1. Theorising about learning and knowing

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INTRODUCTION

Much of the recent rhetoric in higher education focuses on teaching and learning. As we move into the environment where student experiences and expectations are measured, quantified, and publicised, then the mechanisms for understanding how we engage these individuals in their learning becomes more important.

We can use this understanding of how students learn in order to better inform our programme design, teaching, classroom management, and the development of academic practice. Humans are meaning interpreters, we reify the abstract, we seek, we explore, and we learn. The challenge for educators is that we often do not take the opportunity to disentangle the mechanisms of learning from the practices of teaching. Over the coming chapter we will explore different theoretical perspectives on learning; these positions underpin the work which follows where, in each chapter, academics advocate solutions for some of the key issues facing teaching and learning in higher education today.

This chapter will consider different theoretical positions on learning from a largely psychological perspective with clear applications to education. Importantly, we are considering the theoretical approach to learning that we can apply to students; thoughts will be proposed which can be used to understand what we mean when we discuss knowledge, an issue which will emerge throughout the text. Finally, these issues are contextualised within higher education in a practical sense, including the way this underpins curriculum design.

NATIVIST APPROACHES TO LEARNING

The core principle of a view on learning that emerges from nativism is that the ability to learn is innate. In most walks of life, we find that other people

outperform us or that others are naturally gifted in different pursuits; applying this principle to the acquisition and use of knowledge means that some are simply better at learning than others.

This perspective has informed much debate over the years, first championed by Darwin's cousin Sir Francis Galton as the precursor to the development of standardised intelligence tests (Nicolas et al., 2013). The extrapolation of this involved research into the hereditary nature of intelligence and higher-order mental processes. The hangover for this exists within society today; the testing regime of children through to adulthood enables continual measurement of progress so that appropriate educational pathways can be recommended based on ability. The methodological development that this perspective fuelled is evident in the use of psychometric measures for recruitment and selection in employment and into postgraduate programmes (Schmidt and Hunter, 2004; Lang et al., 2010).

A number of issues for higher education emerge from this perspective. Without entering the political debate that follows the view that intelligence is fixed and hereditary, the core issue in accepting this position means that the extent to which students can improve is preset. If biological predisposition is all that matters then educational outcomes are predetermined before a student sets foot into a classroom. This is not to say that the innate abilities that we have do not predispose us to preferences or skillsets; rather that to ignore the notion that external factors can influence our acquisition of skill potentially undermines the transformative power of education.

Through developing a critique of the rigidity of this nativist perspective we identify that the application of this view has both strengths and weaknesses. Briscoe (2000), for example, argues that language acquisition is best explained through a nativist lens. In contrast, the 'higher psychological functions' that are required for more complex and abstract thought are best described through notions of relationship and apprenticeship (Vygotsky, 1978).

Arguably, if the nativist perspective is endorsed in education systems then by the time that students reach higher education then their route and their potential to succeed may have already been ingrained. The institution becomes the conduit and the enabler for predetermined individual success or otherwise.

BEHAVIOURIST LEARNING

In contrast to the hereditary perspectives identified through nativist approaches, a behaviourist would argue that all genetic predispositions

are redundant. Rather, individuals are focused on exposure to different experiences and learning happens as a result of this. Pritchard (2009, p. 6) explains:

> Behaviourism is a theory of learning focusing on observable behaviour and discounting any mental activity. Learning is defined simply as the acquisition of new behaviour.

The principles of behaviourism are well documented, classical conditioning is where associations are made between natural stimulus and a conditioned stimulus (think Pavlov and his dogs; see Pavlov, 1927). On the other hand, operant conditioning is where learning about behaviours is done through a series of reinforcements and punishments (Skinner, 1948); undesirable behaviours are punished and desirable behaviours are rewarded. Learning, in this sense, is understood as whether or not one repeats the behaviour.

Examples of this approach to learning are often drawn from Skinner's (1953) work with rats (pushing buttons in the cage for food pellets) but that is not to say that the experience cannot be replicated in humans. The simple functions of punishment and reward are ever present in society, given life through iPhone games and sought after in the form of sales bonuses (Anthony and Griffiths, 2014; Glassman et al., 2010).

