Chapter 3  How students develop as learners

Graham Gibbs

Overview

Seeing students develop and mature, as individuals and academically, is one of the most satisfying aspects of the job.

It is interesting the way the third years know what it is all about in a way that first years seem not to. When you set them assignments, they understand what the purpose is and most of them do something very sensible. In the first year, half of the problem is that students seem to miss the point, even if they are trying hard.

It worries me how incompetent some of the students are when they graduate. They can be so disorganised. I think we ought to set them bigger, more complex and more open-ended things to do, which they have to sort out for themselves, so as to prepare them better for the unpredictable things they will face afterwards.

We run a project which brings first, second and fourth years together in teams. It amazes the first years what the fourth years can do – how quick and confident and articulate they are and, after their year out in industry, how pragmatic they are, compared with how they see themselves at the start. They learn such a lot from seeing more experienced students in action – they get a picture of where they are heading.

As students progress through their courses we assume that they learn more and understand more of the content they engage with. But it is not only what students have learned within their subjects that changes over time. Chapter 2 explored a range of differences between students, and showed how many student characteristics are not fixed but change over time. For example, students’ orientations to learning, described in Extract 2.4, change over time as students’ interests and concerns develop. Students also develop in their understanding of what learning itself consists of – what Rogers (1969) called ‘learning to learn’ (see Chapter 1, Extract 1.4). And they come to understand more about the nature of the content they are learning – about knowledge itself. They start to recognise, for example, that there are few right answers and that knowledge is provisional. More pragmatically, they develop study skills that enable them to cope with academic tasks more effectively and they develop ‘transferable skills’ that will be useful to them outside academic contexts. These changes, happening alongside developments in their subject knowledge, have important implications for how students learn and how they might best be taught. Such changes can be fostered by university-based teachers, and further developed in situations where the learning is located in practice (for example, nurse-tutors and practice-supervisors).

Students sometimes seem disoriented as they start their studies. They may not understand what they are supposed to be doing with the learning tasks or the knowledge with which they are grappling. They may do inappropriate things such as reproducing the content of a book or lecture, writing totally descriptive and uncritical essays, presenting alternative analyses without selecting between them or confusing opinions with arguments. Over time, some students – though not all – develop in their understanding of learning and of knowledge until they more closely resemble us in the way they approach academic activities and make meanings. It has been argued that
this development takes place in fairly predictable stages. So how does it take
place? What are the implications of students’ developmental stages for us as
teachers? Sections 3.1 and 3.2 consider the development of students’ under-
standing of learning and of knowledge respectively. Section 3.2 also contrasts
a developmental model based on studies of male students with one based on
a study of women, and the differences between these models provide a
warning not to generalise too widely about patterns of development.

Students usually get better at studying as they progress through their
courses, though perhaps not as much or as quickly as we would like. They
get more out of their reading and use their time more productively. As they
get better at studying, we are able to set them more challenging study tasks,
with less supervision, and can expect better learning outcomes. But what
exactly changes? What do study skills consist of and how do students get
better at studying? Section 3.3 considers the nature of the development of
skills and what helps and does not help such development.

The most important outcomes of higher education are often the ‘transferable
skills’ that students learn and which will make them employable and
competent in their jobs. The emphasis placed by institutions and by
students themselves on the development of such abilities has increased
enormously in recent years. But what do these skills really consist of? Do
dsks developed in higher education transfer into the world of work? And
what can teachers do to support the development of such skills? Section 3.4
explores the nature of transferable skills and their development.

Students develop in many other ways during their higher education –
personally, socially, politically and sometimes spiritually. This chapter
focuses on those developments most closely associated with their studying.

3.1 How do students develop in their understanding of learning?

In Chapter 2, Section 2.2, a record of the reading of two students is
analysed and a series of possible explanations of the differences between
these students is explored. One possible explanation was that the students
differed in terms of what they understood learning itself to consist of. Over
time, students develop a more sophisticated understanding of learning,
and this enables them to go about learning in more sophisticated and
discriminating ways. Learning how to learn was considered by Carl Rogers
to be the most important outcome of education, and this section explores
what such development consists of.

