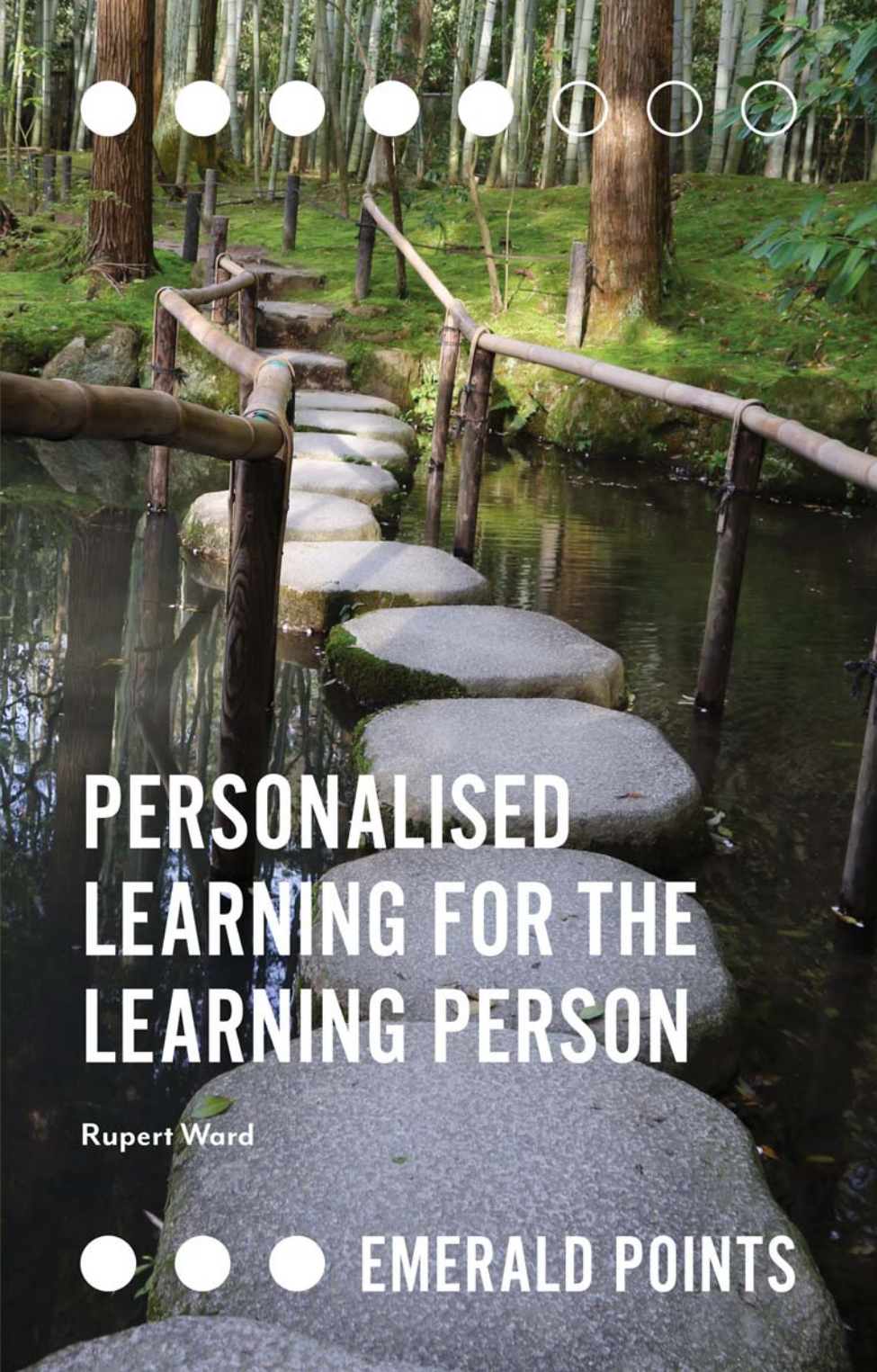

PERSONALISED LEARNING FOR THE LEARNING PERSON

Rupert Ward

EMERALD POINTS

PERSONALISED LEARNING FOR THE LEARNING PERSON

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PERSONALISED LEARNING FOR THE LEARNING PERSON

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INVESTOR IN PEOPLE

In loving memory of Liz Lynch, the most wonderful person I ever met.
I hope this book inspires others in the way she inspired me.
Dedicated to all those whose capabilities are yet to be fully nurtured, recognised or realised;
and to all those who believe, like Liz, in the goodness and wonder within us all.

