

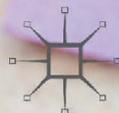
# Creative Education, Teaching and Learning

Creativity, Engagement and the Student Experience

Edited by

**Gayle Brewer**

**Russell Hogarth**



# Creative Education, Teaching and Learning

# Creative Education, Teaching and Learning

## Creativity, Engagement and the Student Experience

Edited by

Gayle Brewer

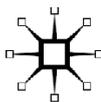
*Senior Lecturer, University of Central Lancashire, UK*

and

Russell Hogarth

*Community Engagement Ambassador and Honorary Fellow, University of  
Central Lancashire, UK*

palgrave  
macmillan



Editorial matter and selection © Gayle Brewer and Russell Hogarth 2015  
Individual chapters © Respective authors 2015

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission.

No portion of this publication may be reproduced, copied or transmitted save with written permission or in accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, Saffron House, 6–10 Kirby Street, London EC1N 8TS.

Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

The authors have asserted their rights to be identified as the authors of this work in accordance with the Copyright, Designs and Patents Act 1988.

First published 2015 by  
PALGRAVE MACMILLAN

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

Palgrave Macmillan is the global academic imprint of the above companies and has companies and representatives throughout the world.

Palgrave® and Macmillan® are registered trademarks in the United States, the United Kingdom, Europe and other countries.

ISBN 978-1-137-40213-4

ISBN 978-1-137-40214-1 (eBook)

DOI 10.1057/9781137402141

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources. Logging, pulping and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

A catalogue record for this book is available from the British Library.

A catalog record for this book is available from the Library of Congress.

# Contents

<i>List of Illustrations</i>	viii
<i>Preface</i>	ix
<i>Notes on Contributors</i>	x
Introduction: Creativity and Education <i>Gayle Brewer</i>	1
<b>Part I Digital Technology</b>	
1 Introduction to Digital Technology <i>Gayle Brewer</i>	11
2 Twitter in the Classroom: Harnessing Social Media to Enhance Second Language Acquisition <i>Judith Broadbridge and Véronique Charriau</i>	15
3 From Cinema to the Classroom: A Critical Engagement with Madness in the Movies <i>The Comensus Writing Collective</i>	27
4 Using Poll Everywhere to Improve the Student Experience: Increasing Confidence and Encouraging Participation <i>Craig Laverick</i>	40
5 Video-Assisted Feedback <i>Gayle Brewer</i>	51
6 Social Media in Education and the Community <i>Rory McDonald and Nicky Danino</i>	61
7 Learning in Virtual Worlds <i>Russell Gurbutt and Dawne Gurbutt</i>	73
8 Sockwashing, Service Use and Making Movies <i>Hannah Chamberlain</i>	83
9 From the Horse's Mouth: Working as a Digital Artist on Research Projects <i>Steve Pool</i>	92

## Part II Narrative

- 10 Introduction to Narratives 105  
*Gayle Brewer*
- 11 Reading the World: Developing Communities through Arts  
and Asset-Based Education 110  
*Lynn Shorter*
- 12 Somerstown Stories: Can Exploring a Narrative  
Change a Community? 122  
*Sharon Court*
- 13 Digital Storytelling: Media That Makes a Difference 133  
*Liz Hardwick*
- 14 Paper, Pictures and Song: Learning Disabilities and Inclusion 143  
*Lucille Kennedy*
- 15 Telling Tales: Creating a Space for Stories in  
Practitioner Education 155  
*Dawne Gurbutt and Russell Gurbutt*
- 16 Fiction, Book Groups and Social Work Education 167  
*Amanda M.L. Taylor*
- 17 The Power of Storytelling as a Teaching Tool 178  
*Rona Barbour*

## Part III Art, Games and Student Partners

- 18 Introduction to Art, Games and Student Partners 193  
*Gayle Brewer*
- 19 Art by Design: Projects in Culture and Identity 203  
*David Knight*
- 20 Developing a Teddy Bear Clinic: A Framework for Involving  
Child Service Users in a Nursing Curriculum 213  
*Linda Sanderson*
- 21 Telling Lives: The Drama of Asylum Archives 227  
*Eric Northey*
- 22 The Game as a Talking Tool: Using a Board Game for Creative  
Consultation, Engagement and Inclusion 243  
*Bev Lamey and Carol Bristow*

23	What Did the Romans Ever Do For Us! The Role of Comedy in Learning, Development and Education <i>Jim Thomas</i>	254
24	Undergraduate Research Internships: Engaging Students in the Co-Creation of Research <i>Helen Hewertson</i>	265
25	Inspired Students, Inspiring Students: The Value of Peer-Assisted Learning <i>Vikki Cook and Christy Evans</i>	277
26	Can Arts-Based Education Help Re-Engage Excluded Learners? A Case Study of an Arts-Based Programme Aimed at Enhancing Educational Engagement <i>Claire Kinsella, Linda K. Kaye and Dave Putwain</i>	290
27	Learning Partnership and Teaching Partnership: Work-Related Learning in Higher Education <i>Rachel Cunliffe and Michael Wysocki</i>	307
28	Democratic Learning for Democratic Practice: Cooperation and Deliberation <i>Mick McKeown, Lynda Carey, Christine Rhodes and Fiona Jones</i>	319
	Concluding Comments <i>Gayle Brewer and Russell Hogarth</i>	334
	<i>Index</i>	335

# List of Illustrations

## Boxes

3.1	Example of student feedback – Mark Edwards, student mental health nurse	32
20.1	Post-Teddy Bear Clinic evaluation questions	219

## Figures

2.1	Twitter feed relating to English stereotypes	21
2.2	Twitter feed relating to French stereotypes	22
7.1	Virtual world learning	77
9.1	Removal of the fishing hook	100
15.1	Spiral of service user impact	158
15.2	A model of the flipped classroom used in storytelling	163
19.1	Work from the young people’s project. The dancers performing (artist’s illustration)	211
20.1	Bandaged Teddy Bear	217
20.2	Child’s drawing of the Teddy Bear Clinic	220
21.1	Patient medical records	230
21.2	Example portrait	232
21.3	Portrait of Lily Handley	233
21.4	Second portrait of Lily Handley	234
21.5	Photograph of Effie Calder	238
24.1	Research interns at work	271
24.2	Research interns at work	273
26.1	Photographic exploration of aquarium and associated arts-based activities	297
28.1	Model for the delivery of leadership programmes	327

## Tables

3.1	Selected films used in our teaching	31
11.1	Banks’s (2011) approaches to community world	112
17.1	Listening Rubric	185
20.1	Example activities involving children in the nursing curriculum	214
20.2	Scenario and equipment used at each Teddy Bear Clinic station	216
27.1	Summary of the teaching assistant work experience process	311
28.1	Freirian concepts and techniques	323

# Preface

Educators, as well as educational policies, have increasingly recognised the value of creativity and creative approaches to education in particular. For example, the All Our Futures report (NACCCE, 1999) proposed that creative education promotes social inclusion and supports the development of an innovative and productive workforce. However, despite the recommendation that teachers adopt creative teaching techniques, few guidelines for the application of creative methods are available (Windschitl, 2002). Hence, case studies of creative teaching may be used to identify and promote creative teaching (Reilly et al., 2011) and sharing practice should be encouraged.

