

**Annual Learning and Teaching Conference**  
**Enquiring minds: Learning through**  
**research and enquiry**

**2015**

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## Introduction

These proceedings summarise papers presented at Nottingham Trent University's Annual Learning and Teaching Conference 2015, the theme of which was 'Enquiring Minds'. The conference aimed to inspire delegates to consider student engagement with research and enquiry from a theoretical, course design and activity level perspective.

The ALTC could not take place without the support and commitment of colleagues who engage in discussion and sharing of practice. Thanks are due to all colleagues who presented papers, chaired sessions, planned the programme, attended on the day and supported the event in numerous other ways.

## Welcome

Vice-Chancellor, Professor Edward Peck

View [film](#) of the Welcome Address

## Keynotes

Professor Eunice Simmons, Pro Vice-Chancellor  
Academic, Nottingham Trent University

## Trent Institute for Learning and Teaching



View PowerPoint [slides](#) of the presentation

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Professor Mick Healey, HE Consultant,  
Researcher and Emiritus Professor at the  
University of Gloucestershire

## Engaging undergraduate students in research and enquiry: From first year to final year



View PowerPoint [slides](#) of the presentation



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# Undergraduate students' perceptions and experiences of research in their disciplines

Vanessa Cui, Demi Sheppey

This session presented some of the initial findings from a research project conducted by CADQ during November 2014 and February 2015 on what undergraduate students from different disciplines experience and learn from research whilst at university. It also invited the audience to reflect on and discuss how they would want their students to understand and experience research.

## Background and methods

Academic disciplines are at the heart of higher education and disciplinary approaches to learning and teaching are currently receiving renewed attention. Of particular interest are the various ways in which research can inform an undergraduate course (Jenkins and Healey, 2005). Despite this interest, relatively few studies have examined research—teaching relationships from a student perspective (Short, Healey & Romer, 2010). Recently however, some research has begun to explore the experiences of students undertaking research projects themselves within specific disciplinary areas (ibid).

The research project within the Centre for Academic Development and Quality (CADQ) is situated within this underexplored area, looking into what undergraduate students from different disciplines experience and learn from research whilst at university. Data was generated in six focus groups with final year undergraduate students across five disciplinary areas spanning the nine Schools. The disciplinary groupings, based on Belcher (1994), are: Hard Pure (HP), Hard Applied (HA), Soft Pure (SP), Soft Applied (SA) and Combined (Comb). In planning for focus groups additional consideration was given to the physical locations of the three campuses and single honours/combined degrees.

Table 1: Disciplines and courses of focus group participants (n=25)

Discipline	Course	Participants
Hard Pure (HP)	Biochemistry; Chemistry; Biomedical Science	5
Soft Pure (SP)	Economics; Psychology; Sociology; Psychology with Sociology	6
Hard Applied (HA)	Animal Biology; Zoo Biology; Environmental conservation	3
	Exercise Nutrition and health; Sport and Exercise Science; Sport Exercise and Management	3
Soft Applied (SA)	Design for Film and TV; Fashion Knitwear; Fine Art; Product Design	4
Combined (Comb)	Early Years and Educational Development; Global Studies and TESOL; Global and European Studies	4

### Initial findings

All students in this study reported having had some research experience during their course. Many students viewed engagement with research as being 'what a degree is about'. In most cases, students engaged with research first as audience, then went on to carry out research themselves. When and how research was introduced to students differed however, depending on the course.

Students in this study articulated a range of understandings of research within their disciplinary/professional fields; with research viewed as taking many forms: as a concept, as a field of study itself and/or as discrete activities. The concept of 'academic research' was conceptualised as original contributions to disciplinary/professional fields which most undergraduate students believe they engaged with as audience. For most of the students in this study, research was experienced in part as a personal journey in which they developed a range of knowledge, skills and qualities which were meaningful to their own learning and development. In addition, students' understanding of research developed throughout their course while they increasingly immersed in research activity as both audience and researcher. Within disciplinary/professional areas and within courses, there was great variation in how students perceived and experienced research ■



View the PowerPoint [slides](#) for details on initial findings.



View the Word [document](#) for the audiences' answers on 'How would you want your students to understand research?' and 'How would you want your students to experience research?'

## References

Biglan, A., 1973. The characteristics of subject matter in academic areas, *Journal of Applied Psychology*. 57(3), Jun 1973, 195-203.

Jenkins, A., & Healey, M. (2005) *Institutional Strategies for Linking Teaching and Research*, York Higher Education Academy.

Short, C., Healey, M. and Romer, W., 2010. The changing awareness, experience and perception of research by undergraduates: The case of final year students at a new university, 2002-09, *Learning Exchange*.

