Funded Responsive Projects

Project Team	Project title	Project outline
Luke Wilkins - Biomedical Sciences Brook Galna - Institute of Neuroscience	Resilience Day as an Intervention to Develop a Growth Market	This project examines the effectiveness of a Resilience Day intervention aimed at developing a growth mindset in students. Generally, growth mindset interventions focus on passively making individuals aware of their mindset. A Resilience Day is designed to directly engage students by allowing them to experience failure in a safe environment, whilst also emphasising the positive opportunities associated with failure. The Resilience Day intervention we propose consists of two parts; 1) a circuit session, in which individuals take part in fun but difficult activities, such as unicycling, juggling, etc., and 2) an interactive seminar session involving group tasks related to the benefits of failure (such as a pre-mortem or a Fermi-problem). Consequently, a Resilience Day is far more interactive than most mindset interventions, and therefore has the additional benefit of encouraging team-building and positive group dynamics
Helen Adamson, Alison Graham, Ben Horrocks, Sara Marsham - School of Natural & Environmental Sciences Alison Vipond - Institute for Sustainability	SNS Undergraduate Skills Teaching Review	This project intends to review and critique skills teaching across Stages 1 and 2 in the new School of Natural and Environmental Sciences (SNES). Skills teaching includes academic writing, data analysis, presentation and interpretation, oral presentations, poster design, and potentially field- and laboratory-skills. Following a thorough review of current skills training, the project intends to provide recommendations for new, revised Stage 1 & 2 Skills modules within SNES. Modules will include innovative teaching based on effective practice in SNES, across the University and at other institutions. A focus of the module development will be consideration of embedding the UN Sustainable Development Goals into the final module design. This intends to introduce all SNES students to wider global issues and prepare them for an interdisciplinary global challenge project later in their programme. The review will allow us to identify where we can consolidate existing resources, consider staffing requirements, and remove over-assessment.
Matthew Collison, Phil Lord, Nigel Thomas - School of Computing	A Publication Platform for Dissertation Projects	The project aim is to develop a publication process for the technical contributions of dissertation projects in the School of Computing. This project will distinguish the technical contributions of a dissertation project from the learning outcomes of the dissertation project and provide a system to publish the technical contributions as research articles that represent a publicly accessible handle to the work. This project will bridge the gap between student and researcher deliverables by aligning the format of the project endpoints and produce tangible outcomes that can be used to showcase the students' achievements to employers.
Charles Morisset, Steve Riddle - School of Computing	Design of a Raspberry Pi for Security Practice	Most computer systems have vulnerabilities which can be exploited by attackers to take control of them. It is therefore crucial for people using and designing such systems to be aware of these vulnerabilities, and to experience how they can be exploited. We want to provide students with a controlled system containing known vulnerabilities, which they can then explore and analyse. Conducting security attacks is traditionally

		recognised as the first step to understand how to defend against such attacks. More specifically, we propose to set up a curated collection of security vulnerabilities stored within a bespoke Raspberry Pi system image. Any Raspberry Pi set up with this image, will be vulnerable to specific known attacks (for instance, a badly configured WiFi network, or a weak password). Students will then be able to conduct these attacks on the system, thus experimenting with real-world attacks, without compromising any actual system. Students often only see such attacks in movies and TV shows, and enabling them to conduct such attacks, in a safe environments, would provide them with an exciting student experience.
Ya-Yun Chen - Modern Languages	Creating an Interactive On-line Mini Game to Enhance Students' Learning Experience with Game Translation and Employability Prospect	This project seeks to address a pressing issue in the training of interdisciplinary video game translators and help bridge a communication gap between humanities and digital technologies. Video game translation has become an essential localization process of the game industry and also a newly emerging field of translation studies. Game translators are required to possess not only linguistic skills but also creativity, digital literacy, and knowledge of cultures, games and industrial localization processes. All these skills and knowledge are assessed by potential employers when recruiting specialist game translators or project managers. However, while authentic materials for real-world tasks are essential for students to get first-hand experience with the translation and localisation industry, such materials are extremely difficult to obtain for the teaching and learning of game translation due to stringent copyright restrictions and the confidential nature of the game industry (O'Hagan et al., 2013; Bernal-Merino, 2015). The project aims to tackle these issues by creating an interactive mini on-line game, simulating different genres and styles of games and game contents. It will consist of 30-40 interactive web pages, each of which contains certain types of textual/non-textual elements. The game will be designed in a way that its contents can be changed by students and lecturers to suit their purposes, and that translation can be displayed in the game for individual students to reflect on their translation solutions and also for collaborative groups to discuss decision-making and teamwork, a common practice in localisation. It is envisaged that the project will greatly enhance the teaching and learning efficiency and improve students' learning experience and employability prospect in the localisation industry.
Alessio Iannetti, Hamde Nazar - School of Pharmacy	Student-staff partnerships in curriculum review and development	Currently, within the School of Pharmacy, we are undertaking an exercise to map the curriculum to the level of learning outcomes using the Matchware Mindview software provided by NUIT. Academics are working with the DPD within their discipline groups (Pharmacology, Chemistry, Pharmacy Practice and Pharmaceutics), to create master concept maps of the Stages. In Stages 2-4 of the programme, the teaching is orientated around the body systems, e.g. gastro-intestinal, cardiovascular, etc. These provide conceptual hooks to integrate the knowledge from the different disciplines. This process is clarifying how and what we

| | | teach, identifying discrepancies and gaps but also opportunities for collaboration of academics towards coherent teaching.

