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1 Demythologizing Teaching and Learning in Education: Towards a Research Agenda

Marcus K. Harmes, Henk Huijser and Patrick Alan Danaher

Introduction

Myths occupy an enduringly powerful position in teaching and learning objectives, in activities and in outcomes in contemporary education. Myths also generate a range of responses from education researchers: some researchers seek to challenge and transform persistent myths associated with disempowering stereotypes; some focus on interrogating myths understood as popular mis/conceptions about teaching and learning; and some researchers conceptualize teaching and learning as sets of powerful narratives and stories that evoke timely or timeless messages about current educational practice that need to be comprehended. Finally, myths can be productive learning tools in themselves, as they create (and sometimes recreate) narratives that are neatly wrapped around culturally based messages and ‘truths’. The following chapters interrogate assumptions upon which teaching in a variety of contexts is based, drawing together a rich array of perspectives and methodologies. Some chapters are based on scrupulous empirical research and others on the critically alert interpretation of theory. The chapters take up the idea of a ‘myth’ in different ways. Of course in any rationalist sense, anything ‘mythical’ is ‘untrue’, but arguably something mythic also crosses into areas of faith and belief. In some chapters, the authors argue that there is critical scrutiny of faith which is sometimes misplaced, in aspects of practice and scholarship and also in technology. None of the myths evaluated here is however in the realm of the ‘untrue’ as the different chapters assert the often potent impact of belief and practice. None of this should be taken to suggest that what follows is polemic; there is however emphasis on ‘myths’ as something pervasive and not always
positive, but this approach is balanced by research that suggests rich and constructive alternatives.

This chapter identifies a number of different perspectives on teaching and learning myths in contemporary education and analyses some of the conceptual frameworks, research methodologies and empirical evidence generated by scholars associated with those perspectives. The discussion in this chapter points towards a provisional research agenda for examining and evaluating the constructions, the deconstructions and where appropriate the reconstructions of multiple teaching and learning practices in current education theorizing, policymaking and practice, which the subsequent chapters develop. In the collection that follows, several ‘myths’ are examined from within different cultural and educational contexts, from disciplines such as medicine, education, vocational education and English language programmes and from contexts including the Middle Eastern, Dutch, Spanish and Australian education systems, as well as supranational online environments. These are set against the shifting priorities of policymakers, teachers and other stakeholders.

The mythic in education

Contemporary educational principles, policies and practices abound with myths of all shapes, sizes and degrees of significance. By this we mean that such principles, policies and practices are framed, informed and influenced by all manner of powerful stories about teaching and learning. Those stories are sometimes accurate reflections of reality; they can be empowering but sometimes they represent received and often unexamined opinion, and sometimes they derive from faulty and even destructive misunderstandings of teaching and learning. Many myths after all have a darker side to them – some are irrational and others are beguilingly but ultimately dangerously attractive (Hamilton, 1940).

Given this diversity of myths concerning contemporary education, it is timely to interrogate a selection of them, with a view to elucidating their origins and composition, their effects and implications and appropriate ways of engaging with them. Such engagement might range from finely grained analysis to supplementation to deconstruction to challenge and displacement by an alternative mode of thought or practice. This range of possible responses is a crucial element of elaborating a possible research agenda for taking forward the scholarly interpretation of current teaching and learning myths to which the book as a whole also contributes directly.
Current teaching and learning myths: The literature

We begin this account of selected literature about current teaching and learning myths with Zmuda’s (2010) intentionally provocative rendering of myths and the belief in them in contemporary educational settings. Here she takes up the notion of myths as being analogous to beliefs and stories:

> Whether these beliefs are born from experience, comments from other students, misguided comparison of students’ own performance with their peers, or feedback from family members and teachers, adhering to them reduces learners’ engagement level, perceived capacity, and resilience. The stories students tell themselves about what kind of learners they are, what it takes for them to do well, and whether or not such success is desirable persists through years of schooling with minimal interruption or acknowledgment from the adults. (p. 12)

Although Zmuda’s (2010) focus was on schools in the United States, her critique of myths provides a useful starting point for more broadly interrogating educational myths in other educational contexts as well. One key aspect of that interrogation is the identification of the multiple sources of myths, encompassing ‘experience, comments from other students, misguided comparison of students’ own performance with their peers, or feedback from family members and teachers’ (p. 12). Another crucial element is the considerable power of the resulting stories, which often shape students’ and educators’ behaviours in taken for granted patterns and with unchallenged outcomes.

