For PGCE trainees

Physical and sensory impairment

Developmental coordination disorder/ dyspraxia

Self-study task 15

tda

developing people, improving young lives

Introduction to the self-study tasks

These self-study tasks are designed to help trainee teachers on PGCE courses learn more about teaching pupils with special educational needs (SEN) and/or disabilities. They can be used as stand-alone activities or to supplement and extend taught sessions on SEN and disability provided by the school or local authority.

There are 17 self-study tasks in all. Each task will take about two hours to complete, excluding practical activities.

Every Child Matters	
SST1	Inclusion and Every Child Matters
SST2	SEN and disability legislation
SST3	English as an additional language and SEN
SST4	Children's needs and development
SST5	ICT and SEN
Cognition and learning	
SST6	Moderate learning difficulties
SST7	Dyslexia and specific learning difficulties
SST8	Working memory
Behavioural, emotional and social needs	
SST9	Behavioural, emotional and social difficulties
Communication and interaction	
SST10	Speech, language and communication needs
SST11	Autistic spectrum disorders
Physical and sensory impairment	
SST12	Visual impairment
SST13	Hearing impairment
SST14	Handwriting
SST15	Developmental coordination disorder/dyspraxia
Working in partnership	
SST16	Working with colleagues in school
SST17	Working with parents/carers and other professionals

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

2

How to use the materials

This is an online resource. Some of the tasks are for you to do on your own; others are particularly suitable to do working with a partner.

Where some of the tasks ask you to record information you need to print out the relevant material first. Other tasks may involve using the internet, which gives you access to rich sources of information about SEN and disability and online forums for additional advice.

Each task includes the following elements:

- the professional standards addressed

- learning outcomes

- an opportunity to explore the concepts, definitions and research findings most relevant to the topic

- ideas for implementing the national curriculum inclusion statement in relation to the topic, including target setting, practical strategies, the role of additional adults and pupil grouping

- practical activities – including action research, child study and class observation

- resources – including books and websites

- an opportunity to evaluate your progress against the outcomes and plan your next steps.

A useful resource to support your studies is **Implementing the Disability Discrimination Act in Schools and Early Years Settings (DfES, 2006)**. It is available free to all schools and there should be a copy in your training institution or school. (If you haven't got a copy, you can order one using the link.)

It should be read in conjunction with **Promoting Disability Equality in Schools (DfES, 2006)** – which you can view, download or order by following the link.

Evidence and sources of information

As you work through these self-study tasks, try to keep a critical and evaluative attitude. Much of the understanding we have of what works, or doesn't work, in relation to meeting the needs of pupils with SEN and/or disabilities has not been fully researched.

Remember:

- many interventions suggested for one group of pupils with SEN and/or disabilities will often benefit other groups of pupils, including those without SEN and/or disabilities

- the quickest way to find out what to do is often to ask the pupil or their parent/carer what they think works.

Literature reviews of 'what works' in relation to literacy and mathematics for pupils with SEN and/or disabilities, which has been investigated in some depth, are available at: **www.dcsf.gov.uk/ research/data/uploadfiles/RR554.pdf**

Other sources of information are listed at the end, under 'Resources and references'. You can use these to follow up and learn in greater depth about the material covered in this self-study task.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

3

Self-study task 15

Developmental coordination disorder/dyspraxia

Professional standards addressed

Q6   Have a commitment to collaboration and cooperative working.

Q10   Have a knowledge and understanding of a range of teaching, learning and behaviour management strategies and know how to use and adapt them, including how to personalise learning and provide opportunities for all learners to achieve their potential.

Q19   Know how to make effective personalised provision for those they teach, including those for whom English is an additional language or who have special educational needs or disabilities, and how to take practical account of diversity and promote equality and inclusion in their teaching.

Q20   Know and understand the roles of colleagues with specific responsibilities, including those with responsibility for learners with special educational needs and disabilities and other individual learning needs.

