, using equipment already available and adaptable within school.

Also included is advice and strategies for parents and carers.

This work has been produced as part of the DCD working group, a multi-agency group of professionals in Health and Education.

DCD Pack Contents

Information for Teachers

Information for Parents

Ideas for Whole Class

DCD Group Exercise Programme

DCD Referral Pathway

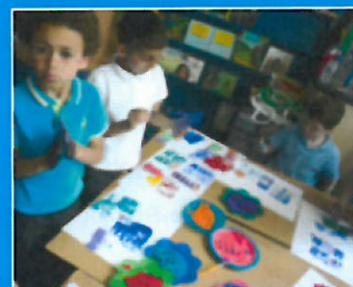
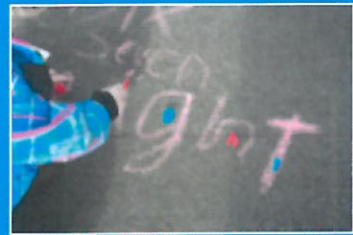
Records

Resources

Glossary

Early Development

Additional Evidence



*Photographs with thanks
to Brynmill Primary,
Sketty Primary, Gowerton
Primary and Pen y Fro
Primary Schools in
Swansea.*

Information for Teachers

Contents:

What do we Mean by Co-ordination Skills?

Possible Indicators of Co-ordination Difficulties

The Importance of Talking

The Development of Gross Motor Skills

Activities to Develop Fine Motor Skills

Improving Scissor Skills

Games in the Yard

Setting Out work

Handwriting Skills



What do we mean by Co-ordination Skills

Definition

The ability to move body parts such as legs , arms, hands, fingers and eyes in a skilful way.

There are enormous variations in development across the various age groups and in addition, the degree of difficulty of the task needs to be taken into account. Difficulties may be due to other factors such as lack of experience and opportunity to practise and develop some of the skills. There may also be problems such as low tone and hyper mobility of joints or specific visual difficulties.

DEFINITION OF DCD DSM-IV

DCD IS AN UMBRELLA TERM TO DESCRIBE CHILDREN WITH CO-ORDINATION DIFFICULTIES

Incidences

- Co-ordination difficulties affect 5-10% of the population
- More boys than girls are affected, approximately 75% to 25%
- The average age of diagnosis is 7-8 years
- This condition cannot be cured
- Intervention at an early age is vital

Impact on Learning and Behaviour

- The child may have
- Low self esteem
- Emotional and behavioural problems
- Social isolation
- Poor attention
- Variable performance eg good days, bad days
- Tendency to fidget



Possible Indicators of Co-ordination Difficulties

Gross Motor Skills

The child may....

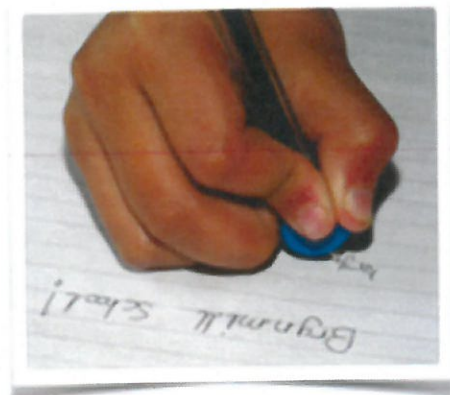
- move awkwardly, bumping into objects and falling
- have difficulty pedalling a tricycle or a similar toy
- be awkward when running and climbing
- have difficulty hopping and skipping
- have difficulty with balance
- have difficulty catching and throwing a ball



Fine Motor Skills

The child may have....

- difficulty with pencil grip
- difficulty using scissors
- immature drawing and copying skills
- difficulty with fastenings e.g.. tying laces
- difficulties using a knife and fork
- difficulties with handwriting



The Importance of talking

Whatever the activity **talk** through all the movements using the appropriate language and visual signs



For Example:

- When forming letters, talk through the movements required from the pencil - around, up, back down and flick etc...
- Obstacle courses - through, around, on top, to the left, to the right etc....
- When dressing - push (arms through), pull (button through hole), pull (zip up)

Keep instructions simple and straightforward
Allow the child extra time to process information

Make sure any physical exercises are carried out in a controlled and focussed manner, to ensure good quality movements, Children with co-ordination difficulties often rush through tasks as this masks their inability to move with control.

