53 Powerful Ideas All Teachers Should Know About

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Transferable skills rarely transfer

Only a minority of students will use the content of their courses directly in their subsequent working or private lives. Some courses, with titles such as 'Contemporary Issues in X Studies' seem unlikely to have their content ever used again by anyone other than future academics in X Studies. But even in vocational subjects much of the content is of contested subsequent utility – for example the extent of mathematics taught in Engineering courses often exceeds the breadth of mathematics actually used in their everyday work by all but a small minority of engineers. As a consequence, lists of 'Learning Outcomes' that all courses and degree programmes specify usually contain lists of generic outcomes – often termed 'employability skills' or 'transferable skills' – concerning varieties of communication skills, problem solving skills, information skills, and so on. By tackling courses students are expected to acquire 'generic processes' rather than just 'specific content'. The assumption is that these generic processes will then transfer into students subsequent work and lives, and studying 'Contemporary Issues' will therefore have been worthwhile beyond the thrill of the content at the time.

There is a simply enormous volume of research about 'transfer of training' from the context in which it was taught, or acquired practically, to subsequent and different contexts. The most important conclusion of this research is that transfer is very heavily dependent on the similarity of the context in which skills and knowledge are acquired to the context in which they are subsequently expected to be used.

Even quite small differences in context can make transfer difficult or even unlikely.

If we apply this conclusion to, for example, the acquisition of 'communication skills' through writing essays, we immediately encounter a difficulty, because no-one writes essays in accountancy firms or the Civil Service. If you want your Economics graduates to be able to write a short briefing for the Chancellor of the Exchequer about the implications of a rise in interest rates in the USA to the UK economy, then you would have to set coursework assignments that resemble such briefings. If you want your Geography graduates to be able to articulate rational and evidence based statements, and defend them against attacks, in public, then it may be of limited value using tutorials all the time in your courses, because no work contexts resemble tutorials. Instead you might have to set up a simulated 'Public Enquiry' and have students prepare to be called as witnesses for or against a policy proposal, and be cross examined by other, hostile, students.

Even when academics use methods such as group projects, which are not a conventional element of academic study but intended to develop 'group skills', the chances of transfer of these group skills to work contexts may be minimal. For example teams in work contexts are recruited by someone who wants to put the best team possible together, and so the teams are not made up of individuals with very similar knowledge, expertise or status. Someone is appointed to be in charge, several individuals are recruited to be experts in different aspects of

the work, and someone is allocated as a dogsbody for the others. Student project groups are simply not like this. Attempts to make group work more similar to team work in employment contexts have adopted methods such as deliberately moving the key student in each group to another group a week before the final report needed to be written – because that is the kind of thing you have to deal with in work teams.

If what distinguishes a Psychology graduate from a Sociology graduate is the ability to design and interpret the evidence from an experimental study of some aspect of human behaviour or performance, then you had better make sure that your assessment demands that students do exactly that, rather than follow recipes in labs or answer essay-type questions in exams.

In medical education, the consequences of a lack of transfer from lecture and exam-based courses to clinical practice has been such a problem that assessment nowadays, and the studying that precedes it, usually involves the closest simulations that can be contrived to clinical practice: requesting tests on the basis of patient files, interpreting test data, making a diagnosis and devising a care plan, for example. Even with radical and sophisticated medical education, however, the best predictor that a clinician will make a correct diagnosis is not that they remember their anatomy lectures, nor that they have acquired some magical general purpose problem solving skills, but that they have seen the specific medical condition before. Students need to understand the world they will transfer their expertise into, or transfer is less likely to happen.

What medical educators do is what is sometimes termed ‘authentic assessment’ – in that it authentically represents how the subject matter is actually used in practice – and incidentally engages students much more through this authenticity.

For example the exam in a Philosophy of Education course might conventionally have involved questions such as ‘Compare and contrast the educational philosophies of X and Y” which closely mirrors the kinds of discussions students might have had in seminars. For transfer from the course to the exam this is fine, but it is unlikely to lead to subsequent transfer to the trainee teachers’ classroom practice. To improve transfer to their subsequent lives as teachers this exam might be changed to involve a video of a teacher in a classroom with the exam question: “Advise this teacher on her future practice from a Philosophical perspective”.

The general principle here is that you have to import into your assignments and your classrooms, from the contexts you want learning to transfer to, those characteristics that define that context, so the intellectual and practical processes involved are pretty much the same. Transfer is then much more likely. If you do not have much idea what form these processes take in the contexts your graduates end up in, then you are stuck, and your claims about transfer of ‘employability skills’ may only be hot air.

The form of transfer referred to above is a fairly direct transfer of learning of a definable form into a closely related context. But there is a different form of transfer that seems particularly important for graduates, in that it ought to distinguish them from those who have only been trained as opposed to educated. This where the context learning is intended to transfer into is new and different in important respects but where you nevertheless expect your graduates to cope

better than others. You might hope that your graduates say, in effect "I have never seen anything quite like this problem before, but I bet I know enough to make progress with it somehow or other". This involves not 'transferable skills' but the 'skills of transfer', or in another conceptualisation, the differences between 'expertise for efficiency' and 'adaptive expertise'. The challenge for teachers designing and teaching courses is that the educational processes that develop adaptive expertise are quite different from those that develop expertise for efficiency. In particular they involve students being repeatedly confronted with complex open ended problems that require more expertise than they currently possess, so that they develop high level strategies for dealing with such unfamiliar situations, the ability to learn new stuff quickly when required, and the confidence to tackle such situations without simply throwing their hands up and saying "But we haven't been taught this!".

This is where cross-disciplinary courses come in, and learning tasks that require integration, in new and creative ways, from contributing disciplines. It is not the same as replacing specialisation with generalisation. In modular courses with plenty of free choice of subject, each module tends to deal with its own discipline, its own discourse and its own domain of defined problems, in a specialist way. Education for adaptive expertise confronts both the teacher and the students with new challenges that are not about specialisation but rather dealing with uncertainty. The Open University established courses that spanned disciplinary boundaries but dealt with real world phenomena in interdisciplinary ways, such as 'Childhood', 'Risk' and 'Professional Judgement'. But it is not necessary to invent entirely new curricula. Even within the bounds of conventional disciplines it is possible to devise the kinds of complex integrative challenges that develop adaptive expertise and help to transfer what is known to different contexts.

Suggested reading

Schwartz, D. L., Bransford, J. D. & Sears, D. (2005). Efficiency and innovation in transfer.

http://aaalab.stanford.edu/papers/Innovation%20in%20Transfer.pdf

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