*Creative Education, Teaching and Learning* has been written to illustrate the range of innovative teaching techniques successfully employed by teachers. Chapter contributors highlight the use of social networking sites, virtual games, film, book groups, board games, storytelling, teddy bears, archival data, comedy and art within education. They also consider the extent to which students can extend their traditional role through the provision of peer support or employment as research interns or teaching assistants. The book is intended to support educators from all disciplines teaching at all levels.

# Notes on Contributors

**Rona Barbour** is a former director on the Board of the Society for Storytelling in England. She has delivered narrative workshops as far afield as the United States, the Far East and Russia. As a National Institute of Adult Continuing Education (NIACE) consultant, she is commissioned to write and deliver lesson plans using story and regularly lectures on storytelling as a life skill. Rona has a special interest in working with disadvantaged students, particularly those with behavioural issues. She has been rewarded for her work in this area by being nominated as Cheshire Woman of the Year for services to storytelling. Rona gives and receives the greatest of respect when working with challenging youngsters, and is richly rewarded for her efforts by their enthusiasm for the projects.

**Gayle Brewer** is Senior Lecturer in Psychology at the University of Central Lancashire. She is author of *Media Psychology* and *Biological Psychology*. She has also published a range of pedagogic research articles investigating student experiences of Higher Education and is a Fellow of the Higher Education Academy.

**Carol Bristow** is the Involvement Lead providing multiple opportunities for service users, carers and staff to be involved in shaping mental health services at the Lancashire Care NHS Foundation Trust. Carol qualified in Display and Exhibition Design in 1982 at Leeds Art College, and in 1986 she joined the National Health Service (NHS) to introduce art and design into health-care surroundings. Carol pioneered the SEED Project to enable service users (patients) to contribute to the design process to improve mental health services. Her work has been widely recognised and has received a number of awards, including the Northwest Strategic Health Authority and Lancashire Care Excellence Award for Innovation. Carol was invited to the House of Commons to help launch MIND's Building Solutions in Mental Health Campaign and presented a paper at the Include Conference, Royal College of Art. She has also co-authored and presented at the Design and Emotion Conference Hong Kong.

**Judith Broadbridge** has been lecturing (French) in higher education for over 25 years and is a senior lecturer at the University of Central Lancashire, where she is involved in both undergraduate and postgraduate provision. She specialises in the theory and practice of interpreting and translation. Whatever the subject being taught, maintaining student interest is key.

In addition, in language learning, practice, both in and outside the classroom, is fundamental. Thus, harnessing the latest technology to enhance student participation in class sessions and encourage interaction in French throughout the week is clearly a positive. It is the premise on which collaboration with a partner institution in France, the University of Rennes, has been based.

**Lynda Carey** is a senior lecturer within the Faculty of Health and Social Care at Edge Hill University. Prior to working at Edge Hill, she served as a senior nurse within both provider and commissioning organisations. From a service perspective she has a particular interest in quality and safety, and as chief nurse at St Helens Clinical Commissioning Group was the Executive Governing Body member with responsibility for this area of practice. As a practice nurse by background, Lynda has maintained a professional interest and commitment to the development of community nurses, and remains actively engaged in the development of community nurses role at both a national and local level. Within the academic arena, Lynda's key focus is the development of leadership skills and knowledge for health and social care clinicians. She is committed to working with staff at all levels of service delivery, building insight and understanding in order to improve the patient/service user experience.

**Hannah Chamberlain** is a film-maker, who runs the production company Barrage Media, specialising in films for the mental health, social work and charities sector. She is also a mental health service user, and draws on her own experience to work with excluded groups. She has made art and experimental short films, which were screened at the Rushes, BBC and Cannes film festivals.

**Véronique Charriau** is a lecturer at the University of Rennes, France, and teaches English to Computing students. She has developed an interest in looking for tasks or projects using new technologies and media. One way of doing this was through collaboration with a British colleague from the University of Central Lancashire and a group of her students. This has allowed them to explore various technological tools and aspects of international projects. This, together with her teaching experience, has convinced her that the best activities are the ones which use the students' creativity.

**The Comensus Writing Collective** In alliance with key support staff and academics, the Comensus initiative at the University of Central Lancashire involves health and social care service users and carers in teaching, learning and research in relevant fields. The initiative also attempts to author publications together, hence the Writing Collective, using creative approaches to reflect each other's contributions. The alliance has

published widely, notably the collectively written text *Service User and Carer Involvement in Education for Health and Social Care*. In this volume, the chapter contributed by Comensus includes the work of the following members, listed in alphabetical order: David Catherall, Mark Edwards, Chris Essen, Russell Hogarth, Keith Holt, Janet Garner, Graham Hough, Fiona Jones, Lisa Malihi-Shoja, Ernie Mallen, Mick McKeown, Angela Melling, Phyllis Prior-Egerton and Lou Rawcliffe.

**Vikki Cook** started her career at the University of Central Lancashire in 1997 as a mature undergraduate. Vikki enjoyed learning so much that she went on to earn an MA, a PGCert in Further & Higher Education and a PhD. Since receiving her doctorate, she has become a published academic, worked as Lecturer in Literature & American Studies and as a senior lecturer with the Flying Start Project at the University of Central Lancashire, organising and delivering events for applicants. Education brought about huge changes in Vikki's life and gave her a passion for teaching and learning. More recently this passion has been directed into research around the transition into higher education. This research has had an influence on Vikki's career, and she has now moved into the field of student support, as Head of Student Support and Wellbeing at the University of Central Lancashire.

**Sharon Court** is a freelance practitioner working in and around Portsmouth on the south coast. She has over 20 years of experience in the field of youth and children's work, in both the public and voluntary sectors, beginning as a volunteer and working up to Youth Centre Manager. In recent years she has diversified into community development and public engagement work, working alongside staff and students from the University of Portsmouth. Sharon uses her skills in storytelling and crafting to engage adults and children around a particular theme, allowing them to explore and learn at their own level and in a way which suits them.

**Rachel Cunliffe** has been teaching identification of human remains at the University of Central Lancashire for over ten years. She also teaches biotechnology, and is involved with both undergraduate and postgraduate provision. Her forensic anthropology research interests lie in the use of body proportions to predict individual characteristics such as height. Rachel came to Higher Education via almost ten years research in cereal genetics. She is delighted to be able to use all her skills in her current position, whether DNA or bone related. She draws on her wide experiences as often as possible when lecturing, and is often described as 'interesting, enthusiastic and animated' by her students. She is keen to understand how students learn, so she can

best help them in their studies, collectively and individually. This interest in ‘how we learn’ has widened to incorporate learning outside of traditional classroom-based lecturing.

