Seven drivers of learning

While educators are facing an onslaught of new technologies and ways of teaching, **Arun Pereira** and **John Mullins** argue that there are seven simple but well-established drivers of learning that, regardless of technology, are forgotten at our peril

> *Simply "telling" is not teaching and listening is not learning. Are we designing our curricula and our courses and the set of learner activities – inside and outside the classroom – to ensure active, engaged, co-operative learning?*

These days, amid widespread criticism of educational institutions and the results they deliver (or don't!), educators of all kinds are being offered an onslaught of new technology-driven educational approaches. Their purpose is simple: to enhance students' learning.

Among them are Massively Open Online Courses (MOOCs), which make lectures on almost any imaginable subject available anytime, anywhere for free. Online MBAs and troves of online educational content help students learn outside – rather than inside – the classroom. And within the classroom doors, new digital and other tools hope to bring what are all-too-often soulless and boring lectures to life: collaborative tools, polling devices, the so-called "flipped classroom" and more. Some of these innovations may stand the test of time. Others surely will not.

Amid all the hand wringing about how we educators might deploy these technologies and the pedagogical approaches they make possible lest we be disrupted (or even eliminated) by them, it is important that we do not forget what we already know about how people learn best.

True, as the research on learning styles makes clear (Kolb 1984; Mumford 1997), we all learn differently. But, at least for those of us teaching in business schools, cutting across such differences are seven well-established drivers of learning, key principles that, regardless of the learning setting and learning technology, are forgotten at our peril.

While there are numerous research-based summaries of principles by which people learn, including Bain 2004, Ambrose *et al* 2010, Brown *et al* 2014, and others, our focus here is on seven drivers of learning that we find particularly relevant for those teaching in business schools. In this article we explore these seven drivers and examine their implications for how business school instructors might do what we do better and more effectively.

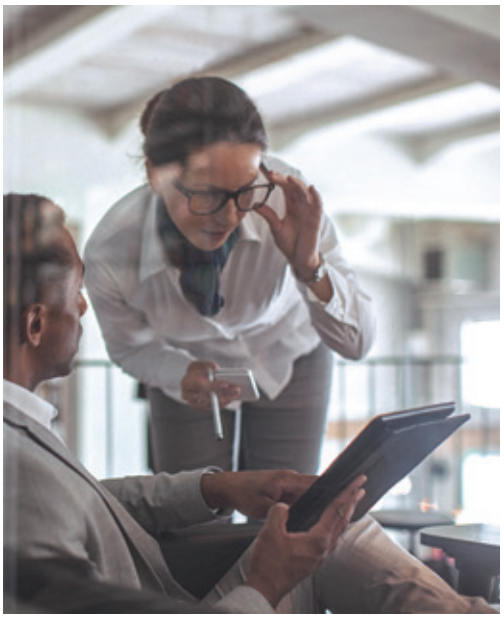
Learning Driver #1

People learn best when they are actively and co-operatively engaged in their learning

A substantial body of research dating back several decades puts it simply: "Learning is not a spectator sport". (Chickering and Gamson 1987). Business schools already of course routinely offer numerous forms of learner engagement that are inherently active and co-operative, including case discussions, mini-discussions with one's neighbour in the classroom, study-group work, group assignments, projects and more.

Many of these learning activities require learners to go beyond knowledge and comprehension and engage in middle- and higher-order thinking tasks such as application, analysis, synthesis and evaluation (Bloom 1956). Alas, however, it has been said, not always in jest, that in too many classes the notes of the lecturer enter the notebooks of the students without passing through the minds of either.

Reflection Point: Simply "telling" is not teaching and listening is not learning. Are we designing our curricula and our courses and the set of learner activities – inside and outside the classroom – to ensure active, engaged, co-operative learning? Too often we are not.



Learning Driver #2:

People learn best when they are given opportunities for reflection

Clearly "... learning is enhanced by structuring opportunities for reflection..." (Bowden *et al* 2000). Reflecting on variations across similar situations enables learners to draw distinctions about what is significant or important and what is not, about the effects of situation or context and more.

