Institution: University of Dundee		
Unit of Assessment: UoA 30 Philosophy		
Title of case study: Localising Philosophy, Democratising Technology		
Period when the underpinning research was undertaken: 2015 to present		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Dominic Smith	**Role(s) (e.g. job title):** Senior Lecturer in Philosophy	**Period(s) employed by submitting HEI:** From 2011
Period when the claimed impact occurred: from April 2018		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact

Research in the Philosophy unit on innovative ways of engaging with technology through its failures and marginal cases underpinned a collaborative project with education researchers named 'Localising Philosophy, Democratising Technology.' This produced resources with interconnected impacts on a public service, practitioners, and learning and participation. The three main beneficiaries were: 1) Dundee City Council education authority, which adopted the resources for its digital skills policy to address social inclusion issues; 2) teachers, who used the resources to develop innovative pedagogies to address diverse curriculum needs; 3) pupils, who developed new concepts of technology and forms of active voice in discussions about the roles of technology in everyday life.

2. Underpinning research

The principal underpinning research is Smith's work in philosophy of technology, especially his monograph *Exceptional Technologies* (2018) **[R1]**. This is the culmination of work carried out since 2015 **[R2, R3, R4]** and is a significant contribution to philosophy of technology. Its three main arguments are as follows. First, in contrast to the influential 'empirical turn' approach, philosophy of technology can benefit from renewed attention to Kant's sense of the transcendental, as a form of dynamic inquiry into conditions of possibility. Second, instead of focusing on objects aligned with our common sense of what constitutes technology (e.g., smartphones, social media, AI) we can learn just as much (and sometimes much more) from considering paradoxical 'exceptional technologies.' 'Exceptional technologies' are defined by Smith as 'artefacts and practices that appear as marginal or paradoxical exceptions to a received sense of what empirically constitutes a technology in a given context of design, implementation or use, but that can nevertheless act as important focal points for drawing out and challenging conditions implicated in the received sense' (p. 5). The book develops this argument through case studies of failed, imagined, and impossible technologies. Third, the book argues that philosophy of technology should experiment with different 'pictures of method', to open the field as a problem space capable of sustaining many different perspectives and interdisciplinary inputs.

Two insights from Smith's research were especially relevant to the impact achieved: 1) the voices of children often appear as 'marginal exceptions' in debates surrounding technology; 2) technology is profoundly reshaping the 'given context' of education today, and this demands focused philosophical intervention, at all levels **[R1, R2, R3, R4].**

In connection with these points, the underpinning research also includes insights from educational researchers, with whom Smith collaborates on the 'Localising Philosophy,

Democratising Technology' project. In a paper published in 2020, 'Art in My World' **[R6]**, Robb presented data from a unique longitudinal study that explored the visual art experiences of children in Scottish primary schools. The paper applies philosophical theory to arts education and draws from data rendered by classroom work designed for the study. The paper demonstrates the capacity of children to engage and create visual art on their own terms, and to develop wider forms of active voice and learning resilience through arts education.

Smith and Robb's research insights intersect in foregrounding the role of novel examples and educational stimuli **[R1, R6]**, and in the emphasis both place on the role of interdisciplinary methods and art practice **[R4, R6].** Both bodies of work also emphasise the value of participatory approaches focused on 'low technology' for developing wide-ranging forms of critical literacy that are democratic and that offer meaningful understanding of artefacts and technologies that can otherwise seem remote and foreboding. This is evident in Robb's work through a focus of how cultural capital can be developed among early years learners through group art practice **[R6]**, and in work by Smith on the role of 'explicability' as an ethical/educational principle for making developments in AI and automation more accessible and accountable **[R5].**

3. References to the research

[R1] Smith, D. (2018) Exceptional Technologies: A Continental Philosophy of Technology, London: Bloomsbury.

[R2] Smith, D. (2015) 'Rewriting the Constitution: A Critique of 'Postphenomenology', Philosophy and Technology, 28(4) pp. 533–551 DOI: 10.1007/s13347-014-0175-6

[R3] Smith, D. (2015) 'The Internet as Idea: For a Transcendental Philosophy of Technology', Technē: Research in Philosophy and Technology, 19(3) pp. 381–410. DOI: 10.5840/techne2015121140

[R4] Smith, D. (2015) 'On Technological Ground: The Art of Torsten Lauschmann', Evental Aesthetics, 4(2) pp. 138-170 Available at: https://eventalaesthetics.net/Back_Issues/V4N2_2015/EAV4N2_2015_Smith_TorstenLauschmann_138_170.pdf (Accessed 13 March 2021)

[R5] Smith, D. (2020) 'Making Automation Explicable: A Challenge for Philosophy of Technology', New Formations, 19 pp 68-84 DOI: 10.3898/NEWF:98.05.2019

[R6] Robb A, Jindal-Snape D, Levy S. 'Art in my world: Exploring the visual art experiences in the everyday lives of young children and their impact on cultural capital.' Children and Society. 35(1) pp. 90-109 DOI: 10.1111/chso.12392

4. Details of the impact

Smith and Robb developed a collaborative project: 'Localising Philosophy, Democratising Technology.' This used a 1932 radio broadcast by Walter Benjamin – 'The Railway Disaster at the Firth of Tay' – as a catalyst and focus for producing accessible resources for schools. The resources updated the message and examples of Benjamin's broadcast, and explored themes from the underpinning research. The broadcast was chosen because it: 1) sits within the post-Kantian philosophical tradition; 2) focuses on an 'exceptional technology' (a failed bridge); 3) experiments in innovative ways with visual art examples; 4) describes something that is already part of local school curricula and the cultural capital of people in Dundee (the Tay Bridge Disaster of 1879). Resources produced include lesson plans, a 'users' guide, short talk, podcast, and a specially commissioned arts film. They are collated at a bespoke open-access website.

