

CENTRE REPORT

2020



The Centre for Research in Digital Education is based in the Moray House School of Education and Sport at the University of Edinburgh. We are interested in how research and practice in education intersects with technology, and the impact of this on culture, policy and pedagogy.

We work with many partner universities as well as policy-makers, the cultural heritage sector, schools and other public and private sector organisations.

We take a critical, cross-disciplinary approach to learning, teaching and technology in formal and informal education, and combine our research with world-leading practice in digital education and learning.

CONTACT
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PUBLICATIONS

EDITORIAL

OUR WORK INVESTIGATES HOW
EDUCATION IS SHAPING, AND IS SHAPED BY,
TECHNOLOGICAL CHANGE.

There's so much to say about our achievements over this year, but given the situation we find ourselves in as the report is finalised, I wanted to use this editorial to talk specifically about some of the ways we are bringing our collective expertise to the academic COVID response, within our own university, sector-wide and globally.

»We will share some of the ways we are bringing our collective expertise to the academic COVID response, within our own university, sector-wide and globally.«

Our infographic this year focuses on our international reach, so I will begin with the international aspects of our COVID work. Michael Gallagher, working with colleagues in universities in Tanzania, Uganda and Nigeria, rapidly switched a **Global Challenges Research Fund** project looking at marginalisation in digital education to a COVID response programme delivering training programmes for online teaching in these countries. James Lamb joined an **international group of academic semioticians** who have come together to try to understand how communication and social interaction are changing during the global pandemic, while Ben Williamson has been funded to interrogate the

acceleration of marketisation in education post-COVID with a co-investigator at the University of Queensland, Australia.

Scottish schools have been another focus of our work, as Judy Robertson and colleagues rapidly established a resource-sharing web site for schools in lockdown, including weekly '**Moray House Online Conversations**', in which over 1,500 teachers and leaders have so far come together to discuss the challenges of remote teaching.

Kate Farrell hit the news when she **delivered 30 computers to local high schools** in the week before lockdown in order to help computing science pupils without access, while Tommy Lawson is providing essential liaison between schools, education authorities and government.

A lot of our effort has been directed locally, as our own university works out how to **approach teaching over the next academic year** (*internal link only*). Supported by colleagues in the Edinburgh Futures Institute, Institute for Academic Development and across the university - I led the development of a blueprint for hybrid on/off-campus teaching. As we locked-down in March, Michael Gallagher worked with colleagues in Information Services to rapidly develop training for emergency remote teaching reaching 800 academic and support colleagues. Following from this, he developed and led an advanced course for online teaching (**An Edinburgh Model for Teaching Online**), which will have been delivered to 600 academic colleagues by the end of July.

Many members of our Centre are tutoring on this course and pretty much all of us are providing leadership and mentoring across the School of Education and beyond, sharing expertise built through our research as well as our teaching on the online **MSc in Digital Education**.

»All of us are providing leadership and mentoring across the School of Education and beyond, sharing expertise built through our research as well as our teaching on the online **MSc in Digital Education**.«

This is a sample of our activity over recent weeks and gives just a few highlights on how we have been contributing. It's been a tough year in many ways but we have achieved an immense amount across all areas of our activity. I hope you enjoy reading about some of it here.



Professor Siân Bayne
Director
Centre for Research in Digital Education

COVID RESPONSE UNTIL 06.2020

RESEARCH

- Pandemic interaction and communication
- Online training programme for research partners in Nigeria, Uganda and Tanzania

PUBLICATIONS

- Editorial in *Learning, Media and Technology*

FUNDING

- 3K Award (Education International)

STRATEGIC INPUT

- University COVID-19 Adaptation and Renewal Group membership
- University blueprint and personas for hybrid teaching development
- School Digital Strategy Steering Group (Chair)
- School CV-19 Contingency Group
- Schools, education authorities and government liaison

EVENTS

- *Education and Technology Post-Covid*, Monash University
- *Going Online During and After the Covid-19 Pandemic*, UCU
- DE seminar with Prof. Petar Jandrić, Zagreb University of Applied Sciences, Croatia
- Weekly online seminars for teachers (1500+ enrolled)

TEACHING RESOURCES & PLANNING

- Development of resource website for teachers
- Partnering with Information Services to deliver training for c800 core Edinburgh staff on online teaching in first weeks of lockdown
- Designing and delivering academic development for university Adaptation and Renewal with Information Services via *An Edinburgh Model for Teaching Online* course
- Leading development of the Edinburgh hybrid teaching exchange with the Institute for Academic Development
- Team peer mentoring and support across School for hybrid teaching

COMMUNITY ENGAGEMENT

- Equipment loan for 30 pupils

PEOPLE

OUR CENTRE CONTINUES TO GROW –
THESE ARE OUR PEOPLE, CUTTING ACROSS
DISCIPLINES AND SECTORS TO SHAPE THE
FUTURE OF RESEARCH IN DIGITAL EDUCATION.

While we continue to celebrate the amazing work of our team on our website, the annual report is a good opportunity to highlight some notable achievements. Andrew Manches won the **University's annual Tam Dalyell prize for Excellence in Engaging the Public with Science** on the basis of his work with Children and Technology, while Kate Farrell won the **Technology Champion in Education award** at the Scotland Women in Technology awards.