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## **Learning to 'fail': Changing student mindset to develop the learning resilience required for research and enquiry in HE**

Udaramati Pope

**T**his workshop explored the application of Dweck's 'mindset' theory (Dweck, 2006) of enabling learners in HE to undertake research and enquiry as part of their studies at undergraduate level and beyond. Participants were introduced to the key principles of Dweck's theory: that people hold different approaches or 'mindsets' about their individual capacity to learn, which we develop through our conditioning and experiences as a learner. As teachers, we also have mindsets about learning, and teach according to our mindset. The mindsets Dweck proposes are the 'fixed mindset', which views learning capacity as related to a fixed ability and is therefore unchangeable; and a 'growth mindset', which views learning capacity as flexible and based on effort. An individual's mindset will sit somewhere on a continuum between the two models, and shift according to many factors. For illustration, Udaramati generalised about the fixed and growth mindsets.

The relevance to the HE context is that more fixed mindsets are more likely to be found in higher achievers, because they have usually found learning easy; until one day, suddenly, it is not. At this point the fixed-mindset student is unlikely to have the resilience to cope with the nature of the subject at that level, or their loss of self-esteem and identity as a successful learner.

The characteristics students need to undertake work in enquiry-based learning or a research project are fundamentally growth-mindset; the ability to not get things 'right' first time, to see 'failure' as the process by which we find things out, to be resilient no matter how many times things go wrong, and not looking for 'the right answer'. A fixed-mindset student may begin to feel like a failure in this kind of learning situation.

Through development of more 'growth mindset' characteristics, learners can develop resilience and begin to see failure as integral to learning itself. Teachers can support students to develop these characteristics through formative assessment, and the workshop focussed on this. To engage successfully in research and enquiry, students need to be willing to make mistakes; so teachers need to create opportunities for students to 'get things wrong' and evaluate the lessons learned. It is also the quality of the formative feedback that will scaffold students into learning through trial and error and to develop self-discipline. Dweck proposes ways in which growth-mindset learners are given feedback, that focus on rewarding effort and evaluating the process rather than on immediate success. This theory has implications for assessment design, when and how formative feedback is given, and how the feedback can be focused to encourage students to continue to 'fail' in order to be successful as learners.

Participants were introduced to Dweck's theory and the implications for research and enquiry, and began to identify ways in which they can support their students to be more resilient, through designing opportunities for formative assessment and the focusing of formative feedback to encourage failure as a means to learning ■



View PowerPoint [slides](#) of the presentation



View session activity [handout](#)

### **References:**

Dweck, C., 2006. Mindset: The new psychology of success. How we can learn to fulfil our potential. New York: Ballantine Books.

Interview with James Dyson: <https://www.youtube.com/watch?v=P5eIyRVpwmc>

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## **Developing students as researchers: A practical guide to getting undergraduate students to disseminate and publish their work**

Mark Griffiths

**T**his paper described the practical strategies and processes Mark has used over the last 25 years in getting students to publish their undergraduate work based on his research-informed teaching. The paper used numerous real examples and was based on papers that have been published on the topic of getting students to disseminate their undergraduate work to wider audiences.

*In the presenter's words:*

Ever since I started out as a lecturer I have actively helped students to publish their work if I felt it was good enough to be read by a wider audience. I was fortunate enough to get a number of papers published from my own third year project and this has probably shaped my own attitude towards undergraduate publishing. I now view any work done by third year undergraduates as having potential for further dissemination although the most likely piece is the final year empirical research project. My aim is always to get as many of my students published as possible. While perhaps best-case scenario, students get published in refereed journals, getting published in other publications can do much to build student confidence and spark their interest in publishing their research.

Students are an amazing resource and can be incredibly scholarly. By the time they are in their final year of undergraduate study, many of them are motivated and determined to succeed via their written and/or oral work. With a bit of encouragement and structure from us as lecturers, we have the chance to turn some of their work into published outputs helping students to develop as researchers.

Since I started lecturing, over 30 of my final year undergraduate projects have published their work in a variety of peer-reviewed outlets. This has led my students to publishing in such journals as *Addictive Behaviors*, *Addiction Research and Theory*, *International Journal of Mental Health and Addiction*, *Journal of Community and Applied Social Psychology*, *Psychological Reports*, *British Journal of Sports Medicine*, *Journal of Adolescence*, *CyberPsychology*

*and Behavior, Journal of Gambling Studies, International Gambling Studies, Journal of Gambling Issues, and Gaming Law Review.* I have never had a student who was not proud to get their undergraduate work into print.

The paper showed that, publishing undergraduate empirical projects in their entirety is not the only possibility to help students develop as researchers. Other sources of potential publications can utilise research-based coursework. Mark demonstrated how some final year undergraduate modules allow students to design their own coursework with a view to wider dissemination via oral and/or written outputs, and how such practices have led to his students developing as scholars, and led to a number of publications in a variety of publication types ■



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## Live Lessons: Using live video links as a form of enquiry to observe and evaluate lessons

Doreen Connor

**T**his session explored the use of video observation of lessons as a form of enquiry.

The more general **enquiry** quickly becomes the deeper **inquiry** when related to the learning that occurs using video to observe real time lessons. This session focused on a scenario we have now used twice with our Post Graduate teacher trainees to enrich their range of experiences and increase their level of reflection. They have had the opportunity to visit a partnership academy to observe lessons, not by direct observation, but by the means of a live video link. (Using the IRIS videoing system.) The actual lesson was taking place down the corridor while the trainees observed on a large screen in a separate room. This enabled both observation and discussion in groups of various aspects of the lesson as it is taking place.