"It is through engaging students in reflecting upon the process and outcomes of their studying that progress is made." (Gibbs 1981). Yet how often do we hear an instructor say: "I was unable to cover all the material because I ran out of time". Giving students time to reflect, and then share their reflections, is crucial.

Reflection Point: Do we allocate time for periodic reflection in our classes? How do we ensure reflection takes place as part of students' assignments and outside activities? Might we remind ourselves that experience itself is not necessarily a good teacher (regardless of whether the experience is inside the classroom, or through learning projects outside the classroom)? Reflecting on the experience makes learning complete.

Learning Driver #3:

People learn best when their prior knowledge and experiences are built upon

"If I had to reduce all of educational psychology to just one principle, I would say this: the most important single factor influencing learning is what the learner already knows." (Ausubel *et al* 1978).

Fortunately, business school instructors work with learners who, whatever their age, already possess experience with the world of business as consumers, employees and even business owners.

Even better, there is usually someone in our classrooms who knows as much – or more – about a given topic as we do. There is simply no excuse, then, why nearly everything we teach cannot be related in some way to our students' past knowledge and experiences at some stage in their lives. "The more we tie information to the learner's past knowledge... the deeper the learning." (Medina 2008).

Reflection Point: It has been said that that the best way to make new concepts stick is to use old associations as glue. Do we take the trouble to choose cases, examples and assignments where the context and setting are familiar to the students we teach?

If we as teachers cannot make our subject matter relevant to our students, perhaps it shouldn't be in the curriculum at all! To ensure relevance in our material, might we take the trouble to understand why students have enrolled in our programmes and courses, and what they expect to gain from them?

Learning Driver #4:

People learn best when they are able to organise information into patterns and chunks

One of our colleagues remarked that "the admissions office puts talented students into our classrooms. If we don't mess them up too badly while they're with us, they'll be good when they leave".

But we would do our students a disservice if giving them a badge and a larger network was all that a business school education offered. How might we avoid this?

"A big difference between novices and experts is that experts have organised their knowledge into patterns and novices have not." (Brent and Felder 2001). Pattern-matching is a key managerial skill for making sense of today's fast-changing world. It is our job as instructors to help learners create and understand those patterns.

Moreover, according to neuroscientist Daniel Bor, author of *The Ravenous Brain* (2012), people take smaller bits of information and combine them into more meaningful, and therefore more memorable, wholes. Hence there is a reason that telephone numbers have long been organised into groups – chunks – this "chunking" makes them easier to remember.

Reflection Point: Memory is closely related to learning and memory fades if we do not build mechanisms for effective retrieval. To enable retrieval, can we better frame, organise and integrate our material into more easily digestible patterns and chunks?

Learning Driver #5:

People learn best when they are motivated

Alas, we have all had students in our classrooms who, for whatever reason, simply did not want to be there. Perhaps ours is a required course and some students would rather be doing something else with their time. Or perhaps we as instructors are failing to deliver on one or more of the learning drivers and we are the problem.

If students are not interested in what we have to offer and find it irrelevant to their goals and expectations, we can hardly expect them to be motivated to learn. "Motivation influences the amount of time and effort students devote to learning and supports their continued engagement when difficulties arise." (Hidi *et al*. 2004).

One key to establishing learner motivation is relevance. "If students do not find the content relevant, they may see little value in mastering it and engage in behaviours required for deep learning." (Ambrose *et al*, 2010). There are obvious implications here for curriculum design, as well as for what we do in the classroom every day.

Reflection Point: If we as teachers cannot make our subject matter relevant to our students, perhaps it shouldn't be in the curriculum at all! To ensure relevance in our material, might we take the trouble to understand why students have enrolled in our programmes and courses, and what they expect to gain from them?