»Our Centre has also grown significantly with the addition of the **Data Education in Schools research strand to acknowledge the important work of this Data Driven Innovation project.**«

Our already impressive team of colleagues has continued to grow over the last year. We have welcomed Dr Serdar Abaci, Dr Huw Davies and Dr James Lamb as lecturers, Dr Kate Miltner as TRAIN@ED Postdoctoral Fellow, Dr Markus Breines as Research Associate and Dr Margaret Laurie as Research Assistant. Our first robot colleague, 'Effie

St John', has also joined us, supporting the Centre on-campus engagement for our off-campus students, colleagues and partners.

Our Centre has also grown significantly with the addition of the **Data Education in Schools research strand** to acknowledge the important work of this Data Driven Innovation project. The team now includes Jo Spiller, Programme Manager, and Jenni Doonan, Business Development Manager. Professor Judy Robertson, Chair in Digital Learning, leads the team as Centre Co-director for this new area of research. Supporting this team, Professor Greg Michaelson joined us as Honorary Professor in September 2019.

With the conclusion of Numbuko and Magic Cloud projects in the last year we have said goodbye to Robyn Pritzker and Libby Odai. While **Dr Yi-Shan Tsai** and **Dr Yuchen Wang** remain as Centre Associates they have both completed research contracts this year. Our doctoral research community celebrated successful vivas and the graduations of Murray Craig (PhD), James Lamb (PhD), Margaret Laurie (PhD), Xin Luo (PhD), Eder Paula (PhD), Debbie Schachter (PhD) and Paul Udofo (MPhil). We wish them all well for the next steps in their careers.

ACADEMICS

PROFESSOR SIÂN BAYNE

Director of the Centre for Research
in Digital Education

Siân's research is currently focused on higher education futures, interdisciplinary approaches to researching digital education and digital education in the data society.

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DR MARKUS BREINES

Research Associate

Markus works on the 'Distance Learning at Scale' project and is currently researching the future of digital education including the critical and responsible use of teacherbots

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DR PETER EVANS

Senior Teaching Fellow

Pete teaches on the MSc Digital Education. His research interests are in social media and professional and workplace learning.

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DR SERDAR ABACI

Lecturer in Data and Digital Literacies

Serdar joined the research Centre in April 2020 and is currently involved in the Data Education in Schools project, developing a course on Digital Literacy. He is also leading a comprehensive review of how educational technology implementations are evaluated in Human-Computer Interaction publications. His research interests include formative assessment and feedback, online learning, and evaluation of teaching and learning technologies. Serdar earned his PhD degree in Instructional Systems Technology from Indiana University.

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DR RORY EWINS

Lecturer

Rory's research interests include how we teach and learn about digital citizenship, the implications of intellectual property for digital education, and digital education in developing countries.

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speedysnail.com

DR MICHAEL GALLAGHER

Lecturer

Michael researches digital education in development contexts with a particular focus on educational mobilities, how technology structures and manages these mobilities, and the impact of these movements on local knowledge practices and communities.

Michael.S.Gallagher@ed.ac.uk

Michaelseangallagher.org

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DR ZAYBA GHAZALI-MOHAMMED

Research Associate

Zayba is a Research Associate on the Move2Learn research project. Her main research interests include cognitive development of young children's scientific understanding, the role of executive functions and other domain-general capabilities on conceptual progression.

z.ghazali@ed.ac.uk

TWITTER: @Zayba_G



DR HUW DAVIES

Lecturer

Huw joined the Centre in December 2019 from Oxford University's Internet Institute. His research addresses the relationships between technology, gender, race, generation, and social class using a variety of qualitative and innovative computational research methods.

Huw is currently investigating AI's impact on education; particularly why it is being hailed as a solution to educational problems, who is investing in educational AI and why.

Huw.davies@ed.ac.uk

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DR KATE MILTNER

TRAIN@ED Postdoctoral Fellow

Kate joined the Centre for Research in Digital Education in November 2019. Kate's research agenda focuses on the intersection of technology, social location, and structural power. She has published scholarly work on a variety of topics relating to these themes, including internet memes, animated GIFs, online antagonism, selfies, and big data. Kate's research has also been featured in Wired, Slate, The Atlantic, The Guardian, Time, and the BBC.

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DR JEREMY KNOX

Lecturer, Centre Co-Director (Data Society)

Jeremy's research is currently focused on critical approaches to AI, machine learning, algorithms and 'big data' in higher education, with a particular interest in China. Jeremy also co-convenes the Society for Research in Higher Education (SRHE) Digital University network.

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DR MARGARET LAURIE

Research Assistant

Maggi is a Research Assistant on the Move2Learn project and is looking at how children engage with interactive exhibits and show their science understanding through gesture.

