**Acts of Learning**

**Psychological foundations of learning practices**

(As might be described to an interested publisher)

This document proposes a book about the psychology underpinning learning practices. The topic is of general interest but of particular interest to those within the education and training professions. The text uses ‘acts of learning’ as a vehicle for explaining psychological research and theory that addresses the theme of human learning.

**(1) The journey supposed: Learning about learning**

**Learning as studied: the scholarship**

The natural home for a principled science of learning is within the discipline of Psychology. In fact, for a long period, ‘learning theory’ was what academic Psychology was mainly about. However, that situation changed in the 1960s with the ascendency of ‘cognitive psychology’. This was an approach focussed on the mind (rather than behaviour) and on a computational metaphor of mentality (i.e., information flow) rather than the prevailing associationist one (i.e., stimuli, responses, and reinforcement). Yet learning has never been vigorously theorised within cognitive psychology. It might be expected that the current high-profile disciplines of cognitive neuroscience and artificial intelligence (AI) would occupy this gap. Their prospects for doing so are even linked; because AI draws inspiration about how systems learn from the neural network modelling of neuroscience. But neither have yet provided an accessible review of learning, nor a toolkit-to-think-with that is suitable for practitioners. Most promise lies within a recently emerging sub-discipline of cognitive psychology, namely ‘learning sciences’ (plural, because it cultivates multi-disciplinarity). The learning sciences have created a renaissance of research around learning. Nevertheless, its insights are still not sufficiently visible in either the popular or the professional literatures. They are insights that will be recruited in the present text.

**Learning addressed: audiences and appetites**

There are four potential audiences for a text introducing contemporary ideas from the psychology of learning.
(1) The intelligent *layperson*. The topic of learning may have lasting popular appeal because, apart from our own status as learners, many of us hold informal responsibilities for the learning of others – notably as parents. This audience seeks an accessible text whose clarity does not depend on follow-up research - although where the appetite exists a text should resource it.
(2) S*tudents*: most prominently, those for whom the topic forms part of some social science curriculum. In particular, Psychology, Education, Business Studies. For them also the presentation must be introductory, but they will value more leads into deeper study.
(3) P*rofessionals*: practitioners within education and training. They will value a presentation that foregrounds their working circumstances, and in a manner that offers them fresh ways to think about practice and creative intervention within it. The possibility of ‘learnification’ critiques from some commentators (Biesta, 2022) may seem a risk. However, if the text engages with eduction theory it is more in relation to ‘subjectifiation’ more than socialistion. More widely, it avoids speaking directly to pedagogy.
(4) Those that might be termed *meta-professionals*: that is, individuals who guide and instruct the professionals. Staff engaged with teacher training are particularly poorly resourced for texts that support their work. They need to equip their students with a text that has all the features mentioned so far but, in addition, introduces concepts at a granularity that allows their ‘meta-professional’ guide to elaborate them in lectures and seminars. A text of this kind is particularly urgent at the present time – when government policy suggests an anxiety to see psychological research adopted in the interests of educational innovation. The text proposed here has all these audiences in view.

**Learning explained: favoured approaches**

Explorations of learning that are informed by academic research tend to lead from one of two positions. (i) From explaining overarching theories of learning. (ii) From enumerating individual processes of psychological functioning – those judged to be most relevant to learning. The difficulty with the first approach is that there are a lot of theories! One authority ([here](https://www.instructionaldesign.org/theories/)) lists 55. Often, a route through this thicket is to concentrate on a small number of ‘Grand Theories’. Notable candidates are constructivism, behaviorism and socio-cultural theory. The second approach entails elaborating a psychological architecture of learning. Similar to the first (theories) solution, it entails communicating a large volume of separate items. In this case, Psychology is presented as partitioning the human actor into component social and cognitive functions relevant to learning. For example: the various systems of memory, attention, reasoning, motivation, personality etc. This breadth of separate topics may feel overwhelming – and may resist attempts at extracting a sense of integrated functioning. Therefore, both traditional approaches for texts in this area experience significant challenges around reader engagement. In part this is a matter of controlling content volume and fragmentation. But it is also because the starting points for explanation are too *abstract*: in the sense of too decoupled from the human activity that readers need help understanding.

