Taber, K. S. (2010). Psychology for teachers? Teacher Development, 14 (2), 269-278.
https://doi.org/10.1080/13664530.2010.494505

Psychology for teachers?

Essay review of

Teaching, Learning and Psychology

Jane Yeomans & Christopher Arnold

London: David Fulton Publishers, 2006

for *Teacher Development*

Teaching, Learning and Psychology (henceforth *TLP* – all page references below are to *TLP* unless otherwise noted) sets out to offer teachers an introduction to a number of well-established perspectives from psychology, and to show how these perspectives can inform the work of the classroom teacher. The relatively modest volume (considering its topic) includes much fascinating material, and should be of interest to all teachers regardless of their subject, or the level they are teaching at. The main limitation of the book, given its breadth, is the lack of scope for engaging with issues in depth.

The reader's learning context

The authors, educational psychologists Jane Yeomans and Christopher Arnold, set out their aim for *TLP* as to "highlight the important roles played by psychology in the processes of teaching and learning" (p.viii). This would be a challenging target for any book, although it has to be seen in terms of their intended audience of teachers, and especially new (i.e. 'trainee') teachers. This raises the question of which aspects of psychology are most useful for teachers, especially those in the context of the UK's teaching (Qualified Teacher Status or QTS) 'Standards' that provide an implicit (and often explicit) backdrop to the book. Given that the second sentence of the first chapter informs us that "The 1870 Education Act made education compulsory for all", and that references to the QTS standards are liberally used in their book, and references to the (sic) National Curriculum and government agencies are taken to be familiar to readers, the present essay review of *TLP* will also draw heavily on the English context that Yeomans and Arnold assume as the backdrop to their volume.

Teaching and learning are universal features of human experience, and formal schooling has much in common in all modern societies, so one might expect a common core of educational psychology to be recognised as central to effective teaching regardless of the national context. Yet in the context of preparing to teach in England the authors feel the need in their preface to argue a case that teachers, who are 'busy getting on' with the job, could benefit from a sound knowledge base to inform practice.

Such a claim might seem unnecessary to potential readers in many countries. Psychology, after all, is the basis of our formal theories about human learning; learning is the key concern of education; and teaching is about facilitating desired learning. Surely it is self-evident that a study of certain aspects of psychology can inform teachers: to help them plan effective teaching; to help them understand their classrooms and the learners within them; to guide the myriad real-time decisions that are the crux of classroom teaching? Yet in the context of 'training' to be a teacher in England, which means demonstrating the government's Standards for QTS, Yeomans and Arnold are probably right to feel defensive about the need for their book. Many of us who work in initial teacher education find the 'teacher training' descriptor inappropriate, and prefer to think we are supporting new entrants as they prepare for a career in teaching. However, when a government establishes a set of standards for qualification - each to be met individually, unfortunately giving the unintended and inappropriate impression of a checklist – then perhaps 'training' seems an appropriate term. Student teachers (or 'trainees', 'beginning teachers', etc) reading *TLP* may well suspect that - of the six schools of psychology presented in the book - teacher 'training' has been largely framed by a behaviourist perspective.

The days when teacher education programmes would typically include explicit courses on psychology, taught by specialist psychologists, are largely in the past in the UK. Post-graduate teacher education, at least, is largely based on a model of professional induction with the school-based mentor as the font of all necessary professional knowledge, and other departmental colleagues as the role models for what a teacher needs to know, and be able to do. Trainee teachers (at least at secondary level) spend twice as many days during their course in schools working alongside qualified teachers as they do in supervisions, seminars, lectures and other learning contexts in their higher education institution. Moreover, the academics they do meet and interact with are predominantly ex-school teachers who have made a transition to teacher education.

These new teachers, then, learn about teaching and learning from current teachers and former teachers, rather than from psychology specialists. When Yeomans and Arnold write for example that "we have assumed that child development will be covered in some depth in your training, so this chapter will only give an

overview" (on p.20 of *TLP*), one wonders where they expect child development to be studied in any depth in a post-graduate teacher education programme. Sadly, for most new entrants to teaching, certainly on one-year programmes, a book such as this will extend far beyond any specific psychological input into their 'training' programme.