Having a subsequent focused discussion with the teacher of the observed lesson allows both teacher and observers to think deeply about the learning process. It enables the observers to consider their own practice and hopefully subsequently improve it. Experience has shown that this type of observation encourages very rich discussion and certainly informs the development of the trainee teachers. Padlet users during the session confirmed this as a real positive.

Within the session, wider discussion followed on to the pros and cons of using live video streaming in this way as well as other possibilities in other video systems, which could be used to enhance the learning experience for both the teacher being observed and the observers themselves. One very telling remark from the Padlet said *"Wonder what the adjustment period is like for teachers – since so many HATE being filmed – Imagine that seeing the benefits is a turning point!"* It is certainly the case that while experienced

teachers and lecturers often make learning experiences look seamless and effortless we know that actually the teaching process is very complicated with many intertwining links and threads. Observation which is live, but does not involve having a lot of extra people actually within the classroom itself, can be extremely useful: especially if the observers are able to work collaboratively in groups (without any disturbance of the actual lesson). The discussion ranged from what is actually happening along to the impact the teacher actions are having on the learning taking place, allowing a very high level of reflection and also enabling the observers to explore issues from differing viewpoints.

The workshop explored several other possible scenarios across the University where the use of this, or similar systems, could enhance the teaching and learning taking place both directly within the University and also within its wider partnership These included videoing of lectures and student presentations and also inclusion of videoing within distance learning courses.

Following this session I will be taking discussions forward, in particular with the e-learning team, and hopefully we will soon have available technology across the University to all be able to benefit professionally from this type of experience ■



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## Using vodcasts to enhance teaching: Experience of using SPUR students

Daniel King and Scott Lawley

**T**his paper considered the use of innovative teaching and learning methods to encourage students to develop enquiring minds.

The use of video and multi-media is an increasingly important teaching tool for the engagement of students in teaching large-scale undergraduate programmes. Not only does it provide the potential to create accessible and interesting material that can engage the students, but due to its digital nature it can be presented across a number of platforms and therefore used by a large number of students simultaneously. Yet what are the challenges of creating and using this type of resource and what can colleagues seeking to adopt this approach learn from it?

The research featured in this presentation was based on a SPUR funded project working with two SPUR students to develop a series of video-podcasts supporting the teaching of the module Foundations of Managing and Organising; these were also used in the textbook *Organizational Behaviour*, published by Oxford University Press (2013).

The vodcasts were a series of short videos where the students interviewed managers, consultants and employees across a range of public and private sector organisations. The topics for these interviews were mapped to the teaching material and then edited to fit within the key topic areas of the module and the chapters of the textbook. The interviews aimed to bring to life the challenges and experiences of practitioners from a range of organisations and levels within organisations. The interviews were also supplemented with interviews conducted by Daniel King with key business leaders, Stephen Hester, the then CEO of the Royal Bank of Scotland and Joe Greenwell, the then Chair of Ford in Britain.

The presentation reflected on the process of undertaking this exercise and

distilled some of the lessons learned from the process for colleagues at NTU who might like to undertake such research. Amongst the positive experiences were the opportunities for students (and staff) to:

- learn new skills in presenting material through multi-media format - create real-life examples in an accessible way through the use of video and other multi-media
- conduct interviews with individuals throughout the different levels and types of organisations that brought the theory to life and;
- create usable resources for both NTU and other institutions.

By working on the project the students developed research skills including project management skills, setting up and conducting interviews, technical skills such as recording and production and teaching skills where they linked the interview material to the course material.

There was also recognition of some of the challenges that colleagues who wish to undertake such a project might learn from. Including, conducting video-interviews which introduced a series of technical challenges around filming and production (particularly video editing) that extended the knowledge and skill set of both students and staff. These challenges in turn highlighted the difficulties for lecturers in this approach due to the time-intensity of the production process and the difficulties of learning new technology (often demonstrating the need for more institutional support).

The presentation concluded with some lessons learned about creating vodcasts and the possibilities of best practice if this approach is to be more widely adopted across the university ■



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## Visual learning? Research adds colour to the student experience

Carol Hall

Research forms the basis of the student experience within higher education. It enriches the delivery of the taught provision, facilitates individual development and underpins both academic rigour and the thirst for knowledge. Passion is contagious and those passionate about their research area often serve to inspire others. In subjects that tend towards the vocational we have already had a 'leg up' when it comes to the potential for inspiring students. In the School of Animal, Rural and Environmental Sciences students who have selected equine courses to study will generally have a passion for the subject area but initially may feel that research is something that someone else does and / or something that can be found in library systems. Their greatest research challenge is often to be able to add information about research findings to their written assignments in a format acceptable to their assessor. From their arrival in Welcome Week we strive to convince them otherwise. Research is something that they do and their input to our research areas is very real and has great mutual value.