Adopting this approach within higher education might be understood through the practices that students must adapt to on arrival. It may be that repeated lateness is chastised, that students are embarrassed when a mobile phone is confiscated mid-lecture, that the 'punishment' of receiving a lower than expected grade will prompt a change in behaviour while the 'reward' of a high grade encourages a repeat (Pritchard, 2009). The formation of habit in this sense is, again, understood through the observable behaviour rather than through the psychological functions which traditional higher education charges itself with developing and assessing.

While there are arguments to be made that following these principles students will 'learn to learn', the limitations of a behaviourist approach lie in the focus on behaviours as the *only* measure of learning (Strauss, 2017). Beyond the rudimentary institutional practices, we propose that for many degree programmes there is a limited demonstration of specific behaviour. Rather, the nature of many courses is increasingly cerebral, requiring complex and abstract thought which, by its nature, a behavioural approach to learning rejects.

CONSTRUCTIVIST LEARNING

Rather than limiting definitions of learning to things which cannot be changed (in the nativist sense), or to what can be observed (in the behaviourist sense), a constructivist approach to learning considers the impact of the broader context within which the learner sits. From a psychological perspective, children are said to be able to think abstractly and hypothetically from age 11 (Piaget, 1954). It follows therefore that in a higher education setting we expect to be presented with students who have a certain level of ability, upon which we build through the different learning and assessment opportunities, some of which are covered in this text. Where constructivism is useful for considering learning is the notion of this 'building' of experience, expertise, and knowledge. Fundamentally, this position rejects the possibility that 'mental capabilities function independently of the material with which they operate' (Vygotsky, 1978). Accordingly, context becomes intertwined with knowledge, skill development and acquisition, and the completion of tasks.

The recognition of the value of context presents issues for educators. Vygotsky argued that where education fails its students is in the use of decontextualised assessment mechanisms; knowledge and knowing are rendered abstract creations. To counter this, he proposed that knowledge be understood as something which is constructed through a continual and social approach to learning. Each individual has a Zone of Proximal Development (ZPD); they exist in the centre of this zone where they are able to complete tasks independently. As you move away from the centre, the individual can undertake more complex, difficult or unfamiliar tasks with the support of a 'more learned other'. This shift, from person-centred to context-centred learning, means that what an individual can do alone is not as important as what they can do with the support of somebody with the support of colleagues, teachers, and friends. The role that these 'more learned others' play is to scaffold, to facilitate, to guide, and to support (Wood et al., 1976; Rogoff, 1990).

It follows, therefore, that the core feature of the learning process from this perspective is that of relationship (Bryson, 2016). In order for knowledge to be understood and for learning to happen, there must be a relationship between the learner and their 'more learned other'. This, of course, strikes hard towards notions of apprenticeship (Rogoff, 1990), where the learner is facilitated through a learning journey with somebody who has more experience and knowledge than they do. In the work setting, Lave and Wenger (1991) articulate the methods for doing this through the incremental acquisition of skill, regular testing, and appraisal and growth of confidence.

Accepting that learning happens through a relationship with a 'more learned other' places knowledge as something which is co-constructed through this mutual endeavour. There is no separation between how one engages in thinking, action, and learning (Billett, 2010, 2014); the social world in which we operate becomes central to what and how we learn. The learning environment is as important for influencing how knowledge is interpreted, how sense is made, how the abstract is reified, as any other factor.

KNOWLEDGE AND KNOWING

We largely assume that the purpose of a journey through higher education is to acquire knowledge, some of which is immediately important for the acquisition of a degree, other of which will be relevant for the all-important graduate job. It is, therefore, incumbent on us to explore what we mean by 'knowledge'; how can one be said to 'know'?

Knowledge is often understood in abstract form, it is a transferable and self-contained entity which can be deployed at will. However, if we recognise that the way we engage in the construction of knowledge is through engagement in a relationship with a 'more learned other' and that the context in which we do this will shape how we understand things and what importance it bears, then what we know is itself situated in context; knowledge and context are inextricably linked (Brown et al., 1989). To make sense of it outside of the environment in which it is developed is not impossible but neither can it be assumed. Our role as practitioners of higher education in a business school context becomes ever more challenging; we must enable this development of understanding and construction of knowledge in such a way that its situatedness does not render it institutionalised for fear that our graduates become irrelevant.