The debate about how to best prepare new teachers is of course a long-standing and on-going one, and the same point can also be made in regard to learning from the other 'foundation' disciplines of education – history, philosophy and sociology. The current PGCE model has much to commend it, certainly in terms of helping trainees feel prepared for their professional role on taking up their first teaching posts. However, it is clearly based on a view of the kind of knowledge and skills that teachers need, and of the types of experiential learning that can facilitate new entrants acquiring them. Perhaps this shift has helped provide the justification for the development of alternative routes into teaching whether higher education institutions have a subsidiary role, if any. It is interesting to compare teacher education with other professions such as medicine or law. Certainly there is commonality in the notion of degree level background offered in an academic setting, followed by further work place learning. However, there is an important difference.

In medicine the entrant is generally expected to study the courses that provide the background knowledge for the clinical phases of becoming a doctor: anatomy, physiology, community medicine, biochemical and pharmacological topics and so on. These provide the conceptual frameworks for making sense of clinical training, so that learning in the hospital will build upon a sound foundation in the relevant areas of knowledge supporting medical expertise. In education, this would mean an undergraduate course considering such matters as learning theory, social psychology of the classroom, child development, curriculum theory and so. This would support learning about teaching and learning in school classrooms on a post-graduate training course. Of course these elements *are* typically included in undergraduate degrees in educational studies, alongside courses designed to develop subject knowledge. Yet it is assumed that for teaching at secondary level a degree level education *in a teaching subject* is sufficient to prepare students for post-graduate teacher education that will provide little explicit teaching about the psychology (or sociology, etc) of education.

Such a situation offers authors such as Yeomans and Arnold both a freedom, and a difficulty. The lack of any widely accepted body of necessary psychology for teachers offers the authors the opportunity to make their own choices of what to include, without feeling restricted by being expected to match (largely non-existent) course outlines. The difficulty, as alluded to above, is to persuade teachers that they will benefit from spending time reading-up this 'extra' subject, rather than perhaps spending more time reviewing their subject knowledge. After all, having strong subject knowledge is seen as an essential part of qualifying as a teacher (in the English

context) whereas understanding the psychological basis of pedagogy is not explicitly required. The difference in priorities here is part of the broader mentality in relation to what it means to be a professional teacher in England in the first decade of the twentieth century.

So being a graduate in an academic discipline, and thus (a) having a deep understanding of the structure and nature of that discipline, and (b) being highly skilled in applying disciplinary techniques, is expected. Yet this is no longer considered enough for qualifying as a teacher, who must also 'master' the subject knowledge in those areas of the discipline that have become defined in the curriculum as a school subject – and where official regulations and guidance may conveniently forget that schools subjects are not the same as academic disciplines. That is, schools subjects are politically formed entities in their own right, that –at best – represent and model an academic area such as history, geography, mathematics or science (Kind & Taber, 2005; Morgan & Lambert, 2005). This expectation can give the impressions that having the skills and underlying disciplinary knowledge to do the necessary research for teaching is valued less than having demonstrated subject knowledge 'coverage' of the scheme of work or teaching framework or examination specification.

By the same token, it must seem to many new (and perhaps established) teachers that they are expected to be able to use the recommended and officially approved pedagogic techniques, rather than to be able to justify their pedagogies by considering how they might be shown to rest upon particular psychological perspectives. This seems to be the context in which Yeomans and Arnold have written their book, and in England at least it is in this context that it will be received. The former approach, of course, assumes there is little need for the professional to judge the suitability of recommended approaches for their particular teaching contexts.

Yet there is ambiguity in this context, which offers hope that books such as *TLP* may be welcomed by the profession. For teachers are also required to be registered with the professional body: that is, teaching is meant to be self-regulating, with the profession setting out expectations of professional behaviour, and having the expertise to determine what is appropriate and current good practice. (The irony here, of course, is that the professional body has the power to suspend registration but the criteria for qualification in the first place are outside its remit.)