When Ference Marton and Roger Saljö were identifying the approaches
students took to their studying, they noticed that the people they were
interviewing used the word ‘learning’ to mean different things. They
started asking students ‘When you use the word ‘learning’, what do you
mean?’ and analysed the range of different answers they gave. They
distinguished five categories of answer, each characterising a distinct
conception of learning (Saljö, 1979). This analysis has since been developed
further. Extract 3.1 describes six categories of answer identified in
longitudinal studies that followed the same students over a number of
years, asking the same interview questions each time. It seems apparent
that students develop over time in their conception of learning and that
this has significant implications for how they learn. This development is
not always straightforward and it is certainly not inevitable or quick. There
may be temporary periods of delay and even reversion to earlier, cruder
ways of seeing things. Adults go through the same sequence as younger
students. But the general direction and sequence of change seem clear.
EXTRACT 3.1
DIFFERENT VIEWS OF LEARNING

Elizabeth Beaty, Gloria Dall’Alba and Ference Marton
Figure 3.1 plots the development of the conceptions of learning held by three students over a period of five years of studying at the Open University. Notice that Student 1 only develops as far as conception E. In contrast, Student 3, although starting with conception A, develops rapidly to conception E in one year, and to conception F after four years. Student 2 develops fairly evenly over the five years from conception B to conception F.

![Graph showing the development of conceptions of learning over five years for three students.]

Figure 3.1 Three students’ conceptions of learning over a period of five years (based on Beaty et al., 1997, p. 155)

The conception of learning students hold is closely related to the approach they take. In fact, it is rare for students who have conceptions A or B in Saljö’s scheme ever to take a deep approach. This is seen in Table 3.1, from a study in Holland in which students’ approach to a specific study task was related to their conception of learning. All students with conception A took a surface approach to the study task the researchers set, while almost no students with conceptions D or E took a surface approach. As the approach students take is closely related to the quality of what they learn this is quite a striking finding – students’ conceptions of learning are clearly very important.

Table 3.1 Relation between conceptions of learning and approaches (based on Van Rossum and Schenk, 1984)

<table>
<thead>
<tr>
<th>Conception of learning</th>
<th>Percentage of students with this conception taking a deep approach to learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Increasing one's knowledge</td>
<td>0%</td>
</tr>
<tr>
<td>B Memorisation</td>
<td>17%</td>
</tr>
<tr>
<td>C Application</td>
<td>47%</td>
</tr>
<tr>
<td>D Understanding</td>
<td>92%</td>
</tr>
<tr>
<td>E Understanding reality</td>
<td>93%</td>
</tr>
</tbody>
</table>
It is interesting to speculate where students' conceptions of learning come from. One likely candidate is the model of education implicit in the way they are taught and assessed. If their teachers present themselves as knowing a lot more than the student, and present the job of the student as that of acquiring as much of the teachers' knowledge as possible, then the student may understand learning to consist of simply increasing one's knowledge. Research by Trigwell, Prosser and Taylor (1994) describes the development over time of teachers' conceptions of teaching, based on interviews with teachers: it seems that teachers' conceptions closely parallel the students' conceptions of learning described above.

**Reflection 3.1**

From what you know of your own students, the way they go about their study tasks and the kinds of questions they ask, what conceptions of learning do you think they tend to hold?

How might you actually learn more about your students' conceptions of learning? What effect do you think these ideas about learning might have on how they revise for examinations, read course materials, and so on?

Consider, too, your own ideas and assumptions about learning – how might these be influencing the learning approaches of your students?

**3.2 How do students develop in their understanding of knowledge?**

One aspect of students' development that teachers at higher education level are often very keen to foster is that of 'independence of mind' – moving students on from a position of dependence on authority to one of independent personal commitment to a particular viewpoint. For some academics, this would be seen as the most important outcome of higher education. This development does not come about easily or quickly. Intellectual development of this kind has been studied in a variety of ways but probably the most influential work is that of Perry.

William Perry encountered thousands of students with study difficulties of various kinds in his life-long work in the Bureau of Study Counsel at Harvard University. He came to recognise that some of the differences between students he observed, and some of the difficulties they faced in their studying, could be understood in terms of the way these students experienced knowledge itself. This is not a purely philosophical concern but has profound implications for the way students go about their studying. In Extract 3.2, Perry describes students sitting in the same lecture, but doing entirely different things with the content of the lecture, as a consequence of their widely different conceptions of knowledge.

The 'scheme of intellectual and ethical development' outlined in this extract has been employed on both sides of the Atlantic in helping to understand the challenges students face as they abandon reliance on authority and try to orient themselves in a relativistic world.
EXTRACT 3.2
FORMS OF INTELLECTUAL AND ETHICAL DEVELOPMENT

William G. Perry
Activity 3.1 Implications of Perry’s model for your students

In the table below we have collapsed Perry’s nine ‘positions’ in intellectual development into three stages: absolutism, relativism and commitment. For each stage, what are the practical implications for the way these students will tackle the study tasks you set them? For example, a student at the ‘Relativism’ stage may not draw conclusions in an essay or report they write for you, but may consider all viewpoints expressed to be equally valid.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Implications for the way these students tackle the study tasks you set them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutism</td>
<td></td>
</tr>
<tr>
<td>(Perry positions 1 to 3)</td>
<td></td>
</tr>
<tr>
<td>Relativism</td>
<td></td>
</tr>
<tr>
<td>(Perry positions 4 to 5)</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td></td>
</tr>
<tr>
<td>(Perry positions 6 to 9)</td>
<td></td>
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</tbody>
</table>

If any of my students were at the ‘Absolutism’ stage then I might expect them to have difficulty making sense of experimental findings which could have alternative interpretations, because they would expect there to be a ‘right’ interpretation, probably based on a known and ‘correct’ theory. Those at the ‘Relativism’ stage might be comfortable with the notion of alternative, competing interpretations of the findings, but unwilling to commit themselves to arguing which one was best in the context of that specific experiment.