**Nicky Danino** is Senior Lecturer in Computing at the University of Central Lancashire. Her main focus is educational technology. Her research focuses on how pedagogy can be transformed so that teaching and learning spaces can be generated in new and innovative ways. She is currently carrying out research in the use of social media, and specifically Twitter, in education. Additionally, she is involved in pedagogic research with first-year university students, specifically around the areas of retention and engagement. She values her work as a STEM Ambassador and is currently a designated University Engagement Catalyst award holder. Nicky’s outreach activities are centred on engaging more young people with computer science and engineering, and more specifically, girls.

**Christy Evans** spent many years working as a community artist immediately after studying art in Cheshire. Having often found herself running workshops for people much older and wiser than herself, she developed techniques in creating communities through a shared interest. Her MA in Fine Art focused on socially engaged practice, culminating in a piece that built a community through walking, breeding a culture of respect and appreciation, built by the opportunity to express oneself through art. It is this interest that has been a common thread through all her work, and continues today in the Flying Start project ethos. She runs the project for the University of Central Lancashire and encourages students to build learning communities, based on mutual respect and understanding, enabling them to help each other fulfil their own personal potential.

**Dawne Gurbutt** qualified as a nurse, midwife and health visitor before working for over a decade as part of a community team in which she developed a keen interest in community engagement and collaborative work to enhance health improvement. She then moved into education, where she has led programmes and taught across a range of disciplines including social work, public health, primary care, midwifery and community nursing. She has also worked for the Higher Education Academy supporting teaching and learning across the United Kingdom as Discipline Lead for health-related subjects. Her research interests are around identity, narratives and empowerment, and she has a particular interest in collaborative working, service user engagement and curriculum design. She is a life-long learner with a particular interest in the importance of stories and the stories people tell.

**Russell Gurbutt** qualified as a nurse following military service (RN). He has worked in both public and charity health-care sector service delivery,

management and quality roles. He has an interest in management and leadership within health care, with a particular focus on decision-making. As a lecturer in higher education, he has worked in health faculties at a number of universities. He also provides consultancy services in management and quality development. His research has examined aspects of clinical decision-making and simulation to support learner development, including post-doctoral work in Canada (2006–2013). He holds a developmental teaching fellowship (Leeds University), and as an e-learning facilitator promotes the development of online learning and authors' commercial online courses.

**Liz Hardwick's** varied career has included managing radio stations, leading digital inclusion initiatives and supporting businesses to take advantage of digital technologies. Her passion for digital storytelling led to the creation of the digital training company DigiEnable, which by demystifying technology, allows anyone regardless of ability, to engage with the online world. For over ten years she has developed a range of engaging and accessible workshops, in which she has supported many individuals and businesses in using audio, video, social media and website creation to share their stories and achievements. As well as speaking at events and conferences across Europe and the United States, Liz is a director of the Community Media Association (CMA), an international union activist, and regularly organises and attends a variety of events for non-profit organisations and the tech community. Liz recently launched a new initiative, 'Diverse Geeks', promoting the belief that everyone is a geek about something.

**Helen Hewertson** works at the University of Central Lancashire in the Centre for Research-informed Teaching. She has published reports for Joint Information Systems Committee (JISC) on students' use of the Internet for research, and the Leadership Foundation for Higher Education (LFHE) on research-informed leadership and academic identities, as well as a guide to pedagogic research. Helen is part of the steering group for the British Conference of Undergraduate Research and helps run the University of Central Lancashire's undergraduate research internship scheme. Helen supports the Pedagogic Research Forum at the University which enables staff to share good practice and supports them in researching their learning and teaching.

**Russell Hogarth** is Honorary Fellow and Community Engagement Ambassador at the University of Central Lancashire. He was awarded his University Fellowship for his community/voluntary work with a special emphasis on mental health. He chairs and co-founded the Pan-University Creative Communities Group. Russell is a fellow and volunteer coordinator for the National Forum for Health and Wellbeing and an esteemed

advisory member of The College of Social Work and the Royal College of Psychiatrists. He is a company director for Design in Mental Health Network and 4hub Social Enterprise, a board member for Creativity Works Preston and a public engagement ambassador for the national coordinating centre for public engagement. He is a social entrepreneur and philanthropist and his expertise as an independent advisor for community engagement in higher education and his experience in health and social care are now recognised both nationally and internationally. His philanthropic work has resulted in Russell being invited to attend both the House of Commons and House of Lords. He has reached a commendable position in life through caring for others and working relentlessly towards a better tomorrow and his fellow colleagues admire his great strength, passion and philanthropy and acknowledge the service he has done for the sustenance of humanity. Russell's area of special interest is creative teaching as a pathway to inclusion and accessible education.

**Fiona Jones** has been active in service – user involvement initiatives, volunteering with the Preston Service User Forum, and latterly EmPowerMe (formerly Lancashire Advocacy), a service user led voluntary sector organisation and has significant experience of using mental health services. Recently she has been employed in a research role working alongside colleagues at the University of Central Lancashire. Fiona is also involved in the university's community engagement and service user involvement initiative, Comensus, contributing to teaching and learning. Fiona has also been active in supporting initiatives such as the annual mental health film festival. She has contributed to a number of research studies that have reflexively benefited from her own recovery journey and experiences.

**Linda K. Kaye** is a senior lecturer in the Department of Psychology at Edge Hill University. Although her main area of research focuses on the psychosocial impacts of new technologies, she also has research interests in higher education pedagogy. In particular, this includes factors related to undergraduates' transitions, expectations and experiences of higher education, psychological factors impacting on teaching approaches, and effectiveness in personal development planning and employability enhancement in higher education curricula. In her role as Programme Leader for the BSc (Hons) Educational Psychology course, Linda also plays an active role in facilitating her students' critical reflection of psychological theory within educational practice through an established placement provision.

**Lucille Kennedy** has a background in psychology and learning disability, and is working for a charity in the north west of the UK, training care assistants and assessing Diplomas in Health and Social Care. She also works

freelance, delivering art workshops aimed at adults with learning disabilities. The health and well-being of marginalised groups is a particular interest, along with power imbalance and inclusion issues relating to adults with a learning disability. Her research focuses on the role of creative media and qualitative analysis in challenging the current deficit-based understanding of learning disability and enabling communication across difference.

**Claire Kinsella** is a PhD candidate and tutor in the Department of Psychology at Edge Hill University. She has a background in community arts education, and her area of research centres on how psychological theories of educational engagement can inform the development and evaluation of arts-based curriculum innovations and educational initiatives. More specifically, she is interested in employing both qualitative and quantitative social research methods, drawing upon multiple perspectives in educational psychology and incorporating wider social and political perspectives in order to develop a more holistic view of issues in learner engagement.