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BIOGRAPHY

Rupert Ward is a former Special Adviser to the Royal Household and Project Lead for the Inspiring Digital Enterprise Award (iDEA), one of the world's most successful free educational technologies. He is also a UK National Teaching Fellow and Principal Fellow of the Higher Education Academy. He co-authored the University of Huddersfield's highly successful assessment and feedback strategy, and has been part of teams recognised nationally seven times in seven years in areas including enterprise, customer service excellence, student experience (National Acquisitions Group Award for Excellence and Guardian Award for Student Experience) and assessment and feedback (Highly Commended, ICT Innovation of the Year, THE Leadership & Management Awards). An avid learner, he is currently completing his eighth postgraduate qualification across a range of disciplines. Rupert is Professor of Learning Innovation and Associate Dean (International) within the School of Computing and Engineering at the University of Huddersfield. He is a member of the British Computer Society Accreditation Committee, a former elected board member of the UK Council for Professors and Heads of Computing, a Fellow of the British Computer Society, a Chartered Engineer, a Chartered Manager and a Chartered IT Professional.

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FOREWORD

We live in a world where the kind of things that are easy to teach and test have also become easy to digitise and automate. The industrial age taught us how to educate second-class robots, people who learn in standardised settings and become good at repeating what we tell them. In this age of accelerations, we need to think harder about what makes us first-class humans, how we complement, not substitute, the artificial intelligence we have created in our computers and how we build a culture that facilitates learning, unlearning and re-learning throughout life. This implies making learning systems less like industrial farms and more like a zoo, bringing out the features that make each person special rather than developing standardised ways of thinking that technology will make redundant. It is about getting from numbers, to names to needs, and becoming better at respecting the identity, context and culture of every learner. That is what this book on personalised learning is about.

And it conveys an important imperative. These days, algorithms behind social media are sorting us into groups of like-minded individuals. They create virtual bubbles that amplify our views and leave us insulated from divergent perspectives; they homogenise opinions and polarise our societies. Tomorrow's learning systems will need to help learners to think for themselves and join others, with empathy, in work

and citizenship. They need to help learners develop a strong sense of right and wrong, a sensitivity to the claims that others make on us, and a grasp of the limits on individual and collective action. At work, at home and in the community, people will need a deep understanding of how others live, in different cultures and traditions, and how others think, whether as scientists or artists. And whatever tasks machines may be taking over from humans at work, the demands on our knowledge and skills to contribute meaningfully to social and civic life will keep rising.

The growing complexity of modern living for individuals, communities and societies, suggests that the solutions to our problems will also be complex: in a structurally imbalanced world, the imperative of reconciling diverse perspectives and interests, in local settings with often global implications, will require people to become adept in handling tensions, dilemmas and trade-offs. Striking a balance between competing demands – equity and freedom, autonomy and community, innovation and continuity, efficiency and democratic process – will rarely lead to an either/or choice or even a single solution. Individuals will need to think in a more integrated way that recognises interconnections. Empathy, adaptability and trust are underpinning this.

Creativity in problem-solving requires the capacity to consider the future consequences of one's actions, evaluate risk and reward, and assume accountability for the products of one's work. This suggests a sense of responsibility, and of moral and intellectual maturity, with which we can reflect upon and evaluate our actions in the light of experiences and personal and societal goals.

The conventional approach in education is often to break problems down into manageable bits and pieces and then to teach learners how to solve these bits and pieces. But modern societies create value by synthesising different fields of

knowledge, making connections between ideas that previously seemed unrelated. That requires being familiar with and receptive to knowledge in other fields.

In today's education systems, students typically learn individually and at the end of the school year, we certify their individual achievements. But the more interdependent the world becomes, the more we need great collaborators and orchestrators. Innovation is now rarely the product of individuals working in isolation, but rather an outcome of how we mobilise, share and integrate knowledge. The well-being of societies depends increasingly on people's capacity to take collective action. Learning systems therefore need to become better at helping students learn to develop an awareness of the pluralism of modern life. That means teaching and rewarding collaboration as well as individual academic achievement, enabling students both to think for themselves, and to act for and with others. Personalised learning and collaborative learning are two sides of the same coin.