Learning outcome

You will understand how to remove barriers to participation and learning for pupils with a developmental coordination disorder/dyspraxia.

Activities

		Timings
Activity 1	Developmental coordination disorder (DCD)	**20 minutes**
Activity 2	Planning for pupils with DCD in mainstream lessons	**20 minutes**
Activity 3	What would you do?	**25 minutes**
Activity 4	Key approaches to removing barriers for pupils with DCD	**20 minutes**
Activity 5	Points for action	**15 minutes**
Resources and references		
Appendix	Suggested answers and solutions	

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

4

Activity 1

Developmental coordination disorder (DCD)

Approximate timing: 20 minutes

20 mins

Developmental coordination disorder (DCD) is an impairment that relates to planning and carrying out tasks, or to the development of skills to do with movement. Some children with DCD reach the milestones in their physical development later than others. A child may have difficulty planning how to do a physical task, be hesitant about starting it, or appear to forget what comes next in a series of movements within the task. Some children may find it hard to use the movement skills they have acquired in one context in different situations. They may have achieved the basic motor milestones but fluency, complexity and adaptability are missing.

Different terms you might come across

A number of different terms have been used to describe pupils with DCD, partly because of the variety of difficulties it includes – for instance:

- 'Clumsy' or 'awkward' – these terms have sometimes been used as general ways to describe people with movement difficulties. However, they tell us very little about the nature of the difficulties, and we would not now label a child in this way.

- 'Dyspraxia' – the Dyspraxia Foundation describes dyspraxia as "an impairment or immaturity of the organisation of movement. It is an immaturity in the way that the brain processes information, which results in messages not being properly or fully transmitted."

- 'Developmental coordination disorder' or 'DCD' – this term is often used when a child's motor coordination is markedly below that expected for their age and ability, which can also have an effect on their academic achievement and everyday activities. DCD is defined by the American Psychiatric Association in their Diagnostic and Statistical Manual of Mental Disorders IV – Text Revision (2000) against four criteria:

  - performance in activities involving motor coordination is substantially below that for a child's chronological age and intelligence

  - their difficulties significantly interfere with academic achievement or activities of daily living

  - the difficulties are not due to a general medical condition such as cerebral palsy, and

  - the difficulties are over and above any level of mental retardation or learning difficulty: a diagnosis of DCD should not be given to individuals with an IQ below 70. (Sugden, 2007)[1]

Since 'DCD' is becoming the most commonly used term to describe movement difficulties, we use it in this self-study task, which looks at the features associated with DCD and some approaches to supporting pupils with the disorder.

Pupils with DCD often also have other associated characteristics, and these are described in this self-study task. There may also be some overlap with other known developmental disorders such as attention deficit hyperactivity disorder (ADHD), Asperger syndrome or dyslexia. However, these conditions can be specifically defined in their own right, and should not be linked automatically with coordination difficulties.

1   Sugden and Henderson (2007) – these principles draw on a highly collaborative approach called 'ecological intervention', developed over the past 20 years and described in this book (see 'Resources and references').

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

5

The activities that create most barriers for pupils with DCD are ones that demand levels of coordination and motor competence which they are not currently achieving. For example:

- A pupil may be perfectly capable of dealing with tasks when sitting at a table and not under time constraints, eg when a drawing a picture for pleasure at home one evening. However, if the same pupil is asked to copy from the board in the last few minutes before a break and tidy their desk at the same time, their performance in writing may suffer, or items may get knocked to the floor and generally things start to go awry. In this case, it could be that the pupil has difficulty in organising and planning the activities, that the time pressure was too great, or a combination of the two.

- In lessons the issues will range from untidy and slow handwriting to difficulties in forming letters at all.

- Some pupils may show a lack of motor competence although they are quite competent in other areas, while for others their poor motor ability is part of an overall picture of delayed development.

- Some pupils may find it hard to plan how to carry out tasks in advance. When tasks go wrong for these 'poor planners' they may find themselves trying to correct the early parts of their movements while in the process of completing a task. This leads to confusion and they often forget what to do next.

