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PREFACE

INTRODUCING ‘THE INTERNATIONAL HANDBOOK OF PSYCHOLOGY IN EDUCATION’

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As this Handbook goes to print there is much discussion of current and emerging socio-technical trends and the challenges that these might offer to educators (e.g. Facer 2009). Trends towards increased mobility, both within and between countries, the increasingly rich information landscape, the availability and emergence of new networked technologies and changing working practices, for example, are all putting: ‘pressure on schools to educate and train the next generation for a future that cannot be foreseen, a future that is not readily predictable from what currently exists’ (Moran this volume). In the face of such uncertainty and change it is particularly important to take time to reflect on what insights contemporary research can offer to those who are concerned with teaching and learning in schools. And, it is our intention here to render accessible some of the best contemporary psychological knowledge as applied to issues of educational significance and consequence. That is, the changing nature of society and technology represent a context within which we have to make sense of enduring challenges in education concerning, for example, assessment, underachievement and special educational needs, to name but a few.

It is, of course, impossible to be exhaustive. But recognising this, our aim has been to incorporate within the *International Handbook of Psychology in Education* a diverse range of chapters, each of which critically reviews and considers the practical implications of the research evidence base as pertaining to a key issue of contemporary educational concern. A commitment to critique, prospective thinking and the consideration of application pervades each of the contributions. Drawing on diverse perspectives and theoretical approaches, each of the chapters is intended to facilitate informed discussion and decision-making concerning the processes, practices or organisation of education, using evidence to highlight solutions to key educational challenges.

The Chapters

The Handbook opens with two chapters exploring *Early Biological and Cultural Influences on Young Children's Development, Learning and Educational Attainment*. In the first of these Brian Byrne, Drew Khlentzos, Richard Olson and Stefan Samuelsson (Chapter 1) consider evolutionary perspectives on educational attainment, drawing upon two branches of contemporary psychological science – evolutionary psychology and behavioural genetics. Their aim is to demonstrate why and how educators can benefit from understanding work in these rapidly developing fields of inquiry. Some of the issues they discuss are, as the authors themselves recognise, highly controversial – for example, the suggestion that: ‘there are genetically driven differences in aptitude for core achievements like reading and writing’. However, their assertion is that if properly understood and managed the understandings arising from these fields have the potential to enrich the educational landscape for children, impact curriculum design and inform what they describe as the ‘high art’ of teaching.

Chapter 2 by Artin Göncü, Barbara Abel and Melissa Boshans shifts the focus from human biology to intersubjectivity, looking specifically at the role of attachment and play in young children's learning and development. Underscoring the central significance of the affective, social and cultural contexts within which young children's learning occurs, the specific focus is on: 'how children's attachment relationships and play activities set the stage for their learning'. The authors' emphasis on the affective contexts for learning and the significance of safe and caring learning environments introduces an issue of consequence for several of the contributors to the volume. Eva Vass and Karen Littleton (Chapter 4), for example, discuss the significance of affect in respect of shared meaning making, whilst Blatchford and Baines (Chapter 7) consider relational approaches to developing children's groupwork and the importance of creating conditions for psychological safety in classroom contexts.

Section Two focuses on *Interaction, Relationships and Learning*. It commences with a chapter by Judith Kleine Staarman and Neil Mercer (Chapter 3) exploring the nature and significance of educational dialogues between teachers and learners in classroom contexts. The authors' concern is to understand, from a sociocultural perspective, the dialogic processes implicated in the guided construction of knowledge. What is apparent is that whilst there is a strong body of research evidence indicating what constitutes effective classroom dialogue, such evidence has had relatively little impact on the ongoing processes of teaching-learning in classroom settings. In other words dialogue is seldom being exploited effectively as a pedagogic tool. The authors therefore suggest that there is a pressing need to develop dialogic pedagogical

practices in classroom settings if talk is to be harnessed effectively to develop learners' understanding and knowledge.