Significantly, not only is teaching seen as a graduate entry profession, but graduate teacher preparation is increasingly being set at Master's level, which by definition means that Post-Graduate teacher education courses include an expectation of students showing "originality in the application of knowledge" and understanding "how the boundaries of knowledge are advanced through research" (QAA, 2001). If

their qualification is a Post-graduate Certificate *in Education* (PGCE, the common UK initial teacher education qualification), then surely their studies should been "at, or informed by, the forefront of an academic or professional discipline" (*ibid*), where that discipline is Education (not that of the teaching subject).

To meet this expectation, trainees undertake assignments set at master's level involving engagement with the research literature, and usually some level of practical enquiry, where small-scale action research is used to investigate some aspect of the student's own practice in the classroom. The notions that (a) teachers can be informed by published research, and (b) teachers should be skilled in enquiring their own classrooms to improve their professional practice are both to be welcomed. However, the need to include some level of educational research training into what is effectively a 12-week Faculty based programme is another demand on training institutions. Moreover, engaging with the research literature, and even more so developing the conceptualisation to support classroom enquiries (Taber, 2007), require an existing knowledge base: not in history, or mathematics or a science, etc., but with the theoretical concepts that support educational enquiry. And these, of course, often derive from the very foundational disciplines, such as psychology of education, that have been largely squeezed out of the teacher 'training' curriculum to make way for learning about the latest teaching frameworks and 'strategies' that are loaded onto schools by government agencies. These centrally designed initiative often reach teachers with much of their theoretical justification pre-digested and bowdlerised so that the recommended ways of teaching (the skills to be acquired) are not obscured by the complexities of interpreting knowledge claims in terms of various theoretical standpoints – which would be characteristic of true professional thinking.

Psychology is perhaps an ideal of example of how, within one overarching discipline, diverse perspectives offer a range of insights, all of which may be considered potentially useful to inform practice (in this class, classroom teaching). In *TLP*, Yeomans and Arnold offer six such perspectives: biological; behavioural; experiential; social constructivist; cognitive; and psycho-dynamic. These different approaches may not have the same range of application (or range of convenience, as Yeomans and Arnold suggest here), but they certainly overlap, and throughout *TLP* the reader is offered multiple perspectives on a range of key issues in classroom teaching. If the official guidance recommended to teachers in the UK has the flavour of a Kuhnian paradigm with an accepted consensus way of making sense of how to teach (Kuhn, 1996), then *TLP* offers a more realistic view of how different research programmes can coexist over extensive periods (Lakatos, 1970), each offering something to inform teaching.

Teaching and learning are highly complex phenomena, and no doubt future research will support much that is currently claimed as 'good practice', whilst casting doubts over other recommended teaching strategies as being ill-found and based on over-simplistic assumptions. Asking new teachers to learn how to effectively implement pedagogy may be sensible if we are confident we know how best to teach. However, if we accept that the educational experts (such as teacher 'trainers') may also still have much to learn, as well as the trainees and their students, then this is seen to be a short-sighted approach. Exposing new teachers to a wide range of theoretical insights, as Yeomans and Arnold do here, may initially confuse and so delay the attainment of basic competence, but ultimately provides them with something one hopes they will appreciate: an education, rather than training in specific approaches. Arguably, education is what professional, rather than just vocational (in its modern sense), preparation should be about. If new teachers come to accept their own professional 'training' to be based upon a 'rhetoric of conclusions' (Niaz & Rodriguez, 2000), then it does not seem likely they will prioritise enquiry and critical thinking in their own teaching to the much less intellectually developed students in school contexts.

Psychological perspectives on classroom teaching

So Yeomans and Arnold set out to offer an account of a range of teaching and learning issues in terms of diverse perspectives, to trainee teachers who will probably meet virtually no explicit psychology in their formal course sessions. Topics covered in the different chapters are:

- child development
- teacher perceptions of children
- classroom learning and learning styles
- the teacher and the community of the school
- managing the classroom
- communication, prejudice and equality in the classroom
- monitoring and assessment
- understanding and managing special education needs

The authors suggests that these chapters can be read in any order, but they set out a basic account of their different perspectives in the first chapter and advise readers to consider that as important background for the rest of the book. The final chapter discusses 'the reflective teacher'.