- Some pupils do not have the same level of control in fine and gross motor tasks. A pupil may have good 'fine' or precise hand movements, but their 'gross' or large motor skills – such as trying to catch or kick a ball, or hop or jump – are awkward. Other pupils have good gross motor skills but lack dexterity in fine hand movements.

Whatever characteristics the pupil displays, and whatever term is given to their impairment, the end result can be the same – frustration and a feeling of failure. With some pupils, this frustration can lead to behavioural difficulties.

It is often thought that pupils with DCD 'grow out of it'. While some do find their own ways of overcoming barriers, for the majority of pupils targeted intervention is essential. Research suggests that the future course of a pupil with coordination difficulties at, say, age six, depends on a range of factors, but that they can be helped. A number of studies show different forms of intervention to be effective. These range from specialist interventions delivered by professionals (eg occupational therapists and physiotherapists), to those delivered by teachers and parents, supported by specialists. If pupils with DCD are not helped, it becomes increasingly likely that things will not improve, and that their academic, social and behavioural development will become a concern.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

6

Activity 2

Planning for pupils with DCD in mainstream lessons

Approximate timing: 20 minutes

Read the following principles: they should underlie any approach to supporting pupils with DCD:

- **Involve the pupil in identifying and setting their own goals and monitoring their progress towards them** – Dunford et al show that pupils' own ideas of desirable goals and activities in daily life are often different from those of their teachers and parents. They tend to choose specific functional activities such as riding a bicycle, while parents and teachers choose more generic goals such as improving their coordination. Choosing goals should be a team effort, with pupils having a major say in the choice.

- **Give priority to functional activities that are relevant to daily life, and meaningful to the pupil and their family and friends.** Riding a bicycle is a good example, as are manual activities such as drawing, writing, eating and getting dressed.

- **Teach activities as specific skills but with a view to generalisation** – eg the specific skill of bicycle riding can be broken down into a number of component parts, such as 'scooting' with the pedals off or riding with a support belt or stabilisers. You can help the pupil to generalise the skill by teaching the same activities:
  - in different situations – eg home and school
  - with different individuals, and
  - using cognitive strategies – eg problem-solving activities that encourage them to search for similarities in situations and match the skills needed to the skills they already have.

- **Vary the amount and type of instruction and demonstration, the different types of practice and the nature of the feedback you give, according to where the pupil is in the learning process.** For example, in the early part of the process, instructions should be short and easy to remember. Kicking a stationary ball, followed by walking to kick a ball would precede running to kick the ball. Similarly, a manual skill such as painting might require elbow support at first to help control the movements of the hand. Skills can be modified incrementally as the child achieves greater control, so that they can use the skill in a range of different contexts. In the same way, instructions and feedback progress from simple – often single statements to encourage instant participation – to more complex ones when the pupil becomes more proficient.

- **Find ways to accommodate interventions in the pupil's everyday routines so that there is consistent practice at home and at school.**

- **Involve other people who can contribute, such as parents, teachers and health professionals.** One person should have an overview of the process to coordinate the intervention and to monitor the pupil's progress. In ecological intervention, this person is called the 'movement coach'. In Every Child Matters terminology, this would be the 'lead professional'. The movement coach/lead professional puts the pupil's particular difficulties at the top of their list and will be prepared to argue about priorities, make a plan of action, interpret information from different sources and make it easy for everyone involved to understand. They negotiate and work with the pupil, parents/carers and other professionals to make sure the intervention does not become a burden to the pupil or their family.

Remember that difficulties with movement and performing motor skills relate to the curriculum, the types of tasks that are set and how they are taught. You can modify the teaching and learning so that pupils with movement or motor skill difficulties can take part and learn effectively alongside their peers.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

7

Activity 3

What would you do?

Approximate timing: 25 minutes

25 mins

Read the following case study. Then complete table 1 (on the next page) with your ideas of what you could do to help remove the barriers for Amy.