So why visual learning? My own area of research is in equine vision (initially investigating the ability of the horse to see colours) and in the visual behaviour of human equestrian athletes. Throughout my research career I have worked in partnership with students, engaging them in data collection, conference participation and publications. Innovation and the freedom to explore some weird and wonderful ideas have resulted in a wide range of studies. Students have worn 'horse ears' to test their importance in equine communication, dressed mannequins in different coloured clothing to assess their effect on approaching horses and many others. It is all too easy to view the world from a narrow 'human' point of view. Analogies with the wider view of the horse can be drawn. By trying to view the world through the eyes of the horse and constructing means of testing this, the learning experience

opens up and the bigger picture emerges. This paper included examples (predominantly by means of pictures and videos) of how this narrow area of research has contributed to widening the student experience.

Following her presentation Carol was asked a number of questions details of which are given below.

*How can we effectively integrate the 'student as a researcher' model in a modular system?*

Carol explained that they follow that model the whole way through, framing it from the beginning that students should get involved and not be afraid of research and that they should try things out and learn from mistakes.

*How do students respond to the strong practical element within the course?*

Carol answered that there is an observable difference between students in earlier years who have learnt in this model from day one and students from later years who have not had the same scaffolding. Students from later years do not engage as fully. One strategy used to address this is to get students to develop their own research questions then support them with research methods, the more opportunities provided for students to take ownership, the more engaged they tend to become and this is a way of personalising the curriculum. Students choose their own topics of interest to explore and tutors facilitate the learning of skills which will enable students to make these explorations. It may be that in some cases, the lecturer inspires the choice of topic, but the student narrows the focus and develops the research questions.

*Do you have partnerships with industry?*

This is something Carol is looking to explore further. She gave the example that they discussed the students' finding that green coloured mats encouraged horses to scale ramps with mat producers; in that case the outcome was that the producers already make green mats, so that they simply decided to make higher quantities of green coloured mats over other colours in the future. In another case 3 third year students had made a discovery about the beneficial effects of SAD-sensitive lighting for horses and those findings were shared with a lighting producer who sold the traditional (non SAD-sensitive) lighting that had been used in the project as a comparison. In this case the producers commented that the project had resulted in so much publicity and extra sales for their existing lighting that they did not feel the need to produce a new SAD-sensitive range! ■



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## **Research in the real world: Working with students in a river in the bleak mid-winter**

Rachel Stubbington

**I**n July 2013, the Ecology and Environmental Management pathway of BSc (H) Biological Sciences was accredited by the discipline's professional body. In preparing the accreditation bid, the degree was modified to make it more vocationally-relevant as well as more enquiry-based. This included creation of a new module, Aquatic Ecosystems. As a research-active freshwater ecologist, Rachel led the design and delivery of this new module.

The module is dominated by a 'biomonitoring investigation' in which students use river invertebrates as indicators to examine ecosystem health. For the year detailed in the paper, this investigation began with a workshop, in which a research question was posed: is the health of a local river impacted by pollution from a small town? In the seminar, students worked in small groups to conduct internet-based research to inform the design of a research programme to answer this question.

A week later, students took a field trip to River Ecclesbourne to sample invertebrates upstream and downstream of the town. An Environment Agency ecologist joined the group, highlighting the vocational relevance of the survey. Student groups used specialist field methods and worked near other groups, allowing observation of multiple techniques.

The next event was a lab to identify the invertebrates in collected samples. This was a challenging exercise, with students embarking on a steep learning curve in getting to grips with the professional keys used to identify organisms. After the lab, students were responsible for their group's data entry and data sharing, to engender a sense of ownership. A week later, a computer-based data analysis workshop was held, to provide students with guidance on using standard statistical tests and to discuss various high-level discipline-specific analytical approaches selected for use by different students.

Finally, students prepared conference-style posters and defended these at a mini 'e-conference' in a computer room. During this event, all posters were concurrently displayed on individual computer screens and were sequentially projected onto the big screen. Individual students came forward to defend their posters, whilst their peers circulated to view and discuss each other's work.

Student work was very good, with all students achieving 52-74% (mean  $63 \pm 7\%$ ). However, these marks were not remarkable for this student group, with some marks being limited by issues related to data analysis and data presentation; this indicated areas requiring greater support.

Student feedback was generally positive, in particular in relation to the practical skills gained and the real-world relevance. Some students gained a sense of satisfaction from overcoming the challenges of invertebrate identification. Areas for improvement were also noted, in particular the need for more help with statistics. It was noted that devoting many hours to one investigation reduced the diversity of module field trips.

In summary, allowing a single assessment-linked investigation to dominate this module resulted in excellent engagement, as reflected by attendance (77% including *all* classes); deep learning and achievement of high-level learning outcomes; and high levels of student satisfaction.

The session involved a PowerPoint-based presentation with extensive use of photos (taken at every stage of the investigation) and supporting handouts, including anonymised student work ■



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## From pedagogy to andragogy: Self directed learning and employability

Jane Challinor

**M**alcolm Knowles, the champion of [andragogy](#) describes self directed learning as a process:

"... in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975 p18).