**David Knight** is a senior lecturer at the School of Art and Design, University of Central Lancashire. He has worked alongside African political organisations such as the All African People's Revolutionary Party (AAPRP) and the Pan-African Congress Movement (PACM) and has delivered African studies programmes in schools, community centres and prisons. David joined Lancashire Polytechnic as one of higher education's first full-time equal opportunities practitioners. In addition to having chaired Prescap, the Nguzo Saba Centre and the Lancashire BME Pact, he is a former chair of the Preston Caribbean Carnival and a former board member for the Arts Council in the region. He was a member of the government-appointed body charged with creating the region's Arts Board. David has made several appearances on national and regional television, and radio and keynote addresses at regional, national and international conferences. His designs and illustrations have featured in national and international publications and exhibitions.

**Bev Lamey** is a principal lecturer in the School of Art, Design and Performance at the University of Central Lancashire. She has worked collaboratively over a number of years within mental health-care settings with service users and staff to develop a methodology of creative consultation. She has worked on projects with NHS Trusts, NESTA, MIND and the Department of Health, and has presented papers at international design research conferences in Hong Kong, Australia, Taiwan and the United Kingdom. Bev was a founder member of the Design in Mental Health Network ([www.dimhn.org](http://www.dimhn.org)), and chairs the conference committee for the annual Design in Mental Health Conference.

**Craig Laverick** is undertaking research in the enforcement of international maritime safety legislation as a PhD candidate at the University of Central

Lancashire. He graduated with a BA in Norwegian from the University of Oslo, an LLB (Hons.) from the University of Newcastle Upon Tyne, and an LLM in International Commercial Law from the University of Northumbria. Since 2012, Craig has been working as an associate law lecturer at the University of Central Lancashire, where he was shortlisted by the university's Student Union for 'the most innovative teaching of the year' Golden Rose Award in 2014.

**Rory McDonald** is an academic researcher and writer based in the North West of England. With a background in psychology, Rory focuses his work around the cognitive processes that underpin everyday living and learning. Based at the University of Central Lancashire, this work often develops across varied disciplines, most recently with ties to computing, medicine and dentistry. Rory is a frequent contributor to both academic and popular publications, and holds editorial positions alongside his work as a freelance writer.

**Mick McKeown** is a mental health nurse and Reader in Democratic Mental Health in the School of Health at the University of Central Lancashire. He has a strong commitment to equalities and critical perspectives in service provision, and has been active at a professional and practical level around such issues as advocacy, service user and carer involvement, and the complexities of addressing civil liberties within the constraints of secure units and wider mental health services. Mick helped with the development of the university's Comensus initiative that supports service user and carer involvement in education, research and strategic thinking.

**Eric Northey**, now retired, taught music in Gateshead, then English and Mass Communications in Kano, northern Nigeria, where he made documentary films with Nigerian Television Kano on development issues, blindness, beggary, housing and other social issues. In the United Kingdom, he taught film and television at Manchester Metropolitan University, before transferring to lecture in communication studies for students in Health and Social Care. Since retirement, his plays, *Telling Lives* and *The Transit of Venus*, have been selected in consecutive years for Manchester's 24:7 Theatre Festival, and his play *A Fistful of Brecht* featured as part of the Threepenny Festival in 2013. He has published on the composer George Butterworth and the poet Rodney Pybus. He is a founder director of Arts for Recovery in Stockport and is co-ordinating Whittingham Lives, a two-year celebration of the history of Whittingham Asylum.

**Steve Pool** works as a visual artist in multiple media to help people realise ideas, often making physical objects or changing environments. For the past 30 years, he has worked on many programs and initiatives, including creative partnerships, public understanding of science and regeneration through area-

based renewal programs. He has an interest in stories, objects and research, and works in varied settings, including art galleries, communities and more recently universities through the connecting communities programme. Central to his work is the belief that access to new technologies offers many opportunities for people to produce as well as consume culture.

**Dave Putwain** is based at the Centre for Numeracy and Literacy Research in the Faculty of Education at Edge Hill University. His research interests are focused on the psychological factors that influence, and in turn are influenced by, learning and achievement. In particular his research has focused on learner emotions, motivation, engagement and perception of the classroom environment in all stages of education from primary school through to university. He has authored numerous publications on these topics, and is an associate editor of *Educational Psychology: An International Journal of Experimental Educational Psychology*.

**Christine Rhodes** is the Head of Pre-registration Nursing at the University of Huddersfield. She has a professional and personal interest in service user and carer involvement and completed her PhD titled 'The Agency of Service User and Carer Engagement in Health and Social Care Education' in 2014. The findings of her PhD support a democratic approach to involvement. Christine worked in the NHS for 25 years as a nurse, midwife and health visitor prior to moving into health professional education in 2004. She worked in the community setting for 15 years where her interest and expertise in collaborative approaches and working in partnership developed.

**Linda Sanderson** is Senior Lecturer in Child Health at the University of Central Lancashire. She qualified as a RGN with a BSc in Nursing in 1985. She worked with adults in a variety of settings until beginning RSCN training in 1989. When qualified as a children's nurse, she began working at the Yorkshire Regional Centre for Paediatric and Adolescent Oncology and Haematology unit in Leeds. She worked in the oncology unit for 14 years in total, as a staff nurse, senior sister and lecturer practitioner. As a lecturer practitioner, Linda was seconded to the University of Leeds to run the Paediatric and Adult Oncology courses. In 2004, she left the clinical area of oncology and worked as a sister on a busy general paediatric ward at Airedale General Hospital.

**Lynn Shorter** is a senior lecturer at the University of Central Lancashire School of Social Work, where she teaches and researches arts and asset-based approaches to community building and social change. Through the International Centre for Arts and Asset-based Community Practice, she has formed the Community Practice Research Group (CPR-G), whose purpose is to bring teaching staff, students and practitioners from different disciplines

and sectors together to support student work-based learning through research and project development. Lynn is also the co-founder, with Joan Behar, of Reading the World (RTW), a creative writing and performance community education programme that is now in its fourth year. She is involved in researching the effects of RTW's arts-based experiential training programme on students' capacity to utilise their own experiences of vulnerability and marginalisation to transform 'helping relationships' into partnerships that are infused with mutuality and strengths.

**Amanda M.L. Taylor** is a senior lecturer in the School of Social Work at the University of Central Lancashire. She was previously employed as a social worker in the fields of psychiatry, mental health and deafness, and as a specialist social worker for children with various degrees of deafness, all within the Northern Ireland Integrative Health and Social Care structure. Amanda has been nominated for, and has won, a number of teaching and learning awards for her teaching innovations and is well known for the development of a national book group in Social Work Education.