Perry’s work is based largely on interviews with male students and has been criticised for this. Belenky et al. (1986) studied the experience of women in relation to knowledge and authority and described women’s ‘ways of knowing’. While the Perry and Belenky schemes describe development over time, from dependence on authority to a personal construction of knowledge and commitment to ideas, there are also significant differences in the ways these developments are described. Their differences are outlined in the extract below, drawn from a manual for new teachers at an American university where issues of gender and culture are prominent.
Such analyses of differences between the way male and female students develop in their understanding of knowledge, and how they engage with knowledge, are not without their critics. As with all debates about possible gender differences, this debate is fierce and largely unresolved. There are also parallel research studies and debates concerned with cultural differences in the ways students understand the nature of knowledge. The most important implication for teachers is to be aware of the possibility of such variations in development and of the ways in which your own teaching might be interpreted or misinterpreted by students who may not have the approach to knowledge and discourse that you might expect.

**Activity 3.2**

Here you are asked to make the same kind of analysis as in Activity 3.1, but using Belenky et al.'s four stages to think about your students. Consider also whether the gender distinction does apply in your context.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Implications for the way these students tackle the study tasks you set them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received knowing</td>
<td></td>
</tr>
<tr>
<td>Subjective knowing</td>
<td></td>
</tr>
<tr>
<td>Procedural knowing</td>
<td></td>
</tr>
<tr>
<td>Constructed knowing</td>
<td></td>
</tr>
</tbody>
</table>

If you find it difficult to judge what stage your students are at, you may find indications in their written work or in the way they contribute to discussion in class. (You may need to come back to this activity after your students have submitted their next assignment. Or you could listen to what your students say in discussion as if you were Belenky: tune in to what your students' words and interactions within the group suggest about their understanding of the nature of knowledge and the extent to which they are expressing a voice of their own.)

Intellectual development of the kind described here cannot be achieved by direct instruction – it can only be dared. Students need to experience alternative explanations, to have the opportunity to try out alternative explanations, to be supported in and rewarded for such exploration and to be repeatedly placed in situations where there are clearly no right answers. The kinds of emotional issues discussed by Rogers (1969) (see Chapter 1) apply particularly to intellectual development, as abandoning certainty and the security of authority can be anxiety provoking. External
threats, such as the need to ‘get things right’ in an exam, may limit exploration and constrain development. Perry in Extract 3.2 above, points to three characteristic ways in which students themselves may pause or evade the next stage of development in their relationship with knowledge.

3.3 How do students develop in terms of how they study?

What are study skills?

The term ‘study skills’ is used to cover a range of different skills, habits and techniques associated with studying. It is important to distinguish between them because each has a rather different implication for what teachers can do to help students to develop their study skills.

Basic skills

Basic skills, such as being able to write a grammatical sentence and calculate a percentage, are often seen as a prerequisite for higher level skills. Students who cannot express simple ideas clearly in writing may have difficulty expressing their understanding of complex ideas. Students who cannot read a table of data will be blocked from learning how to interpret what the data means or how to explain it to others. In the USA, the development of basic skills is a major focus in the first year in those institutions with relatively open entry. In the UK, entry into higher education used to be so selective that it did not have to address this issue. Today, when widening participation and open access are drivers in UK higher education, we must question our expectations and assumptions about student abilities and prior experience.

Acquiring basic skills often involves learning rules through practice followed quickly by feedback. Without such feedback, this kind of learning is impossible. When the use of basic skills is embedded in larger assignments, such as laboratory report writing, there may be little explanation of the rules and little scope to gain the practice with the necessary feedback. For example, it is difficult when marking to stop and explain rules of spelling and to correct every mistake with reference to rules.

Implication for teachers: basic skills sometimes need to be unpacked and addressed separately, with practice and detailed feedback, and then put back together in the context of larger more complex tasks.

Communication skills

Communication skills are evident in seminar presentations, laboratory reports, examination answers and answers to questions in class. While there are technical aspects of communication skills, the most important component is feedback from the person you are communicating with, about whether the communication was effective. There is no substitute for this. However, feedback on seminar presentations or report writing tends to focus on content rather than on the effectiveness of the communication.