Margaret.Laurie@ed.ac.uk

DR ANDREW MANCHES

Co-depute Director of RKE (Impact), Centre Co-Director (Children & Technology)

Andrew has led multiple Learning Sciences projects including the UK side of Move2Learn. He researches the role of interaction in how we think and learn, and the implications for early learning. He marries his academic world with industry as CEO of an early learning technology company, Pling Ltd.

a.manches@ed.ac.uk

JAMIE MENZIES

Research Assistant

Jamie is project managing a Wellcome Trust Institutional Translational Partnership Award project that seeks to extend the societal and commercial impact of the Move2Learn project through the design and creation of an exhibit.

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CLARA O'SHEA

Associate Lecturer

Clara teaches on the MSc in Digital Education and researches learner identities in collaborative, digital environments and playful approaches for teaching and learning.

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PROFESSOR LYDIA PLOWMAN

Chair in Education and Technology

Lydia has more than twenty years' experience of conducting research with children and digital media. She is interested in young children's learning in a range of formal and informal settings, particularly in the ways in which technology is integrated into family life, leisure, work and for educational purposes in the home.

lydia.plowman@ed.ac.uk

DR JAMES LAMB

Lecturer

James joined as a lecturer in December 2019. He is a co-author of the **Manifesto for Teaching Online** and has published research around multimodal assessment and feedback, and the learning spaces of online students. His research is informed by critical posthumanism and theories of sociomateriality, particularly as a way of investigating how educational spaces are affected by digital technologies and pedagogies. He is also developing ways of using sonic methods within social research, for instance to investigate how technologies help to enact power and hierarchy within educational settings.

James.Lamb@ed.ac.uk

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PROFESSOR JUDY ROBERTSON

Chair in Digital Learning, Centre Co-Director (Data Education in Schools)

Judy has been developing educational technology in collaboration with children and teachers since 1997. She is interested in computer education and serious games for children, particularly game authoring. Her work focuses on how technology can help to solve thorny real world problems.

judy.robertston@ed.ac.uk

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DR JEN ROSS

Senior Lecturer, Centre Co-Director (Digital Cultures)

Jen is involved with the Edinburgh Futures Institute, the Centre for Data, Culture and Society, and the Digital Cultural Heritage Research Network at the University of Edinburgh. She researches and publishes on digital cultural heritage engagement and learning, online and open education, digital futures and speculative methods, and online reflective practices.

Jen.ross@ed.ac.uk

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DR PHILIPPA SHEAIL

Lecturer

Phil's research interests are interdisciplinary, based in the area of digital and higher education, but drawing on organisational theory, cultural geography, and social theories of time. Phil is currently developing research in the library sector.

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DR BEN WILLIAMSON

Chancellor's Fellow, Centre for Research in Digital Education and the Edinburgh Futures Institute.

Ben is interested in educational data infrastructures which enable information to be collected from schools and universities, analysed and circulated to various audiences. A second area of interest is 'intimate data' relating to students' psychological states, neural activity, and genetic profiles, and the implications for educational policy and practice.

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RESEARCH SUPPORT

DR CLAIRE SOWTON

Project & Communications Manager

Claire is the Project and Communications Manager for the Centre for Research in Digital Education and Project Manager (UK) for the Move2Learn project. Her recent research has focused on digital and mobile approaches to engagement and evaluation of cultural experience.

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ANGELA HUNTER

Centre Administrator

Angie organises all aspects of the day-to-day running of the Centre for Research in Digital Education and provides focused support on the City Deal and Move2Learn projects.

angela.hunter@ed.ac.uk

HONORARY SCHOLARS

PROFESSOR JEFF HAYWOOD

Professor Emeritus

Jeff conducts research in the area of digital education policy and strategy, and previously led the Policy research strand of work for the Centre for Research in Digital Education. thinking.is.ed.ac.uk/jeffhaywood/research-activities

PROFESSOR MARTIN LAWN

Honorary Professor

Martin researches datafication and metricisation, teacher professionalism and labour. He is currently looking at European education policy and the history of education.

DR HAMISH MACLEOD

Honorary Fellow

Hamish is an Honorary Fellow with research interests in the use of computer-mediated communications and game-informed approaches in teaching and learning. Hamish was a Senior Lecturer with the Centre for Research in Digital Education until his retirement and continues to supervise doctoral students.

DATA EDUCATION PROGRAMME TEAM



JENNI DOONAN

Business Development Manager

Jenni is former space engineer with a BSc in Computing & Electronics and MSc Astronautics and Space Engineering. Jenni joined the Centre in June 2019, initially with a focus on building partnerships between the Data Education in Schools project and businesses. More recently Jenni has started to work on the development of a data oriented curriculum and associated resources for teachers and learners, with plans to continue her research interests by pursuing a PhD in teacher education and STEM.

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KATE FARRELL

Director of Curriculum Development and Professional Learning

Kate is developing a data science curriculum for Primary and Secondary schools in Scotland, designing units of work on data handling, trialling these in pilot schools and training teachers to deliver information handling activities.

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TOMMY LAWSON

Schools Technology Advisor

Tommy works on the Data Driven Innovation programme with a focus on empowering learners through digital solutions.

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JO SPILLER

Programme Manager

Jo works on the Data Education in Schools project with overall responsibility for the operational and strategic development of the programme.

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TWITTER: @spillerjaye

PROFESSOR GREG MICHAELSON

Honorary Professor

Greg is supporting the Data Education in Schools research strand with a longstanding interest in how people understand programs, and in the pedagogic bases for teaching programming.