**Jim Thomas** is Skills for Care's Programme Head for Workforce Innovation. His first role in learning and development was as a joint training organiser. He has completed an MA in Community and Primary Health Care; his dissertation focusing on the role of Chaos Theory in service integration. He led the development of integrated teams across Cambridgeshire's adult social care services, and has also worked for the Valuing People Support Team as their expert advisor on workforce development. Jim has led a broad range of national workforce Innovation programmes, including developing and testing a framework for workforce redesign in social care, the development of principles for workforce integration and the creation of skills-led approaches to community development.

**Michael Wysocki** studied Archaeology at Cardiff University as a mature student. Following a Leverhulme Research Assistantship at Cardiff, he joined the then Centre for Forensic Science at the University of Central Lancashire, where he was responsible for introducing and developing Forensic Anthropology teaching. He was awarded a PhD in 2010. He has been a principal lecturer at the School of Forensic and Investigative Sciences, University of Central Lancashire, since 2012, acting as Student Experience Co-ordinator and currently as Academic Lead (Forensic Sciences). Before taking up academia, he worked in both commerce and industry.

# Introduction: Creativity and Education

*Gayle Brewer*

## **Understanding creativity**

Traditionally, creativity has been considered an inappropriate subject for scientific study. It is therefore often neglected within the academic literature (Treffinger, 2003). For those addressing this issue, definitions vary, although the concept of creativity typically focuses on uniqueness and utility (Cropley, 1999). In particular, creativity refers to an idea or product which is novel, socially appropriate and valuable (Sawyer, 2003; Sternberg, 2003). According to the National Advisory Committee on Creative and Cultural Education (NACCCE, 1999), creativity can be defined as ‘imaginative activity, fashioned so as to produce outcomes which are original and of value’ (p. 29). A number of individual, social and environmental factors influence the development of creativity (Florida, 2002; Hunter, Bedell & Mumford, 2007; Moran & John-Steiner, 2004). Important individual factors include personality (Eysenck, 1997), knowledge (Weisberg, 1999) and motivation (Collins & Amabile, 1999). For example, positive emotions and dispositions may enhance creativity (Fredrickson, 2004; Hirt, Devereaux & McCrea, 2008; Kaufman, 2003) by lowering concerns related to judgement or evaluation, which often hinder creativity. Influential environmental factors include micro-management and a focus on fast solutions, both of which may inhibit creativity (Adler & Obstfeld, 2007). The value placed on creativity also varies cross-culturally (Al-Kararneh & Saleh, 2010). However, whilst creative expression differs cross-culturally, it is similar in magnitude (Lubart, 1999). Therefore, whilst all individuals have the potential to be creative, for a range of reasons this may not be well developed (Boden, 2004). Previous research indicates that creativity can be taught (Cropley & Cropley, 2008) or developed (Gomez, 2007), and a range of training sessions intended to promote creativity have been identified.

Education therefore has the potential to enhance an individual's creativity, which may have long-term positive effects for both the individual and society (Baer, 1988). Indeed according to Jean Piaget ‘The principle goal of

education is to create men who are capable of doing new things, not simply of repeating what other generations have done – men who are creative, inventive and discoverers'. Creativity is regarded as a core competency (Simonton, 2003), and it is often associated with curiosity, resilience and experimentation (Claxton, Edwards & Scale-Constantinou, 2006). Of particular relevance to educators, creative thinking is associated with academic success (Onda, 1994), critical thinking and decision-making (Mumford et al. 2010; Weston & Stoyles, 2007), productivity (Runco, 2004), argumentation and the ability to identify weaknesses in an argument (Kadayifci, Atasoy & Akkus, 2012). On a societal level, creative thinking has an important role in economic innovation (Sawyer, 2006). Specifically, it is believed that the development of creativity confers an economic advantage in knowledge-based economies (Burnard, 2006), and the economic importance of creativity has hence been acknowledged (Sharp & Le Metais, 2000). Hence Albert Einstein recognised that 'It is the supreme art of the teacher to awaken joy in creative expression and knowledge'.

## The development of creative students

The development of creative and innovative individuals is an important aspect of education, and teachers are encouraged to develop student creativity (DfES, 2003; Milne, 2007). Creativity is therefore an important competency (Simonton, 2003) and typically involves the development of work that is both original and beneficial (Sternberg & Lubart, 1999). Aspects of learning directly related to creativity include problem solving, divergent thinking and the synthesis of information (Lubart, 2000). Thus creativity is important for all academic disciplines and all student levels. Previous research demonstrates that training programmes can improve creative ability (Karwowski & Soszynski, 2008; Scott, Leritz & Mumford, 2004). The multifaceted nature of creativity suggests that interventions may increase creativity in a range of ways (Smith, 1998; Bull, Montgomery & Baloché, 1995). Although these programmes typically focus on the value of creativity for educational success, the development of creativity may also have long-term positive effects (Baer, 1988) such as the promotion of psychological well-being (Flor, Bitá, Monir & Zohreh, 2013), and additional research in this area is required.

The focus on creative teaching and learning has increased in recent years (Brice-Heath & Wolf, 2004) and, according to Ken Robinson, 'Creativity now is as important in education as literacy and we should treat it with the same status' (TED talk, 2006). The value placed on creativity is reflected in education policy. For example, the *All Our Futures* report (NACCCE, 1999) argued that creative education promotes social inclusion and supports the development of an innovative and productive workforce. An additional relevant initiative includes Creativity: Find It Promote It (QCA,

2004). The inclusion of creativity within policy documents or recommendations is not sufficient, however, as whilst this highlights the importance of creativity within education, few guidelines for the application of creative methods are available to teachers (Windschitl, 2002). Therefore case studies of creative teaching may be used to identify and promote creative teaching (Reilly, Lilly, Bramwell & Kronish, 2011) and sharing practice should be encouraged.

## **Creative teaching practice**

Educators may enhance the creativity of their own practice, and previous research has identified the importance and advantages of creative education (Beetlestone, 1998). In particular, the use of creative techniques may increase student motivation, cooperation and self-confidence (Muneyoshi, 2004). Students' ability to think creatively has been associated with the creativity of the teacher (Runco, 2014), participation and activation (Beghetto, 2007; Vass, 2007; Wegeriff, 2005). Furthermore, creative educators typically encourage learner inclusivity (Craft, 2011), which supports the requirements of a diverse student population.

Traditional teaching methods that are typically inflexible and focus on the transmission of knowledge rather than the co-discovery of knowledge do not encourage or motivate students (Hosseini, 2011). Even Winston Churchill recognised the inadequacy of this approach stating 'Where my reason, imagination or interest were not engaged, I would not or I could not learn'. In contrast, creative teachers are independent, innovative, have a concern for equity, a strong emotional investment in teaching and exercise control over their teaching (Jeffrey & Craft, 2006; Woods, 1995). Creative teaching involves the delivery of material in a manner which encourages the student to transfer his or her knowledge and apply the knowledge to solve problems (Mayer, 1989), and may involve a number of features including inclusivity, multimodality, equality of status and the co-construction of knowledge (Chappell & Craft, 2009). In addition, creative teachers seek collaboration with similarly creative peers (Reilly et al., 2011).