Kleine Staarman and Mercer's emphasis on interactions between teachers and learners is complemented by the contribution from Eva Vass and Karen Littleton (Chapter 4). Vass and Littleton discuss research that has been designed with the aim of understanding and promoting collaboration between peers. The chapter clearly problematises current educational practices in respect of groupwork – pointing to the phenomenon of children working everywhere in groups but rarely as groups. It is evident that careful consideration needs to be given as to how to promote and resource productive educational dialogues between peers – with due attention being paid to task design and relationship quality, for instance. Once again it is evident that whilst talk can potentially be a powerful tool for developing knowledge and understanding it is not an educational panacea. Vass and Littleton also highlight the significance of new technologies for resourcing and mediating collaboration – an issue that assumes central significance in Section Three.

The work reviewed in Chapters 3 and 4 suggests that the forms of reasoning currently being favoured in educational settings are progressively more social and, as Baruch Schwarz and Christa Asterhan make clear (in Chapter 5) this brings processes of argumentation to the fore. Schwarz and Asterhan point to the burgeoning interest in argumentation in the psychological and educational literature and emphasise the central role of argumentation in human thinking. Drawing on developmental research, the authors consider the potential and pitfalls of argumentation as an educational tool and go on to review the literature concerning argumentation and learning. The

research presented throughout the chapter indicates that whilst engaging in argumentation can result in substantial learning gains, conceptual changes and the development of reasoning skills, argumentation in educational contexts seldom occurs spontaneously and is hard to sustain. Equally the task of designing for productive argumentation is a complex one. But the educational imperative of securing ‘better and deeper communication between people’ is one that cannot and should not be ignored.

The emphasis on the nature and significance of the social construction of knowledge which pervades this section of the Handbook endures in Kai Hakkarainen’s contribution (Chapter 6) examining the role of learning communities in the classroom. Four perspectives are considered, these being: Ann Brown’s distributed-expertise communities; Bereiter’s knowledge building communities; Lave and Wenger’s communities of practice and Engeström’s expansive learning communities. The value of such community-based approaches to learning are said to cohere around: ‘engaging students in a) pursuit of complex problems, b) sharing of and creating of knowledge, c) breaking boundaries between educational and other communities, and d) promoting the development of students’ agency.’ What is also clear is that the development of innovative learning practices has emerged through the creative processes of interaction between teachers and researchers. This in turn raises important issues concerning how collaborative practices between teachers and researchers might be fostered and facilitated through the creation of what Hakkarainen terms ‘hybrid cultures’, within which the learning culture itself becomes ‘the expansive object of an emerging, practice-driven educational process’.

The final contribution in Section Two is made by Peter Blatchford and Ed Baines (Chapter 7) who review psychological theory and research concerning peer relations in school. Whilst recognising the developmental significance of the qualities of equality, cooperation, mutuality and reciprocity that are said to characterise peer-relations, this chapter also provides a detailed review of research exploring the difficulties experienced with peer relations – notably peer rejection, bullying, victimisation and withdrawal. The chapter does not focus only on classroom-based peer relations, but on informal peer relations on school playgrounds – and the links between the two. In all, the chapter makes a compelling case for why, rather than ‘suppressing’ peer relations in school (as is often the case), schools need to consider such relationships ‘deliberately and positively in relation to social development and learning’.

Section Three of the Handbook is entitled *Cultures, Creativity and Technologies* and the opening contribution, from Ed Elbers (Chapter 8), is concerned with learning and teaching in culturally diverse classrooms and schools. Framed in relation to the global phenomenon of ‘new migration’, the chapter explores work that: views culturally diverse schools from the perspective of culture and cultural differences; considers language and student participation in linguistically heterogeneous classrooms; and focuses on issues of identity and their connection to the experience of transition. Underpinning the bodies of research work reviewed is the recognition of ‘the significance of education for helping minorities and migrants succeed in society’ – an urgent educational imperative.

