

# DEVELOPING YOUR KNOWLEDGE FOR TEACHING

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## INTRODUCTION

In order to qualify as a teacher, you need to meet the required Standards (Department for Education and Employment/Teacher Training Agency (DfEE/TTA, 2004). However, the Standards focus on outcomes and therefore are only a partial representation of teaching. Although much of the knowledge that teachers need for effective teaching is implicit in the Standards they can be interpreted as narrow, therefore in this chapter we focus on a wider, holistic view of teaching and on aspects of the wider knowledge base needed to be an effective teacher.

After you have worked through this chapter you should be able to:

- understand the range of knowledge you need to be an effective teacher;
- recognise the influence of content knowledge on your teaching;
- reflect on how your values and beliefs about physical education influence your teaching and pupils' learning (this extends the input in Chapter 1 of the book).

Before reading on, complete the first column of **Activity 1**.

## THE RANGE OF KNOWLEDGE NEEDED FOR EFFECTIVE TEACHING

One way in which 'knowledge for teaching' has been classified is by Shulman (1986, 1987), who identified seven knowledge bases needed for effective teaching. These are the basis for this chapter.

*Content (or subject matter) knowledge:* knowledge of the content or subject matter, including, for example, the skills, techniques, rules and strategies for each activity/area of activity, as well as the generic aspects of learning in PE, in which the activity is the vehicle for developing pupils' knowledge and understanding and applying it to different contexts. For example, knowledge of 'transfer of weight' is used when teaching activities such as jumping in gymnastics, forehand in tennis, javelin throwing, etc.

**Curriculum knowledge:** for example, the National Curriculum and its materials and programmes on which your teaching is based.

**General pedagogical knowledge:** the broad, general principles and strategies of classroom organisation and management that apply to any subject.

**Pedagogical content knowledge:** the blend of content and pedagogy specific to teaching physical education. This includes knowledge, understanding and beliefs about: the purposes of teaching physical education at different age levels; pupils' understanding, conceptions and misconceptions of subject matter; horizontal and vertical curricula for the subject and curriculum material available; teaching approaches, ways to organise, represent and adapt particular content for the diverse abilities, interests and needs of pupils (see also Grossman, 1980).

**Knowledge of learners and their characteristics:** This is comprised of two different elements: *empirical* or *social knowledge* of learners, i.e. knowing what children of a particular age range are like, how they behave in classrooms and school, their social nature, their interests, how factors such as weather or exciting events can affect their work and behaviour and the nature of the pupil-teacher relationship; *cognitive knowledge* of learners, i.e. both general knowledge about child development and specific knowledge about a particular group of pupils, e.g. what kind of knowledge these specific pupils do or do not have and understand. The first informs practice generally, the second develops over time as you teach a specific class.

**Knowledge of educational contexts:** The contexts in which teaching and learning take place, which make a significant impact on both teachers and pupils. For example, cultures, communities and the catchment area from which the pupils come, the type and size of school, class size, the amount of support for teachers, the quality of relationships in the school, the expectations and attitudes of the headteacher and how group, classroom and school organisation and governance work.

**Knowledge of educational ends, purposes, values and philosophical and historical influences:** Generally implicit knowledge which underpins and influences classroom

activity, for example, whether education is viewed as being intrinsically valuable or as an extrinsic, more utilitarian activity, the purpose of which is to prepare pupils for employment; whether the major purpose of physical education is viewed as producing high-level performers or as encouraging life-long participation in physical activity by all pupils (see also chapters 1 and 2).

Now complete **Activity 2**.

Although each of these knowledge bases is important in itself, it cannot and does not develop in isolation. Rather, each knowledge base is dependent on the others (see table 1 for an example of how different knowledge bases contribute), and a teacher needs to develop all of these knowledge bases to enable effective teaching and learning to occur; likewise, different teaching activities are informed by several knowledge bases. The interaction between these knowledge bases is complex.