The challenge is that developing these cognitive, social and emotional capabilities requires a very different approach to learning and teaching and a different calibre of teachers. Where teaching is about imparting prefabricated knowledge, education systems can afford low teacher quality. And when teacher quality is low, governments tend to tell their teachers exactly what to do and exactly how they want it done, using an industrial organisation of work to get the results they want. The challenge is to make teaching a profession of advanced knowledge workers who work with a high level of professional autonomy and within a collaborative culture.

But such people will not work as exchangeable widgets in education systems organised as Taylorist workplaces that rely mainly on administrative forms of accountability, and bureaucratic command-and-control systems to direct their work. To attract the people they need, modern learning

systems need to transform the type of work organisation to one in which professional norms of control replace bureaucratic and administrative forms of control. The past was about received wisdom; the future is about user-generated wisdom.

Instruction in the past was subject-based; instruction in the future needs to be more project-based, building experiences that help students think across the boundaries of subject matter disciplines. The past was hierarchical; the future is collaborative, recognising both teachers and students as resources and co-creators.

In the past, different students were taught in similar ways. Now learning systems need to embrace diversity with differentiated approaches to learning. The goals of the past were standardisation and compliance, with students educated in age cohorts, following the same standard curriculum, all assessed at the same time. The future is about building instruction from students' passions and capacities, helping students personalise their learning and assessments in ways that foster engagement and talent. It's about encouraging students to be ingenious.

Learning systems need to better recognise that individuals learn differently, and in different ways at different stages of their lives. They need to create new ways of providing education that take learning to the learner and that are most conducive to students' progress. Learning is not a place, but an activity.

In the past, schools were technological islands, with technology often limited to supporting existing practices, and students outpacing schools in their adoption and consumption of technology. Future learning systems need to use the potential of technologies to liberate learning from past conventions and connect learners in new and powerful ways, with sources of knowledge, with innovative applications and with one another.

The past was also divided – with teachers and content divided by subjects and students separated by expectations of their future career prospects; with schools designed to keep students inside, and the rest of the world outside; with a lack of engagement with families and a reluctance to partner with other schools. The future needs to be integrated – with an emphasis on the inter-relation of subjects and the integration of students. It also needs to be connected, so that learning is closely related to real-world contexts and contemporary issues, and open to the rich resources in the community. Effective learning environments are constantly creating synergies and finding new ways to enhance professional, social and cultural capital with others. They do that with families and communities, with higher education, with businesses and especially with other learning environments.

None of this is easy, and none of this can be done overnight. But it must be done and the task is not about making the impossible possible, but about making the possible attainable.

Andreas Schleicher

Director for Education and Skills, and Special Advisor on Education Policy to the Secretary-General at the Organisation for Economic Co-operation and Development (OECD), Paris.

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INTRODUCTION

In *Personalisation of Education in Contexts*, Mincu (2013, p. xiv–xv) identifies two personalisation perspectives. The first is associated with educational policy, how Personalised Learning can address the limitations of current education practice by supporting a more holistic approach to learning. The second is associated with a multi-composite pedagogical theory focussed on individual and social learning. Mincu suggested that in 2012 there was a logical inconsistency within personalisation regarding grouping students by ability. As we reach 2020, this logical inconsistency can be addressed and the two perspectives, policy and pedagogy, can be brought together and discussed as one. Technological and system developments also mean it is now possible for us to consider the practice of Personalised Learning alongside the theory.

This book summarises the key areas which need to be considered if we are to develop an effective Personalised Learning solution. Firstly, it summarises the rationale for Personalised Learning, before explaining the systemic challenges that have so far held it back. The English formal education system has been discussed here as a case in point. Whilst the book does not seek to explore in depth any particular part of formal education, such as early years of foundation stage, primary, secondary or tertiary education, or indeed lifelong learning, it does highlight points in the learning