Given Yeomans and Arnold's approach, what does the reader get? Well the total length of the book allows about 20 pages per chapter, each considering major topics relating to classroom teaching according to several perspectives. Breadth, certainly,

but clearly with some constraints on the level of detail that is possible. In some places this review felt the resulting treatment of important topics in *TLP* became somewhat cursory.

So, for example, in arguing for the relevance of biology to psychology we are told that

> Charles Darwin has described the process of natural selection and the survival of the fittest organism leading to the evolution of the species. Richard Dawkins has refined those ideas to consider genes mutating, with those that offer survival advantages being selected. The fittest genes are passed on. If genes influence behaviour then some behaviours too, might be passed on from one generation to another. We can consider the 'survival of the fittest behaviours'. This is called *sociobiology*. (*TLP*: p.6)

This short passage offers a gloss on well over a century of evolutionary thought. Darwin, of course, is most famous for theorising about the *origin of* species (Darwin, 1859/1968) or perhaps in population imagination for his ideas about the origins of one in particular (Darwin, 1871/2006), not just the evolution of existing species. With due respect to Dawkins there was a considerable cadre of scholars refining Darwin's ideas over the many decades between the publication Darwin's *Origin of Species* and the appearance of Dawkin's first best-seller on Darwinism (Dawkins, 1976/1989). Edward O. Wilson, who is considered to have originated the idea of sociobiology himself describes this as "the systematic study of the biological basis of social behaviour in all kinds of organisms, including humans" (Wilson, 1998: 150).

The danger of this degree of conciseness is that it can obscure important ideas deserving critical reflection with over-simplification. So in the passage quoted above it is easy for a reader to miss the potential tautology in the discussion of fitness: individual organisms, species, genes or behaviours survive because they are fit; and individual organisms, species, genes or behaviours are considered fit because they are those which are associated with survival. That is, individual organisms, species, genes or behaviours survive because they are fit – to survive. A deeper discussion is therefore needed to develop something more than a superficial appreciation of the concept of 'fitness'. (On the very next page the discussion of Skinner's behaviourism parallels this: "if an action is followed by a reward the action is more likely to be repeated … What constitutes a reward … is simply defined. If an event is likely to result in the action being repeated it is considered a reward" (p.7).)

The simplistic approach to evolutionary theory is reflected in the discussion of the 'nature-nurture' debate. Yeomans and Arnold correctly warn of "dangers inherent in over-emphasising one or the other [nature or nurture]" (p.22), but notions that one can assign relative importance to *either* genes *or* environment are surely passé (Ridley,

2003). There is an interaction here that cannot be ignored: genes can only ever be expressed in specific environments, and what is 'fit' in one context can readily be disadvantageous in another. It is not a matter of whether or not we choose to think that "biological or genetic factors are the most important aspects of development and difficulties" (p.23); but rather recognising that there is a complex system at work, and that teachers can influence that by their input into the components that they *can* influence (viz., the 'environmental' factors). Yeoman and Arnold's phrasing that "increasingly, medical science is able to provide more and more knowledge about our biological heritage, but that the environment continues to play a part" (p.23) has too much of a rearguard action for this reviewer – the more we understand the biological aspects of development, behaviour, learning – and the conditions under which distinct changes occur – the better we can seek to engineer the learning environments to support students.

The summary style can be criticised elsewhere in the book, with ideas presented without sufficient explanation - e.g., the reader might ask why does it help to present material in verbal and visual forms? I imagine many careful readers will be intrigued by a statement such as "there is some empirical support for the assumption that people have unconscious thoughts and ideas" (p.126) and will be disappointed to find that this claim is not explored, but just left hanging in the text.

