

Editorial

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Welcome to the seventh issue of the University of Huddersfield's peer-reviewed student research journal, Fields. This issue includes contributions from across the University's academic schools, reflecting the range and quality of research undertaken in the arts and humanities, the social sciences, education, business, science, health, technology and engineering. Each paper builds on research and scholarship in the author's field in order to contribute to theory, methodology and practice. Contributions are carefully located within relevant national and international policy contexts to offer suggestions for practice and further research. In all, this issue is an engaging read that offers fascinating insights from our emerging new scholars. We hope you enjoy reading it.

The journal opens with a study of our youngest learners - **Olivia Tumini** uses a qualitative case study approach to centre the experiences of preschoolers in this study of early learning. Photo elicitation and observations within a multimodal framework explore areas of provision that are most significant to children. Tumini's findings that play and imagination, friendships and socialisation are significant for young children's early learning are interpreted in the context of increasing pressures on standards and formal, adult-initiated learning and the need to hold on to the voices of children.

The focus on the education of our youngest citizens continues with a study by **Amy-Leigh Simpson**. Drawing on a series of qualitative interviews with teachers from independent schools in the UK, Simpson highlights the factors that teachers report shape their decision-making about the frequency and content of homework assignments. Parental expectation, teacher identity and teachers' own expectations are important influences, with teachers' perception of parental expectation acting as the driving influence in shaping teachers' homework setting practices.

The third paper stays within the field of education, this time to explore students' experiences of higher education. **Jay Schofield** undertakes a series of interviews with students, applying Bourdieusian concepts of habitus and cultural capital to analyse rich qualitative interviews with students as they articulate how they navigate their journeys through higher education to create a sense of belonging and achievement.

The theme of students' experience of higher education is continued in **Shona Francis'** powerful exploration of young Black women's experiences of university. Francis' qualitative case study is located within a phenomenological framework which carefully explores the intersections of race and gender on the educational experiences of this under-researched group to reveal the factors that have shaped their university experience as Black learners and as a Black women.

Laura Pusey continues the qualitative theme and focus on cultural and ethnic identity, offering a series of compelling interviews with African-Caribbean-British women in their late forties. Pusey's thematic analysis identifies the challenges faced by British women of African-Caribbean heritage, 'Living with the mantle of the Strong Black Woman' to share her interviewees' thoughts, feelings and coping methods around this trope, including its positive and negative attributes and of generational trauma.

Sidra Akram's research stays with the theme of education, shifting the focus to design and specifically the design of digital education games (DEGs). In common with Tumini's paper, Akram's emphasis is on the pedagogical experience of children from their perspectives. Mixed methods research with a sample of children aged 10-12 explores the design features that impact children's engagement with digital education games. Akram's findings, which are focused on children's experiences of the reward mechanisms and avatars within games, makes recommendations for increasing children's engagement with DEGs in the context of the acquisition of 21st century skills.

The **seventh** paper, by **Megan Gregory** is also situated in the development of digital technology and specifically the development of a digital application to reconnect millennials with nature. As Gregory explains, the application, a SLOWcial media-based provision entitled 'ROOT', incorporates key features of social networks in an attempt to rebalance natural and digital lifestyles, in order to challenge human disconnect with nature. The paper carefully sets out the benefits of nature connection for human wellbeing and describes the development of a plant-monitoring social media application for reconnecting users with nature.

Ellie Hawker's paper continues the design theme, asking 'Does Tangible design and print hold value in the contemporary digital age?' Drawing on a range of digital and print media, Hawker explores how digital and material media are consumed, and the implications for design practice to ensure the relevance of print media in an increasingly digital age.

Next, **James Brown** tackles the controversial topic of human over-population and environmental sustainability. Brown's paper is firmly located in the language of human rights, offering a fascinating discussion of historical and contemporary global policies which have attempted to manage population growth. A careful analysis of regulatory and voluntary approaches concludes with Brown's call for voluntarist policies which prioritise human

rights.

The historical theme is continued in **Bethany Richardson-Smith's** paper on the 1932-33 famine in the Soviet Union. Richardson-Smith examines the growth of nationalism within the Ukraine, the famine related policies implemented by the Soviet government, and the death rate per capita in both the Ukraine and Russia to explore whether or not famine policies intended to create mass fatalities and remove Ukrainian nationalist opposition.