The Development of Gross Motor Skills

Gross motor skills underpin the development of skilled and co-ordinated movement. Development can be assessed through the quality of body control, posture, balance and co-ordination of movement



The development of effective gross motor skill is influenced by:

- **Muscle tone** - the range of movement in the joint muscle strength
- **Sensory processing** - response to sensory information
- **Sensori-motor experience** - experiences of sensation and movement

A child may have either low tone in the trunk (floppy in the middle) hyper mobility of joints (too much movement) or limb girdle instability (wobbly in hips and shoulders) and will often not have experienced all stages of motor development such as rolling and crawling.

Always....

Make sure the starting position is correct.

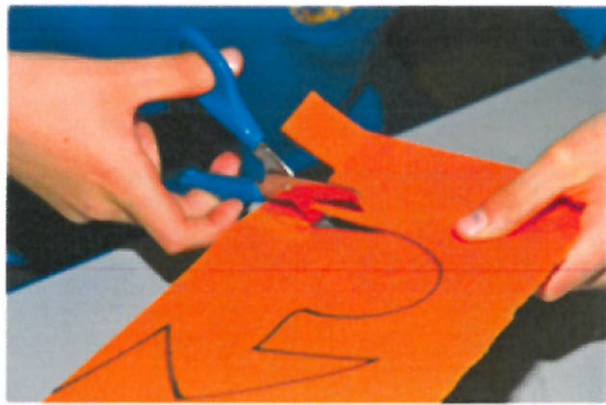
Ask children to open their mouths slightly and breathe out slowly before attempting the activity too prevent tension and strain

Ask children to count aloud during the activity to ensure they don't hold their breath

Encourage children to maintain correct posture and avoid excessive swaying or unwanted movement throughout the activity

The Development of Fine Motor Skills

The effective use of hands to engage in activities of daily living depends on a complex interaction of:



- *hand skills*
- *postural mechanisms*
- *cognition*
- *visual perception*
- *sensory processing*
- *strength*

For example, using scissors requires effective **bi-manual skills** (using two hands in co-operation) with the preferred hand leading and the other assisting.

The activity requires and promotes use of the **small muscles** in the hand which are required for manipulating pencils and pens for writing skills.

Cutting out shapes or pictures from various thickness of card or paper also requires and promotes **effective postural control, hand-eye co-ordination** and **hand strength**.

To ensure continued development and refinement of the fine motor skills all children should be provided with plenty of opportunities to experience **multi-sensory activities**, not only in the early years string but throughout primary school.

Children, for whom difficulties persist, will benefit from strategies such as:

- **Hand over hand assistance** from an adult when cutting, writing, or making finger rhyme actions.
- **Adding resistance to movements** e.g.. writing with chalk on carpet tiles, opening and closing spring pegs when moving number or letter cards on a washing line.



Older children who lack refined dexterity would benefit from taking responsibility for group collage work or an art project ensuring they have **increased opportunity to practise and develop skills.**

Some children may develop their own strategies to compensate for a difficulty. With older children, the emphasis should be placed on **outcome and effort rather than technique.**

Activities to Develop Fine Motor Control

The Activities suggested here may stand alone, or for older children should be incorporated into curriculum areas as appropriate

- **Finger Rhymes and finger puppets (especially parallel movement patterns)** *These provide opportunities for isolation of fingers for development of dexterity. Older children may be encouraged to do finger puppet shows or play musical instruments*

- **Finger and hand painting in any medium (try adding texture e.g. sand in paint)** *This will help the child to recognise the different forces required to refine their co-ordination skill.*



- **Finger games and exercises, such as touching each finger in turn with the thumb. Start very slowly and then turn this game into a race. This improves dexterity and strength for older children and can be used as a general class 'warm-up' activity prior to writing tasks.**



- **Writing in sand or shaving foam with fingers or other tools.** *This can assist in the development of letter formation and allows children to practise letter formation without worrying about making errors.*



- **Drawing shapes, patterns or letters onto a whiteboard or easel using whole arm movements.** *Working on a vertical surface can help improve core stability, shoulder stability and positions the wrist into slight extension which is a good position for writing.*



- **Palm and finger activities with dough, plasticine or clay.** *This is an excellent activity for the development of dexterity. Adding textures and grading e.g, moist, wet, sticky, will encourage tactile tolerance and discrimination essential for the exploration and recognition of a tactile environment.*