> Amy, aged nine, is in year 4 and has been identified as having motor difficulties that are adversely affecting her school work.
>
> Her teacher, the special educational needs coordinator (SENCO) and the therapist met Amy and her mother to identify the barriers stopping her taking part and learning as well as her strengths and interests, and to devise a plan of intervention.
>
> The meeting agreed that Amy finds it hard to:
>
> * grip writing and drawing tools
> * use scissors accurately, and
> * trace objects.
>
> She often fumbles when using blocks, beads and puzzle pieces. She has a tendency to bump into furniture. Amy said that she felt unsteady when jumping and playing on playground or gymnastics apparatus.
>
> Amy has little success in ball games. Once other pupils become involved in activities with her, she finds this a further source of confusion, especially if she is expected to adjust her responses to their presence – such as joining in a game of 'tag' or moving to catch a thrown ball and pass it on again.
>
> Amy tends to laugh or giggle a lot to cover up the extent of her difficulties. So far, her inability to master her movements has not affected her determination, and she readily approaches new tasks. In fact, her enthusiasm often makes her impulsive and she has a tendency to begin tasks before the instructions are complete.

Now compare your suggestions with table 1 in **the appendix**, which shows what actually happened. All the actions were agreed with Amy and her mother. It might be helpful to print out this table to compare it with your ideas.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

8

Table 1: Ideas on removing the barriers for Amy	
What are the five most important issues for Amy?	What might you do to help remove barriers to her taking part and learning in school?
1	
2	
3	
4	
5	

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

9

This type of intervention takes time and patience. A pupil like Amy needs to be helped 'little and often'. If the tasks are ones the pupil has to tackle regularly at school, so much the better. It is much easier to learn tasks that have a purpose or have a context.

The teacher helped Amy only during lessons, but after five weeks, Amy had improved her movement skills assessment scores. The teacher reported that she was much less impulsive and more able to concentrate on the task in hand. Amy and her mother both said that she felt more confident about her school work and less worried about joining in physical education (PE) and games.

This case study is an example of a coordinated, school-based management plan. Health professionals such as occupational therapists or physiotherapists have the advantage of specialist knowledge in the field, but they cannot see the pupil very often. Support is effective when all professionals concerned, the pupil and their family collaborate, each offering their respective expertise.

In Amy's case the issues were straightforward and the teacher, Amy and her family could take the appropriate course of action. Other cases are more complex, and for some pupils the barriers they face can lead to low self-esteem, disaffection or behavioural problems. In these cases, these issues have to be dealt with alongside those relating to the movement impairment.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

10

Activity 4

Key approaches to removing barriers for pupils with DCD

Approximate timing: 20 minutes

In this activity, you will learn about a number of key approaches to removing barriers to participation and learning for pupils with DCD.

Gathering evidence

Start by gathering evidence about the nature of the pupil's difficulties and considering the barriers that the learning environment might pose for pupils with DCD. You can then use the key approaches below to modify or adapt the learning environment to remove those barriers.

The pupil

Collect detailed evidence over a period of a week to help build up a picture of:

- the pupil's strengths and weaknesses in movement and motor skills

- how they are affected emotionally, and whether their self-esteem is affected, and

- the strategies that teachers, other professionals, parents/carers and the pupil themselves have tried to overcome these difficulties.

Teachers might use the Movement Assessment Battery for Children (Movement ABC) to gain as much detailed and specific evidence as possible about the pupil's difficulties. The movement ABC includes a checklist and a test to indicate the specific nature of the difficulties. Ideally, the pupil's teacher and their parents/carers will use the checklist to establish the nature of the difficulties, then a professional such as an educational psychologist or a paediatric occupational therapist will use the test to find out more. The information from these tests can then be used to develop a management plan. You should expect to be supported in these assessments by the SENCO or a therapist.

