



The gap between knowledge and skills: How to improve students' 'techniques'

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Many years ago, at the very beginning of my teaching career, I was listening to a news segment on BBC radio, the main thrust of which was lamenting the poor skillset of school leavers and graduates in the UK. The thesis of the report was that schools and universities tended to fill students with useless knowledge and leave them unprepared for the world of employment. One particularly memorable interviewee complained that a recent employee of his (presumably one with an English degree) "knew a lot about Jane Austen but couldn't use a photocopier." At the time, with no teaching experience and a swiftly growing worry that I couldn't use a photocopier and thus might be completely unemployable, I took his point as unquestioned truth. But looking back now, the statement, at best, reveals a number of common misunderstandings about what the differences between skills, techniques and knowledge are, and how they interact.

To be fair to the BBC, the piece probably went on to explore these issues in a much more nuanced way, but I only remember the "photocopier" phrase, and I have since heard and read people discussing education in similar terms, so it is a good place to start.

What is a skill?

Most people share an instinctive understanding of the semantic difference between a skill and a piece of knowledge – a skill is the ability to do something, whereas knowledge is simply the awareness of a fact or piece of information, something which could be held and transmitted by a simple statement written on a piece of paper. However, difficulties arise when applying examples to these definitions. I would suggest that being able to use one particular photocopier is a series of pieces of knowledge – learning a list of what each button does would not be significantly different to learning the capitals of Europe. On the other hand, (a) the ability to quickly learn and remember how to use a particular photocopier, (b) the ability to transfer the knowledge of how to use one kind of photocopier and apply it successfully to a different one, (c) the ability to assess how a photocopier's functions and design could be improved – these are all skills involving cognition, synthesis and evaluation. And it is these that we in education are in the business of fostering. A school syllabus involving learning how to use a series of photocopiers (quite apart from surely being unfeasibly tedious) would no doubt please Mr Employer on the radio, but would be very limiting for the student and would be far more knowledge-based than it might appear. Moreover, it would likely instil knowledge that was far more useless than knowledge of Jane Austen, at least partly because the photocopier which a student had learned to use would probably not exist a decade later when they are in the workplace. Far better to teach problem-solving and metacognition skills so that a future employee will be able to undertake successfully the widest range possible of (as yet unknown) tasks which they will be required to complete in their career; this is what a rich and well-planned curriculum will do for its students.

Knowledge v Skills – a false debate

Knowledge and skills tend to be seen as two wholly separate ways of designing a curriculum, and are often, unhelpfully, anchored to political ideologies. A knowledge-based curriculum is often seen as traditional and rigorous; Nick Gibb, the then Schools Minister in a speech in 2017 described the Labour national curriculum as "stripped of knowledge content in favour of skills" and called the idea that teachers need not focus on knowledge and instead turn their attention to developing creativity or communication skills "a romantic notion" (Gibb, 2017). Those who favour



a skills-centred curriculum or competency-based education curriculum call knowledge acquisition 'Gradgrindian' and outmoded, and describe policies which promote it thus: "The knowledge-based approach that has typified England has not been fit for purpose." (Wyse and Manyukhina, 2019)

A more nuanced approach is needed, which takes account not only of the interdependence of learning knowledge and skills, but also a clear understanding of what a skill is. Amanda Spielman, Ofsted Chief Inspector, discusses the matter in these terms: "Knowledge and skills are intrinsically linked: skill is a performance built on what a person knows. That performance might be physical or cognitive, but skills matter and they cannot be separated from knowledge. They are, if you like, the 'know-how' in applying the 'known'" (Spielman, 2018). In other words, "we have to move on from 'knowledge versus skills' ... to oppose the two is quite wrong." (Oates, 2018)

Skills in the curriculum

Most schools will advertise that their teaching will engender all sorts of skills in their students: critical thinking, creativity, global engagement, self-awareness, collaboration, and resilience are some of the more common skills cited. These are all highly valued by employers and transferrable to "the new". Moreover, the medium through which these skills are delivered is often irrelevant. A student who can look at a series of different historical sources describing the battle of Austerlitz from all perspectives and arrive at a reasoned historical

truth, or a student who can devise the most robust experiment to test the ammonia content of pondwater, or a student who can hold all the different grammatical variables in a Latin or Mandarin sentence and arrive at the only possible meaningful translation which fits them all – all these students will, in their own way, be able to face a range of different challenges and tasks within a career, even (or perhaps especially) if they don't know at secondary school what their future job will be.

Courses and programmes like the IB and schools like Sevenoaks have long been tailoring and adjusting their curricula to do precisely this. It is no coincidence that the language used in the IB learner profile, in the CAS (Creativity, Action and Service) outcomes, and in the Theory of Knowledge specifications heavily overlap the skills listed above.

The area between skills and knowledge – Techniques

Just as whether the ability to use a photocopier is a skill or a piece of knowledge is not obvious, there is another area which needs careful definition. A range of actions which students undertake in school, which are often described as 'skills', sit somewhere between pure knowledge and the transferrable skills described above. These are techniques that a student might be required to use in a variety of subjects and which will help them to learn effectively, but which, partly because of the fact that they are not exclusively "owned" by one subject, are sometimes not taught systematically – actions such as: making notes, constructing an essay, research, delivering

a presentation, memorising lists and facts. These are not skills transferrable to almost any walk of life, in the way that, say, "thinking critically" is, but they are important elements of secondary education nonetheless. I will call these 'techniques' to distinguish them from the broader transferrable skills described above. Teachers can be guilty of assuming that students have picked up these techniques by a certain age, or that simply setting tasks involving these techniques will always enable a student to improve.

To fill this gap in a school requires a number of steps:

- an audit of what is already being done to teach these techniques to students at different stages in their education;
- an evaluation of whether a holistic approach is appropriate (i.e. are essays in, say, Geography and English Literature courses so different that any attempt to teach how to write an essay in all subjects would be counter-productive);
- an evaluation of the techniques held by students arriving at the school at different stages and from different backgrounds;
- "Curriculum Continuum" – i.e. a linked approach where students re-visit a technique as they grow and as the expectations of that student become more sophisticated;
- Consideration of the practicalities – should this be delivered in specific Study Skills lessons, or via pastoral units such as form tutor groups, or mapped in a planned way across many different subject areas and teachers?

As a first step, the Institute of Teaching and Learning decided to start simply – single-sheet guides available on paper and online, mainly targeted at those students who find that their techniques and their teacher's expectations are at odds – maybe they are new to the school or have missed a segment of the curriculum, maybe they simply need a refresher. Again, there are no claims of great sophistication here, just practical value. A teacher could use these guides as a starting point for a discussion with an individual student about how to make notes or how to learn vocabulary, or a student could refer to the guide to help them learn on their own without any teacher input. They might also be adjusted to fit the needs of a specific discipline, and they increase in sophistication to differentiate between the needs of students at different stages in their education. Attempts to create simple, understandable guides for the softest transferrable skills (creativity, collaboration and so on) were made, but the value of the results was limited. These were often skills that were addressed in almost every day of a student's career, and the

number of times a student said "I want help with my creativity", compared to, say "I want help with delivering a presentation", was unsurprisingly found to be very low – and student willingness and engagement is a key necessity in this process.

These "How To" guides are a work in progress, and, on the surface, very basic, but hopefully they fulfil an identified need.

References

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