Implication for teachers: set communication skills tasks in the context of content which is familiar, or at least not difficult.
Communication skills are also one area of transferable skills considered in Section 3.4. But communication takes particular forms in higher education and students have to learn to cope with these conventions. For example, a strong sense of the audience with whom you are trying to communicate is vital when writing or speaking. However, writing an essay or report for a lecturer, who already knows more than you do about the subject, and who has no need to know what you are writing about, is not a communication task that is easy to make sense of. Such a lack of sense of audience can greatly interfere with students' writing; students often write more fluently when they understand the task. An example of this is examined in Chapter 4, Section 4.2.

Information skills

Information skills include finding information, for example, in the library or on the internet, and handling information, for example, collating and displaying data. Some of these skills – such as using abstracts or doing a literature search – are really procedures. Once students have seen a procedure used, and have used it for themselves as part of a purposeful learning activity, further development may largely involve fine tuning.

*Implication for teachers:* give early demonstrations and then provide practice exercises to increase familiarity.

Study skills

Some study skills have nothing to do with learning at all, but are only about gaining marks. The strategy of balancing examination time between questions, because the first 75% of marks is gained in the first 25% of time spent on a question, is an example of this kind of study skill. 'How to study' books are full of such advice and while they may be important to success they may have no consequences for learning.

*Implication for teachers:* all students should be made aware of these study skills if they are not to be disadvantaged.

There are also study skills that are concerned with learning. Some are focused on the particular kinds of activities involved in institutionalised higher education, such as taking notes in lectures. These skills are needed to cope with the way higher education is conducted. Not since I was an undergraduate have I taken notes the way I did then! However, while students may never again revise as they do for final examinations, the concise summarising that characterises effective revision is a very useful general skill.

Some study skills embody key principles of learning and these, regardless of context, are likely to improve learning outcomes. The use of mind maps, patterned or organic notes is an example of this kind of skill, as it changes what the learner does with information and encourages the manipulation and reconstruction of knowledge. Extract 3.4 explores difficulties associated with attempting to develop such study skills.

Life skills

Students need to be able to organise their time to tackle a range of competing tasks and complete them to meet externally imposed deadlines
while fitting them into the rest of their life. And increasingly they need to be able to work with others, seek support from others and help others. Even though these activities are vital to studying effectively, they are less study skills than life skills. In Chapter 1, we suggested that mature students put in more study hours than their younger colleagues, despite having more competing demands on more complex lives. But they are more used to fitting things in and balancing priorities, which suggests that these skills are often acquired through life experience outside of education.

Meta-learning skills

These are skills involving awareness and control of study strategies. Chapter 1, Section 1.1, includes an extract describing a range of such strategies used by two physics teachers to help their students learn physics concepts. Meta-learning skills enable students to make choices about what study method to adopt in a particular situation, to recognise that a method is not working, and to recognise the demands of study activities. Students with meta-learning skills can ask themselves questions such as: ‘What is this study task about?’ ‘What am I supposed to do?’ ‘What alternatives do I have?’ ‘If I did it like this would I get out of it what I need to?’ They can be flexible and purposeful, in control of their learning instead of being controlled by the tasks they are set and by their study habits.

Implication for teachers: such meta-learning is achieved by discussion or reflection involving analysis of purpose and process, rather than either by focusing on the content of learning or by training in procedural skills.

Do students respond to study skills advice?

‘How to study’ books and well-meaning teachers give students much advice about the kinds of study skills they should adopt. Extract 3.4 explains why this advice often does not have the desired effect when it focuses too narrowly on procedures, rather than on understanding what is going on in studying.
EXTRACT 3.4
HELPING STUDENTS TO UNDERSTAND THEIR OWN STUDY METHODS

Graham Gibbs and Andy Northedge
Study skills exercises have been developed to engage students in exploring, questioning and changing their study skills. These sessions involve students trying out methods and discussing them with other students. The aim of these exercises is not that students leave all using the same, new, method, but that they leave with greater awareness and control over their methods, whatever they are: that is, they leave with better meta-learning skills (Gibbs, 1981). The outcome of such an approach is not the same as when students follow study skills advice:

the outcome of the ... session can often sound like a description of advice which one might have given oneself at the outset. The significant point here, however, is that the students will have reached such a description starting from their own actual approaches, and through discussion based on their own conceptions of the task. They will have been exposed to approaches used by fellow students, which are often of greater apparent validity than those of experts. The whole process is active, and all decisions are based on the judgements and values of the students themselves.