A more overtly political stance on myths in teaching and learning is proposed by Kumashiro (2009), who questions so-called common sense perceptions of the world and its inhabitants:

> students often come to school with harmful, partial knowledge about people from different racial backgrounds, gender identities, religious affiliations, and so forth. Either they know very little, or they know only what is inferred from stereotypes and myths. When schools do not correct this knowledge, they indirectly allow it to persist unchallenged. To change such mis-knowledge, educators need to broaden students’ understanding of differences and different groups of people, and they can do so by integrating into the curriculum
4 Demythologizing Teaching and Learning in Education

a richer diversity of experiences, perspectives, and materials.
(p. xxxvii)

Significantly, Kumashiro’s (2009) conceptualization of myths bears similarities to the ways in which stereotypes function. Both are often critiqued as ‘negative’ and ‘false’, even if they obviously conjure up powerful ‘truths’ in the minds of those who appropriate them. To deconstruct and/or reconstruct such myths therefore takes considerable effort, but at the same time can be a powerfully transformative process (Freire, 1970). However, it can also be a highly delicate process, which cannot be rushed. Simply attacking myths head-on may lead to rigidifying them, even reviving them, rather than transforming them.

Cranton (2011) espoused a similarly critical position to that of Kumashiro (2009) in relation to myths in the scholarship of teaching and learning in colleges and universities. In place of such myths, Cranton advocated ‘an emancipatory Scholarship of Teaching that centres on critical reflection and action on the contexts of teaching: the disciplines, the institution, the community and the state and society in which we practice’ (p. 75). This list highlights the wider considerations and the diverse contexts that generate educational myths and that contain the possibilities of their de/reconstruction. However, specialized accounts of teaching and learning myths can also cluster around specific disciplines. For example, several myths have been attributed to students’ and teachers’ mis/understandings of fundamental concepts in geography (Day, 2012), history (Reich, 2010; Kitson & Husbands with Steward, 2011) and science (M. J. Smith, 2010; Mulhall & Gunstone, 2012).

Other kinds of myths relate to common educational practices that can have significant impact on the perceived success and subsequent careers of individual learners and educators. For instance, students’ completed satisfaction surveys about their learning experiences are increasingly used to evaluate university academics’ teaching effectiveness, yet there is no necessarily direct correspondence between the two phenomena (Davidovitch & Soen, 2009; Balam & Shannon, 2010; Lemos et al., 2011). Similarly, ‘research-led teaching’ is frequently lauded in university programmes and courses, despite such teaching sometimes existing more in rhetoric than in reality. Schapper and Mayson point to ‘a number of often contradictory myths that we argue universities subscribe to in their efforts to bring teaching and research together as they simultaneously create structures to separate them’ (Schapper & Mayson, 2010, p. 641). In both cases, the longer the myth endures, the stronger it
becomes, in the sense that more effort is required to deconstruct it. Again there is a subtlety in how this works that makes it powerful. For example, many academics will readily volunteer cynical commentary on satisfaction surveys, but they may at the same time accept that a colleague is a ‘bad’ teacher on the basis of low satisfaction scores.