PROFESSOR SIR TIM O'SHEA

Professor Emeritus

Professor Sir Timothy O'Shea BSc (Sussex), PhD (Leeds), DUniv (Heriot-Watt), DUniv (Strathclyde), LL.D hc (McGill), D.hc (St Petersburg HSS), FAcSS, FRSE was Principal and Vice-Chancellor of the University of Edinburgh from October 2002 – February 2018. His research interests are based in computer based learning, artificial intelligence and mathematics.

DR CHRISTINE SINCLAIR

Honorary Fellow

Christine was programme director on the MSc in Digital Education from 2015 to 2018. She is particularly interested in the changing uses of language and the role of dialogue in digital environments. In addition to writing, she continues to supervise and examine doctoral students and is currently reworking her summer school in academic writing into an open educational resource.

VISITING SCHOLARS AND STUDENTS

Since our last report we have been joined by:

PROFESSOR SUSAN EDWARDS

November 2019

Director of the Early Childhood Futures research program in the Institute for Learning Sciences & Teacher Education, Australian Catholic University, (Nov 2019)

RONNI LAURSEN

Feb-Mar 2020

Aarhus University, Danish School of Education
Ronnie's doctoral research focuses on the implications of large-scale learning management systems (LMS) for schools and teaching practice.

GLOBAL REACH

UNITED KINGDOM	MAINLAND EUROPE	AMERICAS	AFRICA	ASIA
	Austria Belgium Denmark Finland France Germany	Canada Brazil Ecuador Mexico US	Kenya Nigeria South Africa Uganda Tanzania	China India Lebanon Nepal Thailand
OCEANIA				
Australia	Italy Norway Poland Spain Sweden Turkey			

PROJECTS PER COUNTRY

UNITED KINGDOM

- ✦ Ethics and Justice for Data and Artificial Intelligence
- ✦ Hacking the Distance Learning
- ✦ A Learning Analytics approach to Micromasters
- ✦ Exploring the teacher function: Interventions in automated teaching
- ✦ Data Justice and the Right to the City
- ✦ The Automatic University: assessing the effects of datafication and automation on higher education.
- ✦ Who's coding? Investigating UK coding course experiences and outcomes
- ✦ Lecture recording for inclusive education

- ✦ The University of Data: Ethical and Social Futures of Data-Driven Education
- ✦ Move2Learn: Embodied learning for pre-school scientists
- ✦ Co-Creation of an embodied learning technology for early science
- ✦ Developing Children's Understanding of Personal Data
- ✦ Magic Cloud: Business Booster
- ✦ Data Education in Schools

AMERICAS

- ✦ Who needs a feedback bot? Impact of automation on feedback pedagogy and learning experience (BRAZIL)
- ✦ Co-designing with Speculative Data Stories: Higher Education After Surveillance

- ✦ Move2Learn: Embodied learning for pre-school scientists (US)

AFRICA

- ✦ Digital Education research cluster (UGANDA, NIGERIA, TANZANIA)

ASIA

- ✦ Foundations for all (LEBANON)

MAINLAND EUROPE

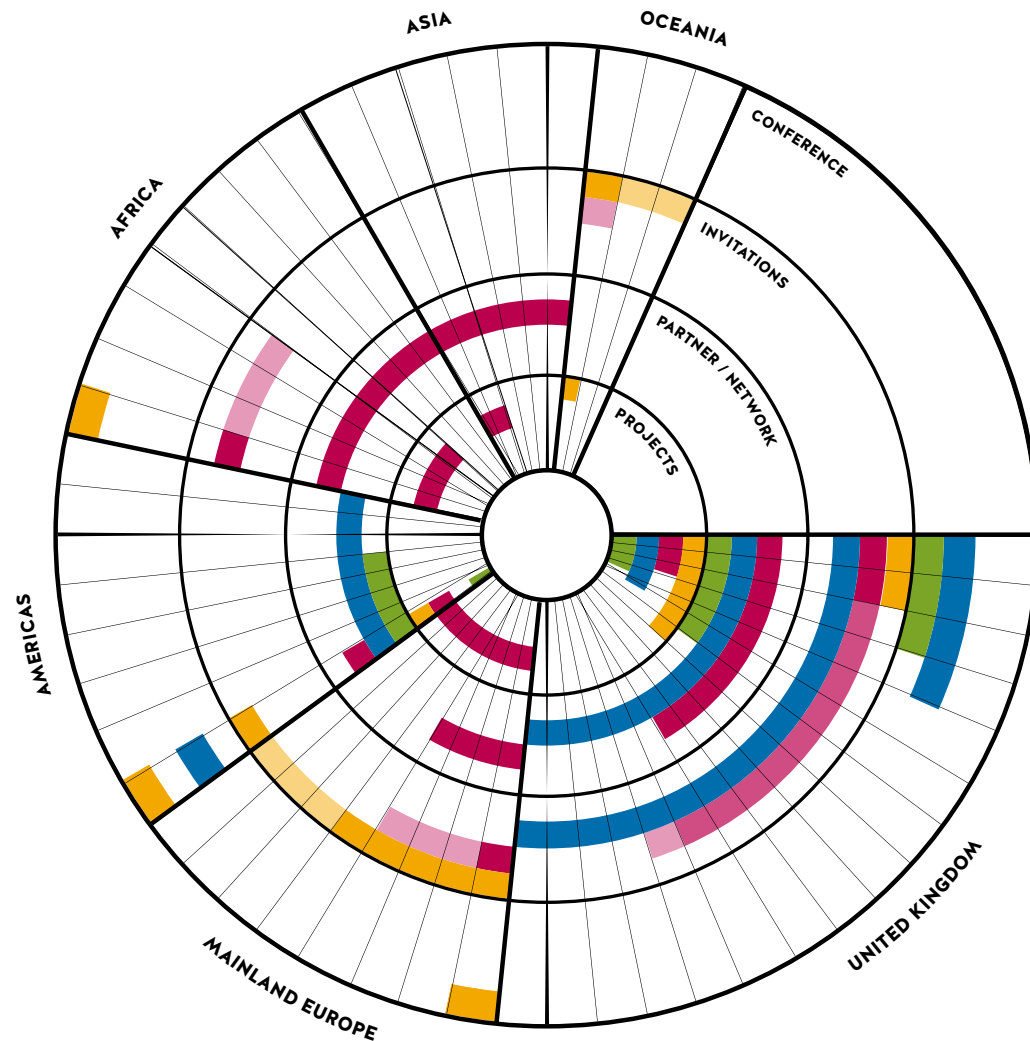
- ✦ UNA Europa (ITALY, FRANCE, POLAND, FINLAND, GERMANY, SPAIN, BELGIUM)