This paper discussed a final year module which develops reflective practice within the context of leadership and team work and at the same time focuses on key employability skills such as negotiation, problem solving and digital literacy. The module featured has gone through a number of iterations over five years with tutor and student reflections on outcomes forming the basis for modifications to practice that have led to a more student directed approach.

In the latest incarnation of the module, students begin by creating a short digital artefact reflecting on the professional values related to their future employment in health and social care.

They then negotiate with the tutor the final design of an assignment (worth 20% of the overall module credits) including assessment process, weighting and criteria. This assignment requires small groups of students to research a topic around which they then design a learning activity to be delivered to the whole seminar group.

"Peer learning involves a group of students taking collective responsibility for identifying their own learning needs and planning how these might be addressed. This is a vital learning-how-to-learn skill as well as providing practice for the kinds of interaction needed in employment. Learning to

cooperate with others to reach mutual goals seems a necessary prerequisite for operating in a complex society.” (Boud, Cohen and Simpson 1999).

Reflective practice is crucial in the health and social care professions (Moon, 1999) and the module takes a deliberate approach to the scaffolding of reflective tasks from the initial “values” video exercise to a final summative assessment in the form of a [digital story](#) in which students reflect individually on their learning throughout the year. The process is supported by student-tutor discussions which are facilitated by the SCALE UP design and a “flipped” classroom approach to learning.

In the presentation, the process of designing the module, the impact of technology available in the SCALE UP classroom and the module outcomes were discussed ■

[Link to presentation prezi](#)

### **References**

BOUD, D., COHEN,R., and SAMPSON,J., 1999. Peer Learning and Assessment, *Assessment & Evaluation in Higher Education*, 24:4, 413-426

Knowles, M. S., 1975. *Self-Directed Learning. A guide for learners and teachers*, Englewood Cliffs: Prentice Hall/Cambridge

Moon, JE., 1999. *Reflection in Learning and Professional Practice*, Routledge, Oxford

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## Development of an education card-game to aid student understanding of chemical analytical instrumentation

Mike Coffey

The design and development of an educational resource used to introduce early-years undergraduate students to the range and capabilities of chemical analytical instrumentation is presented. This resource is a card-game: "Laboratory Manager".

In the game, students are presented with a series of scenarios, for example the testing of blood samples from a lorry-driver for recreational and illegal drugs. Players must choose a series of cards representing analytical sample preparation, separation and instrumentation for detection from a shuffled card deck using a structured play sequence. When all players have completed their collections the scenario answers are revealed and each correct card in a player's collection score points, with bonus points for completing your collection ahead of the other players.

Up to four players can play. Each hand takes about 7 minutes to play, and games are readily organised to cover four scenarios (total about 30 minutes) to fit within a one-hour teaching session, to include organisation, explanation of rules and concluding comments from the tutor. The rules and card decks are available as print-and-play, free-of-charge PDF files; card decks can be produced in any number desired.

"Laboratory Manager" currently includes sixteen scenarios and playing cards which include four analytical separation techniques and four instrumental detection technologies. Expansion cards under development include more scenarios, each based upon primary-literature sources, to introduce a wider range of commonly-used separation and detection techniques.

Design and development of "Laboratory manager" builds on experience derived from a previously presented educational board-game "Green Chemistry"<sup>1</sup>, a complex board-game which introduces the twelve principles

of green chemistry<sup>2</sup>. Players produce chemicals at their table-top manufacturing plant, but must also control chemical wastes, energy use and adopt improved technologies to maximise their profits.

Game-play offers participants a learning approach that can be enjoyable and engaging. Learners may be more comfortable with making mistakes in informal situations<sup>3</sup>. Using an interactive card-game resource offers the advantage of individuals operating in small groups, enhancing group dynamics and promoting peer-learning experiences.

“Laboratory Manager” allows familiarisation with the range of instrumental techniques that professional analysts may utilise in real situations, focussing on a task-based approach. Typically secondary-level students will have been introduced to a limited range of analytical instrumentation from a theoretical perspective only: few schools/colleges have the funds to obtain and operate such instrumentation. Accordingly, introduction to this topic at tertiary education level can prove demanding for some students. It is intended that the novel enquiry-based learning approach through informal game-based sessions using “Laboratory Manager”, which can provide rapid feedback (within 10 minutes of the student decisions taking place), will improve the introduction to instrumental analysis for students.

“Laboratory Manager” is a game design produced and developed by undergraduate students under supervision. This design, by Kevan Garvey as part of an undergraduate final year chemistry project, built on prior designs (Nicola Humphreys and Liam Smith) and has been extended and refined by Roberta Fabricio Loose. The success of this student-lead design/development process in creating a viable educational resource is an important outcome of this work ■



View PowerPoint [slides](#) of the presentation

## References

<sup>1</sup>Coffey, M., 2014. Green Chemistry: classroom implementation of an educational board-game illustrating environmental sustainability in chemical manufacturing . *Handbook of Research on Pedagogical Innovations for Sustainable Development* (pp. 453-473). Eds: [K. D. Thomas](#) & H. E. Muga. IGI Global.