Gibbs and Nortledge, 1979

3.4 How do students' transferable skills develop?

A goal of higher education that has been emphasised increasingly in recent years is that of preparing students to be effective in the world of work. The 1997 Dearing Report made a point of stressing this goal:

There is much evidence of support for the further development of a range of skills during higher education ... we see these as necessary outcomes of all higher education programmes. ... We recommend that institutions of higher education begin immediately to develop, for each programme they offer, a 'programme specification' which ... gives the intended outcomes of the programme in terms of ... key skills: communication, numeracy, the use of information technology and learning how to learn ...

National Committee of Enquiry into Higher Education, 1997 Recommendation 21

The specification of outcomes and debates about graduateness – what graduates know or can do that non-graduates cannot – has focused considerable attention on the development of transferable skills. The vast majority of students of history do not go on to be historians and even the majority of chemistry students do not go on to be chemists. The particular knowledge and understanding that has been developed is not used directly in any subsequent work for the vast majority of graduates. It is assumed, though, that higher education makes graduates more useful as employees, regardless of the particular content of their degree course. What graduates have been assumed to acquire is transferable skills.

At the time when this material was first written (1998 and 1999), ideas of transferable skills were not seen to be unproblematic but the language of skills was seen to be something that aspiring teachers in higher education should be able to use. The following extract provides a more current critique of the graduateness debate which may cast the following discussion in an interesting, almost historical, light.
EXTRACT 3.5
A NEW PERSPECTIVE ON GRADUATE SKILLS

Peter Knight

The language of skills pervades thinking about the relationship between higher education, lifelong learning and employability. Insofar as it draws attention to general achievements that HE can promote, it is a handy language to use. It is surely helpful if the language of skills reminds us that society values graduates who: communicate fluently with a variety of people in a variety of ways for a variety of purposes; can interpret, perhaps manipulate, numbers; work in teams and, sometimes, lead them; and so on. However, the language tends to be more limited than some of its users have acknowledged. Two developments that are further exposing its limitations are a concern for employability and teaching for the transfer of learning.

The concern that HE should enhance student employability is a concern with complex outcomes of learning. For example, higher education is expected to foster: willingness to learn; self-management skills; communication skills; effective learning skills; exploring and creating opportunities; action planning; networking; coping with uncertainty; transfer skills; self-confidence; team-working; managing others; critical analysis; being able to work under pressure; imagination/creativity (Association of Graduate Recruiters, 1995; Harvey et al., 1997; Yorke, 1999). They are all complex outcomes, in the sense that they are 'fuzzy', which is to say that they cannot be captured in neat formulae or simple criteria. Of course, they can be simplified and, in their new, tidied-up forms, called 'skills'. That is all well and good as long as consumers want simplified achievements of the sort implied by the language of skills, a language that seems to reduce subtle social practices to matters of general technique. However, the concern for employability is a concern that new graduates should be able to work in worlds of mess – to work with complexity, as this quotation suggests:

An adequate preparation of people for the market now requires greater subtlety, flexibility, responsiveness and pragmatism ... skilled workers and trained employees may have to ... adopt new ways of doing things and 'knowing' about their work ... It is against this backdrop that capacity-building approaches begin to look desirable ... Unlike earlier approaches to competency-based training, capacity building focuses on the ways that workers need to think and how workers need to be in the world ... workers have to reconceptualize not only their tasks and roles but also themselves.

Garrick and Clegg, 2000, p. 164

This raises the second objection, which is that 'skills' are not as transferable as some imagine. There is a great accumulation of psychological research showing that transfer is not a simple matter and might best be described as a battle and reports of attempts at transfer resemble 'war stories' because '... knowledge doesn't market very easily' (Brown and Duguid, 2000, p. 215). Levine (1998, p.17) reports research in US universities showing that:

... more than half of today's students perform best in a learning situation characterized by "direct, concrete experience, moderate-to-high degrees of structure, and a linear approach to learning. They value the practical and the immediate, and the focus of their perception is primarily on the physical world".

When skills do transfer smoothly there are sharp questions to be asked about their worth. Furthermore, this sort of research suggests that transfer is easiest when 'skills' are simple and when the situation to which they are being transferred is pretty obviously similar to the one in which they have been practised.

Knight (2002) argues that if we want transfer, we need to do something to make it more likely. He says that it is naïve to run a first year module on good academic practices and expect it to have a tonic effect on everything that follows. 'Most investigators nowadays', says De Corte (1996, p.101), 'share the standpoint that in order to achieve cognitive transfer in learners, it is necessary to teach explicitly and intentionally for transfer'. At the heart of this are tasks that stimulate metacognition, tasks that encourage learners to reflect on what they are trying to do, to call to mind experience of working on somewhat similar problems and relevant knowledge, and to monitor themselves
and the strategies they use as they work on the problem. Instruction is necessary, whether through books, on-line tutorials or face-to-face classes, in order to inform learners about the importance of transfer and metacognition. So too are tasks that:

1. ‘... provide a temporary support for learners that allows them to perform at a level just beyond their current ability level’ (De Corte, 1996, p.104), mainly by decomposing complex tasks into manageable steps and by giving prompts and hints so that students can work, when appropriate, in the ZPD.