Finally, we acknowledge that a variation on the types of myths considered to this point is the myths associated with particular cultural communities and groups. For instance, teaching about Hindu myths has proven useful in engaging learners for whom English is not their first language (Choi, 2013). Likewise, several studies have researched effective approaches to teaching about various forms of Indigenous myths and stories, including those of the Yanyuwa people of the Northern Territory in Australia (Bradley & Devlin-Glass, 2010), Indigenous Australian groups more broadly (O’Dowd, 2012), Māori people in Aotearoa/New Zealand (J. Smith, 2010) and indigenous Ghanaian people (Sefa Dei, 2010). As we noted above, myths seen in this sense can be very powerful and productive, rather than evoking the often negative connotations associated with myths as ‘falsehoods’.

Here we have presented a necessarily focused synthesis of selected literature about current teaching and learning myths. We turn in the next section of the chapter to eliciting some of the underlying perspectives framing those myths as well as the associated conceptual frameworks, research methodologies and empirical evidence deployed to construct, deconstruct and, where possible and appropriate, reconstruct them. To provide focused analysis, the emphasis is on online learning and problem-based learning (PBL), which is used in this instance as a case study for and a prelude to the research in the chapters that follow.

**Underlying perspectives on teaching and learning myths: Online learning and problem-based learning**

The impact of new technologies on higher education is profound and accelerating. However, this is not just a one-way street, as is sometimes assumed, in that technology does not simply ‘do things to us’ in a technologically determinist sense. On the contrary, technological innovation and development are phenomena in which higher education institutions are deeply and actively engaged. Indeed, many changes and new applications are in fact driven by higher education institutions themselves. This accelerated development of online-learning environments and tools on the one hand creates major opportunities for multiple stakeholders, while on the other hand it generates new
potential barriers that need to be taken into account. For example, for those who are well connected, the information stream is almost endless, and higher education opportunities abound, many of which are even free to access. This includes, for instance, the currently exploding Massive Open Online Courses (MOOCs) universe, increasing availability of open access course materials (Johnson et al., 2013) and initiatives such as Open Education Resources University, The University of the People and Melbourne Free University. This leads some to argue that higher education has never been more accessible or affordable (Usher, 2009). However, to be able to exploit the opportunities afforded by online, and increasingly mobile, environments one requires access both to the technology itself and to the skills needed to get the most out of what is there and to adapt the information to one’s own particular needs, and perhaps the needs of one’s community. As Deakin Crick (2007) notes, ‘knowledge and its manifestations are no longer “out there”, to be acquired from the centre, mastered and applied’ (p. 135). She also argues that ‘the key skills needed are the speedy and confident handling of technically and culturally changing and overflowing data and its reformulation to meet new and specific demands of the networked society’ (p. 136).

Overall, this situation suggests a need for two different skill sets, which are sometimes confused: first, the ability to navigate the online environment confidently and efficiently and to adapt to new technologies quickly as they appear; second, to be able to exploit and manipulate the available information to suit one’s needs and/or the needs of one’s community. The former is largely the terrain where myths about ‘digital natives’ (Prensky, 2001; Oblinger & Oblinger, 2005) are situated, and these myths suggest that educators are dealing with a new generation of students in education who have grown up in environments that are technologically saturated and that this generation is therefore highly skilled in the use of such technologies. This may be true to some extent, but it usually applies only to a narrow set of skills and to applied, rather than conceptual, skills (Kennedy et al., 2008).

Furthermore, such skills are not necessarily confined to a particular age group. Regardless, however, current education environments are changing rapidly and, as Davies (2012) notes, ‘online learning will make it possible to tailor education to the student, and not the other way around. In historical terms, this is unique.’ Thus, students with the right skills will increasingly have choices of where and how to access educational materials and the ability to exploit these for their own purposes. These are the kinds of skills mentioned above by Deakin Crick (2007), and they are widely recognized as increasingly important. There are a
number of pedagogical approaches that are often suggested as being able to develop such skills. These include inquiry-based learning, project-based learning, design thinking, teaching factory and, perhaps most commonly, PBL. The key elements include a combination of critical and creative thinking skills.