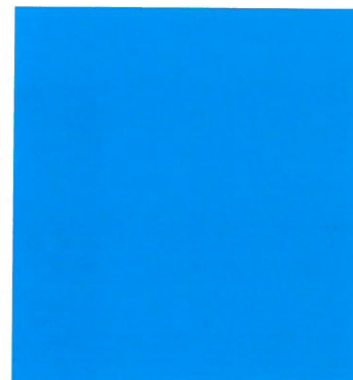


- **Construction toys of varying sizes such as duple, lego and k-nex.**

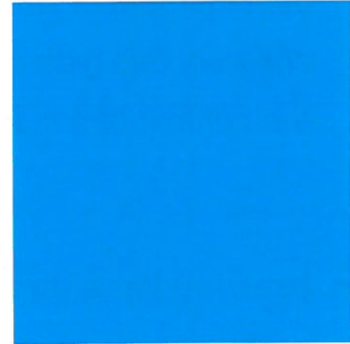
Effectively develops dexterity skills including the use of in-hand small muscles and using two hands in co-operation. These are important for the development of writing skills. For older children, this type of activity can be used in the context of a maths or science project.



- **Drawing lines through mazes and pathways using a range of movements such as circular or wavy. Include sudden changes of direction. Decrease the width of the pathways as the skills develop. This assists in developing pencil or pen control and directionality. The use of different media encourages awareness of the force required for good pencil skills.**
- **Dot - to - Dot drawing from simple continuous patterns to individual shapes and pictures. This activity assists in the development of directionality, sequencing and visual motor integration skills. All of these skills are required for writing tasks.**
- **Copying and designing peg board patterns. Older children could make symmetrical designs for maths activities. This activity contributes to developing control of pens and pencils.**



- **Lacing picture cards and sewing activities.** *It may be important to use the hand over hand strategy for children who have difficulty in manipulating a needle.*
- **Games requiring manipulation and manual dexterity such as marbles, tiddlywinks and connect 4.** *These games will help to promote a number of skills including hand eye co-ordination, dexterity and developing an awareness of the amount of force needed for different activities.*
- **Computer keyboard skills.** *These promote finger isolation and an opportunity to develop alternative strategies for recording.*
- **Bead threading.** *Use different sized and shaped beads with various thread such as string or wire coat hangers to make this a graded activity. For older children this could be incorporated into collage work in an art or design lesson.*



General craft activities are excellent for developing fine motor skills.

Use and adapt what you have in school.

Above all make it FUN and achievable

Strategies for improving Scissor Skills

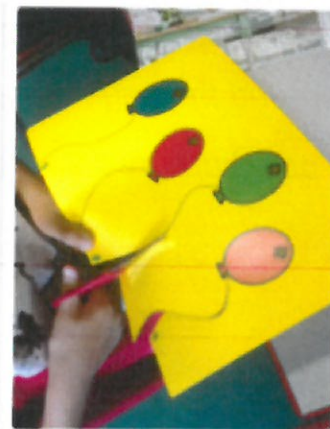
These skills help a child develop *hand preference*. They assist in the development of manipulation and dexterity skills and encourage co-ordination and co-operation of both sides of the body. They also contribute in the development of handwriting. Tasks and materials should be appropriate to the child's stage of development.

There is a variety of scissors available:

- *easy grip*
- *self opening/spring assisted*
- *left handed*
- *double handed scissors so that the teacher and child can cut together*

The child's position whilst using scissors is important:

- *Arms and elbows should be close to the body*
- *Encourage the child to move the paper when cutting rather than change their body position.*



Songs which include hand-cutting actions are useful to develop the movements required to manipulate scissors, e.g.. Five little ducks went swimming one day.

- **Cutting straws into small pieces** is an easy task which gives immediate success.
- **Grade the paper:** thick is easy to manipulate and cut, progress from cardboard to thin paper.