<sup>2</sup>Anastas, P. & Warner, J., 1998. Green Chemistry Theory and Practice. London: Oxford University Press.

<sup>3</sup>Meluso, A. Zheng, M., Spires, H.A. & Lester, J.,2012. Enhancing fifth graders' science content knowledge and self-efficacy through game-based learning. *Computers and Education* 59, 497-507.

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## **Personalising feedback to support student research and enquiry across the disciplines**

Nottingham Trent University Learning and Teaching Coordinator Network

The NTU Learning and Teaching Co-ordinators Network hosted a presentation and discussion about '*Personalising feedback to support student research and enquiry across the disciplines*'. They presented the QAA's perspectives of personalisation and the role that enquiry based learning has in creating opportunities to provide personalised feedback. Using a theoretical framework, the role of feedback was discussed and the role that this has in the development of student learning and self-regulation. In particular, the work of Nicol and McFarlane-Dick was examined.

Specific examples of how enquiry based learning is used in different schools was demonstrated and how this leads to a personalisation of the student experience. A Games Based Enquiry Based Learning project in the School of Science and Technology was presented with an explanation as to how this leads to the development of knowledge and skills, leading to personalised feedback. Techniques to encourage students to engage and use their feedback to create their own personal development plans was shared from the School of Education and The School of Arts and Humanities showed online resources that are used to support students in their learning along with a discussion about the issues that generic feedback can bring. An online assessment tool used in the VLE within the Law School was demonstrated which indicated how this provides individualised, personalised feedback to the students; the role of reflexive practice in developing students was presented from the School of Architecture, Design and the Built Environment along with a discussion that feedback has in this process. Finally, the School of Art and Design showed examples of how students are provided with feedback on their project work and how it enables the student to co-construct the feedback with their tutor to make it meaningful and useful. All of the strategies presented could be linked to Nicol and McFarlane-Dick's

seven principles of good feedback practice.

Throughout the session, attendees were encouraged to ask questions or to make comments via Padlet which the presenters referred to at the end of the session and which generated further valuable discussion ■



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## **Readers and reading in postcolonial literature: The impact of undergraduate research assistants on large research projects**

Jenni Ramone, Conna Ray, Georgia Stabler, Chloe Szwer, Dinique Awuah

**T**his session which was delivered collaboratively with students - described the process of moving from an initial research plan which was vast in scope, to a fully formed monograph outline and associated programme for public dissemination. On joining NTU, Jenni had just completed a number of projects and was beginning a new project on instances of reading in postcolonial literary texts: moments in the text where literary characters read, misread, reject, use, or otherwise encounter books.

Postcolonial literature is a vast and varied field covering many geographical regions, literary genres, styles, and periods, and the first problem was how to either read all the postcolonial literature ever published (an impossible task) or to narrow the field somehow. In a research meeting related to REF outputs, it was suggested that Jenni consider the SPUR scheme. This scheme enabled the recruitment of two enthusiastic readers, each involved full time on the project for 5 weeks (sharing the SPUR scholarship bursary) to collate data from a total of 36 books – a significant number that would have meant many weeks' work for Jenni, impossible to find alongside a busy teaching schedule. The result of this, and of the students' careful and critical observations on the data they collected—which was shared at meetings - was that emerging patterns were identified in terms of geographical locations where there were particularly interesting instances of reading.

With this knowledge, and the benefit of some other fortuitous conversations and reading, Jenni was able to settle on three locations to focus attention: Nigerian writing, Black British writing, and Cuban literature. A second stage of undergraduate research assistance was possible as a direct result of the SPURS project. As a member of the team teaching the 'Humanities at Work'

module, Jenni was asked to provide work placements for students who had been unable to secure a placement elsewhere. Already having the work plan in place, seven research assistantships were offered on the basis of a placement of approximately 30 hours each. Together, these students read and provided data on a further 14 books as well as writing a collaborative journal to record their findings and their experiences on the project.

Further departmental funding equivalent to one half SPUR scholarship enabled a student who was keen to take the Masters in English Literary Research to undertake a related research project to produce an annotated bibliography on Onitsha market literature.

The work produced by undergraduate research assistants fed directly into a book proposal and the Introduction to the book.

This session described the significant benefits gained from the opportunity to recruit undergraduate research assistants, provided details about their findings and the ways in which their research was valuable to the presenter, enabled students to describe their experience and the benefits of undertaking research for their studies and professional development. It further described the dissemination opportunities for students and how this enabled Jenni to combine research and teaching ■

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## **International learning experiences to develop student aptitudes for enquiry: What works, what doesn't, why do it?**

Clare Newstead, Sandra Kirk, Rose Gann

The HEA's Internationalising the Higher Education Framework challenges all discipline areas to deliver a curriculum that prepares '21<sup>st</sup> century graduates to live and contribute to a globally interconnected society'<sup>1</sup>. The UK Higher Education International Unit stated in a recent paper (2013) that 'outward mobility is essential if UK higher education is to develop graduates who are equipped to compete on the global labour market, and can promote UK business and diplomatic interests worldwide'<sup>2</sup>. The aim of this paper was to evaluate various types of international learning experience currently offered across the undergraduate curriculum at NTU. It is suggested that international learning develops students' transversal skills such as inquisitiveness, openness to new challenges, problem-solving and tolerance towards different values and knowledges. Taking a selection of case studies from across NTU as examples, the paper asked what works in terms of developing inter-cultural awareness, engagement with learning, and an enquiring attitude and discussed the relative merits and limitations of different types of study abroad options. It also considered whether study abroad is essential in order to promote these skills or if alternative approaches – such as international online learning experiences - might be equally able to develop such skills.