journey where Personalised Learning may be particularly impactful. A Personalised Learning approach is implicitly considered as applicable to all formal educational sectors, but rather than discuss the different sectoral implementations in detail, this book instead focusses on understanding and addressing the broad pedagogical and policy implications underpinning Mincu's two personalisation perspectives. The book also considers how we can develop more effective interactions between formal, non-formal and informal education (Coombs, 1973; Whyte, 1975). There is an increased emphasis, for example, on the role technology charities can play through non-formal education, and an increased awareness of the role family, social and work environments play in our informal education. To understand these implications and interactions, we need to understand the Learning Person both as an individual learner and a social learner. The majority of this book is therefore given over to considering key concepts that are relevant to the development of the Learning Person. Firstly, how we learn is discussed across two chapters, using a three-tiered learning model. Learning is explored initially in terms of how we file information and then in terms of how we use different learning intelligences. Secondly, we consider the learning environment and our sensitivity to this both in terms of what inputs we receive from it and how we respond to these. Thirdly, our learning capabilities are explored, both in terms of developing competence and then through developing expertise. We conclude our discussions of the Learning Person by considering our learning choices and the motivations underpinning these. Finally, the book concludes by providing an example of practice, a highly successful Personalised Learning solution (iDEA), that shows that progress has already been made, before discussing what is still required if we are to develop a global solution.

1

PERSONALISED LEARNING

INTRODUCTION

Personalised Learning as a solution to our workforce issues is not a new idea. It gained traction in England in the early years of the new millennium. David Miliband referred to 'shaping teaching around the way different youngsters learn; it means taking the care to nurture the unique talents of every pupil' (Park, 2004, p.5); tailoring 'education to individual need, interest and aptitude' (Park, 2004, p.4). At the heart of this approach was choice, both for learners and teachers, something sadly lacking in our educational systems (Deakin-Crick, 2012, p.33). However, despite significant efforts by both governmental and non-governmental agencies since then, including a significant amount of policy discussion from 2004 to 2008, we have made very little progress towards developing an effective Personalised Learning system. This chapter will discuss how educational stakeholder demands result in challenges, which our formal education systems continue to struggle to supply. We start by understanding educational policy through the prism of three different educational policy models, the human capital, human rights and human capabilities models. English

educational policy is discussed as an example throughout this book to illustrate the challenges any country faces with persisting with an approach to formal education based purely on human capital. The choice of English educational policy in no way seeks to champion or denigrate this approach, nor to suggest that there are not better current models around the world. It is suggested though that no current model meets either current stakeholder demands or the changes that are required to provide a formal education fit for the twenty-first century. Having explored challenges facing the English education system, the structure of the remainder of the book is briefly introduced, explaining the topics that will be covered in each of the subsequent chapters.

Personalised Learning, as a pedagogical approach, has a long history dating back to the 1970s (Jenkins & Keefe, 2002; Kong, 1970; Peck, 1970). However, it was not until the early years of the new millennia that an educational policy impetus for Personalised Learning was developed, as part of a period of intense interest in Personalised Learning within the UK Government, focussing on tailored choice-driven education (Deakin-Crick, 2012, p.29). The Gilbert Teaching and Learning in 2020 Review Group was set up and sought to 'establish a clear vision of what personalised teaching and learning might look like in our schools in 2020' (when the 2006 reception class cohort would be entering higher education) (Gilbert et al., 2006). Their discussions unfortunately were hardly innovative and consisted primarily of revisions to the existing educational model, equating, for example, designing schools for Personalised Learning to providing technology within schools. To be fair, with the technology available then, their challenge to developing effective Personalised Learning was significant. As we reach 2020 therefore it appears an opportune time to reflect on what can be done

now, with modern learning technologies, to realise their vision. Looking back, there are some important points to note and acknowledge from their work. They highlighted the opportunity to blur the lines between formal and informal learning, to use learning guides to hear and respond to the learner's voice and to discuss both the moral purpose and social justice aspects of Personalised Learning. All of these topics will be discussed in this book. They also defined Personalising Learning (and teaching) to mean *taking a highly structured and responsive approach to each child's and young person's learning, in order that all are able to progress, achieve and participate. It means strengthening the link between learning and teaching by engaging pupils – and their parents – as partners in learning*. Whilst learning is clearly not just restricted to the young, and we will assume throughout this book that parents encompass the broader category of caregivers, this definition does highlight two key principles of Personalised Learning. It should enable all to learn and it should extend beyond the classroom.

In this book, Personalised Learning will be defined as *learning which enables Metalearning to occur*, i.e. learning through which each person can learn how to learn. This more general definition aligns with Verpoorten, Glahn, Kravcik, Ternier and Specht's (2009) three pillars (reflective thinking, environmental engagement (constructivism) and Self-Regulated Learning). These and various other connected concepts introduced within this book are linked together through a Metalearning model, which is presented towards the end of this chapter.