**(2) Proposed destination: Acts of Learning**

If the aim is to direct insights from psychology into the management of human learning, then the approaches summarised above are ‘top-down’ approaches. They start with the abstract (psychological concepts) and build towards the concrete (educational practices). The alternative proposed here aims to work in the opposite direction. The logic of this is described below

**Learning: top-down approaches**

There is long-standing concern that theory and research concerned with learning makes limited impact on educational practice. That impact is most likely to come from Psychology. While the area of that discipline most likely to contribute has been identified as cognitive science (Muller and Cook, 2024). For example, in the UK, the [Educational Endowment Foundation](https://educationendowmentfoundation.org.uk/education-evidence/evidence-reviews/cognitive-science-approaches-in-the-classroom) has set about this: making expllcit the particular topics that need to penetrate practice. They identify ‘core concepts’: these are spaced learning, interleaving, retrieval practice, schema, multimedia learning and embodied learning. While two other important concepts lie “under the surface”: namely, memory processes (working, long term, retrieval, encoding) and cognitive load. Certainly, these are concepts central to how humans learn and, therefore, they should be mobilised to influence educational practice. The challenge is one of drawing practitioners (and learners) to embrace them. It is suggested here that their status as abstract and decoupled from familiar practice is an obstacle to that challenge. The present text addresses that obstacle.

**Learning: a bottom-up approach**

The default approach to articulating a psychology of learning is top down. But what does it mean to explain learning through a bottom-up approach? It would start from matters already known and familiar to the reader. It starts from what learners do. Of course, in the realm of the familiar (rather than the abstracted), learners do not do a single thing. They engage in a range of actions – that they hope will achieve their ambitions for knowledge building. They engage in acts of learning. So, the learner who reflects on their competence (or the teacher prompting that reflection) is well served by bringing into sharper focus something they already know about: namely, a personal assembly of learning acts. Some are familiar because they are widely shared - having a long history of cultural evolution. Other are more the by-products of growing up in a culture of literacy.

**Some acts of learning (and implicit chapter headings)**

0: Acts of introduction
1: Collaborating
2: Tutoring
3: Exposition
4: Participating
5: Performing
6: Practicing
7: Constructing
8: Decomposing
9: Browsing
10: Representing

This list is not definitive or final as the aim is not to taxonomize learning but to ‘repertoire’ it. They are ‘acts’ of the behavioural kind – even though some terms may resonate with the more abstract language of *mental* acts (‘constructing’ for example). But that reflects an important underlying perspective: mental acts have their *origin* in worldly acts. Here are some generalisations that apply to acts of learning. Text exemplifying how such might be treated is available elsewhere on this site.

* They are what people do. They get things done.
* They are ‘cultural practices’: familiar things, grounded in shared social and cultural history
* Education creates opportunities for rehearsal, and for populating acts with new content
* Education creates opportunities to integrate acts of learning into ‘projects’
* Effective education equips the learner with awareness of owning a portfolio of such acts
* An effective graduate of education strategically recruits from that portfolio in later life
* Acts manifest a developmental trajectory: evolving from formats cultivated in early life

**(3) Acts of learning as text**

This would be an academic text – in the sense that is develops theoretical notions and grounds its arguments in peer-reviewed research. It strives towards that point by starting the reader with familiar approaches to learning. Some will be adopted by the autonomous student; some will be orchestrated within instruction. The text will review current thinking as to how these approaches ‘work’. It will build a vocabulary of learning processes, reviewing the research out of which they have evolved. None of this should not imply a ‘learning skills’ handbook. Although, for learners, reflecting on psychological processes beneath the surface of common sense may make them more strategic about their learning. But it does not deal in such matters as “timetable your learning” or “keep and review notes”.