A series of fascinating STEM papers then follows. **Liam Draper** reports on the testing of an ACT turbo-expander on a high-speed diesel engine to establish whether nitrogen oxide (NO_x) reduction can be achieved by turbo-expansion cooling. Draper meticulously describes a series of experiments and their contribution to the field in the context of the drive to reduce the global environmental and health impacts of NO_x.

Weidong Liu's comparison of measuring surface texture of additively manufactured parts using optical techniques (Alicona G4) and X-ray Computer Tomography (Nikon XTH225) is next. The results of optical and XCT measurements are analysed respectively, using surface texture parameters as specified in ISO 25178-2. To target the most suitable measurement configuration, different measurements resulting from the same technique with various configurations were compared. The optical and XCT measured surfaces obtained via the targeted configuration parameters were matched via surface registration to allow an accurate comparison with respect to both surface topography and its derived surface roughness parameters.

Hayley Butler's paper follows with an exploration of the effects of the anti-migratory drugs, CCG-1423 and Rhosin hydrochloride, on the motility of cancerous cells found in Glioblastoma Multiforme (GBM), an aggressive form of brain tumour. She carefully elaborates the scratch wound and tumour spheroid assays used to observe the extent of cell migration and explains the significance of the results for future studies in which antimigratory drugs have the potential to be used at the surgical site and to complement conventional treatment in order, ultimately, to prevent the onset of secondary tumours.

How various material properties affect rolling contact fatigue (RCF) and wear of rail steels is the topic of **Daniel Herbert Woodhead's** research, in which a series of tensile tests were conducted on rail steel samples and compared to wear and RCF data available in the wider literature. The findings, that hardness is a good indicator of ultimate tensile strength and that steel samples from the head and foot of rails have quite different yield strengths, are explained in the context of future development of RCF prediction models and in the identification of rail damage mechanisms.

The next two papers shift attention from STEM science, using methods from social science and business to consider the experience of the STEM workforce. First, **Sam Edwards**, uses a mixed methods approach to explore the UK engineering skills shortage. Edward's survey-based research explores the attitudes of staff

working within engineering and manufacturing including perceptions of ability and proficiency. Although a small exploratory study, Edwards suggests three routes for increasing engineering workforce quality and reducing skills shortage focused on: Increased availability of apprenticeships; workplace-relevant and practice-focused undergraduate education and a balance of practical, technical and analytical skills for trained engineers.

Jessica Murdoch's survey-based research examining the gender imbalance in the STEM workforce in which only 14% are women, then follows. Murdoch's online questionnaire explores the experiences of women who are currently working in STEM roles within the UK to examine the relationship between workplace opportunities in the technology industry in the context of wider societal gender inequalities.

Mathew Butler's paper takes us back to the field of design and user experience to examine reported speech in newspapers. A mixed methods approach is used to explore differences in respondents' experiences of texts. Using a combination of statistical methods alongside stylistic analyses of the texts, Butler examines the linguistic features present, how this affects the experience of the reader and the implications for the fields of law and journalism.

Next, **Stacey Barratt** takes us to the fascinating world of architectural rebranding. Three iconic architectural case studies: Titanic Belfast, Northern Ireland; Turner Contemporary, Margate, England; and Guggenheim Bilbao, Spain are examined in the context of deindustrialisation, globalisation, and gentrification. Barrett outlines three key approaches: market-led, top-down, and flagship rebranding strategies, critically examining the efficacy and sustainability of each.

Architectural form is the theme of our final paper, **Hammad Haider's** exploration of the relationship between architectural design and Arabic calligraphy. In this absorbing paper, Haider considers the connection between these art forms in the fluid architectural design of architect Zaha Hadid to suggest a unique pairing of cultural forms with the language of geometry.

With thanks to all the contributors for this fascinating collection of papers and to the editorial board, publishing manager and the academic supervisors at the University of Huddersfield who have supported their development: Prof. Tim Thornton, Dr Liz Bennett, Dr Todd Borlik, Dawn Cockcroft, Prof. Michael Ginger, Dr Berenice Golding, Dr Dinuka Herath, Prof. Simon Iwnicki, Dr Haiyan Miao, Dr George Ndi, Dr Louise Nuttall, Dr Anna Powell, Dr Nadine Smith and Dr Martina Whitehead.