2. encourage students to frame novel tasks as ones that can be tackled by applying already learned practices, concepts and understanding. In order to foster ‘far transfer’ it is necessary to set problems that promote the habit of searching widely for tools. The ‘near transfer’ tasks that are so widely used may please students-as-commodity-consumers but do little to develop habits of far transfer.

3. get them to reflect on what can be learned and abstracted — on what can be added to their metacognitive awareness — from the tasks they have just completed. In other words, set tasks whose aim is metacognitive enrichment.

The essence of this objection to the language of skills is that it downplays the difficulty of transfer, implying that if you ‘have’ a ‘transferable’ or ‘generic’ skill, then transfer just flows. It doesn’t. This is often wrapped up with some hopeless under-estimates of how long it would take to be in a position to be fluent in, say, interpersonal relations, coping with uncertainty or being creative. Complex achievements like these come, if at all, from ‘slow learning’ (Claxton, 1998), taking weeks, months or years to cook. Being able to deploy these social practices¹ effectively in a variety of academic and other settings (which is what employability is about) is encouraged by complex programmes that provide a range of tasks — long and short, high-stakes and low-stakes, individual and group, practice tasks and novel tasks — engaging students with ‘multiple learning contexts [that] confront the learners with more diverse problem situations’ (Stark et al., 1998, p. 120). And, to repeat a point, learners need to know what it is they are supposed to be learning, which is to say they need to have some metacognitive fluency and, presumably, some confidence that they can use what they are learning to have an effect in novel situations.

In sum:

Fostering complex social practices is far more subtle a job than the language of skills implies.

Fostering these practices needs a sociological theory of learning to complement the dominance of psychological theories.

It needs attention at programme-level and only then at course level.

It disturbs traditional assumptions about the assessment of learning — how, after all, can we assess this sort of complexity?

And, in Goodey's words, we have to ‘... recognise that we cannot influence directly the learner’s cognitive activity ... the best we can do is help set up some organisational forms or structures so that the learner has freedom to reconfigure or customize their learning place’ (Goodey, 2002, p.66).

Discarding the language of skills, once it has served its purpose, shows us that if we want higher education to help students show the achievements that employers, graduate schools and society want, then we need to think about the design of programme learning environments. Ganesan and colleagues (2002) argue that it is a very different task from putting on a few ‘skill-building’ sessions.

Written specifically for this chapter by Peter Knight (2002).

¹ 'Social practices' is preferred to 'skills' because there is a case for saying that its philosophical and psychological foundations are stronger (Knight and Trowler, 2001). In other words, there is a case for doubting that 'skills' exist. Social practices do. There are also advantages in using fresh terminology. For one thing it breaks with the unfortunate assumptions about easy transfer which have been attached to skills through phrases such as 'transferable skills' and 'generic skills'. It also disrupts assumptions that 'skills' can be affordably, reliably and validly assessed. Both sets of assumptions are questionable. Transfer is difficult and complex learning can only be tolerably reliably and validly assessed at considerable cost.
Reflection 3.2 Asking complex questions in your context

Notice, as you read on, how Peter Knight’s text may challenge the definitions and understandings that follow. If you were involved with higher education a few years ago, you may be surprised at the changes that seem to have taken place over such a short time. Treat this as a keen reminder that scholarship is not rooted in a fixed body of knowledge or an unchallenged compliance with policy agendas. One of the challenges of developing as a professional in higher education is to continue to read and update your ideas, and to ask your own questions about what terms such as ‘transferable skills’ mean in your practice. In the following text, readers were originally asked ‘What are these skills considered to consist of, how do they transfer and what can teachers do to support the development of these skills?’ You now have another question to ask: ‘How do these ideas fit with my students and their study and work contexts?’ – a much more complex task.

What are transferable skills?

Well over £60 million has been spent by successive Employment Department initiatives designed to increase the profile of transferable skills in higher education in the UK. There have been parallel projects in many other countries, and many surveys of employers and other research studies about which skills matter most. The ‘Key Skills’ listed in the National Vocational Qualification (NVQ) framework are:

- Communication
- Information technology
- Application of number
- Improving learning performance
- Working with others.

The following list is fairly typical of the way universities understand and analyse transferable skills.

- Communication: writing reports, giving presentations, using media leadership, chairing, teamwork, co-operation
- Personal: independence, autonomy, self-assessment influencing, counselling, listening, interviewing
- Interpersonal: time management, project management
- Organizational: coaching, peer tutoring reading flexibly, note-taking
- Teaching and training: locating sources, interpretation of data problem analysis, creative techniques, decision making
- Learning: oral skills, use of a foreign language
- Information gathering: word processing, databases, spreadsheets
- Language: taking initiatives, costing, business planning
A number of comments are worth making about such lists.