In-class development sessions began in April 2018. While the initial focus was on face-to-face teaching, following the events of the pandemic, Smith and Robb worked with an assigned

member of the Dundee City Council (DCC) Digital Skills team to move to a blended learning context, with the project resources made available through the DCC education authority. The whole process had interconnected impacts on a public service (DCC's Digital Skills team), practitioners (teachers implementing pedagogies and curricula), and learning and participation (pupils).

Digital Skills Policy: In June 2020, the resources were endorsed by DCC education authority for use among its teachers. Dundee has high levels of child poverty, with high levels of digital exclusion. Scotland-wide, the recent 'Scottish Technology Ecosystem Review' (Mark Logan, 2020) establishes government policy to develop technology education to support economic and social recovery in the wake of the COVID-19 pandemic. DCC's Chief Education Officer and Digital Skills team endorsed the project resources as an innovative way of ameliorating these issues in a context where they had been made acute by the COVID-19 pandemic **[E1, E2].**

Although project resources were initially developed prior to the pandemic, and the original pathway to impact was adversely affected by the pandemic, Smith and Robb were able to work with the DCC Digital Skills team to develop the resources such that they responded to the emergent needs of the education authority. As a result, the resources were made available to c.1600 teachers across DCC authority via the authority's 'Glow' platform, and formally adopted as part of DCC's ongoing digital skills policy **[E2].** The Digital Skills team commented: 'It is imperative that we close the gap between technology and creative industries…. This project provides so much scope … to do this at all levels, from Early Years to Higher Education' **[E2].** The Chief Education Officer reflected: 'this work is helping my team address some of the issues around poverty, digital inclusion and the lack of equity in this area.... we are receiving very positive feedback from our digital team, our colleagues in schools, and learners…. this is an area to be further developed as we move through recovery from COVID-19 restrictions and schools find themselves able to receive partners and visitors in schools again.' **[E1].**

Pedagogies and Curricula: Smith and Robb conducted Career-Long Professional Learning (CLPL) sessions for teachers in October and December 2020, at which they shared their research insights. This resulted in the resources informing work in nine DCC area schools (c. 20% of schools in DCC). This ranged from a primary 6 project in a 20% Most Deprived area (Fintry Primary) to a Religious, Moral and Philosophical Studies (RMPS) project in one of DCC's highest performing secondary schools (Grove Academy) **[E3].** Teachers from diverse subjects including RMPS, English, and STEM participated, with learning outcomes of c.150 pupils directly affected. Impacts of the resources included adaptation to extant curriculum needs, and cross-curricular innovations. Examples of work made possible by the resources include: a project using *Minecraft* to teach digital integrity **[E1],** creative writing portfolio elements exploring possible future technologies **[E2]**, and an RMPS unit on refugee experiences **[E3].** On the ongoing usefulness of resources, the Head of RME at the High School of Dundee commented: 'I'll be very happy to include your work in the curriculum. It has arrived at a very convenient time, in terms of the cross-curricular work that I'm trying to develop, apart from being a first-rate exercise in philosophy' **[E4].**

Pupils: The underpinning research created resources that have turned classrooms into spaces for reflection, discussion and creativity in relation to philosophical questions about technologies. The resources enabled these questions to be generated by participants themselves. Questions generated by the pupils during sessions included: 'How does information become money?', 'How do smartphones make us feel emotions?', 'Do technologies change our sense of right and wrong?', 'What can old technologies tell us about future ones?', 'Does technology make humans into a new hybrid species?' **[E3].** Together, these questions enabled pupils to research and share new reflexive concepts of technology, and to develop forms of active voice in discussions about the roles of technology in everyday life.

The resources also facilitated changed perceptions among teachers regarding what was possible with pupils. One noted that the resources were 'a fantastic way of getting the kids engaged' and that 'learning about the [Tay Bridge] disaster is necessary, especially for a city

rediscovering its identity and heritage' **[E5].** Another noted**:** 'When we are asked to consider ICT in lesson-planning, it's basically always in terms of "how can we use the iPads in this lesson?" The Localising Philosophy project points towards a better kind of question – "what can this lesson tell us about what technology *means* for us?"' **[E6].** The head of RME at the High School of Dundee commented: 'The combination of philosophy and art was very effective…, it encouraged class members to express and develop their own thoughts rather than wait, passively, to receive other people's ideas' **[E4].**

5. Sources to corroborate the impact

[E1] Statement from Chief Education Officer, Dundee City Council (8th December 2020)

[E2] Statements from Digital Skills Unit, Children and Families Services (Dundee City Council) (11th December 2020)

[E3] Teacher and pupil feedback: in-class materials from High School of Dundee (February and March 2020); materials supplied in feedback from Career-Long Professional Learning sessions (27th October 2020/ 10th December 2020)

[E4] Statement from Head of RME at High School of Dundee (7th July 2020)

[E5] Statement from Literacy Officer, Rosebank Primary, Dundee (15th February 2019)

[E6] Statement from Principal Teacher in RMPS at Grove Academy, Dundee (10th December 2020)