Creative schools can be characterised by a new insight into training, a flexible administrative structure, adequate physical space, critical leadership and an emphasis on thinking rather than memory (Ebneroumi & Rishehri, 2011). Consequently, creativity influences curriculum development, teaching methods, assessment, interactions with students and reflection. Creative techniques adopted by educators often include media, games, art and storytelling (Baid & Lambert, 2010; Chang & Hsu, 2010; Logan, 2012; Moscaritolo, 2009), but do not require specialist resources or knowledge. Whilst creativity is often associated with subjects such as music and English, creative teaching can also enhance scientific subjects. For example, creative

drama has been employed to increase student mathematical achievement (Sengun & Iskenderoglu, 2010) and to enhance understanding of computer concepts (Malekian & Mokhles, 2012). Thus creative teaching is of direct relevance to all educators, regardless of their subject specialism.

## **Barriers to creative education**

Whilst there are clear benefits to the use of creative teaching techniques, there are a number of barriers to this form of innovation. Recent education policy has encouraged the use of creative education, and there is an increased pressure for educators to engage in creative and innovative teaching (Albers-Miller, Straughan & Prenshaw, 2001). However, traditional educational systems or cultures that place a higher value on other abilities and rely on didactic, memory-based teaching discourage the implementation of creative teaching techniques (Averill, Chon & Hahn, 2001). Hence, pressure to teach in a manner which is measurable and efficient may negatively impact on the development of creative teaching methods, and thus education often adopts a stance which allows rather than encourages creativity (Claxton, et al. 2006). Furthermore, the use of novel or innovative teaching may subside over time, leading to the reintroduction of traditional methods.

Practical barriers also hinder the development of creative education. Teachers are often unsure about their knowledge and experience of techniques that enhance creativity (Hosgorur & Bilasa, 2009), and it may be difficult for teachers to identify opportunities for creative teaching or implement these creative techniques (Newton, 2012). Whilst teachers require additional support to implement creative educational techniques, there are few guidelines for the inclusion of creativity within the classroom (Windschitl, 2002). The manner in which creativity is encouraged within the institution is also important. Unsupportive teachers or administrators (Reilly, Lilly, Bramwell & Kronish, 2011), fear of reprisals or negative evaluation (Bamford et al. 1999), the emotional atmosphere and power relations (Etelapelto & Lahti, 2008) each hinder the development of creative teaching. Additional factors which influence teachers' willingness or ability to adopt creative teaching techniques include a lack of time and confidence in their own creative abilities (Aljughaiman & Mowrer-Reynolds, 2005).

We recognise both the value of creative education and the issues faced by practitioners wishing to introduce or expand their use of innovative teaching techniques. This book is intended to highlight a range of creative teaching methods that educators from a range of subject disciplines have successfully used to promote engagement, understanding and inclusion. These can be adapted and incorporated as appropriate to enhance teaching practice.

## References

- Adler, P.S., & Obstfeld, D. (2007). The role of affect in creative projects and exploratory search. *Industrial and Corporate Change*, 16, 19–50.
- Albers-Miller, N.D., Straughan, R.D., & Prenshaw, P.J. (2001). Exploring innovative teaching among marketing educators: Perceptions of innovative activities existing reward and support programs. *Journal of Marketing Education*, 23(3), 249–259.
- Aljughaiman, A., & Mowrer-Reynolds, E. (2005). Teachers' conceptions of creativity and creative students. *The Journal of Creative Behavior*, 39, 17–34.
- Al-Karasneh, S.M., & Saleh, A.M. (2010). Islamic perspective of creativity: A model for teachers of social studies as leaders. *Procedia Social and Behavioral Sciences*, 2, 412–426.
- Averill, J.R., Chon, K.K., & Hahn, D.W. (2001). Emotions and creativity, East and West. *Asian Journal of Social Psychology*, 4, 165–183.
- Baer, J.M. (1988). Long-term effects of creativity training with middle school students. *Journal of Early Adolescence*, 8, 183–193.
- Baid, H., & Lambert, N. (2010). Enjoyable learning: The role of humour, games, and fun activities in nursing and midwifery education. *Nurse Education Today*, 30, 548–552.
- Bamford, C., Boursier, J., Bresnen, K., Shank-Farah, D., Slonosky, A., DiZazzo, A.M. et al. (1999). *You may call it research – I call it coping: Collaborative action research*. Paper presented at the 4th International Conference on Teacher Research. Lennoxville, Canada.
- Beetlestone, F. (1998). *Creative Children, Imaginative Teaching*. Buckingham, PA: Open University Press.
- Beghetto, R.A. (2007). Does creativity have a place in classroom discussions? Prospective teachers' response preferences. *Thinking Skills and Creativity*, 2, 1–9.
- Boden, M.A. (2004). *The Creative Mind: Myths and Mechanisms*. London: Routledge.
- Brice-Heath, S., & Wolf, S. (2004). *Visual Learning in the Community School*. London: Arts Council England, Creative Partnerships.
- Bull, K.S., Montgomery, D., & Baloche, L. (1995). Teaching creativity at the college level: A synthesis of curricular components perceived as important by instructors. *Creativity Research Journal*, 8, 83–90.
- Burnard, P. (2006). Reflecting on the creativity agenda in education. *Cambridge Journal of Education*, 36, 313–318.
- Chang, M.H., & Hsu, L.L. (2010). Multimedia instruction: Its efficacy in nurse electrocardiography learning. *Journal of Nursing*, 57, 50–58.
- Chappell, K., & Craft, A. (2009). Creative science teaching labs: New dimensions in CPD. *Thinking Skills and Creativity*, 4, 44–59.
- Claxton, G., Edwards, L., & Scale-Constantinou, V. (2006). Cultivating creative mentalities: A framework for education. *Thinking Skills and Creativity*, 1, 57–61.
- Collins, M.A., & Amabile, T.M. (1999). Motivation and Creativity. In R.J. Sternberg (Ed.) *Handbook of Creativity* (pp. 297–312). Cambridge: Cambridge University Press.
- Craft, A. (2011). Creativity and Early Years Settings. In A. Paige-Smith & A. Craft (Eds). *Developing Reflective Practice in the Early Years* (pp. 83–99). New York: Open University Press.
- Cropley, A. (1999). Definitions of Creativity. In M.A. Runco & S. Pritzker (Eds). *Encyclopedia of Creativity* (pp. 511–524). San Diego, CA: Academic Press.

