Impact case study (REF3b)

Institution: **University of Bedfordshire**

Unit of Assessment: **35 - Music, Drama, Dance and Performing Arts**

Title of case study: **Choreographing technology**
1. Summary of the impact   How can digital technology redefine choreographic practices? This is an important question in terms of: the impact of networked technologies in connecting individuals virtually; screen interfaces as mediated contexts for embodied communication; the impact of technology in mediating experiences of motion. Interest in these questions is manifest in both academic, practice-led research and professional arts contexts.   This case study identifies how interdisciplinary, collaborative choreography and technology research projects undertaken within the Centre for Applied Research in Dance have focussed on choreographic innovation in live, mediated networked environments and the development of software tools enabling new methods of choreography and documentation.

2. Underpinning research   The University of Bedfordshire's Centre for Applied Research in Dance (CARD) has hosted a series of large-scale, practice-led, interdisciplinary, collaborative research projects and relationships with professional partners which underpin this case study. The projects have had a developmental relationship and have impacted on one another [3.5]. The projects have involved Helen Bailey as either principal or co-investigator. All three research projects to be considered have involved collaboration with other UK universities; the collaborative relationships have been cross-disciplinary and involved interdisciplinary and transdisciplinary collaborative approaches to the research problems addressed by each project.   The Stereobodies Project was a two-year project, undertaken between 2005 and 2007. It was led by Martin Turner at University of Manchester with University of Bedfordshire as a collaborative partner and Helen Bailey as co-investigator. The Stereobodies Project was one part of the larger research project CSAGE: Collaborative Stereoscopic Access Grid Environment, which received £250,000 funding from the JISC Virtual Research Environment phase 1 scheme. This interdisciplinary practice-led part of the wider project investigated the ways in which choreographic methods impact upon and test the functionality of a virtual research environment that utilizes stereoscopic projection within a live networked context to enhance telepresence in terms of user experience. This practice-led research resulted in the production of a range of outputs including published peer-reviewed papers, conference proceedings and an original dance work, a 10-minute duet titled 'Stereobodies', which integrated live performance and stereoscopic projection of prerecorded video of dancers. This was the first project in dance to explore e-Science visualisation methodologies in networked virtual research environments and their applicability for dance research [3.6].   The findings of this project in relation to the use of access grid as a potential environment for networked performance and as a research environment in which to document the creative choreographic process became the basis for the next large project, the e-Dance Project.   The e-Dance Project was a three-year project, which took place between 2007 and 2010. The project received £400,000 joint research council AHRC-EPSRC-JISC funding as part of the e-Science Arts & Humanities Scheme Large Research Award (2007-2009) *Relocating Choreographic Process: the Impact of Collaborative Memory and Grid Technologies on Practice-led Research in Dance*, led by University of Bedfordshire with Helen Bailey as Principal Investigator. Collaborative partner HEIs were University of Manchester (Martin Turner as co-investigator), University of Leeds (Sita Popat as co-investigator) and The Open University (Simon Buckingham-Shum as co-investigator). The e-Dance Project also received £15,500 Arts Council of England, Grants for the Arts Award (2010-2011) *Composite Bodies: Networked Choreography* to

apply the practice-led outcomes of the research into an original dance work for a public audience. The e-Dance Research Project resulted in a range of outputs including peer reviewed articles, published conference proceedings, production of new software tools and public performances [3.4, 3.2, 3.3]. There were two original choreographed performance works created. The first piece was 'Morphologies', a 20-minute quartet which integrated projected stereoscopic motion capture visualisations as a real-time interactive environment in live performance [3.3]. The second piece was 'Here and There', a 60-minute quartet, which integrated networked video technology in live performance. 'Here and There' utilised the e-Dance Scene Editor software within the performance. This software had been developed as part of the research councils funded part of the project. The practice-led research outcomes in the use of motion capture as a means of visualising spatio-temporal structure which was integrated into the 'Morphologies' dance work had a direct impact on the MiPP: Movement in Place Platform project.

The MiPP: Movement in Place Platform project was undertaken between 2010 and 2011. It received £500,000 AHRC (Digital Equipment and Database Enhancement for Impact) Large research grant. The project was led by Kirk Woolford, Principal-Investigator, University of Sussex, with collaborative partner HEIs; University of Bedfordshire (Helen Bailey, co-investigator) and King's College London (Stuart Dunn, co-investigator), University of Reading (Micheal Fulford as consultant) and industry partnership, Animazoo. This project used interdisciplinary intersections between dance, archaeology and new media to consider the ways in which motion capture technology could be used as a methodological tool to investigate spatio-temporal structures and embodied experience of place through these structures.

3. References to the research

3.1 Bailey, H., Buckingham-Shum, S., Popat, S., Turner, M. (2009) "e-Dance: digital topographies and knowledge cartography in networked performance", *ISEA 2009 15th International Conference Proceedings* ISBN 978-981-08-0768-9.

3.2 Bailey, H., Buckingham-Shum, S., Le Blanc, A., Popat, S., Turner, M., Rowley, A. (2009) "Dancing on the Grid: Using e-Science tools to extend choreographic research", *Philosophical Transactions A*, The Royal Society ISBN 978-0-85403-757-5.

3.3 Bailey, H., Hewison, J., Turner, M. (2008) "Choreographic Morphologies: digital visualisation of spatio-temporal structure in dance and the implications for performance and documentation", *EVA2008 International Conference Proceedings*, British Computing Society, UK ISBN 978-1-906124-07-6.