The paper was based on the findings arising from an NTU project commencing in October 2014 supported by, and part of, the HEA Internationalising the Curriculum Strategic Enhancement Programme ((IC) SEP080) ■



View PowerPoint [slides](#) of the presentation

## References

<sup>1</sup>Higher Education Academy, UK (2014) Internationalising Higher Education Framework, <https://www.heacademy.ac.uk/internationalising-higher-education-framework>

<sup>2</sup>Newman, J.,2003. UK Strategy for Outbound Mobility, UK Higher Education International Unit. <http://www.international.ac.uk/media/2468186/uk-he-international-unit-uk-strategy-for-outward-mobility.pdf>

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## **The role of psychological literacy in enhancing the student experience**

Gareth Williams, Rowena Hill

**F**ew psychology graduates ultimately go into a chartered psychologist role that directly involves psychology, such as clinical, forensic, educational, or health. However it has been long recognised that psychology plays a role in a wide range of careers. There are two risks for students. The first risk is that students become caught in an employment wilderness where they believe that their degree is only suited for a narrow range of roles. The second risk is for students currently studying the degree who choose psychology because it interests them but have unfocused career goals or goals outside of the chartered areas, this may affect their experience and retention.

With the widespread and dramatic changes in higher education, the refocus in employability, and the increasing call for students to be partners, there is now a call for psychology degrees to explore more fundamental principles of the discipline that are then recognised by staff and students, explicated, and learnt in a way that is transferrable to a broad range of disciplines.

One approach to exploring these principles is to embed the teaching of psychological literacy at their heart of the course. Psychological literacy involves knowledge and skills that psychology can bring to any area of life. The approach brings together areas of the discipline that are around the co-construction of new knowledge with students and academics, enquiry based learning, and research informed teaching.

There were three aims to the session.

- To explore the current state of psychological literacy in the taught content of the a sample of the courses that the Division of Psychology runs.
- To explore the current state of the art of psychological literacy - and more broadly subject literacy - in higher education.
- To explore, with participating delegates, what can be learnt from a wide range of subject literacies and their role in teaching and learning throughout the university ■



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## Biographies

### Leslie Arthur

[Leslie Arthur](#) is the Learning and Teaching Coordinator for the School of Architecture, Design and the Built Environment.

### Dinique Awuah

Dinique Awuah is a BA (Hons) English Student, in the School of Arts and Humanities.

### Jane Challinor

[Jane Challinor](#) is Principal Lecturer and Subject Lead for the BA Health and Social Care, in 2013 Jane received the Vice Chancellor's Award for Inspirational Teaching and became a Senior Fellow of the HEA. Jane teaches research and digital skills to first year students and a final year module on leadership and teamwork.

### Lisa Clughen

[Lisa Clughen](#) is the Learning and Teaching Coordinator for the School of Arts and Humanities.

### Mike Coffey

[Mike Coffey](#) is a lecturer in analytical chemistry at NTU. Socially a keen player of board- and card-games, he combines these interests with science education. Kevan, now in teacher-training, developed the idea presented here for his under-graduate project. Roberta is currently making refinements to and expanding upon this work.

### Vanessa Cui

[Vanessa Cui](#) is a Learning and Teaching Officer in CADQ. Currently she is working on a number of projects including TIPS (Teaching in Practice Series), learning and teaching in disciplines and SCALE-UP. Previously she worked at Liverpool John Moores University, where she completed her PhD on graduate employability development as part of a National Teaching Fellowship project.

### Doreen Connor

[Doreen Connor](#) is a Senior lecturer leading the Post Graduate Diploma in Education (PGDE) Secondary Mathematics Strand as well as the Learning and Teaching in the Subject and the Independent Study modules. Her research interests focus on teachers' development of pedagogical and subject content knowledge with a special interest in the links between mathematical and statistical aspects.

### Roberta Fabricio-Loose

Roberta Fabricio-Loose is a second year BSc Chemistry student studying at Nottingham Trent University on the "Science Without Borders" exchange programme.

### **Belinda Ferguson**

[Belinda Ferguson](#) is the Learning and Teaching Coordinator for the School of Education.

### **Rose Gann**

[Rose Gann](#) is Head of Politics and International Relations and School lead for Internationalisation. She has experience of Internationalising the Curriculum through exchange partnerships and dual awards. She chairs the Education and Skills sub-committee of the Political Studies Association of the UK

### **Kevan Garvey**

Kevan Garvey is a former BSc Chemistry student (graduated 2014) student, from the School of Science and Technology.