Faced with the budding technological revolution in education and the risks it brings to our institutions and, indeed, to our own careers, it is imperative that we put today's pedagogical choices and tomorrow's learning technologies to work in service of every one of these seven drivers of effective learning every day

Learning Driver #6:

People learn best when feedback is provided

"Studies of adaptive expertise, learning, transfer and early development show that feedback is extremely important. Given the goal of learning with understanding, assessments and feedback must focus on understanding and not only memory for procedures or facts." (Bransford *et al.* 1999).

There are profound implications here for how we assess and thereby encourage further learning. Are conventional examinations, which all too often focus on what has been memorised, or at best what has been understood, the most effective way to provide feedback to help learners learn more? Should assessment be "for learning", instead of "of learning"? We too often assess what is easiest to measure by an exam rather than what we really want learners to learn.

Reflection Point: We tend to think of assessment as the end of each segment of a learning journey rather than as a learning experience in its own right and a stepping-stone to more learning. Might we assess earlier and more often (rather than at just the mid-point and end of the term)? Would doing so be valuable for students and teachers alike?

Learning Driver #7:

People learn best when the intended learning outcomes are clear

"Well-expressed statements of intended learning outcomes help students to identify their own targets, and work systematically towards demonstrating the achievement of those targets." (Race 2001).

Sadly, these days some of us are so caught up in administrative requirements that we state learning goals and learning objectives for every little thing that we teach.

But sometimes there is merit in the "Aha!" moments that we conjure up with compelling materials and vigorous class discussion. Perhaps giving away the punchline or explaining concepts up front is not always the best thing to do. Sometimes (perhaps more often than we think), there is merit in asking students to learn the way many of us learned to ride a bicycle as kids: get on the bike and fall off several times. We don't know about you, but we (thankfully!) were not given PowerPoint presentations on how to ride!

It seems to us that the outcomes we seek for our business school graduates and our executive education participants are to enable them to lead and manage people, investments and organisations of all kinds more effectively than would otherwise be the case. In other words, our teaching and their learning are about what they will do differently as a result of being with us. Outcomes are what we are after. Do our courses reflect this reality?

Reflection point: Must we know what we want our learning outcomes to be? Of course! Should we state such outcomes clearly and succinctly? We should – at least most of the time. But we worry when we see such outcomes expressed using words like "know" and "understand", a topic upon which we reflect in the next section.

Knowing v doing

In their classic 2000 book, *The Knowing-Doing Gap*, Jeffrey Pfeffer and Robert Sutton confront the challenge of turning knowledge about how to improve organisational performance into actions that produce tangible results.

Are we in business schools contributing to this widespread challenge by failing to address the seven drivers of learning we have explored here?

We talk at our student learners instead of engaging them.

We provide too few opportunities for reflection, pattern-making and the chunking of what they learn into usable and memorable forms.

We fail to motivate them and their organisations to be the very best they can be rather than just good enough.

We spend too much time assessing what they know and perhaps understand rather than what they have learned to do.

And perhaps we do not often enough ask our students to do something difficult – based on having read something outside the classroom – before we patiently explain how to do it, much as they will probably be asked to do in today's complex and messy real world.

We fear that by missing the boat on the seven drivers, we risk sending our business school graduates forth into the world with some accumulated knowledge, to be sure, but little practice or expertise in how to apply that knowledge to deliver performance outcomes – how to do.

Thus, faced with the budding technological revolution in education and the risks it brings to our institutions and, indeed, to our own careers, it is imperative that we put today's pedagogical choices and tomorrow's learning technologies to work in service of every one of these seven drivers of effective learning every day.

Are we ready? Do we have the courage to do what we do, differently? The time for change is now.

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ABOUT THE AUTHORS

Professor Arun Pereira is a Clinical Associate Professor at the Indian School of Business, Hyderabad, India.

Professor John Mullins is an Associate Professor of Management Practice at London Business School, London, UK. Both are contributors to the International Teachers' Programme (ITP), a leading faculty-development programme (www.itp-schools.org) held annually.

The cited references may be found in this essay's online version at - http://globalfocusmagazine.com/seven-drivers-learning