The palpable pressure on schools to prepare learners for a future that cannot be seen represents the point of departure for Seana Moran's consideration of creativity in school (Chapter 9). Arguing that: 'creativity and learning should neither be set in opposition nor equated with each other, but rather co-ordinated', Moran draws on a Vygotskian cultural-historical framework, to examine the research literature on creativity and education. She also presents and analyses examples of creativity in the classroom, reflecting on where societies and schools might incorporate creativity more centrally in their aims and practices. At the heart of this latter endeavour is the recognition that: 'Children are not unformed adults. They are users and producers of cultural symbols and tools....Citizens, then, need to be scaffolded to perceive, seek out find, use, evaluate, and refine cultural tools and ultimately to give back to that culture in the form of new artefacts and tools for others to use'.

The significance of new artefacts and tools for learning is of central concern to Carey Jewitt (Chapter 10). More specifically her focus is on how the new digital multimodal landscape impacts what it means to be literate and to learn. Recognising that meaning is made across all modes in a 'multimodal ensemble', Jewitt rejects a focus on language as a primary route to learning (cf. Chapters 3 and 4). Moreover, she points to how new technologies: 'impact on the representational and communicative environment of the classroom in profound ways' – reshaping curriculum knowledge and classroom practices.

This emphasis on how technologies contribute to (re)shaping educational practices and structuring learning activities is also evident in Chapter 11, where Ingvill Rasmussen and Sten Ludvigsen explore how computer tools afford new possibilities

(and also pose new obstacles) in respect of teaching and learning. Their concern is to understand: ‘how students take part in social practices with computer tools, and how their interaction is played out as part of the interdependency between both the cultural and historical aspects that characterise learning in schools and the interactions that take place in the here and now’.

Crook and Lewthwaite (Chapter 12) are also interested in the reconfiguration of the practices of learning. Their contribution specifically explores the continuities that have been: ‘pursued between recreational ICT and its place within organised education’, highlighting the salient influences on educational research and theory that arose as these new technologies were adopted within the classroom. Five ‘periods of innovation’ are explored, with each being aligned to a key recreational technology and a consideration, and evaluation, of how that specific technology might be appropriated in support of deliberate learning. The discussion that ensues makes it clear that whilst it is tempting to consider the appropriation of technologies from informal to formal learning, the task of doing so is complex and fraught with difficulties – necessitating detailed understandings of informal practices and the systemic and institutionally situated nature of educational practice.

Section Four is concerned with *Individual Differences and Children’s Experiences of Education*. Both the necessity and the difficulty of understanding children’s experiences of education are rehearsed, in Chapter 13, by Mary Kellert, who explores what is known about children’s educational experiences from both adult-led and child-led research and how this impacts classroom practice and educational theory. The significance of giving students a ‘voice’, and the ways in which this might be

aligned to empowering children and young people as researchers, assumes prominence in the chapter. There are clearly tensions to be negotiated between adult versus child representations of educational experiences, but the suggestion is that: ‘the potential for new knowledge and understanding to enhance the development of education is a sound rationale for supporting research by children’.

Situated in relation to contemporary developments in positive psychology, the significance of positive self-belief and the importance of self-concept research (particularly in respect of positive academic self concept) is explored by Herbert Marsh and Karolina Retali (Chapter 14). Based on a substantive review of this vibrant field of inquiry, which adopts both a developmental and cross-cultural focus, the suggestion is that if self-concept is to be adequately understood then its domain-specific and multi-dimensional nature cannot be ignored. For example, it is clear from the work considered that: ‘academic specific measures of self-concept are more useful to the study of academic behaviours and accomplishments than are global and non-academic measures of self concept.’ It is therefore evident that a multidimensional perspective needs to be a core feature of any intervention work.

In Chapter 15 Monique Boekaerts, Hanneke Van Nuland and Rob Martens discuss the significance of motivation for education and consider what theories of motivation have contributed to our understanding of how the motivation system works. Drawing on this discussion the authors go on both to explore some of the recent attempts to weave traditional motivation concepts into an integrated perspective on student engagement and to explain how one can mobilise insights from motivation theory: ‘to create instructional opportunities for students to regulate their engagement and

participation in the classroom’. What the authors make clear is that whilst research has afforded valuable insights into ‘motivated behaviour’, there is still much to learn about the mechanisms which ‘energise’ students in the classroom such that their learning is enhanced.