- Cropley, A.J., & Cropley, D.H. (2008). Resolving the paradoxes of creativity: An extended phase model. *Cambridge Journal of Education, 38*, 355–373.
- Department for Education and Skills (DfES). (2003). *Excellence and Enjoyment: A Strategy for Primary Schools*. London: DfES.
- Ebneroumi, S., & Rishehri, A.P. (2011). Towards a conceptual framework for the characteristics of a creative school. *Procedia: Social and Behavioral Sciences, 15*, 2253–2258.
- Etelapelto, A., & Lahti, J. (2008). The resources and obstacles of creative collaboration in a long-term learning community. *Thinking Skills and Creativity, 3*, 226–240.
- Eysenck, H.J. (1997). Creativity and Personality. In M.A. Runco (Ed.). *The Creativity Research Handbook* (pp. 41–66). Norwood, NJ: Ablex.
- Flor, R.K., Bitá, A., Monir, K.C., & Zohreh, Z.Z. (2013). The effect of teaching critical and creative thinking skills on the locus of control and psychological well-being in adolescents. *Procedia: Social and Behavioral Sciences, 82*, 51–56.
- Florida, R.L. (2002). *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.
- Fredrickson, B.L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society, Biological Sciences, 359*, 1367–1377.
- Gomez, J.G. (2007). What do we know about creativity? *Journal of Effective Teaching, 7*, 15–43.
- Hirt, E.R., Deveers, E.E., & McCrea, S.M. (2008). I want to be creative: Exploring the role of hedonic contingency theory in the positive mood-cognitive flexibility link. *Journal of Personality and Social Psychology, 94*, 214–230.
- Hosgorur, V., & Bilasa, P. (2009). The problem of creative education in information society. *Procedia Social and Behavioral Sciences, 1*, 713–717.
- Hosseini, A.S. (2011). University student's evaluation of creative education in universities and their impact on their learning. *Procedia: Social and Behavioral Sciences, 15*, 1806–1812.
- Hunter, S.T., Bedell, K.E., & Mumford, M.D. (2007). Climate for creativity: A quantitative review. *Creativity Research Journal, 19*, 69–90.
- Jeffrey, B., & Craft, A. (2006). Creative Learning and Possibility Thinking. In B. Jeffrey (Ed.) *Creative Learning Practices: European Experiences* (pp. 47–62). London: Tufnell Press.
- Kadayifci, H., Atasoy, B., & Akkus, H. (2012). The correlation between the flaws students define in an argument and their creative and critical thinking abilities. *Procedia: Social and Behavioral Sciences, 47*, 802–806.
- Karwowski, M., & Soszynski, M. (2008). How to develop creative imagination? Assumptions, aims and effectiveness of Role Play Training in Creativity (RPTC). *Thinking Skills and Creativity, 3*, 163–171.
- Kaufman, G. (2003). Expand the mood-creativity equation. *Creativity Research Journal, 15*, 131–135.
- Logan, R. (2012). Using YouTube in perioperative nursing education. *AORN Journal, 95*, 474–481.
- Lubart, T. (1999). Creativity Across Cultures. In R.J. Sternberg (Ed.). *Handbook of Creativity* (pp. 339–350). New York: Cambridge University Press.
- Lubart, T.I. (2000). Models of the creative process: Past, present and future. *Creativity Research Journal, 13*, 295–303.
- Malekian, F., & Mokhles, H.M. (2012). Transference of computer concepts through creative drama in blended learning environment. *Procedia: Social and Behavioral Sciences, 46*, 575–580.

- Mayer, R.E. (1989). Cognitive views of creativity: Creative teaching for creative learning. *Contemporary Educational Psychology, 14*, 203–211.
- Milne, I. (2007). Children's science. *Primary Science Review, 100*, 33–34.
- Moran, S., & John-Steiner, V. (2004). How Collaboration in Creative Work Impacts Identity and Motivation. In D. Miell & K. Littleton (Eds). *Collaborative Creativity: Contemporary Perspectives* (pp. 11–25). London: Free Association Books.
- Moscaritolo, L.M. (2009). Interventional strategies to decrease nursing student anxiety in the clinical learning environment. *Journal of Nursing Education, 48*, 17–23.
- Mumford, M.D., Waples, E.P., Antes, A.L., Brown, R.P., Connelly, S., Murphy, S.T., & Devenport, L.D. (2010). Creativity and ethics: The relationship of creative and ethical problem-solving. *Creativity Research Journal, 22*, 74–89.
- Muneyoshi, H. (2004). Identifying how school teachers use creative problem solving. Master's thesis. Buffalo State College, State of New York.
- National Advisory Committee on Creative and Cultural Education (1999). All Our Futures: Creativity, Culture and Education. London: DfEE. Available: <http://sirken-robinson.com/pdf/allourfutures.pdf>
- Newton, D.P. (2012). *Teaching for Understanding: What It Is and How To Do It*. London: Routledge.
- Onda, A. (1994). *Development of Creative Education*. Tokyo: Koseisyu-koseikaku.
- Qualifications and Curriculum Authority (2004). Creativity: Find it, promote it. Promoting pupils' creative thinking and behaviour across the curriculum at key stages 1, 2 and 3: Practical materials for schools. London: QCA.
- Reilly, R.C., Lilly, F., Bramwell, G., & Kronish, N. (2011). A synthesis of research concerning creative teachers in a Canadian context. *Teaching and Teacher Education, 27*, 533–542.
- Robinson, Ken. (2006) Ken Robinson Says Schools Kill Creativity. TED 2006. [http://www.ted.com/talks/lang/eng/ken\\_robinson\\_says\\_schools\\_kill\\_creativity.html](http://www.ted.com/talks/lang/eng/ken_robinson_says_schools_kill_creativity.html).
- Runco, M.A. (2004). Everyone Has Creative Potential. In R.J. Sternberg, E.L. Grigorenko & J.L. Singer (Eds). *Creativity: From Potential to Realization* (pp. 21–30). Washington, DC: American Psychological Association.
- Runco, M.A. (2014). *Creativity. Theories and Themes: Research, Development and Practice*. London: Elsevier.
- Sawyer, K.R. (2003). *Group Creativity: Music, Theatre, Collaboration*. Mahwah, NJ: Lawrence Erlbaum.
- Sawyer, R.K. (2006). Educating for innovation. *Thinking Skills and Creativity, 1*, 41–48.
- Scott, G., Leritz, L.E., & Mumford, M.D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal, 16*, 361–388.
- Sengun, Y., & Iskenderoglu, T. (2010). A review of creative drama studies in math education: Aim, data collection, data analyses, sample and conclusions of studies. *Procedia: Social and Behavioral Sciences, 9*, 1214–1219.
- Sharp, C., & Le Metais, J. (2000). *The Arts, Creativity, and Cultural Education: An International Perspective*. London: Qualifications and Curriculum Authority. Available: <http://steam-notstem.com/wp-content/uploads/2010/11/finalreport.pdf>.
- Simonton, D. (2003). Expertise, Competence, and Creative Ability. In R.J. Sternberg & E.L. Grigorenko (Eds). *The Psychology of Abilities, Competencies and Expertise* (pp. 213–240). New York: Cambridge University Press.
- Smith, G.F. (1998). Idea generation techniques: A formulary of active ingredients. *The Journal of Creative Behavior, 32*, 107–134.
- Sternberg, R.J. (2003). The Development of Creativity as a Decision-Making Process. In R.K. Sawyer, V. John-Steiner, S. Moran, R.J. Sternberg, D.H. Feldman, J. Nakamura