There are other lists that categorise the same skills differently. For example, group work may be categorised as an interpersonal skill. There are no agreed categories or individual skill labels.

Most of these skills could be defined at almost any level of sophistication, and new undergraduates may already possess many of them, though perhaps not in a very sophisticated form.

Different disciplines value different skills to different extents. For example, engineering may emphasise problem-solving, history may emphasise information-gathering and business may emphasise entrepreneurship.

The skills take different forms in different disciplines. For example, written communication varies enormously in its form and function between the humanities and sciences.

Different levels of sophistication of skill are expected in different subjects. For example, the IT skills used in architecture, English and physics are quite different both in nature and level.

The emphasis placed by employers on these skills varies from survey to survey, sometimes depending on who is asked. For example, a new graduate's line manager may want good timekeeping, reliability and the ability to take a brief, while the chief executive may want graduates who are creative, and who can in time transform the organisation. These requirements may be mutually contradictory.

There is a dearth of definitions of levels or standards associated with such skills. While teachers tend to have some sense of what a degree-level final-year project looks like, it is not at all clear what degree-level group skills look like. This does not mean that it would not be possible to develop a consensus over time about what a standard might be. Individual institutions, such as Alverno College in the USA, have developed robust definitions of levels of such skills that support fine-grained assessment (Alverno College Faculty, 1994) and have even developed a digital portfolio to record achievement of these skills (http://www.ddp.alverno.edu/ddpsamp/index.html). However, no such consensus currently exists between institutions.

Some of these transferable skills look rather like the kinds of skills and abilities that conventional higher education has always tried to develop; there is certainly a substantial overlap. How well the skills that higher education develops transfer to work contexts is considered below.

Regardless of these problems, it seems clear that higher education has not prioritised the development of such skills and has often produced graduates who are lacking in some of them. Most courses in most institutions are now expected to develop transferable skills (whatever they are) and some have quite sophisticated curricula designed to support such development and assess the level of skills acquired. As a teacher (or supporter of learning in some professional capacity), you will have a role to play in such development, even if you feel you may lack some of the skills yourself.
Do ‘transferable skills’ transfer?

The assumption built into the term ‘transferable skills’ is that these skills transfer from one situation to another, as from an academic course to subsequent work. However, transfer is neither automatic nor easy, and there are several problems that have practical implications for teachers attempting to develop genuinely transferable skills.

1 The first requirement for transfer from one context to another is that the same skill is required in both contexts. Skill in writing essays may not transfer to skill in writing business reports. Some of the forms that skills take in higher education are very unlike those required outside education. For example, group project activities are assumed to develop transferable team skills. But whereas undergraduate teams usually have a very homogeneous knowledge base, work teams are constructed of people chosen as having different but complementary skills and knowledge. Work teams often contain a leader with a good deal of authority, middle-ranking specialists and low-ranking workers. In contrast, undergraduate teams are democratic and hierarchically flat; they do not have authoritative leaders. It is not at all clear that what undergraduates learn about working in teams will transfer to the kinds of team working they will encounter in employment.

*Implication for teachers:* be aware of the skills components involved in work contexts and try to build these into academic tasks. The team skills required for work might include identifying the knowledge and skills of team members, allocating tasks accordingly, delegation and progress chasing, rather than consensus building or group discussion. In order to come closer to the work situation, teachers might need to create hierarchically structured teams with differentiated roles and tasks, and consisting of students with varied backgrounds.

2 Transfer also depends on similarity between the context in which a skill was learned and the context in which it will be used. What counts as success in a presentation in an academic seminar is not at all what counts in presenting an executive summary of a report to a committee or in a medical or court-room setting. As those whose context for teaching is the workplace will probably recognise that transfer of skills between different contexts is extremely difficult to achieve, the working assumption should be that transfer will not take place, rather than that it will.

*Implication for teachers:* aspects of work contexts need to be imported into the classroom and into assignments. An economics essay on inflation could be replaced by a ‘briefing’ for the Chancellor of the Exchequer on how to answer a parliamentary question. A pre-formed engineering problem on a problem sheet could be replaced by a ‘letter from a potential client’ requesting consultancy support on an ill-defined problem. A seminar could be replaced by a ‘commission of enquiry’ with witnesses called and cross-examined. The same academic content and skills can be involved, but in contexts more like those the students will subsequently encounter.

3 It can be extremely difficult to separate skills and knowledge, and it is often very unhelpful. Consider the skill of ‘interviewing’ as taught and assessed in the legal practice course which law students take in order
to become solicitors. Knowing what questions to ask next in such an interview depends on the legal interpretation of the case and knowledge of what normally happens in cases like this one. The whole interview involves interplay between skill, knowledge and experience.