TURKEY, MEXICO, NEPAL, KENYA

- ✦ GCRF Urban Disaster Risk Hub

OCEANIA

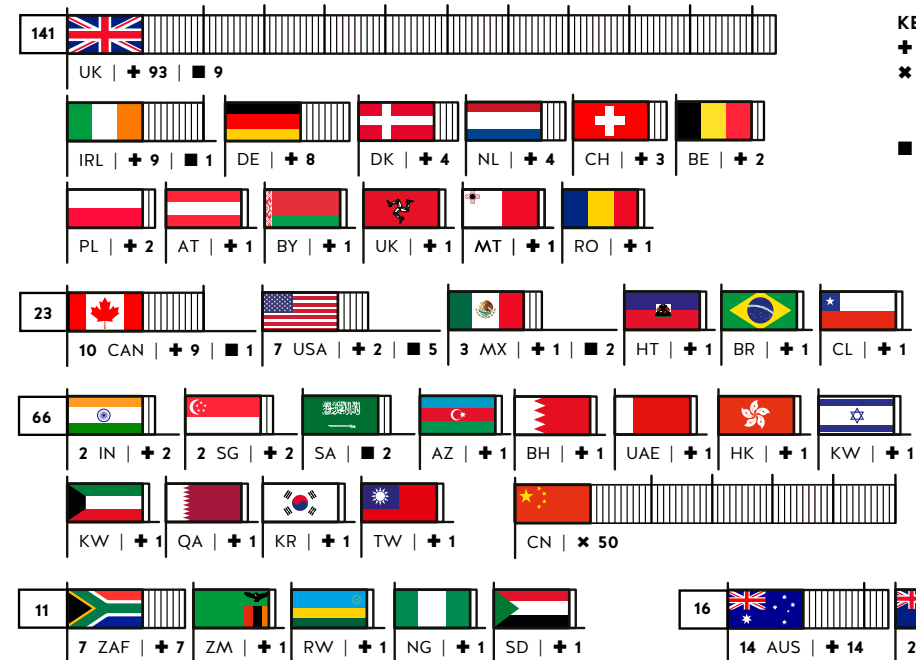
- ✦ Commercialization and privatization of/in education in the context of Covid-19 (AUS)



- STRANDS**
- DATA SOCIETY
 - DIGITAL CULTURES
 - DATA EDUCATION IN SCHOOLS
 - CHILDREN & TECHNOLOGY

- KEY 'INVITATIONS'**
- KEYNOTE
 - TALK
 - WORKSHOP

OUR STUDENTS



- KEY**
- ✦ MSC PGDIP, PGCERT
 - ✦ MSC CHILDREN AND TECHNOLOGY COURSE
 - DOC STUDENT

DIGITAL CULTURES

WORK IN THIS STRAND OFFERS CRUCIAL INSIGHTS INTO HOW DIGITAL CULTURES INFLUENCE AND ARE SHAPED BY EDUCATION IN A WIDE RANGE OF CONTEXTS – FROM MUSEUMS TO UNIVERSITIES, FROM WORKPLACES TO LOW-RESOURCE COMMUNITY SETTINGS.

DR JEN ROSS

CONTACT

Dr Jen Ross
Co-Director for Digital Cultures
jen.ross@ed.ac.uk

Education, knowledge, labour, creative industry and heritage systems globally are being re-shaped by digital and data technology. Technologies, in turn, are shaped by the cultural contexts in which they are made and used.