Up until this point the work being discussed throughout the Handbook has not been oriented to understanding and supporting the needs of children experiencing developmental disability. In Chapter 16, however, Robert Savage and Louise Deault focus specifically on research that is concerned with the definition, identification and characteristics of dyslexia and attention deficit/hyperactivity disorder (ADHD) – two of the most commonly occurring developmental disabilities. Crucially, however, these researchers also orient to issues concerning the design and evaluation of interventions designed to support children experiencing reading and attention problems. What the authors make clear is that whilst there is a secure history and practice of: ‘exploring effective reading interventions as a remedial as well as preventative intervention in dyslexia’, in respect of ADHD ‘the role of the classroom and effective remedial intervention within it have been largely overlooked’. There is: ‘little large scale programmatic research on effective environmental interventions for children experiencing ADHD’ – and this is striking given that schools represent an important context for learning attention skills.

Section Five is concerned with *Knowledge, Assessment and Achievement*, and a concern with children experiencing education difficulties is of central importance to Elaine Funnell and Sylvia Steel. In their chapter (Chapter 17), they suggest that, although not frequently observed in the literature, the use of single case studies of

cognitive development can afford important insights into the educational difficulties children experience particularly in respect of ways of teaching and assessing them. They advance their argument regarding the utility of case studies through the presentation of ten detailed case reports designed to exemplify how single cases can help identify deficits – but also crucially reveal what a child can successfully experience and accomplish at school. Case studies reveal the true complexity of specific developmental difficulties and sensory impairments, and how they impact on the child as an individual. We need to be mindful that whilst labels can be helpful, they can also mask important features of a child’s experience as a learner that may only apply to a few children with that condition, but which can impact enormously on their educational outcomes.

Chapter 18 by Katherine Canobi focuses on children’s mathematical competences, and underscores the challenges and complexities associated with defining and measuring children’s conceptual understanding and procedural skills. What is suggested is that it is essential to: ‘track how children’s understandings of key concepts and problem solving procedures interact and change with various mathematical experiences. If such research leads to the identification of different profiles of competencies among children, it will allow a fine grained analysis of concept-procedure interactions that will help to accurately assess young children’s mathematical competences.’ In many respects the case of mathematics as discussed in detail here with respect to children’s arithmetic offers an important exemplification of the difficulties associated with the assessment of children’s competencies in classroom settings.

Metacognition, self-regulation and meta-knowing are discussed by David Whitebread and Deborah Pino Pasternak (Chapter 19). Reviewing this considerable literature, the authors suggest that the identification of metacognitive processes and their precursors in very young children's cognitive activity, requires us to reconsider both processes and models of development. Furthermore, the research evidence is such that the educational significance of metacognitive and self-regulatory abilities can no longer be ignored, with the potential of metacognitive interventions being highlighted. What is also striking are the exciting investigative possibilities now being afforded by the development of new methodologies.

The final chapter in the Handbook, by Virginia Gathercole (Chapter 20), points to the fact that children growing up in the 21st Century are much more likely to be growing up bilingual than monolingual – partly as a consequence of global mobility. This then raises considerable challenges for educators in respect of bilingual educational practices such as the language(s) of instruction in the classroom and crucially how best to understand and assess the performance of bilingual children in the classroom. Gathercole's review focuses on four key aspects of bilingualism of significance and consequence for educators: (1) the language-specific organisation of knowledge; (2) the cognitive effects of bilingualism *per se*, (3) developmental profiles for language in bilinguals and (4) the ramifications for assessment. Her key emphasis is on exploring how language can impact bilingual children's linguistic and cognitive performance and highlighting the complexities associated with assessing bilingual children's language competences.

So, as we noted at the outset, whilst the social, affective and technological context of education is influencing ideas about how we teach and assess, it seems likely that certain key issues will continue to dominate discussions of effective education, such as how to raise and maintain age appropriate academic outcomes for all and the role of assessment in this process. We hope that the contributions to this volume will enable those interested in addressing these, and other, important challenges to situate their work within a broader academic context that is informed by international perspectives on these significant topics.

References

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