While, for teachers, mobilising the systematising vocabulary behind acts of learning may make them inventive in how they orchestrate the classroom. Such a text cannot be comprehensive and final about its subject matter: but it can furnish a foothold onto a vocabulary and framework promising deeper understanding of learning (and teaching). Although that vocabulary will often draw from the mainstream of cognitive psychology (the mental world of the student), by approaching learning as a cultural practice, theorising will acknowledge the ways in which it is situated with social relations, mediated by the cultural resources of technology, place and ritual.

The approach to elaborating key theoretical concepts will also be ‘bottom up’. At least in terms of how they are given depth. Concepts such as ‘generative strategy’, ‘intersubjectivity’, ‘load’, distributed cognition’ will be introduced early and gradually elaborated as they reappear in successive chapters.

None of this should be in an exposition that renders the material inaccessible. It should therefore be of interest to college-level students of Psychology, Education and Educational Psychology and perhaps Business Studies. It is likely to be of interest to some practicing teachers. But it is likely to be of special value to those who prepare students for future teaching. Its most receptive audience may be the teachers of, and students of, educational practice. In the UK current government policy stresses the importance of inserting more socio-cognitive psychological material into the preparation of teachers. They are currently poorly represented in the text book market. That should not imply the text will be parochial: it should work internationally.

**How that audience is currently served**

It is not well served. The following books are the closest in terms of a shared purpose (providing a deeper understanding of human learning – with special attention to the professional needs of practitioners)