In places this approach may seriously compromise the pedagogic value of the book. So, for example, telling teachers (or trainees) that "there is a maximum of nine units of information that can be processed at any one time" (p.61) and asking them to note the number of units of information in a lesson is not very helpful without unpacking this idea. Teachers and pupils do not share the same way of organising knowledge, and so it is important that teachers learn to see the material at the pupil's 'resolution' not that of the expert. The limits on processing (more commonly considered as 7±2) have to support procedures as well as data, so that a task requiring coordination of seven "unit of information" may exceed most pupils' capacity – unless they have a strategy for breaking the task down into more manageable subroutines. Inevitably such important ideas cannot be dealt with in any detail in a single volume such as this, but such a cursory treatment may not provide a good basis for allowing most readers to take on board the information here in a meaningful way.

As another example, this reader was not familiar with the Principles of Ma'at, and made little of the biological analogy which illustrated its 'principle of righteousness' through "how cells try [sic] to self-correct from an imbalance or outside influence" (p.82). Similarly, the attempt to describe how the different social patterns in non-human animals offered insight into the "possibilities" for how "varieties of groups of people" are found within "within communities" (p.84) was not very

convincing. Yes, some animals are solitary, some pair bond, some only get together to mate: but how does this offer insights into classrooms? I chose to assume that the caste system of bees, ants and termites offers nothing beyond a surface analogy ("different individual perform different tasks", p.85) with human societies. I have no reason at all to think that Yeomans and Arnold would ever condone a view that caste systems in human cultures might be in some way justified as natural because this is found among some of our six-legged fellow occupants of the planet - but that could be taken as the implication of following this list of possibilities with the conclusion that the "biological origins of our communities, therefore, may be surprisingly complex".

In discussing motivation from a cognitive perspective, Yeomans and Arnold refer to research reporting four orientations to learning, and suggest three are considered successful. One of the four orientations ('non-academic') is described as "pupils do not see the value of studying", so presumably this is an unsuccessful option. However the 'reproducing' option is described as

> Pupils only look at the surface of the work. They reproduce work by memorising it rather than analysing. Their main motivation is the avoidance of failure or need to please significant adults. They work for the qualification rather than any intrinsic value in the work (p. 92)

Presumably, this is considered successful because students are actually orientated to study. Associating surface learning motivated by fear with a successful orientation seems to invite some discussion and critique in a book aimed at those seeking to work in schools with young people. However, these empirical findings are presented with no elaboration.

Another important topic is intelligence, for, as Yeomans and Arnold tell their readers in something of an understatement: "it is very likely that you will come across the concept of intelligence in the course of your teaching career" (p.141). Yet again there is limited space for exploring the topic, and the discussion of intelligence in *TLP* has already offered an implicit identification with IQ (p.142) before alternative notions are introduced. The reference to debates about IQ and race is an area where a complex and potentially significant issue deserves more exploration. Although the authors make reference to where issues of equity are discussed elsewhere in the book, more could have been done to support the reader in making sense of this contentious issue.

The final chapter of the book explores the notion of the reflective teacher, and considers the use of research in education. This is an important area, and it is here that those students taking M-level post-graduate courses, referred to above, might actually find the volume most closely linking with core material presented in their

University based course components. In many ways this is the most central topic – if Yeomans and Arnold are only able to offer a whistle-stop tour of some very important topics, at least they raise awareness of areas where students and teachers may wish to explore further, perhaps even accessing some of the primary sources for the research findings cited in the text. The authors' association of 'positivist' research with a 'scientific approach' rather grates, as it undermines attempts to see how educational research can be considered 'scientific' (Taber, In press), something that has been increasingly important (NRC, 2002) as experimental studies have almost come to be seen as the only worthwhile forms of educational research in some countries.