Digital Cultures is committed to developing critical perspectives on this from diverse disciplinary perspectives. We are actively researching high impact areas including digital pedagogies and futures, digital cultural heritage, workplace learning and international development and education.

PROJECTS 2019-2020

GCRF Urban Disaster Risk Hub

PRINCIPAL INVESTIGATOR
Professor
John McCloskey
School of Geosciences

CO-I
Professor Siân Bayne

FUNDER
UKRI Global Challenges
Research Fund

AWARD	DURATION	DATES
£40,552	1 Year	1.2.2019
total value:		–31.1.2024
£19.6M		

VIEW
<https://bit.ly/30skybk>

Lecture recording for inclusive education

PRINCIPAL INVESTIGATOR
Dr Jeremy Knox

TEAM
Dr Yuchen Wang

FUNDER
Principal's Teaching Award
The University of Edinburgh

AWARD	DURATION	DATES
£14,397	10m	1.3.2018
–31.12.2019		

VIEW
<https://bit.ly/3c00tjv>

The University of Data: Ethical and Social Futures of Data-Driven Education

PROJECT LEAD
Dr Karen Gregory
School of Social and Political Science
Dr Jen Ross

FUNDER
Edinburgh Futures Institute
(Baillie Gifford Data Ethics studentship)

DURATION	DATES
3 Years	10.2020
–09.2023	

VIEW
<https://bit.ly/3eOvZ1f>

Digital Education research cluster, Nigeria, Tanzania, Uganda

PRINCIPAL INVESTIGATOR
Dr Michael Gallagher

CO-I
Dr Joel Mtebe
University of Dar es Salaam, Tanzania
Dr Rovincer Najjuma
Makerere University, Uganda

Dr Maryam J. Ismail
State University of Zanzibar, Tanzania
Professor Adamu Hassan
Ahmadu Bello University, Nigeria

FUNDER
GCRF Theme Development
Fund

AWARD	DURATION	DATES
£23,000	18m	1.1.2019
–24.6.2020		

VIEW
<https://bit.ly/2UsAHdc>

Foundations for all

PRINCIPAL INVESTIGATOR
Jean-Benoit Falisse
School of Social and Political Science

CO-I
Dr Michael Gallagher
Dr Kate Symons
Edinburgh Global
Mr Michael Crawley
School of Social & Political Science

FUNDER
Mastercard Foundation

DURATION	DATES
2 Years	1.7.2019
–30.6.2021	

VIEW
<https://bit.ly/2BU4Yex>

Co-designing with Speculative Data Stories: Higher Education After Surveillance

PROJECT LEAD
Dr Jen Ross

TEAM
Dr Amy Collier
Dr Jane McKie
Dr Anna Wilson

FUNDER
Edinburgh Futures Institute

DURATION	DATES
5M	15.2.2020
–31.7.2020	

VIEW
<https://bit.ly/30pFm37>

CHILDREN AND TECHNOLOGY

WE BELIEVE THAT A BETTER UNDERSTANDING OF HOW CHILDREN INTERACT WITH TECHNOLOGY NOT ONLY HELPS US UNDERSTAND ITS INFLUENCE, BUT ALSO HELPS INFORM OUR ROLE, IN BOTH SUPPORTING CHILDREN'S INTERACTIONS AND INFORMING THE DESIGN OF NEW TECHNOLOGIES.

DR ANDREW MANCHES

CONTACT

Dr Andrew Manches
Co-Director for Children & Technology
a.manches@ed.ac.uk

The Children and Technology research strand contributes to discussions about technology in young children's lives and provides valuable insight and support for parents and teachers. We engage decision-makers in the role of technology in children's lives and create richer learning experiences by informing the design process.

Our taught MSc Education course continues to receive recognition: »[A] flagship example of innovative approaches to teaching and learning in higher education. It is to be commended for the creativity and variety of assessment and learning opportunities available to students.«
External Examiner