If the child finds it hard to cut along a line, stick card onto the back of the paper to act as a scissors guide

Continue to graduate tasks;

- *simple snips at the edge of a card - make a fringe*
- *follow a line*
- *combine lines and simple curves*
- *make left and right turns (cut-stop-change direction-cut)*
- *combine line/curve/turn*
- *cut out simple shapes (This activity assists in the development of visual integration and copying skills)*
- *cut round the edge of a picture*
- *cut out shapes within a picture*

**Make scrapbooks, collages,
etc using a variety of
materials.**

Strategies to Help Children Set Out Work

- A well organised and clearly written whiteboard will assist pupils
- Use **different coloured pens** for every line and leave larger gaps between lines when writing on the board
- Encourage children to **keep working areas as clear as possible**
- **Label/colour code equipment** so that children know where things belong
- Allow children to use **writing tools** which are most comfortable whether they are pens, pencils or felt tips.
- Use **Blu Tack, Dycem or bulldog clips** to prevent work moving or slipping (see resources)
- Use **squared or lined paper** where appropriate, this helps to organise work and keep letter and number size uniform.
- Use equipment '**place mats**' to remind children to have all the equipment they need ready on the desk.
- **Mark start and finish points.** e.g. use coloured dots, green for starting places and red for the end.
- Use **bold lines underneath plain paper** as guidelines for writing.
- Use a **prepared template** for setting out the task, e.g. Put a line where the heading, date and title should go, provide a box to draw apparatus or a picture.

Strategies for Improving Handwriting Skills



Prior to handwriting carry out 1-2 minutes of some simple hand warm up activities. These provide the child with an increased awareness of the joints in their hands and how their joints are moving (See appendix for exercise sheet)

Quality can be more important than Quantity!

- Seating should allow **both feet to be on the floor**.
- Encourage the child to sit in an **upright position** with feet and knees at 90 degree angles.
- Table should be just **below elbow height**.
- Position the child to be able to **see the teacher directly** without turning or twisting the body.
- The child should be close enough to **hear and see instructions**
- The child should sit with the **light behind** them.
- Seat the child where there are **minimal distractions** i.e.. away from doors, windows and stimulating displays.



- When a child is observed writing with a head position close to their work a **sloping desk** may be of use.
- When necessary, make **prepared recording sheets** available to reduce the amount of writing a child has to do.
- Use **lined paper** with spaces sufficiently wide to accommodate the child's writing. These can be graded over time.
- Break down the activity into smaller parts.
- Allow **extra time** to complete a task/test.
- Ensure that the child is given a great deal of encouragement and **immediate positive feedback for effort**.
- Consider **alternatives to copying from the board** such as providing individual handouts to some pupils.
- Let the child work on **photocopied sheets** for some recording tasks.



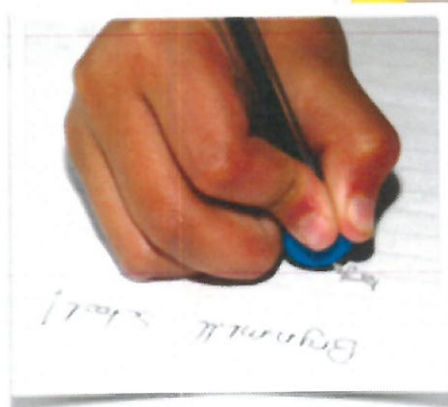
Be sensitive to issues regarding the marking of work.
Brief any temporary staff about the child's difficulties.



Pencil Grip

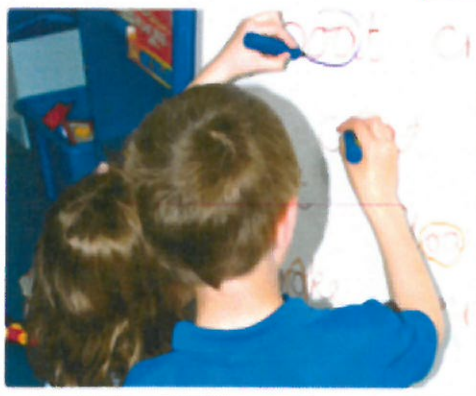
Children begin to use a pen or a pencil with a palmar grasp (in the palm of the hand). Many children will progress to using a tripod grip, making the letter patterns by moving the whole of the hand and arm. This will gradually be refined to using just the fingers and wrist with only a sliding action of the arm.

Children may use different types of grip to maintain pencil control, which might look awkward and ungainly. An unusual grip is often a compensatory measure, adopted because of other postural difficulties. Emphasis should not be placed on altering the grip, however, activities used to encourage effective co-ordination skills should help children develop more efficient grip automatically.