As we further explore the nuances associated with knowledge we ought to consider how one is defined as being 'knowledgeable'; surely to be knowledgeable one must not solely count postnominals. In the same way that learning and knowledge is constructed through our social engagement, to be considered as knowledgeable is to be perceived as demonstrating social expertise. Knowledge is displayed in action, one demonstrates that one knows through behaviours, conversations, ways of being (Wenger, 1998; Dawson, 2013). As an academic one 'acts as if one knows' in order to be perceived as such. Accordingly, the students with whom we engage must be prepared to act as if *they* know when they graduate; to simply hold abstract knowledge and be unable to engage with it will not make them productive or successful employees.

MAKING 'LEARNING' HAPPEN IN HE

As knowledge is established as a movable feast, with learners reifying abstract concepts to co-construct their understandings, we move to consider how learning happens as a situated activity (Brown et al., 1989). Foregrounding context and social experience engenders a collaborative understanding of the learning activity, and accordingly we reject traditional transmission models of education where we may expect unproblematic absorption of knowledge. Instead we favour models of teaching which demand engagement from students as in so doing they will be better placed to co-construct their own understanding of concepts and principles with the support of their peers and their lecturers.

Within higher education there are a number of things that students are required to learn. Putting aside the assumption that they wish to engage with their programme and develop an understanding of a specific academic discipline, students must first engage with the prospect of learning how to be a student. Of course, this is different for each individual; some are keen A-level exam passers, others are dedicated BTEC coursework producers, others are mature with families and a career they want to boost, and yet more are at home working remotely online. Accordingly, the environment that we are faced with as teaching practitioners is anything other than stationary; the demands of learners evolve and we must meet them somewhere in order to facilitate their progression.

Let us first consider how students must learn to learn; the context of higher education is vastly different to anything they are likely to have experienced before. We must not, therefore, assume that students are readily equipped to cope with the transition to their new learning environment. They must be responsible for their own learning, feel comfortable in asking for help, be equipped with the skill to access the tools and resources that the institution has to offer (Turner and Tobbell, 2017). The challenge of a perspective which focuses on how and what we teach lies in recognising individual participation in programme outcomes; each student approaches their work in a very different way; the transition to undergraduate and postgraduate study is fraught with challenges to individual identity and engagement in personal as well as institutional practice to enable learning (Tobbell and O'Donnell, 2013).

This issue of engaging successfully in institutional practice cannot be underestimated (O'Donnell and Tobbell, 2007). For without the ability to navigate the systems and processes which bind the institution together, a student cannot be successful in their endeavour to learn. These practices may be perceived as inconsequential, or perhaps more accurately impenetrable, by students and academics alike. Our challenge, therefore, is to not

only understand and embrace these practices ourselves but to ensure that they are easily accessible by students.

DESIGNING THE CURRICULUM

Further dichotomies which exist in programme design are through understanding the needs of home and international students and designing curricula which can satisfy both. As higher education shifts to become ever more commoditised, so the competitiveness of institutions can be measured through the attractiveness of their degree programmes. Attractiveness can be determined in the seemingly trivial award title but also in previous student performance, pedagogic approach, and course content.

A text focused on teaching and learning would not be complete without the acknowledgement of the importance of Bloom's (1956) Taxonomy of learning objectives for the classroom. Through his model, learning in action is broken down into the cognitive, affective, and psychomotor domains with further specificity into the type of learning outcomes and assessment objectives which would follow each type of learning. Each will be considered in turn here.