**Table 1:** An example of how knowledge bases interact

<b>Knowledge Base</b>	<b>Applied to teaching a year 7 gymnastics class</b>
<i>Content (or subject matter) knowledge</i>	Knowledge of the mechanics of movement – angular momentum, centre of gravity, etc
<i>Curriculum knowledge</i>	Knowledge of the four strands of attainment and how teaching takes place through these strands
<i>General pedagogical knowledge</i>	Knowledge of how to organise pupils and equipment safely and efficiently
<i>Pedagogical content knowledge</i>	Knowledge of how to progressively develop movements to cater for a range of abilities – using a variety of teaching and learning strategies to develop progressively longer phrases of movement, for example
<i>Knowledge of learners and their characteristics</i>	Knowledge of the place of gymnastics within the culture and traditions of the school, the wider community and the key stage 2 experience of a particular group of pupils
<i>Knowledge of educational contexts</i>	Knowledge of expectations of pupils in relation to, for example, kit, behaviour
<i>Knowledge of educational ends, purposes, values and philosophical and historical influences</i>	Knowledge of the value placed on gymnastics within the school and the PE Curriculum. For example, whether the development of body management in gymnastics is viewed as an end in itself or as a vehicle for wider learning

Now complete **Activity 3**.

Other authors have identified other knowledge bases that are important. For example, Turner-Bissett (1999) highlighted the importance of knowledge of self in understanding your development of knowledge. It is also an important requisite for reflection (see Chapter 4 ‘The Reflective Practitioner’).

The next section focuses specifically on content knowledge. This is selected as many student teachers are concerned about their content knowledge for teaching. However, it is important that you develop your understanding of each knowledge base. It is also important that you understand the value of all knowledge bases and how they interrelate.

### **THE INFLUENCE OF CONTENT KNOWLEDGE ON YOUR TEACHING**

Her Majesty’s Inspectorate (HMI, 1987) stressed that teaching unfamiliar material is difficult and may lead to restricted teaching practices. Likewise, Graber (1995) stated: ‘When student teachers have limited subject matter [content] knowledge and are unfamiliar with the details of particular activities, they will be unable to make informed choices about how to teach that subject matter.’ You may also lack confidence. If you do not have good content knowledge, you may try to avoid teaching that activity/topic. If you cannot avoid teaching it, you may use sources such as a book or video to gain enough knowledge to teach the activity.

However, you are likely to focus on the skills/techniques of the activity without understanding the concepts and organising principles; therefore you may focus on specific skills, but be unable to explain/use practices that enable pupils to know when to use the skill or adapt the skill to suit a particular situation. For example, you might teach a range of strokes in cricket, but be unable to explain when pupils should use each one. Likewise, you may be unable to develop the activity either within one unit of work or over a scheme of work. Further, if you have limited content knowledge you are more likely to use a directed teaching approach, command or practice style (Mosston and Ashworth, 2002), rather than a more open-ended style, which may lead you into unknown territory. This may result in you focusing on a limited aspect of the ‘acquiring and developing skills’ strand, with less focus on the other three strands in the National Curriculum for Physical Education (NCPE).

On the other hand, if you have good content knowledge, you can guide pupils to an understanding of why a skill is used, enabling them to select and apply a skill in different contexts rather than repeating what they are being taught. To achieve this you are likely to

use less direct teaching approaches. You are thus also able to focus on developing the other three strands in the NCPE – selecting and applying skills, tactics and compositional ideas; evaluating and improving performance; and knowledge and understanding of fitness and health as well as on developing the broader dimensions of pupils' learning (see Chapters 7 and 8).

At the start of your teaching career you cannot be expected to have good content knowledge in all areas of activity; it is likely that you have a good knowledge of some areas or within some areas of activity, e.g. volleyball in games. However, you must take responsibility for acquiring new knowledge, concepts and principles as well as skills. One way to start this is to audit your existing content knowledge. Once you have identified areas for development you need to consider *how* you are going to develop your content knowledge in this area. There are many ways to do this.

However, you also need to consider if you can transfer knowledge from one situation to another. This can be done in relation both to transfer of content knowledge (except specific skills) of a particular game to another game, and transfer of pedagogical content knowledge to the teaching of that game. For example, you can transfer knowledge applicable to teaching rounders to teaching cricket (or to other fielding/striking games) or knowledge applicable to teaching hockey to football (or other invasion games). Likewise, you can transfer an understanding of fundamental gymnastics movement to rhythmic gymnastics.

Now complete **Activity 4**.

## **THE INFLUENCE OF YOUR VALUES AND BELIEFS ON YOUR TEACHING AND PUPILS' LEARNING**

Your experiences of physical education and sport at school and outside school have resulted in good content knowledge in some activities/areas of activity and limited knowledge in others. There are other influences which have also been important in shaping your values and beliefs, which are powerful influences on all aspects of your work as a teacher, e.g., how you think about teaching and about physical education, what you think is the main purpose of physical education (see Chapter 1), what you choose to teach, how you choose to teach it and

what you think pupils should learn, what you learn (or do not learn) as you develop as a teacher.