Strategies to Encourage an Effective Grip

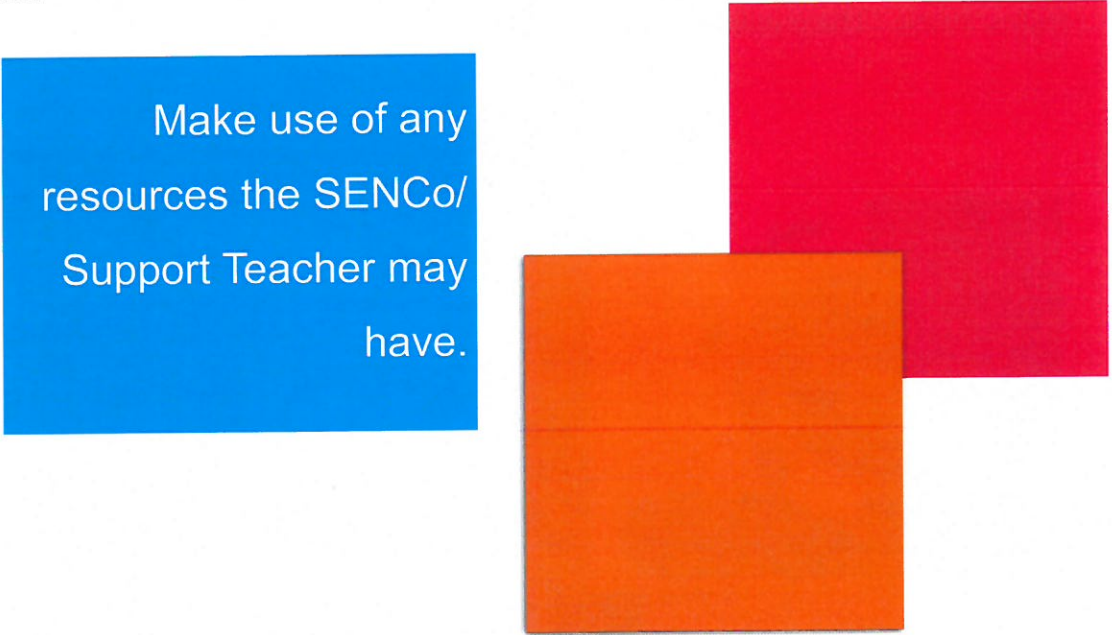
- Thicker barrelled pencils/crayons/felt tip pens
- Triangular shaped pencils (thick and thin)
- Commercially available easy grip pencil/pens (see resources)
- Blu tack placed around the pen/pencil
- Soft, plastic triangular grips which can be put on an ordinary pencil
- Moulded plastic grips that have thumb and finger positions which can be slipped over standard pens/pencils
- When children are very young encourage them to colour using crayon or chalks stubs (They will only be able to hold it with a tripod grip)



Where a child has difficulty maintaining their grip to achieve appropriate volumes of work, the strategies suggested in the sections on gross and fine motor development may be of help in addressing underlying difficulties

Alternatives to Handwriting

- Teacher or TA acts as a scribe.
- Child uses a voice recorder and the work is later transcribed by an adult.
- Access to a word processor can be important for older pupils. Younger children may not be ready to use a keyboard without supervision.
- Keyboard skills should be taught alongside handwriting using tutoring programmes.
- Reduce the amount of handwriting required by using mind maps, diagrams, graphs, charts and other forms of visual representation.
- Use a cartoon grid to record a story or activity - the child draws pictures in the right order.
- Paired and group writing activities
- Alternative 'evidence' such as using video, digital cameras, presentation etc...



Make use of any
resources the SENCo/
Support Teacher may
have.

Handwriting Checklist

Provide a table and chair which are the right size, and relative in size to each other.

Encourage the child to sit up with both feet on the ground

Wrapping feet around the legs of the chair may help to maintain a good upright posture especially if core stability is poor

Try to ensure that the child sits where the light falls on their work

Can the child see the board clearly and hear what the teacher is saying?

Encourage the child to put the paper in a comfortable position

Choose paper that is an appropriate size for the writing task

Think about whether lined paper would be useful for the child

Encourage the child to select the most appropriate writing tool for the task (gel or ink pens can be messy if the child presses too hard)

Encourage the child to hold the paper steady with the hand not being used for writing

Try to encourage the child to move the paper as he/she gets to the bottom of the page

Ensure that children are not sitting with elbows touching their neighbours, especially if a left handed and a right handed child sit next to each other