While PBL is considered to be able to develop such skills, there are also a number of myths associated with the PBL approach, some of which are ‘positive’ and some ‘negative’, and the chapters in this collection do tend towards the less constructive. On the ‘positive’ side, it is relatively easy to make a theoretical argument about why PBL is a good approach to teaching in the 21st century as it appears to tick all the right boxes such as graduate attributes, learning outcomes, student success and engagement, and the effective development of educational student experiences. The key skill required in the 21st century is the ability to deal with a massive amount of information and to turn this information into ‘knowledge’: that is, the ability to select and manipulate information critically and to repurpose it creatively for whatever context to which it needs to be applied. Moreover, it increasingly requires the ability to recognize and anticipate potential contexts for which that information may be repurposed, which calls for entrepreneurial skills. An often cited strength of PBL initiatives is that they facilitate the development of transferable or ‘soft’ skills (sometimes called ‘employability skills’) such as teamwork, communication, information literacy, critical thinking, lifelong learning, problem-solving, self-management, planning and organization, and innovation and enterprise (Kek & Huijser, 2011; Moore & Poikela, 2011). On a global level, many employers identify such transferable skills as being more important than technical skills or content knowledge (Drohan, Mauffette, & Allard, 2011). PBL is a pedagogical approach that potentially allows educational institutions to address these needs more effectively and to move away from more traditional and didactic approaches to learning and teaching, which are often purely focused on the transfer of knowledge and the reproduction of content.

From that perspective, Majoor and Aarts (2010, p. 249, our emphases) cite the following summary about higher education by the World Bank:

The world today is increasingly dependent on knowledge and therefore on people who are capable of generating and applying knowledge. Thus, the potential of a society to develop is critically related to the comprehensiveness and quality of its educational system and rate of participation of the population in that system.
The emphasis here is on generating and applying knowledge, rather than reproducing it, which is what more traditional approaches are focused on. Majoor and Aarts (2010) further argue that an issue with traditional teaching approaches is not only that the knowledge thus acquired is static but more importantly that it is often outdated in a global context in which knowledge changes rapidly. They note that the qualitative challenges in education have their roots in the traditional didactic tradition, which continues to dominate education in many developing countries and is not being adjusted to the changing needs of society (Majoor & Aarts, 2010; Davies, Fidler & Gorbis, 2011).

Thus, on the ‘positive’ side, there appears to be little debate about the proposition that PBL is a pedagogical approach that has the potential to empower graduates with 21st-century skills, even if there is significant debate about whether the evidence actually supports this (Archetti, 2011). It is the latter point that at times turns the benefits of PBL arguably into ‘mythical proportions’, and its proponents into PBL ‘evangelists’. Part of the reason for this is that the evidence presented is most often based on individual, small-scale case studies, whereas the often touted benefits of the skills development as outlined above would more likely need a whole-of-programme approach. Overall, then, there is likely to be some truth in the myth, but there is also a need for a lot more empirical evidence to back it up, much like the ‘digital natives’ myth.

Conversely, on the ‘negative’ side, PBL is often seen as too radically focused on soft skills, at the expense of disciplinary content, by those who are resisting the changes that are affecting educational environments. For them, students need to be taught (in the traditional ‘chalk and talk’ sense) the content first, before they can solve the types of problems they are presented with in a PBL context. This idea has similarly acquired a truth value of ‘mythical’ proportions, which has grown under the influence of a lack of empirical evidence. The myth on the other side of this coin is the very deeply ingrained myth of the teacher as the all-knowing ‘sage-on-the-stage’, which is a position that many teachers find difficult to relinquish (Wee & Kek, 2002). For PBL to work effectively, or at least to deliver the benefits outlined above, teachers need a different set of skills, which relies more on the facilitation of learning than on the ‘delivery’ of disciplinary content. In short, it requires both students and teachers to become comfortable with being uncomfortable. However, it will require considerable empirical evidence to remove the mythical qualities that still characterize the debates around PBL, and thereby turn it into a success story of mythical proportions.
Implications for a provisional research agenda