- & M. Csikszentmihalyi (Eds). *Creativity and Development* (pp. 91–138). New York: Oxford University Press.
- Sternberg, R.J., & Lubart, T.I. (1999). The Concept of Creativity: Prospects and Paradigms. In R.J. Sternberg (Ed.). *Handbook of Creativity* (pp. 3–16). London: Cambridge University Press.
- Treffinger, D.J. (2003). Assessment and Measurement in Creativity and Creative Problem Solving. In J.C. Houtz (Ed.). *The Educational Psychology of Creativity* (pp. 59–63). Cresskill, NJ: Hampton Press.
- Vass, E. (2007). Exploring processes of collaborative creativity: The role of emotions in children's joint creative writing. *Thinking Skills and Creativity*, 2, 107–117.
- Wegerif, R. (2005). Reason and creativity in classroom dialogues. *Learning and Education*, 19, 223–237.
- Weisberg, R.W. (1999). Creativity and Knowledge: A Challenge to Theories. In R.J. Sternberg (Ed.). *Handbook of Creativity* (pp. 226–250). Cambridge: Cambridge University Press.
- Weston, A., & Stoyles, B. (2007). *Creativity for Critical Thinkers*. Ontario: Oxford University Press.
- Windschitl, M. (2002). Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers. *Review of Educational Research*, 72, 131–175.
- Woods, P. (1995). *Creative Teachers in Primary Schools*. Buckingham, UK: Open University Press.

# **Part I**

## **Digital Technology**

# 1

## Introduction to Digital Technology

*Gayle Brewer*

The use of digital technologies in education has been widely advocated (Aldrich, 2004; Quinn, 2005), and institutions such as the British Educational Communications and Technology Agency (BECTA, 2003) strongly encourage the adoption of information technology in teaching and learning. These technologies are most commonly employed by students, who use digital technologies for both academic learning and entertainment (Tien & Fu, 2008), primarily develop digital literacy skills outside formal education (Ito et al. 2008) and are able to easily use unfamiliar technologies. Prensky (2001) adopted the term ‘digital natives’ to refer to students who have grown up in the realm of digital technologies and are fluent in them. Those who have not grown up in this environment and who may adopt these technologies are referred to as ‘digital immigrants’. The concept is similar to the notion of the ‘Net Generation’ (Tapscott, 1998). This does not, however, preclude other non-native students, often targeted by widening participation schemes, from adopting these technologies. Intergenerational differences in the perceived usefulness and importance of digital technologies are minimal (Salajan, Schonwetter, & Cleghorn, 2010), and some researchers have questioned the assumed divide between digital natives and digital immigrants (Waycott, Bennett, Kennedy, Dalgarno, & Gray, 2010).

A range of digital methods have been adopted, including blogging (Azizinezhad & Hashemi, 2011), microblogging (Grosbeck & Holotescu, 2010), the Internet (Blaska & Sedlacek, 2008; Rolando, Salvador & Luz, 2013), podcasts (Lonn & Teasley, 2009), videos (Savas, 2012), digital stories (Bran, 2010), digital games (Sun, Wang, & Chan, 2011; Watson, Mong, & Harris, 2011; Yang & Chang, 2013) and audio feedback (Ice, Curtis, Phillips & Wells, 2007). It is suggested that digital technologies are most valuable when combined with a social constructivist approach, whereby knowledge is constructed by students using digital technologies (Fosnot, 1996; Prawat, 1996). The inclusion of digital technologies in teaching may encourage the transition from a teacher-centred to an active student-centred learning environment (McDonald & Hannafin, 2003; Watson et al.,

2011). Students exposed to these digital technologies experience a number of advantages, including enhanced student engagement (Yang & Chang, 2013), focus (Barab, Thomas, Dodge, Carteaux & Tuzun, 2005), attitudes towards learning (Szafron et al. 2005; Wu, Yen, & Marek, 2011), self-efficacy (Freeman, 2012) and motivation (Barab et al. 2005; Wu et al. 2011). Consequently, students who experience digital technologies in education display enhanced critical thinking skills (ELSPA, 2006), academic achievement (Chiou, Lee, & Liu, 2012; Freeman, 2012) and proficiency (Savas, 2012). In addition, the use of digital technologies increases teacher professional development (Wu & Kao, 2008).

There are, however, a number of limitations associated with the introduction of digital technologies, such as increased inequalities between student groups and student failure to connect the digital technology with subject specific knowledge. Traditional barriers to the adoption of digital technologies by tutors include resource limitations such as a lack of knowledge, time or the cost of hardware (Ortegren, 2012), administrative or workload issues (Schneckenberg, 2009; Van Tartwijk, Driessen, Van Der Vleuten, & Stokking, 2007), staff resistance (De Rijdt, Tiquet, Dochy, & Devolder, 2006), skill or confidence levels (Hew & Brush, 2007) and perceived ease of use or utility (Venkatesh & Davis, 2000; Yuen & Ma, 2002). A range of factors influence the manner in which digital technologies are introduced and received. These include the specific subject discipline (John, 2005; Ortegren, 2012) and cultural values (Herbig & Dunphy, 1998). There are also gender and ethnic group differences (Fan & Li, 2005) related to the access to and use of digital technologies. Furthermore, whilst digital technologies offer education practitioners a range of opportunities for enhancing practice, these technologies may be rarely or inappropriately (Hew & Brush, 2007) employed in teaching practice. For example, digital technologies are often used in a manner which is familiar or convenient to supporting traditional teaching practices rather than for more innovative or creative forms of education (Hughes, 2005; Zhao, Pugh, Sheldon, & Byers, 2002). In this manner, digital technologies may increase access to traditional teaching but not influence or improve teaching style (Rolando et al., 2013).

## References

- Aldrich, C. (2004). *Simulations and the Future of Learning: An Innovative (and Perhaps Revolutionary) Approach to e-Learning*. San Francisco, CA: Pfeiffer.
- Azizinezhad, M. & Hashemi, M. (2011). The use of blogs in teaching and learning translation. *Procedia: Social and Behavioral Sciences*, 28, 867–871.
- Barab, S., Thomas, M., Dodge, T., Carteaux, R. & Tuzun, H. (2005). Making learning fun: Quest Atlantis, a game without guns. *Educational Technology Research and Development*, 53, 86–107.
- Blaska, J. & Sedlacek, M. (2008). Teaching basic measurement algorithms via Internet. *Measurement*, 41, 130–134.