It is likely that you have ‘absorbed’ these influences implicitly and take them for granted. It is therefore important that you think about and make your values and beliefs explicit, in terms of what has influenced their development and why, so that you can examine them, reflect on and critically evaluate them and their impact on your teaching, and on the learning of the whole range of pupils you teach.

Now complete **Activity 5**.

### **SUMMARY**

Teaching is a complex activity underpinned by a broad knowledge base which includes the Standards you are required to achieve to qualify as a teacher. This chapter has used one classification of the broad knowledge base you need, that of Shulman (1986, 1987). It has looked at content knowledge in more detail, although it is important that you do not focus your learning exclusively around the development of content knowledge. You also need to consider what other knowledge you need to develop to be an effective teacher and to understand and challenge the values and beliefs that underpin your knowledge.



**ACTIVITY 2:** Complete each of the columns on the worksheet you used for activity 1.

Column 1 – is there add any additional knowledge you now identify as necessary for effective teaching?

Column 2 – to what knowledge base does each item belong?

Columns 3/4 – is your knowledge well developed or does it need further development?

Column 5 – how you will develop that knowledge which needs further development?

### ACTIVITY 3: DRAWING ON A RANGE OF KNOWLEDGE BASES TO INFORM YOUR TEACHING

For each of the scenarios below:

In column 2 list the relevant factors to consider and information needed to address the scenario;

In column 3 identify the knowledge base(s) from which this knowledge is drawn.

COMPLETED: AT BEGINNING / IN MIDDLE / AT END OF ITE (delete as appropriate)

Scenario	Relevant factors to consider/information needed – draw on relevant aspects from this and other chapters in the book	Knowledge base(s) from which knowledge is drawn
You are asked to teach a unit of work focusing on gymnastics. Plan the unit and the first lesson.	The unit of work First lesson	
You are teaching a class in which some pupils are underachieving. What factors do you need to consider and what information do you need to help you to understand why they are underachieving and then to adapt your teaching so that all pupils are achieving?	Reasons why pupils are underachieving  Adapting teaching so that all pupils are achieving	
You are asked to convince the school senior management to increase the curriculum time available for physical education. In stressing the importance of physical education, you need to explain its importance and the essential features of the National Curriculum for Physical Education. You should also explain how physical education contributes to the broader dimensions of pupils' learning.	The school and the senior management team  The physical education curriculum (including the NCPE)  Other considerations	
Write other scenarios – these may be from your own or others experience.		

#### ACTIVITY 4: AN AUDIT OF YOUR CURRENT CONTENT KNOWLEDGE

Complete the table below, adding additional sheets as necessary.

COMPLETED: AT BEGINNING / IN MIDDLE / AT END OF ITE (delete as appropriate)

In each area of activity identify specific activities	Current knowledge and understanding of the area of activity – e.g. good, needs development, non-existent	Confidence in teaching the activity – high, average, low	How you are going to develop this further?
<b>Athletic activities</b>			
<i>e.g. shot putt</i>	<i>Needs development</i>	<i>low</i>	<i>Observe other teachers, video, practicing with someone who knows about shot putt</i>
<b>Dance activities</b>			
<b>Games activities</b>			
<b>Gymnastic activities</b>			
<b>Outdoor and Adventurous activities</b>			
<b>Swimming activities</b>			

Other activities within any of the areas of activity (see above)			

**ACTIVITY 5: YOUR BELIEFS ABOUT PHYSICAL EDUCATION AND THEIR IMPACT ON YOUR TEACHING AND PUPILS' LEARNING**

COMPLETED: AT BEGINNING / IN MIDDLE / AT END OF ITE (delete as appropriate)

What and/or who has been important in your physical education and sport experiences to date? Why?	
How have they influenced your views about the content of physical education and how to teach that content?	
How would you justify the place of physical education in the school curriculum?	
What is/are the aim(s) of physical education? If more than one aim, which is most important for you? Why? How does this influence your choice of content and teaching approaches?	
What are the unique experiences which physical education can provide?	
What, to you, is the relative importance of each of the four strands of the NCPE? What is their importance compared to the activities?	
Do you focus your teaching around the four strands or the activities? Why?	
What areas of activity are	

important to teach to achieve the aims of physical education? Why are these areas of activity important?	
How does physical education contribute to the broader aspects of pupils' learning?	
How do you think your beliefs impact upon your teaching (e.g. your choice of content and teaching approaches) and therefore pupils' learning? How do you know?	
What do you need to change/develop? How are you going to do this?	

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