PROJECTS 2019-2020

Magic Cloud: Business Booster

PRINCIPAL INVESTIGATOR

Dr Andrew Manches

TEAM

Libby Odai

FUNDER

ESRC Business Booster

AWARD	DURATION	DATES
£10,000	6M	1.1.2019 -31.7.2019

VIEW

<https://bit.ly/2YiRKzd>

Move2Learn: Embodied learning for pre-school scientists

PRINCIPAL INVESTIGATOR

Dr Andrew Manches

TEAM

Dr Zayba Ghazali-Mohammed
Dr Claire Sowton
Dr Margaret Laurie
Jamie Menzies

FUNDER

Wellcome Trust

AWARD	DURATION	DATES
£374,411 total value: £701,656	4 Years	1.5.2017 -30.4.2021

VIEW

<https://bit.ly/2UwhaZk>

Developing Children's Understanding of Personal Data

PRINCIPAL INVESTIGATOR

Dr Andrew Manches

CO-I

Professor Lydia Plowman
Simon Chapple

TEAM

Dr Benjamin Bach
Dr Bettina Nissen
Dr Paul Patras
Dr Ewa Luger
Dr James Stewart

FUNDER

Edinburgh Futures Institute

AWARD	DURATION	DATES
£5,000	3M	15.4.2019 -15.7.2019

VIEW

<https://bit.ly/3dOC3WZ>

Digital Play

PRINCIPAL INVESTIGATOR

Professor Lydia Plowman

FUNDER

CAHSS Knowledge Exchange and Impact Grant, University of Edinburgh

AWARD	DURATION	DATES
£3000	7M	1.6.2019 -31.1.2020

VIEW

<https://bit.ly/2zJLj04>

Co-Creation of an embodied learning technology for early science

PRINCIPAL INVESTIGATOR

Dr Andrew Manches

CO-I

Dr Zayba Ghazali-Mohammed

TEAM

Jamie Menzies

FUNDER

Wellcome Trust Translational Partnership Award

AWARD	DURATION	DATES
£19,519	34M	1.1.2019 -30.10.2021

VIEW

<https://bit.ly/2YIyj90>

DATA SOCIETY

DATA SOCIETY RESPONDS TO THE INCREASINGLY IMPORTANT ISSUES RAISED BY THE COLLECTION AND PROCESSING OF DIGITAL DATA IN EDUCATION, DEVELOPING A CRITICAL RESEARCH AGENDA AROUND ANALYTICS, 'BIG DATA', ALGORITHMS, MACHINE LEARNING, AND OTHER DATA-INTENSIVE PRACTICES.

DR JEREMY KNOX

CONTACT

Dr Jeremy Knox
Co-Director for Data Society
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This theme is concerned with innovative interdisciplinary studies of data-processing technologies and data-intensive socio-technical systems, with a particular focus on developing educational perspectives that can enhance the technical, sociological, political, and ethical understanding of the contemporary 'data society'.

Key directions for research involve examining the relationships between technical areas such as artificial intelligence (AI), machine learning, algorithms, and 'big data', and educational issues such as curricular and policy development, classroom practices, educational theory, the learning sciences, and education technology development.

PROJECTS 2019-2020

Commercialization and privatization of/in education in the context of Covid-19

PRINCIPAL INVESTIGATOR
Ben Williamson

CO-I
Anna Hogan
University of Queensland

FUNDER
Education International

AWARD	DURATION	DATES
£3000	3M	01.05.2020 -31.07.2020

VIEW
<https://bit.ly/38f9UXI>

The Automatic University: assessing the effects of datafication and automation on higher education.

PRINCIPAL INVESTIGATOR
Ben Williamson

FUNDING
University and Colleges Union

AWARD	DURATION	DATES
£7,500	6M	01.10.2019 -01.03.2020

VIEW
<https://bit.ly/2ZjKtjn>

Data Justice and the Right to the City

PRINCIPAL INVESTIGATOR
Dr Jeremy Knox

FUNDER
EFI Projects Fund

AWARD	DURATION	DATES
£10,100	1 Year	1.12.2019 -1.12.2020

VIEW
<https://bit.ly/2N64C6w>

A Learning Analytics approach to Micromasters

PRINCIPAL INVESTIGATOR
Dr Michael Gallagher
Dr Johannes de Smedt
University of Edinburgh
Business School

FUNDING
University of Edinburgh
Principal's Teaching Award
Scheme (PTAS)

AWARD	DURATION	DATES
£11,384	1 Year	01.09.2019 -30.09.2020

VIEW
<https://bit.ly/2AW2jjG>

Who's Coding: Investigating UK Coding Course Experiences and Outcomes

PRINCIPAL INVESTIGATOR
Kate Miltner

SUPERVISOR
Ben Williamson

FUNDING
European Research Council
H2020 Marie Skłodowska-Curie Actions and the ESES
City Region Deal DDI Initiative

AWARD	DURATION	DATES
£167,000	3 Years	13.11.2019 -12.11.2022

VIEW
<https://bit.ly/2AIKgnm>

Exploring the teacher function: Interventions in automated teaching

PRINCIPAL INVESTIGATOR
Dr Michael Gallagher

TEAM
Dr Markus Breines
Dr Jeremy Knox
Myles Blaney

Learning, Teaching and
Web Services

Marcello Crolla
Instructional Designer

FUNDER
University of Edinburgh
Information Services Group

AWARD	DURATION	DATES
£2,222	10m	01.07.2019 -01.05.2020

VIEW
<https://bit.ly/2BRXuIT>

DATA EDUCATION IN SCHOOLS

DATA EDUCATION IN SCHOOLS IS SUPPORTING YOUNG PEOPLE ACROSS THE CITY REGION TO DEVELOP THE CONFIDENCE, COMPETENCE AND AMBITION TO USE DATA TO BENEFIT THEMSELVES AND THEIR COMMUNITIES

PROFESSOR JUDY ROBERTSON

CONTACT

Professor Judy Robertson
Co-Director for Data Education in Schools
Judy.Robertson@ed.ac.uk

The digital revolution is changing the world of work. By the time today's schoolchildren are ready to enter the workplace, many will be expected to perform roles that don't yet exist. Data Education in Schools is part of the Edinburgh and South East Scotland City Region Deal Skills programme and aims to teach data literacy and data citizenship skills to learners ages 3-18 years old in the Edinburgh and surrounding area.