The preceding analysis is one instance of a myth in education, presented as an entry point to the chapters that follow. The chapters in this collection engage with the multiple possibilities of the notion of a myth, at times as something constructive, at others with more negative connotations. The book is divided into three broad parts: Part I: Myths about Learning and Teaching; Part II: Myths about Educational Principles and Practices: Case Studies from the Middle East; and Part III: Myths about Digital and Online Education. Significantly, this was not a predetermined segmentation, but rather grew organically in response to the chapters as they developed. From the outset, we decided to avoid restricting prospective researchers and authors too much on how they would interpret the broad concept of ‘myths in education’. Thus, these broad strands may suggest some of the current concerns in education and particularly in higher education, which is what most chapters in this volume are focused on.

The three broad parts in this book can be used as a blueprint for a provisional research agenda to interrogate myths in education, as they are intimately interrelated. In other words, while there appears to be a current urgency for a research focus on myths in online and digital education, such myths are dependent on and feed into broader myths about learning and teaching in general, as well as myths about educational principles, policies and practices. In fact, many of the myths about online education in this volume are based on much older learning and teaching myths. This book has made a start in mapping this field and, while some of the chapters include strong empirical evidence, others are more conceptual in nature, but they do thereby provide clear suggestions about a potential research agenda that back up some of the conceptual suggestions outlined in the book. In a more general sense, the editors were struck by the almost overwhelming focus among the submissions on myths in the sense of ‘falsehood’ or misconceptions, even if only partial. This is not necessarily a negative, as it has the advantage of almost naturally leading to a need to interrogate such myths by analysing the evidence that would back them up or the lack thereof, and chapters in this collection provide a useful pathway for future research in this respect. However, we would also like to suggest that one of the other meanings of myths in education, the narrative and cultural engagement with myths as a potentially very productive force in education, is ripe for the research-agenda picking and again would relate to all three broad areas in this book, albeit from a rather different
perspective. We are confident that this book will provide a stimulating starting point for anyone interested in pursuing some of the ideas that lie within. We know that many of the authors of these chapters will further pursue a research agenda that focuses on myths in education, and we hope that many of those who read this book will follow with their own important contributions to enacting that agenda.

**Myths about learning and teaching**

Part I of this collection takes the discussion into the area of learning and teaching more generally and across a range of different national educational contexts, including Australian indigenous and secondary education, Dutch education and learning in a variety of online and on-campus environments. The linking theme is the impact of teachers, the motivations of learners and the way that the two may correlate. Chapter 2 by Julianne Willis, Marilynn Willis and Henk Huijser offers a case study of learning and teaching in a Vocational Education and Training course in an Australian Indigenous centre. Out of this specific context, the authors build a case for reconsidering notions of learning as being based on either learner-centredness or teacher-centredness and consider limitations to the rhetoric about the former.

Chapter 3 by Barbara A.H. Harmes examines motivation, researching this as an essential but an often misunderstood aspect of study. Increasing numbers of students now study apart from a traditional campus with the use of technology. The importance for students of attaining goals remains the same, but the point at issue here remains that of motivation. Harmes points out that e-learning is neither simply a case of students transferring one set of motivational mechanisms from on-campus to online study, nor of university teachers providing the same sort of instruction for students as is available for teaching face-to-face. However, it is a myth to state that, whereas intrinsic motivation may be equally present in both modes, the learning environment when students are not studying on campus precludes the development and encouragement of extrinsic motivation. It is, nonetheless, more difficult to instil extrinsic motivation in online study. Harmes concludes that for both students and academics it is important to appreciate not only the meaning of the term ‘motivation’ but also, and more importantly, the finer points of its meaning and also its implications for effective study.

Chapter 4 by Wim Gijselaers and Amber Dailey-Hebert examines the link between time spent on teaching and the amount of learning that may take place. Their chapter cuts to the heart of a number of familiar
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