3.4 Bailey, H., Buckingham-Shum, S., Popat, S., Turner, M. (2008) "e-Dance: Relocating choreographic practice as a new modality for performance and documentation", *ISEA 2008 International Conference Proceedings* ISBN 978-981-08-0768-9.

3.5 Bailey, H. (2007) "Ersatz Dancing: Negotiating the live and mediated in digital performance practice", *International Journal of Performance Arts and Digital Media*, Vol. 3, No. 1, Intellect ISSN 14794713.

3.6 Bailey, H., LeBlanc, A., Turner, M. (2007) "Stereobodies: A practice-led choreographic investigation using the collaborative stereoscopic access grid environment", *EVA (Electronic Visualisations in the Arts) International Conference Proceedings*, London University for the Arts, London College of Printing ISBN 0-9453146-8-9.

4. Details of the impact

The key impact of the research is in the cultural context. The research outputs and activities associated with the research projects have directly impacted on the practices of professional dance artists and emerging dance artists in terms of providing new insights and understandings of the ways in which new and emerging technologies can influence and inform innovation in

choreographic practices.

The e-Dance Project engaged in ongoing dialogue with professional dance artists throughout the research process. An example of this is: Helen Bailey was invited to contribute to the MIMA (Moving Image Media Artists) workshop co-hosted by Troika Ranch, a US-based Dance and Technology Company, and the 3DL Center in New York, USA. This workshop provided the opportunity to discuss the e-Dance software development and disseminate the software innovations developed as part of the project to a group of selected international professional digital media and performance artists from the UK, USA, Hong Kong, and Belgium. [5.5]

The e-Dance Project resulted in the creation of two publically presented performance works, Morphologies (2007) and Here and There (2010). The making of these works directly utilised the compositional methods that had been developed as part of the research process. An Arts Council England Grants for the Arts Award resulted in the development of 'Here and There', an evening's length performance work integrating the software developed as part of the e-Dance project. This dance work toured to professional theatre venues and provided dissemination of the research to a general public audience. Professional dance artists were employed to work on the development and performance of these works, ten professional dancers (Lee Awanah, Catherine Bennett, River Carmalt, Marina Collard, Louise Douse, Nicola Drew, Amalia Garcia, James Hewison, Diccon Hogger, and Lisa Spackman) were engaged directly in this process and developed new knowledge and insight. [5.6]

The e-Dance Project has resulted in the development of new software tools, which have impacted directly on the development of new compositional approaches and methods for documentation. The British Library invited the e-Dance Project team to contribute research findings and outputs in the form of the software tools and documentation of performance outputs to a 12-month public exhibition. The exhibition titled 'Growing Knowledge: the evolution of research tools' opened to the general public in October 2010. This provided direct access to a general public audience to the ways in which emerging technology is driving innovation in research methods. [5.1]

A significant professional partnership underpinning this case study is with DanceDigital. Dance Digital is a national professional arts organization, funded by Arts Council England that focuses on developing professional practice and dance artists engaged in interdisciplinary dance-making integrating dance and digital technologies. DanceDigital are resident at the University of Bedfordshire and a series of collaborative projects are in place between CARD and DanceDigital that provides opportunities for existing research to impact on professional dance artists.

The partnership forms part of a strategy to develop innovative work in dance, performance and technology that contributes to research and professional practices in curating, artistic practice and community development. Artistic Director of DanceDigital, Tamara Ashley's research into environmental, site-sensitive and ecological performance practices have directly informed the curatorial vision for DanceDigital, where she has been particularly interested in the use of interactive technologies to create new experiences of place, environments and social interactions. The work of DanceDigital reaches 10,000-15,000 people annually through performance and participation activities. Ashley led on the development of Digital Futures in Dance Conference in 2011, which was an event of international significance in the dance and technology sector. Ashley secured the funds from the Arts Council Grants for the Arts programme and led a consortium of Dance South West, South East Dance and Bournemouth University in the development and delivery of the project. 185 participants from the professional arts community internationally attended the conference, 25 papers, 8 workshops and 15 performances were presented. Helen Bailey was invited to provide a keynote presentation on the e-Dance Project and specifically the value of artist-driven software development. [5.2]

The current collaborative project being undertaken as a result of the partnership between DanceDigital and CARD is Mobilities, an artist development project funded by Arts Council England, which will culminate in a Festival in April 2014. This establishes a series of DanceDigital Fellows – Helen Bailey, Marlon Barrios Solano, Alex Rueben, and Anthony Lilley – who act as

mentors to a group of associate dance artists – Luke Pell and Jo Verrent, Rachel Davies, Marguerite Caruana Galizia, Annie Lok, Tim Casson and Tom Butterworth, Rachel Cherry, and Helen Williams, and Stacey Weeks. The fellows have provided workshops on their own research and mentoring on applicability of the research to the associate artists' needs. [5.8]

5. Sources to corroborate the impact

5.1 British Library Growing Knowledge: the evolution of research tools
www.bl.uk/aboutus/annrep/2010to2011/succstories/growknow/index.html

5.2 Digital Futures in Dance digitalfuturesindance.org.uk/?p=392

5.3 Times Higher Education article www.timeshighereducation.co.uk/407025.article

5.4 MiPP project website www.motioninplace.org

5.5 MIMA workshop projects.kmi.open.ac.uk/e-dance/category/dissemination/page/2/

5.6 e-Dance project website projects.kmi.open.ac.uk/e-dance/

5.7 Stereobodies website wiki.rac.manchester.ac.uk/community/SAGE/StereoBodies

5.8 DanceDigital Mobilities Festival 2014 www.dancedigital.org.uk/dancedigitaldev/call-for-papers/