The learning environment

Think about the barriers the learning environment causes for the pupil in relation to:

- movement/motor skills, and

- how they affect the pupil's learning, their interactions with other pupils, their well-being and their behaviour.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

11

Key approaches for adapting the learning environment

The following approaches have been shown to be effective in removing barriers to learning for pupils with DCD:

Practising little and often

15–20 minutes practice every day of a task that presents particular barriers, rather than 30–45 minutes practice once or twice a week makes the work a natural part of the child's everyday routine, particularly if parents/carers work in collaboration with a teacher/other professionals.

Making practice varied

For example, for a pupil whose main area of difficulty is in manipulation skills, a teacher or therapist might suggest a variety of ideas to help develop these skills at home, eg encouraging play and exploration with buttons of different sizes, laces, beads to thread, press studs, zips or Velcro, or pegs to move. Similarly, with ball catching, a teacher can use lots of different types of balls to catch, different throws, varying the distance and the type of throw – high, low, soft or hard, etc. Varying activities is motivating and allows the pupil to build up a large repertoire of skills that they can apply to other situations. This learning should be focused on specific skills with a view to generalising them.

Making activities meaningful and enjoyable

When a pupil is practising a particular skill it is more likely to be successful if it is enjoyable, meaningful and related to everyday activities. For example, this could be achieved through:

- making games out of the practice and, for instance, using cartoon figures rather than commercial worksheets

- setting targets for some friendly self-competition – eg if throwing is involved, throw for targets

- letting pupils choose the activities – eg for a writing exercise, let the pupil develop the story or make their own stencils

- charting the results so pupils can see the progress they are making

- letting pupils choose the level they wish to perform at – it is possible to arrange tasks that allow more than one level of difficulty

- encouraging practice in a way that leads, eventually, to good performance in daily situations, and

- providing a clear structure, so that pupils have the stability they need to take command of the learning situation.

Giving praise

Give plenty of praise and let the pupil know what the praise is for – eg "Well done, Chas, your writing is much better now that you are sitting correctly", rather than just "Well done!".

Using expert 'scaffolding'

Get a more accomplished person such as a parent or teaching assistant to give support to the pupil to make sure they succeed from the start, and gradually withdraw it so the pupil is taking control of their own learning. Support or scaffolding can take many forms – eg:

- the 'supporter' guiding the pupil, for example by their arm

- breaking the task down into smaller parts and then building it back up

- simplifying the whole task and then building up the complexity, and

- adapting rules and gradually adding complexity.

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

12

Knowing and doing

A pupil's impairment can be in 'knowing' what needs to be done rather than in actually doing it, and they can benefit from practice on tasks which allow them to make decisions.

If gross motor activities like running or following at the same time as making decisions confuses them, simple games can help – eg 'footprints', where different coloured 'footprints' made out of carpet or vinyl are placed on the floor and the pupil is asked to move in a sequence, say from 'blue to red to green to blue'. Start with very simple ones the pupil can do, and build up to more complex ones involving memory and fast decisions.

A similar approach can be adopted for tasks that demand more fine motor skills, such as manipulation. A therapist or the SENCO will be able to supply you with a range of appropriate tasks.

Analysing and adapting tasks

When a pupil cannot perform a particular task, two approaches can help:

- Change or adapt the task so that the pupil can take part. For example, if a pupil cannot catch a ball thrown towards them, use a bigger ball or one that has more 'feel' to it and moves more slowly, like a sponge ball, or a bean bag.

- Analyse and break the task down. For example, break down the skill of catching into smaller parts: start by rolling the ball to the pupil so that they only have to intercept it, not catch it; stand very close to them and throw it straight into their arms; stand further back and bounce the ball so the top of the bounce is at the right place for the pupil to catch it; then move on to a normal throw and keep varying the distance away from the pupil. By varying the type of ball used, and asking for different types of catches, the pupil can be appropriately challenged and at the same time helped to progress through the process of learning the skill.

Nearly all tasks can be analysed or adapted. For example, when teaching writing we can:

- adapt the writing implement, the lines on the paper and the slope of the table to make it easier for the pupil, or

- analyse and break down the task by concentrating on different processes at different times – eg the pupil's posture, the angle of the paper, pencil grip, letter formation, size and slope.