* Cognition: The thinking animal. [D. Willingham & C. Reiner]
Might be challenging for some. But very much a ‘top down’ approach and only indirectly ‘learning’
* [How People Learn: Brain, Mind, Experience, and School](https://www.amazon.co.uk/How-People-Learn-Experience-School/dp/0309065577/ref%3Dtmm_hrd_swatch_0?_encoding=UTF8&dib_tag=se&dib=eyJ2IjoiMSJ9.kh3DhVu_Gh81yrD5xzb0IWt20c18hQpXGmEcgXjz-Pv8ePsoVi-8s_zZpmW-CJsKgZ0NiDIha7sEzVkEdtCX1w0Dt4tkn5Z7kmGaWi-0vsuiJ-PLb9G9WpGe8s61n7R3soTXTmhgPKgMg4kTrZzr4zuLpMuaPaIbb5hp5tMuUmo.LNIxMSL9vDGhj1mdEdT6voNnLdgR-sI104ptz6aRSRk&qid=1711100128&sr=8-1)  [John Bransford et al]
An excellent book – but has not been updated
* [The Abcs of How We Learn: 26 Scientifically Proven Approaches, How They Work, and When to Use Them](https://www.amazon.co.uk/Abcs-How-Learn-Scientifically-Approaches/dp/0393709264/ref%3Dtmm_pap_swatch_0?_encoding=UTF8&dib_tag=se&dib=eyJ2IjoiMSJ9.hXe2iuyYIRSfpASu3DOtDDI4fpYkfMOdVrYmYLomtHWl6HbW0rs4_kUYOf2N_qya-E8H31GlUbI-KfOLlfuKBfCz4EEBB3ETxReaPuMS_0BLQK-J6tQku8200IrE9swxoaQWEYm-22ajURohcpUFUgipLwyxfunPa7pooLjikFRPnUqwxdZKfqbFIOy2mhlQByS1wjUPCmkl1N5m4J07zQ.qfqdN0J25A_fmW5w-hays0BAKKyGWOL6eMdmEnig3tw&qid=1711099779&sr=1-1)  [Daniel Schwartz et al]
Distinguished academic author. Authoritative but the ABC format denies coherence and is whimsical
* [Learning Theories Simplified: ...and how to apply them to teaching](https://www.amazon.co.uk/dp/152960141X/ref%3Dsspa_dk_detail_3?psc=1&pd_rd_i=152960141X&pd_rd_w=kqvuz&content-id=amzn1.sym.84ea1bf1-65a8-4363-b8f5-f0df58cbb686&pf_rd_p=84ea1bf1-65a8-4363-b8f5-f0df58cbb686&pf_rd_r=V4WPHDYD8N8EZ8TA7P3Y&pd_rd_wg=5O5cH&pd_rd_r=42f5e533-07df-4f20-ae37-9c751eba5cef&s=books&sp_csd=d2lkZ2V0TmFtZT1zcF9kZXRhaWw) [Bob Bates]
Encyclopaedia of learning theorists – “busy teacher” oriented
* [The Learning and Development Handbook: A Learning Practitioner’s Toolkit](https://www.amazon.co.uk/Learning-Development-Handbook-Practitioners-Toolkit-dp-139861792X/dp/139861792X/ref%3Ddp_ob_title_bk)  [Michelle Parry-Slater]
Business audience orientation
* [How People Learn: A New Model of Learning and Cognition to Improve Performance and Education](https://www.amazon.co.uk/stores/Nick-Shackleton-Jones/author/B0034P51FC?ref=ap_rdr&isDramIntegrated=true&shoppingPortalEnabled=true)  [Nick Shackleton-Jones]
Private sector management consultant orientation. Tips-oriented
* [How Learning Works: Seven Research-Based Principles for Smart Teaching](https://www.amazon.co.uk/How-Learning-Works-Research-Based-Principles/dp/0470484101/ref%3Dsr_1_1?crid=2K71UVT769T0C&dib=eyJ2IjoiMSJ9.3OAx49yF7TiFTemW0SFXqlrrgfCQdvuvf4s_22sMThVNRrLirZZ43VjAG0ooYpsm.mNEGdFF3IA_seq3BwKaPQtVL2t5taCLWpgqqGaBmszs&dib_tag=se&keywords=How+Learning+Works%3A+Seven+Research-Based+Principles+for+Smart+Teaching&qid=1711099343&s=books&sprefix=how+learning+works+seven+research-based+principles+for+smart+teaching%2Cstripbooks%2C105&sr=1-1) [S. Ambrose et al]
No recent edition and focussed on adult education
* [Teaching with the Brain in Mind](https://www.amazon.co.uk/Teaching-Brain-Mind-Eric-Jensen/dp/1416600302/ref%3Dsr_1_3?crid=EGJADICJUVKB&dib=eyJ2IjoiMSJ9.CS19nocbXlL_T9zINzfzM2dlPv9aPKpulORiNXzwMOrIihQid8X8oO0LVlrkJuWYDeNdknDvjNfo8Q4MF8Y_YMC3vsL_-0EhIVFlIiUjVSii8LAkhTyczGwRi19gn3js818MlUNUmaQa_fFC8z_MrGE-CUNvMl5I3G9-2ShLyw6k6mcimSMmN_iBTMTNHacZrbi6hJP6mz5WiMWRqxAChMT0HpZEpzXawXsg0RWL004.dCYSqZbcENkwBiOUdqnVRvjlTVXZVw6wWA3rrw-Gz80&dib_tag=se&keywords=Teaching+with+the+Brain+in+Mind&qid=1711099493&s=books&sprefix=teaching+with+the+brain+in+mind%2Cstripbooks%2C114&sr=1-3). [Eric Jensen]
No recent edition and preoccupied with the brain in a way not sufficiently far reaching