An informative guide to the breadth of the field

Despite these concerns, the text is generally clear as well as concise, although a little more copy-editing might have been useful. For example, readers are left to consider how the *four* bullet points on p.6 summarise the *three* assumptions William James made as his basis for considering psychology 'a natural science'. There are some lazy references to material presented at some undisclosed 'elsewhere' in the book that are unhelpful to the reader, and in one case that elsewhere turns out to be over the page! Some of the figures are not well labelled (for example in the chapter on the teacher and the community of the school). Chemical symbols and formulae appear to have been confused in one example (p.150). Stating that "a percentile rank of 50 represents average [sic] attainment" in a table of definitions of statistical terms (p. 140) seems to beg the question of what is meant 'average', a term which is avoided in statistics to avoid conflating various measures of 'average' (presumably here the median is intended). Gardner has proposed more than "seven different types of intelligence" (p.147) for some years now, and seeing this number given in a book published in 2006 does not suggest the most up-to-date scholarship. In educational research, it is usual to consider statistical significance to be reached at the $p<0.05$ level, not $p<0.01$ (p.189).

Yeomans and Arnold usefully adopt examples relating to real classroom practice to illustrate many of the ideas they introduce, although inevitably some seem more authentic than others. The writing is generally engaging, and at a level suitable for the intended readership. The book offers different ways of looking at important topics, and although some of the accounts are lacking in detail, the range of examples and comparisons provides such variety that should all readers to find material they can relate to. The six perspectives selected do a generally good job of illustrating the rate of ideas and insight that psychology can offer teaching. Given the current hopes for the potential of neuroscience to inform education (Goswami, 2008), it is surprising there was limited reference to this body of work. Indeed, although the authors do cite a wide range of research studies, there are many places where

explicit suggestions of further reading would have been useful. For example if space did not allow more discussion of the race and IQ debate, then Gould's very readable (1992) account of the issues could have been recommended.

Although the book does not include coloured illustrations, it is designed with a range of characteristics that should encourage readers. The typeface is clear and the text has a modest density that is easy on the eye. Partly, however, this is due to a generous use of bullet points in parts of the book, sometimes giving the impression more of notes than a full account (again back to the limited depth of discussion of many issues). Regular headings and subheadings break up the text, and boxes offer 'reflection points' and 'theory and practice links' as well as case studies and activities to apply ideas met in the text. There is also a good use of tables and line diagrams that are clearly set out. There is a reference list of cited works, and an index, although the latter is not comprehensive. For example, in relation to the race and IQ debate considered above, the index does not include entries for 'IQ', 'Jensen', 'race' or 'cultural bias'.

Despite its limitations, the overall impression then is of a book that is easy to engage with, and divided into readily manageable chunks, and these features may be considered appropriate by the intended audience. Trainee teachers are (given the context discussed above) unlikely to be expected to buy a book on the psychology of education to support their course, and are more likely to invest in broader based readers, or in the case of secondary phase trainees, books written from the perspective of a particular teaching subjects. The attractive format of *TLP* may well invite browsing buyers to dip in, and if so they will certainly find a wide range of interesting and relevant topics discussed in the book.

Overall, then, the book covers a lot of ground, and offers a welcome diversity of perspectives. It also links to real teaching contexts throughout. However, the treatment of many topics lacks depth, and does not support extended critical engagement with the issues. In some places it is suggested that a companion volume aimed at teaching assistants offers more detail, but it seems unlikely that many teachers or trainees would wish to buy both volumes. One would like to think this book will provide the starting point for further reading, and it has great potential to act as an introduction to the wealth of psychological ideas and research that can potentially inform educational work. This could be an effective read to whet the appetite, if less likely to be filling as the main course.

So the book could certainly be a useful buy for a teacher in training. However, given the current context, where the disciplines are downplayed in teacher 'training', the explicit reference to psychology in the title may not be a strong selling point. Yeomans and Arnold are competing with existing books that avoiding such direct

association to the foundation disciplines of education and which are perhaps more in keeping with the current mentality of initial teacher education. With most trainees making few book purchases, *TLP* may find itself competing with strong titles (in both senses) such as Moore's (2000) *Teaching and Learning: Pedagogy, curriculum and culture*, and Muijs and Reynolds' (Muijs & Reynolds) *Effective Teaching: Evidence and practice*. In this context, a book about educational psychology may not fare well. This would be a shame as the book has much potential for opening up the field of educational research to new (and not so new teachers).

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