- The cognitive domain spans most levels of thinking. At the lowest levels, students are engaging with knowledge, in the abstract form, learning specific facts and comprehending differences between basic principles and concepts. As the demand on their cognition increases the focuses shifts to application of understanding, more detailed analysis and the synthesis of existing ideas into something new, followed by the evaluation and justification of ideas and principles. Figure 1.1 illustrates how each of these levels relate to one another and the kind of stimulus words which may be used to ensure learning engagement at the appropriate level.
- In the affective domain the focus shifts towards how students feel, or react emotionally, to learning. At the basic level students are passive receptors of content; as we engage them further their participation in the learning process increases in response to stimulus. At the highest levels they begin to value the knowledge that they are acquiring, to organise it within their existing schemas and then to use the characteristics to develop their own abstractions based on the principles they have now adopted.
- The psychomotor domain focuses on physical, action-based, skills which are being learnt. The priority here is on engagement with
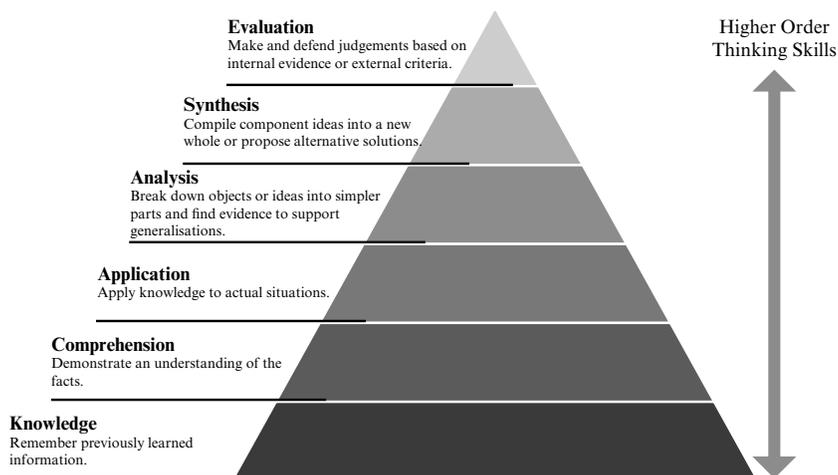
Evaluation
Make and defend judgements based on
internal evidence or external criteria.

Synthesis
Compile component ideas into a new
whole or propose alternative solutions.

Analysis
Break down objects or ideas into simpler
parts and find evidence to support
generalisations.

Application
Apply knowledge to actual situations.

Comprehension
Demonstrate an understanding of the
facts.

Knowledge
Remember previously learned
information.

Higher Order
Thinking Skills

Figure 1.1   Bloom's Taxonomy

> sensorimotor skills, increasing familiarity with movements and
> following guided responses here to develop one's own mechanistic
> skill. Adaptation of these skills creatively are the most demanding in
> this domain. Within a business school context it is this domain that
> is engaged with least.

These principles are valuable to us as educators. Understanding the different levels of challenge and how students respond to these conforms to the accepted notion of institutional programme design. When designing curricula with this in mind we can ensure the appropriateness of different levels of study.

Beyond the principles with which we design a curriculum of study, which Bloom's work largely underpins, the individuation of programmes emerges from the academic skill of the business school. This means that, among other decisions involved in curriculum design (Romiszowski, 2016), curriculum content is often underpinned by the research and consulting interests of the academics who will deliver it. Of course, this can mean that the content which is being created and delivered is cutting edge; students are exposed to the latest thinking and are being taught by well-published experts in their field. The difficulty that this position presents in this new, increasingly externally facing, world of higher education is in the development of programmes and content in collaboration with employers (Bravenboer, 2016). This domain is becoming increasingly focused around the opportunities that degree apprenticeships can offer to both businesses

and students alike, so the traditional relationship dynamic of 'student and university' shifts.

We do not advocate here that following Bloom's Taxonomy is the only method for designing curriculum. Critiques of Bloom's work focus on the reductionist nature of each of the stages (Pring, 2014), arguing that it is impossible to simply categorise different learning experiences into a neat flowing structure. Alternative approaches to curriculum design include being collaborative and centring the student voice (Brooman et al., 2015) to not only redesign the structure of programmes but to pay attention to the value placed on institutional practices such as attendance monitoring versus engagement. Further still, and in support of the employability agenda often pursued in higher education institutions, the future may lie in business involvement with curriculum design to support their workforce development agenda (Plewa et al., 2015).

THINKING FORWARD

We have started to scratch the surface here about the different ways that learning can be understood, the complex relationship between learning and knowledge, and how these differences can be used to frame curriculum design. Fundamentally, we argue that a curriculum of study should seek inspiration for delivery from multiple perspectives, and it is for this reason that we champion educators to better understand the learning process as this impacts their choices when teaching and so changes the outcomes for students.

Of course, there is no silver bullet; context, we have argued, is a key factor in understanding the student learning experience and, by extension, the teaching environment. Through the chapters which follow you should be able to identify different elements of learning theory underpinning each example of teaching practice. Some authors will have preferences towards one way of engaging students, others will showcase innovations in teaching practice which make the most of a particular contextual factor such as large group teaching, embedding technology, or recounting experiences of undertaking specific teaching experiences. Throughout, however, it should be possible to gauge how the author views the process of learning, what their position on defining knowledge is, and how these key factors have influenced their curriculum.

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