The Data Education in Schools research strand focuses on the evidence base that ensures our programme evolves as an understanding of data, ethics and society advances.

PROGRAMME 2019 - 2027

Data Education in Schools

PRINCIPAL INVESTIGATOR
Professor
Judy Robertson

TEAM
Jo Spiller
Kate Farrell
Tommy Lawson
Jenni Doonan
Dr Serdar Abaci

FUNDING
University of Edinburgh
Integrated Regional Employability and Skills programme (Edinburgh and South East Scotland) City Region Deal

AWARD	DURATION	DATES
£2.4M	8 Years	1.04.2019 -31.03.2027

VIEW
<https://bit.ly/2UPlzWm>

PROJECTS

Professional learning workshops

AIM
Ten workshops suited to teachers who may be new to teaching computing science developed and delivered in 3 venues during 2019-2020.

FIND OUT MORE
<https://bit.ly/30CLS71>

Building Digital Infrastructure Capacity

AIM
A comprehensive outline of the existing educational technology infrastructure across the six local authorities of the Edinburgh and South East Scotland City Region.

FIND OUT MORE
<https://bit.ly/3hmDWwf>

National Progress Award Data Science

AIM
Working with the Scottish Qualifications Authority (SQA) to develop a National Progress Award (NPA) qualification in Data Science at Levels 4, 5 and 6.

FIND OUT MORE
<https://bit.ly/3ffW9d0>

Industry engagement

AIM
Tailored high-impact partnerships designed to deliver against industry priorities.

FIND OUT MORE
<https://bit.ly/3fkW0dp>

Knowledge Sharing Schools

AIM
Knowledge Sharing Schools will support the development of a data skills curriculum across the Edinburgh city region by helping lead and shape this important initiative in data skills development.

FIND OUT MORE
<https://bit.ly/2UtlzuP>

PUBLICATIONS

2020

Collier, A & Ross, J 2020,

Commentary: Higher education after surveillance? *Postdigital Science and Education*, 2, pp. 275–279.
DOI:10.1007/s42438-019-00098-z

Gallagher, M 2020,

Disposition and distilling a complex cosmopolitanism through a mobilities lens: The networked learning of Amara. in N Bonderup Dohn, P Jandric, T Ryberg & M de Laat (eds), *Mobility, Data and Learner Agency in Networked Learning*. Springer, pp. 35–47.
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Artificial intelligence and education in China, *Learning, Media and Technology*. Online first.
DOI:10.1080/17439884.2020.1754236

Knox, J, Williamson, B & Bayne, S 2020,

Machine behaviourism: Future visions of ‘learnification’ and ‘datafication’ across humans and digital technologies, *Learning, Media and Technology*, 45(1), pp. 31–45.
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FEATURED: DIGITAL CULTURES



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This article interrogates commercialised edtech policy in sub-Saharan Africa and explores its effects on how educational infrastructure is being built and imagined in higher education. Research in the Digital Cultures theme is increasingly engaging with education in developing contexts – as evidenced also by some key projects starting since our last report – Foundations for All, Digital Education Research Cluster in Nigeria, Tanzania and Uganda.

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FEATURED: CHILDREN & TECHNOLOGY



Plowman, L 2020, **Digital toys**. in DT Cook (ed.), *The SAGE Encyclopedia of Children and Childhood Studies*. SAGE Publications.

[https://www.research.ed.ac.uk/portal/en/publications/digital-toys\(efc9db9ee-4020-4d5e-965e-f5fc38affe13\).html](https://www.research.ed.ac.uk/portal/en/publications/digital-toys(efc9db9ee-4020-4d5e-965e-f5fc38affe13).html)

Lydia considers whether digital toys change the types of play in which children engage and speculates about future developments in this four-volume encyclopaedia which presents a state-of-the-art overview of childhood studies.

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FEATURED: DATA SOCIETY



Knox, J, Williamson, B & Bayne, S 2020, **Machine behaviourism: Future visions of 'learnification' and 'datafication' across humans and digital technologies**, *Learning, Media and Technology*, 45(1), pp. 31-45. DOI:10.1080/17439884.2019.1623251

This paper examines visions of 'learning' across humans and machines in a near-future of intensive data analytics. Jeremy, Ben and Siân highlight concerns for the use of learning analytics and machine learning, the associated narrative of efficiency and its appeal to educational institutions.

FEATURED: DATA EDUCATION IN SCHOOLS



Robertson, J 2019, **Towards a sustainable solution for the shortage of computing teachers in Scotland. The Centre for Research in Digital Education.** Available at: https://www.research.ed.ac.uk/portal/files/118843174/CS_Teacher_Shortage_Report_UoE_SDS_Nov_2019.pdf

This report was jointly funded by University of Edinburgh, Moray House School of Education and Sport and with grant support from Skills Development Scotland. Judy led the production of the report for the University of Edinburgh with a steering board comprising Education Scotland, the General Teaching Council for Scotland, Scottish Government, Computing at Schools Scotland, University of Glasgow School of Computing Science, Scottish Informatics and Computer Science Alliance, Scottish Enterprise and the Royal Society of Edinburgh.

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How technology,
culture, learning and
policy intersect within
research and practice
in digital education.

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