

USING INTERACTIVE DIGITAL
NARRATIVE IN SCIENCE
AND HEALTH EDUCATION

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INVESTOR IN PEOPLE

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LIST OF ABBREVIATIONS

AMR	Antimicrobial Resistance
CCE	Climate Change Education
Co-I	Co-investigator
GP	General Practitioner (medical)
h-ACE	Holistic Agentic Climate-Change Engagement Model
HEI	Higher Education Institution
IDN	Interactive Digital Narrative
IS	Infectious Storytelling
MDR-TB	Multi-drug Resistant Tuberculosis
NHS	National Health Service (UK)
NW4T	No World 4 Tomorrow
OAN	Only Always Never
PI	Primary Investigator
REF	Research Excellence Framework
Scicomm	Health and Science Communication
SEN	Special Educational Needs
SENCo	Special Educational Needs Coordinator
STEAM	Science, Technology, Engineering, Arts, Mathematics/Medicine
STEM	Science, Technology, Engineering, Mathematics/Medicine
TB	Tuberculosis
WHO	World Health Organization
WNMA	Welsh National Memorial Association
YCO2	You and CO ₂

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ABSTRACT

This book offers initial insights and lessons learned from two pilot studies using interactive digital narrative (IDN) as educational interventions seeking to effect positive behaviour change regarding topics of global social issues: climate change and antimicrobial resistance.

'You and CO₂' is a series of workshops for secondary school students: the researchers led hands-on sessions in the chemistry of carbon footprints, reading a climate-change-themed IDN and composing IDNs on the same theme. 'Infectious Storytelling' centres on affecting patient behaviours that contribute to antimicrobial resistance: in this project, researchers examine tuberculosis's (TB) representation in creative media in the Romantic era and post-World War II. This research informed a purpose-built IDN to effect positive change in public behaviour surrounding the current epidemic of antimicrobial-resistant TB (as identified by the World Health Organization).

Both these issues contribute to increasingly urgent 'global challenges': issues of climate change and ineffectiveness of medication for treatment of communicable diseases, particularly with regard to highly mobile and interspersed populations. There is a dire need to instill a stronger sense of personal responsibility to act as individuals to resolve global issues, and these pilot studies present IDNs as possible approaches in these resolutions. The studies presented in this book are an examination of the efficacy of entertainment media, specifically IDNs, to purposefully effect positive behaviour without resorting to obviously 'edutainment' games that students receive negatively.

This book's key contributions are in the areas of interdisciplinary research and education methods, combining arts and science methodologies and approaches to address significant global challenges (climate change, antimicrobial resistance). As such, it will offer insights for a rapidly growing subject area: interdisciplinary approaches. Its methodology and reflective sections on addressing the particular challenges of truly interdisciplinary research (from extremely disparate fields) will be especially helpful to future research teams.

More specifically, this book addresses science communication through interactive digital narratives. IDNs have been shown to increase the efficacy of teaching on a range of topics, as has entertainment media in general. The IDNs at the foundation of the book's two studies were built to capture audiences' attention through strong entertainment narratives whose underlying informative and persuasive themes regarding climate change and antimicrobial resistance could affect audiences' perceptions and subsequent behaviours regarding these issues. By utilizing an interdisciplinary array of research contexts and methodological approaches, these projects aim to empirically test the effectiveness of 'playful learning' for behaviour affecting global sociological, health and environment issues; the following chapters deliver early conclusions based on the projects' pilot studies and interdisciplinary working.

Keywords: Health Communication, Science Communication, Interactive Digital Narrative, Interdisciplinary Research, Wide Interdisciplinarity, STEAM, Entertainment for Education, Climate Change Education, Antimicrobial Resistance Education