In 2006, the Organisation for Economic Co-operation and Development (OECD) was also focusing on Personalised Learning and held a conference in London where the discussions were much more progressive. In particular, there was detailed consideration of how we might move away from the

uniform educational model of the past to a more bespoke Personalised Learning model. The resulting publication, *Schooling for Tomorrow: Personalising Education*, outlines many of the key areas that this book also seeks to review as we reach 2020. These are learning capacity, motivating learners, technology use, new roles for teachers, the brain and learning, identity and self-understanding, why Personalised Learning had not progressed further up to now and entry points to system-wide change.

Why was there such interest in Personalised Learning? What was wrong with the traditional educational model that they were seeking to remedy? The answer was very clear to the Gilbert Review and continues to be so to this day, 'the education system will not achieve the next "step change" in raising standards simply by doing more of the same: a new approach is required' (Gilbert et al., 2006). Hopkins (2006, p. 18) outlined six key factors: socio-economic (environment, access, etc.); physical space and class size; poor technology use; uniform pace of learning; standardised educational structures and learning that is not evidence based. In short, we are not nurturing learning effectively; Personalised Learning seeks to address this, '[…] once they get the taste for learning, their appetite continues to grow, and we need school systems capable of stimulating and feeding that appetite' (Hopkins, 2006, p. 17).

In order to be able to discuss how this step change may occur, we need to be able to understand the limitations of the current model and how we got to our current educational provision. This will be discussed briefly in the first two chapters of this book. A review of current English educational supply, in the form of Functional Learning, is provided in the next chapter. Firstly though, it is important to understand educational demands, and in particular educational policy, this will be the topic of this chapter.

Biesta (2010) suggests education involves three policy domains: qualification, socialisation and subjectification representing content transfer, socio-cultural developments and traditions and personal development. The first policy domain is based on a human capital model of education (Becker, 1993; Schultz, 1963), where qualifications are viewed as potential productivity indicators. The second policy domain is based on a human rights model (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2015), which focuses on social roles and rights. The third policy domain is based on a human capabilities model (Sen, 2010), which highlights the role of our agency in bringing about the changes we value. In short, these models focus on the role of education to deliver the educated (human capital), the free (human rights) and the enabled (human capabilities).

Robeyns (2006) identifies limitations with each model. The predominant educational policy model over the last 150 years has been a human capital model, which is instrumentalist. The intention is to develop workforce capacity in response to what is of economic value, in order to increase productivity (Functional Learning). It therefore ignores social and non-instrumental value and incentivises high return human capital investment, for example, through a focus on science, technology, engineering and mathematics subjects to the detriment of arts or humanities-based studies. As such it reinforces marginalisation not simply in subjects but more broadly in how we perceive and value education and indeed the educated. The human rights model tends to focus on rhetoric and legal policy considerations. Education for All (UNESCO, 2015), for example, can be seen as top-down government intervention not addressing social and individual barriers and needs. From this perspective, whilst education should be seen as something which is accessible to all, as a right, all too often there is a lack of clarity on how to ensure

this right. Indeed, Personalised Learning has often fallen into this trap. In principle no one tends to disagree that learning should be personalised, but without clarity on how to deliver this, it remains simply an aspiration.

Robeyns (2006) and Tikly and Barrett (2011) suggest there may be a solution. By optimising capabilities, freedom is gained, social justice enabled and people can become educated. Human capabilities therefore should be education's intrinsic aim, with human rights and human capital policies providing strategic support. This book will explore our human capabilities through the prism of Personalised Learning.

Sen (2010, p. 253) refers to capabilities, what we are able to be and do, as *substantial freedoms*. These freedoms, to choose and act, are a combination of our Self-Efficacy (belief we can do), our ability (to do) and environmental influences (on what we can do). We explore these within this book. Sen also emphasises our agency in developing functioning (what we can do and who we are). To optimise capabilities, we need to understand what we are capable of, our personalised learning, and who we are, as a Learning Person. Capabilities refer to our ability to self-realise, to be what we want to be. Functionings, by contrast, refer to how our capabilities are currently enacted. Gaining a qualification for employment, for example, is different from gaining a qualification for enjoyment. Whilst the functioning is the same (gaining a qualification), the capability is different (extrinsically versus intrinsically motivated). Freedom comes from developing our personal capabilities, even when the functionings may remain the same. We must be able to manage our own choices and learning to enable ourselves and to self-realise. We must be autonomous, self-regulating and understand how we learn; how we metalearn. Personalised Learning is built upon these principles.