This project proposes to recruit students to undertake a similar process by developing a concept map for the last academic year they have progressed from. Students will be expected to develop concept maps around the same identified systems covered in that Stage. This will provide the academic team the student perspective of the teaching and learning experience, similarly identifying gaps, discrepancies but also areas of successful integration and knowledge development. We will be able to compare the maps created by students and staff to find points of congruence and incongruence. The comparison will identify aspects that will need to be reinforced, changed or cancelled. Therefore the comparison will lead to the optimisation and improvement of programme content. |
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| Nicholas Walker - School of Natural & Environmental Sciences | NUMBAS for Chemistry | This project will establish the use of the NUMBAS (<https://www.numbas.org.uk/>) online e-assessment system in support of the teaching of Chemistry at Newcastle. Moreover, it will embed the relevant programming skills within SNES to support the strategic development of NUMBAS for other areas of science. NUMBAS is a web-based e-assessment system. Originally developed at Newcastle University within the School of Mathematics, Statistics and Physics, NUMBAS is a free and open-source resource that helps users create online tests. The additional capability offered by NUMBAS (beyond existing Blackboard capability) is that many variations on the same question can be rapidly generated. Objectives of this project are; (i) to support teachers of Chemistry in developing advanced skills with NUMBAS; (ii) to deliver a range of model NUMBAS tests which will immediately be used as formative assessment tasks in support of Chemistry; (iii) to engage undergraduate student representatives (ideally drawn from the staff-student committee) in the design of the resources. The students will be supported in the development of software skills (coding of JME and JavaScript) through training courses provided from within the School of Maths, Stats and Physics; (iv) to support the developers of NUMBAS (within the School of Mathematics) in their strategic objective to grow and enhance the impact of the resource for broad applications across science at Newcastle University, nationally and internationally. |
| Rosalind Haslett - School of English Literature, Language and Linguistics | Using games and role play to encourage participation in group learning environments | This project will develop a new and innovative pedagogical approach to encourage participation in group learning environments by making use of games and role play. The approach will be piloted on the module SEL1031 Drama, Theatre, Performance (module lead: Ros Haslett), and will draw upon the original research and creative practice of PGR teaching assistant Jamie Harper, which focuses on the potential for live action role play (LARP) to create social change. This project will focus on the creation of a suite of new pedagogical tools, drawing upon conventions associated with LARP, which can be used within a seminar or workshop setting in order to facilitate student engagement and group learning, and to provide a usable model for assessing participation. At the same time, the project involves students themselves in establishing the terms |

upon which their participation will be assessed and in assessing themselves and their peers. We anticipate that the materials will be flexible enough to be adapted for other teaching environments both within and beyond Newcastle University.

Funded Strategic Projects

Fernando Russo-Abegao, Chris O'Malley, Jon Goss, Matthew Dyson, Richard Law, Rosemary Norman, Sharon Joyce – School of Engineering. Marie Devlin - School of Computing.	Development of a Physical Computing HE Toolbox for Engineering and Science Students	Raspberry Pi microcomputers, microcontrollers and 3D printing have great potential to engage students and provide innovative teaching of computer programming under constructive pedagogy. This allows students to test algorithms by interacting with the physical world through moving parts and sensors. The aim of this project is to develop a HE Physical Computing L&T Toolbox for science and engineering. This will be achieved by cross-disciplinary collaboration between computer science and other science and engineering students. Activities will comprise development of learning and teaching materials, workshops, makers competition and STEM activities, supplemented by prototyping projects to showcase the potential of the technology.
Karolien Jordens, Michael Drinnan, Ann Daly – Institute of Cellular Medicine. Jill Clark - Centre for Learning and Teaching. Sarah Graham – Combined Honours. Malasree Home – FMS Faculty Office. Michelle Palmer – SagE Faculty Office. Laura Mitford – International Office	Postgraduate Study in Newcastle: the inter-cultural experience (PG-Nice)	Recruitment, retention and completion of international postgraduate students are indicators of a University's research health. In addition to making important contributions academically and financially, these students are a barometer of our worldwide standing. Anecdotal experience suggests our international students can be confronted with cultural and linguistic difficulties, and we hypothesise they affect learning gain. To provide future students with the best experience, we will investigate the linguistic and cultural challenges of our students and how they affect postgraduate academic performance so we can improve it for the benefit of the students and the institution.
Floor Christie-de Jong, John Moss, Ruth Valentine – FMS Faculty. Bhavani Veasuvalingam - Newcastle University Medicine Malaysia.	An educational experience supported and enhanced by technology; a mixed-methods exploration of students' and staff's perspectives.	The University's education strategy draws a large emphasis on delivering an educational experience supported and enhanced by technology. A sequential exploratory mixed-methods approach is proposed to review how FMS, including NUMED, students and staff currently use technologies offered, and to explore students' and staff's perspectives on wants and needs with respect to the use of technology in teaching and learning. Gaining an understanding of how students and staff utilise technology and their views on how technology could be incorporated into their educational experience, is vital in order to align the teacher-learner perspective and prioritise technology use and the support thereof.