As an example, the STEP process shows ways of modifying activities in PE lessons to include pupils with DCD. (It also supports pupils with other SEN and/or disabilities.)

The STEP process

The STEP process is well established for improving access for pupils with SEN and/or disabilities in PE. It offers ways to modify a wide range of physical activities to make them easier or harder as required.

STEP stands for		How can I change...?
S	Space	Where the activity is happening?
T	Task	What is happening?
E	Equipment	What is being used?
P	People	Who is involved?

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

13

By changing the space, task, equipment or people involved in an activity, it can be made easier for the pupil to understand or do, or harder, to challenge them and extend their skills.

Space	How can we change the size/height/location/length/distance?
Where?	• Shorter distances or areas may make the activity easier • Using a zoned playing area can create safe playing areas or areas where pupils can be matched on ability • Nearer targets make games easier • More space in ball games may give more reaction time • Throwing activities, such as foam javelin practice, can be carried out in front of walls, making it easier to collect items • Floor-based activities have different requirements from those played on a level surface, and from seated or ambulant activities • Pupils can start at different times or from different places – eg varying space in striking games to challenge more able pupils

Task	How can we change the way we take part/complexity/role/rules/speed/progressions?
What?	• Simplify the activity by changing an aspect of it – eg long jump to standing jump • Make the activity harder – eg long jump to triple jump • Allocate specific roles – eg timer, measurer • Change rules to increase inclusion – eg allow different starting places or rules to ensure everyone is involved • Be flexible • Vary the speed of the activity – eg everyone walks • Vary the speed of the ball – eg slow underarm delivery • Try different forms of involvement – eg seated, standing, lying down • Use different targets for some pupils • More able pupils use their non-dominant hand • Everyone closes their eyes in balance activities

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

14

Equipment	What is being used?
Can be varied by type:	balls, mats, flags, scarves, feet, cones, bean bags, floats, hurdles, plastic markers, ropes, canes, soft equipment, bats, racquets, etc
These can vary in:	size, shape, colour, texture, weight, environment, play surface, indoor/outdoor, length of handle, etc

A change of equipment can change the activity in a variety of ways:

- lighter balls travel more slowly in the air and give more reaction time

- larger balls are easier to see and catch

- softer/slightly deflated balls are easier to catch

- noise (ie jingle trainer) gives audio as well as visual stimulus

- different coloured balls are easier to distinguish from the background colour

People	How can we change the groupings/interaction/way the pupils play together?
Who with?	• Independently, in groups, in pairs, in teams, with friends • Change groupings between activities, and monitor groupings to make sure they vary (especially when involving a learning support assistant) • In their own space: big or small • Restricted space or open space • Different mediums – eg on poolside or in water • Different or the same roles • Different or the same ability • Mixed ability • Using a zoned playing area to create safe playing areas or areas where pupils can be matched on ability • Using a buddy system where one pupil helps to facilitate an activity for another – eg as a guide for a visually impaired runner)

You can find a fuller discussion of the STEP approach and how to use it in the TDA programme subject booklets, **Including Pupils with SEN and/or Disabilities in Primary Physical Education** and **Including Pupils with SEN and/or Disabilities in Secondary Physical Education: www.tda.gov.uk**

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

15

Activity 5

Points for action

Approximate timing: 15 minutes

15 mins

Spend a few minutes reflecting on this self-study task and record key points for action below.

What do I want to do next to develop my practice?

_____

_____

_____

_____

How will I do this?

_____

_____

_____

_____

What is my timescale for this to happen?

_____

_____

_____

_____

How will I know if I have been successful?

_____

_____

_____

_____

Do I need to involve anyone else in enabling this to happen?