*Implication for teachers:* do not separate the learning of transferable skills into special skills sessions or exercises devoid of content. Skills acquired completely out of context are very unlikely to be usable. Similarly, knowledge which is acquired but not applied may be difficult to deploy in practical contexts. Traditional medical training beginning with two years of ‘preclinical’ academic study was not very successful at transferring scientific knowledge into clinical practice. It is gradually being replaced by more problem-centred forms of professional training in which knowledge is acquired as it is needed for use.

4 Transferring skills seems to be a skill in itself, involving sensitivity to context and flexibility in adapting approaches to suit the demands of new contexts. A student with a well groomed skill tuned in to a particular context (such as essay writing) may be in a worse position than someone with less polished skills who is used to deploying them in a variety of ways. It may be more useful to be able to explain why a particular context demands a particular approach, to be creative in inventing new ways to tackle unfamiliar contexts and to recognise the common features in new situations which enable elements of past practice to be brought to bear.

*Implication for teachers:* students should be confronted with a wide range of demands and helped to become aware of the choices and adaptations they make in coping with these varied demands.

These issues raise questions about the appropriateness of trying to develop transferable skills in higher education and about appropriate curriculum aims.

**How can teachers support the development of transferable skills?**

Extract 3.6 outlines four key elements of transferable skill development in the context of taught courses: training, demand, monitoring and assessment. The extract emphasises the way students’ time and attention need to be oriented towards skills and process, through changes in the assessment system, for example.
EXTRACT 3.6
HOW CAN SKILLS BE DEVELOPED IN THE CONTEXT OF ACADEMIC COURSES?

Graham Gibbs, Chris Rust, Alan Jenkins
and David Jaques
Activity 3.3

Select a transferable skill that you want your students to develop – perhaps one that is important both to learning on your programme and to what students expect to do as a result of their studies. Describe the way in which the four elements identified in the extract above as being important for the development of transferable skills are evident in your course.

In the grid below, an example has been written in for the skill of working collaboratively with others. It describes a situation in which there is a demand to use the skill but no training, monitoring or assessment. Use a similar grid to describe the development of a skill on your course.

<table>
<thead>
<tr>
<th>Transferable skill</th>
<th>Working collaboratively with others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>None</td>
</tr>
<tr>
<td>Demand</td>
<td>In paired work in labs and in joint laboratory reports</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Feedback on laboratory reports but none on collaborative working</td>
</tr>
<tr>
<td>Assessment</td>
<td>None</td>
</tr>
<tr>
<td>What could you add to your course to develop this skill further?</td>
<td>Brief students about collaborative working at the outset. Ask them to review the way they had worked together on a feedback sheet submitted with their laboratory report. Discuss this briefly in the next lab.</td>
</tr>
</tbody>
</table>

Summary

The ways in which students develop can be the most important outcomes of their time in higher education. Teachers can have a profound effect on this development and also have a responsibility for supporting it. The stage of development that students have attained also has implications for how students can best be taught and how difficulties they experience in their studying can be understood. This chapter has looked at two aspects of how students develop in their understanding of what is going on – their conceptions of learning and their conceptions of knowledge; and two aspects of their development of skill – their study skills and their transferable skills.

If students have an unsophisticated understanding of what they should be doing as learners, and an unsophisticated understanding of what knowledge is, then they are likely to go about their studying in unsophisticated ways. They may misinterpret what you are asking them to do in their assignments and fail to understand your written comments when you recognise and explain this. They may read or take lecture notes in inappropriate ways and be satisfied with very low level educational outcomes, such as being able to reproduce what they are told. This is more than an annoying impediment to efficiency. It might be argued that
understanding the provisional and constructed nature of knowledge is one of the most important things students learn.

In comparison, learning study skills might seem straightforward. However, it is not easy to identify which skills might be useful to individual and unique students in their specific study contexts and even harder to get them to adopt new skills and use them effectively. Skills are seldom learned by following advice, however well intentioned, and many skills, once learned, do not transfer easily from one context to another.

The most important implication of the ideas in this chapter is that students' understanding of what they are supposed to be doing, or their possession of the skills necessary to tackle their study tasks, cannot be taken for granted. You need to explain to your students what it is you are trying to get them to do, and why, and show them how they might best go about doing it. Because your explanations will not be straightforward your students will need to discuss how they understand their study tasks and to develop their own understanding of what they are trying to do. And because development is not easy and what is learned in one context may not transfer to another, you will have to do this repeatedly. This focus on learning process and on gradual development is very different from a focus on content and on immediate progress, but is just as important.

References

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Acknowledgements

Grateful acknowledgement is made to the following for permission to reproduce material in this book.