### **Mark Griffiths**

[Mark Griffiths](#) is a Chartered Psychologist and Director of the International Gaming Research Unit at Nottingham Trent University (UK). He has published over 450 refereed research papers, three books, 120+ book chapters and over 1000 other articles, and has won 14 national and international awards for his research.

### **Carol Hall**

[Carol Hall](#) is a Reader in Equitation Science and ARES School Research Coordinator. Carol initially led the BSc Equine Science (Equestrian Psychology) course and now contributes to BSc and MSc modules, specialising in equine behaviour and welfare. Her research focuses on horse and rider vision and ridden horse welfare.

### **Christine Hardy**

[Christine Hardy](#) is the Learning and Teaching Coordinator for the School of Art and Design

### **Mick Healey**

[Mick Healey](#) is a HE Consultant and Researcher and Emeritus Professor at the University of Gloucestershire, UK. He is also a Visiting Professor at UCL, an adjunct Professor at Macquarie University, Australia and an International Teaching Fellow at University College Cork. Until 2010 he was Director of the Centre for Active Learning, a nationally funded Centre for Excellence in Teaching and Learning at Gloucestershire. He was one of the first people in the UK to be awarded a National Teaching Fellowship (NTF) and to be made a Principal Fellow of the HE Academy. In 2013 he won a SEDA@20 Legacy Award for disciplinary development. Mick is an experienced presenter. Since 1995 he has given over 500 educational workshops, seminars and conference presentations, in research-intensive and teaching intensive universities in 18 countries. He has written and edited more than 150 papers, chapters, books and guides on various aspects of teaching and learning in HE. He is often asked to act as an advisor to projects, universities and national governments on aspects of teaching and learning in HE.

### **Rowena Hill**

[Rowena Hill](#) is a Principal Lecturer in Psychology, her research focus is the work-family interface, resilience, well-being at work and aspects of management, particularly within critical occupations. She has responsibility within the Division for enhancing learning and teaching including teaching quality.

### **Matthew Homewood**

[Matthew Homewood](#) is the Learning and Teaching Coordinator for Nottingham Law School.

### **Sandra Kirk**

[Sandra Kirk](#) is Acting Associate Dean for Learning & Teaching in SST, and Chair of the School International Development Group. Formerly, as ATL for Biosciences she set up a joint MSc with an institution in India, and has much experience of working with international students.

### **Daniel King**

[Daniel King](#)'s research focusses on critical perspectives of the voluntary sector and alternative ways of organising and has published in Human Relations and Management Learning. With Scott Lawley he has recently published the textbook *Organizational Behaviour* with Oxford University Press that has been widely adopted in the UK and abroad.

### **Scott Lawley**

[Scott Lawley](#) is a Senior Lecturer whose research focusses on poststructural perspectives in organisation theory and equality and diversity issues, especially within professional and grassroots sports organisations. He is the other co-author of *Organisational Behaviour*.

### **Clare Newstead**

[Clare Newstead](#) is Head of College of Arts and Sciences Global Education Office and Principal Lecturer in International Studies. Prior to taking on her College role she led the design and introduction of the Global Studies subject area in the School of Arts and Humanities.

### **Udaramati Pope**

[Udaramati Pope](#) has taught in schools, colleges and universities across the UK; has trained hundreds of teachers in her academic roles, and has taught learners from 11 years old to PhD level. Because learning is what humans do, she never tires of trying to improve it.

### **Jenni Ramone**

[Jenni Ramone](#) is Senior Lecturer in Postcolonial Studies and co-director of the Postcolonial Studies Centre at NTU. She is the

author of *Salman Rushdie and Translation* (2013) and *Postcolonial Theories* (2011). She is currently writing a monograph on postcolonial literature and local literary marketplaces in Cuba, Nigeria, and Black British contexts, and editing *The Bloomsbury Introduction to Postcolonial Writing: New Contexts, New Narratives, New Debates*.

### **Conna Ray**

Conna Ray is a former BA (Hons) English (graduated 2014) student, from the School of Arts and Humanities.

### **Demi Sheppey**

[Demi Sheppey](#) is currently on a placement year working in CADQ as a Research Assistant. She is studying Psychology with Sociology at NTU, and is interested in how social factors influence learning. Currently Demi is working on a project in the area of learning and teaching in disciplines, and is supporting SCCO on widening participation through an online course.

### **Georgia Stabler**

Georgia Stabler is an MRes English Literary Research and a former BA (Hons) English student, from the School of Arts and Humanities.

### **Rachel Stubbington**

[Rachel Stubbington](#) is a Senior Lecturer in Ecology and Environmental Sciences in the Biosciences team at NTU. She is a freshwater ecologist and her research focuses on how invertebrates respond to environmental change in river ecosystems.

### **Chloe Szwerc**

Chloe Szwerc is a BA (Hons) English and Linguistics student, from the School



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