* [The Power of Mindful Learning](https://www.amazon.co.uk/Power-Mindful-Learning-Langer-1998-03-17/dp/B01FKSXVNY/ref%3Dsr_1_3?crid=3HD5VT5Y281NP&dib=eyJ2IjoiMSJ9.REZ7X1GoRftKe_6IDyyiSrxeZOvtYJrBhmVlrUTU-yVsTdW-NSfi5Tl6gub31zbyLx3s8qUA0gJNLfG7NuiDSvO9G5dHwlVVu_SX7exW0Xc1DGJFty_vwswFRZdS0vAicMCW67oB1yQXbQUp3dJOuigjxnDZ-PA9Qb2m6rHH8PP9N2J78OuoWwSV8rI5YbAeb5TuZbsPTGvaD5dYwD2m2WsYYFS-qeHltoOklLJ1MUY.axhIZnCpqyDKVl5ZryNkp0zOBZuOivDU_VF4KcY6ac0&dib_tag=se&keywords=The+Power+of+Mindful+Learning&qid=1711099538&s=books&sprefix=the+power+of+mindful+learning%2Cstripbooks%2C112&sr=1-3)  [Ellen Langer]
Distinguished author but narrowly concerned with one (mindfulness) approach
* [Why Don't Students Like School? A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom](https://www.amazon.co.uk/Why-Don%E2%80%B2t-Students-Like-School/dp/1119715660/ref%3Dsr_1_1?crid=2ON2FNE1GCYPC&dib=eyJ2IjoiMSJ9.Lc_ZUcJbqpnJ-Kzy1-qCGDl38_4HAKk6wZUbcKfPJiXGjHj071QN20LucGBJIEps.q3J39Wriyh6wS6CTkijI6wsBxE-hGsKmF7lk6NeorC0&dib_tag=se&keywords=Why+Don%27t+Students+Like+School%3F%3A+A+Cognitive+Scientist+Answers+Questions+About+How+the+Mind+Works+and+What+It+Means+for+the+Classroom&qid=1711099576&s=books&sprefix=why+don%27t+students+like+school+a+cognitive+scientist+answers+questions+about+how+the+mind+works+and+what+it+means+for+the+classroom%2Cstripbooks%2C108&sr=1-1) [Daniel Willingham]
Widely read academic author who writes clearly but sacrifices detailed scholarship for accessibility
* [Effective Study and Learning: How to Help](https://www.amazon.co.uk/dp/1912755904/ref%3Dsspa_dk_detail_6?psc=1&pd_rd_i=1912755904&pd_rd_w=ibMVG&content-id=amzn1.sym.67430c1d-696a-45e1-be6b-972213775cc6&pf_rd_p=67430c1d-696a-45e1-be6b-972213775cc6&pf_rd_r=F3XSKRWXVAT31BCE5KGV&pd_rd_wg=e62qX&pd_rd_r=494fa694-3957-4440-b7b2-f452a4f49c10&s=books&sp_csd=d2lkZ2V0TmFtZT1zcF9kZXRhaWwy)  [Gavin Reid, Jennie Guise]
More focussed on a learner audience and about personal learning skills
* [How We Learn: The New Science of Education and the Brain](https://www.amazon.co.uk/How-We-Learn-Science-Education/dp/0141989300/ref%3Dsr_1_1?crid=C9JFI5OVYS3K&dib=eyJ2IjoiMSJ9.B3hd6M03QQZzQYpSi2sUpdtKtGDxpbuuucuv9Cn2oGhNecUhoRZ7JtzkQLOLAnDpAESH9hBKDGIwj0Q-So2YioFg68fMLuPzWdde-dOy3GlFkowWI1j7h2dKoVjCBfoFEMNsmI0PUkUlPX6hZpjsu6HdJWjIuE9WV-tqrSlp1EK6JjFm6uYuh77dqZixr12fZUwSI5Q8S5GqeiQ_HgRupDaZas-Js6hCdk4byB7a7Cs.T5QqkX9baYx8-llqamvhLsceOyAXnut7hwlOTrEHsZ4&dib_tag=se&keywords=How+We+Learn&qid=1711100002&s=books&sprefix=how+we+learn%2Cstripbooks%2C79&sr=1-1) [Stanislas Dehaene]
Distinguished author. But narrowly concerned with neuroscience and highly focussed therein

**Unresolved issues**

* There could be a case for ‘further reading’. Suitable references might be placed as a list at the end of each chapter
* A website associated with the book. I appreciate the way in which website are not maintained longterm could be a problem – despite an intention on my part at this point to do so. The URL is inexpensive and I own it. It could also be a ‘further reading’ space
* There are few graphics in the text. In particular, no graphs, diagrams or tables. This is not intentional. It merely seemed that if any were included then perhaps all should be. And that would be space consuming. It might also make the book too much of a monograph and not a text book. But this could be done

**References**

Biesta, G. (2020). Risking ourselves in education: Qualification, socialization, and subjectification revisited. *Educational theory*, *70*(1), 89-104.

Müller, L. M., & Cook, V. (2024). Setting research priorities for applied cognitive sciences—What do teachers want from research? *British Educational Research Journal*.

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