ONLINE EDUCATION: TEACHING IN A TIME OF CHANGE

• Paper / Proposal Title:
Blended Gold Standard Project Based Learning (GSPBL) and the development of 21st Century Skills - an agile teaching style for future online delivery.

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• Abstract:
In an update to the engineering programmes at the University of Exeter, blended Gold Standard Project Based Learning (GSPBL) was applied to Year 1 Entrepreneurship and Multi-disciplinary Group Challenge Project modules. The programme aims to create talented technology innovators equipped to ‘Engineer the Future’ in the 4th industrial revolution.

These modules are designed to develop both technical and entrepreneurial, 21st Century Skills such as collaboration, communication, innovative thinking, leadership, ethics and responsibility, adaptability, critical thinking, and problem solving. Our blended learning plan included online resources, asynchronous peer/facilitator forums, online quizzes, multimedia submissions and asynchronous online collaboration tools. High quality contact time was planned to complement the online activities with experiential learning through practical interactive workshops with industry experts/entrepreneurs and prototyping with student ‘maker champions’ in the maker space.

The nature of these close collaborative activities required the challenge of a switch to online delivery during the pandemic. However, benefits are evident from the newly
developed synchronous online delivery of activities such as team building, emotional intelligence, resilience, Lego Serious Play (LSP) and online prototyping, both from the perspective of academics and students and these valuable experiences will be applied to curriculum development in future.

Blended GSPBL is agile and can switch to online GSPBL to create vibrant and inclusive digital learning communities, where students feel connected and engage in learning dialogue throughout problem identification, inquiry, ideation and iterative prototyping. A high level of 21st Century Skills and a flexible approach is required from both academics and students in the “new present” HE education system. With new online tools, video communication and virtual interaction, blended/online GSPBL provides a valuable curriculum development and teaching style with the potential for international education partners, entrepreneurs from around the world and the creation of online professional development courses.

• Author(s) Biography (200 words each):

Corrina Cory

Corrina is a Chartered Engineer and Edupreneur with over 20 years’ experience in education, engineering and entrepreneurship. As Co-Director of Education (Strategic Curriculum Development), her educational research focusses on Gold Standard Project Based Learning (GSPBL) and EntreComp to prepare graduates for the 4IR so they can adapt to rapidly changing technology, develop 21st Century Skills and apply entrepreneurial competence to solve complex problems.

She wants her students to become talented technology innovators of the future and is involved in the digital transformation aspects of the education strategy at the University of Exeter. She is striving to optimise the use of technology in both the delivery and content of modules to improve digital literacy.

Corrina both proposed and is leading the design and construction of the new maker space in Engineering, which will be the largest maker space on campus by 2022. This effective learning environment is a key factor in our vision of ‘Engineering the Future’ and facilitating learning through design thinking, early prototyping, programming and improving inclusivity by making STEM more accessible to female students.

Avalon Cory

Avalon is a Lecturer in Design and Project Based Learning and Exeter University. She is an experienced design educator and has design industry experience which she applies to her modules. She has worked with leading sustainable design brands across the UK,
established and ran a successful design micro-enterprise, has presented her work internationally and won an award for innovation.

Avalon leads the Multi-Disciplinary Group Challenge Project as part of the updated undergraduate Engineering programs, where she has worked with colleagues to incorporate GSPBL to develop students 21st Century Skills. She is passionate about utilising digital technology for education to improve student experience and is committed to the creation and delivery of vibrant design and practical learning experiences through GSPBL. She is applying her previous experience to manage a new Engineering Maker Space where she plans to co-create a vibrant, collaborative community space to be used by students and the wider community to innovate and make.