_____

_____

_____

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

16

Resources and references

Dornan, G, 2007, Writing Left-handed: …Write in, not left out, National Handwriting Association – available to buy from: **www.nha-handwriting.org.uk/publish.htm**

Dunford, C, Missiuna, C, Street, E and Sibert, J, Children's Perceptions of the Impact of Developmental Coordination Disorder on Activities of Daily Living, The British Journal of Occupational Therapy, 68(5), 2005, pages 207–214

Henderson, S E and Sugden, D A, 2007, Movement Assessment Battery for Children – Second edition, Pearson, London

Kirby, A and Drew, S, 2003, Guide to Dyspraxia and Developmental Coordination Disorders, David Fulton Publishers, London

Macintyre, C, 2000, Dyspraxia in the Early Years, David Fulton Publishers, London

Macintyre, C, 2001, Dyspraxia 5–11, David Fulton Publishers, London

Sugden, D, Current Approaches to Intervention in Children with Developmental Coordination Disorder, Developmental Medicine and Child Neurology, 49(6), 2007, pages 467–471

Sugden, D A and Henderson, S E, 2007, Ecological Intervention for Children with Movement Difficulties, Harcourt Brace, London

Websites

CanChild Centre for Childhood Disability Research, McMaster University, Canada – CanChild conducts research on child health issues that will make a difference for children and young people with physical, developmental and communication needs, and their families: **www.canchild.ca**

Dyscovery Centre, University of Wales, Newport – the interdisciplinary team at the centre help people with living and learning difficulties, including DCD, providing assessments and tailor-made services: **http://dyscovery.newport.ac.uk/dyscovery/index.aspx**

National Handwriting Association – a charity raising awareness of the importance of handwriting to literacy, and offering support for people working with children with handwriting difficulties: **www.nha-handwriting.org.uk**

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

17

Appendix

Suggested answers and solutions

Table 1: Removing the barriers for Amy	
What are the five most important issues for Amy?	**What the teacher did**
1 To try not to be too impulsive	The teacher simplified every task to the 'bare bones'. Before Amy was allowed to start any task she had to say to the teacher or a 'buddy' what she intended to do and what for. The teacher monitored this carefully.
2 Her approach to handwriting	She observed Amy's technique for gripping writing tools and manipulating objects, and her posture when sitting at a desk. Amy had a poor sitting posture and tended to slump over the desk with her head held at an odd angle. Teaching her a better posture had a dramatic effect on Amy's handwriting and her manipulation of scissors and other objects.
3 Her participation in PE and games	Amy's teacher broke down tasks into very simple components. She also played games with her and her classmates which required Amy to control her movements by slowing them down or stopping them on command.
4 Feeling unsteady on her feet	It was decided to work on jumping, hopping, balancing and skipping first, because these movements underpin many complex tasks – eg good balance and the ability to transfer weight from one foot to the other are basic requirements for throwing and catching balls. The teacher showed Amy how to use her arms in balance and how bending and extending her legs through the knees help in jumping and landing. The teacher, Amy and Amy's mother agreed on some enjoyable ways for her to practise at home in a non-threatening environment. The teacher played games with the class like 'What's the time, Mr Wolf?' but instead of running, the children had to hop, skip or jump away from the hungry wolf. As Amy's balance began to improve, the teacher partnered her for PE with a 'buddy' with good control and motor skills, who could act as a role model. Once Amy had mastered the basics, the teacher moved her on to more complex tasks.
5 Evaluating her own success and reinforcing her improvements in performance	As Amy took on more instructions, completed her work in a shorter time and succeeded in more complex tasks, the teacher started to organise tasks that allowed her to evaluate her own successes, to reinforce what she needed to do to improve her performance. For example, the teacher would tell Amy to throw a ball through a hoop and ask her to say if she needed to throw it harder, softer, higher or lower the next time – making it a problem-solving activity. Previously, Amy's impulsiveness did not allow her to reflect on what she had attempted to do, so she had little idea of what to do when things started to go wrong.

Back to activity 3, page 8

Self-study task 15
Developmental coordination disorder/dyspraxia
Physical and sensory impairment

18