



the**library**

# The 'Student as Researcher' Programme Phase 2: Final Project Report for IATL August 2014

Ant Brewerton  
Head of Academic Services  
The Library

[antony.brewerton@warwick.ac.uk](mailto:antony.brewerton@warwick.ac.uk)  
024 765 75790

Julie Robinson  
Student as Researcher Project Officer  
The Library

[j.e.robinson@warwick.ac.uk](mailto:j.e.robinson@warwick.ac.uk)  
024 765 72588

# 1. Introduction

The Student as Researcher programme is delivered in partnership between the Library, academic colleagues and other student support agencies. It aims to embed information and other skills development within the curriculum, and offers students on taught courses the chance to take an active role in their learning by experiencing research first hand and producing their own academic outputs, supporting the 2014 University Strategy to:

'enrich the student experience through research-led teaching and further embed opportunities for undergraduate engagement in our research activities, both to challenge their critical thinking and to inspire the research scholars of the future.' (Goal Two, Objective 1)

IATL initially supported the 'Student as Researcher' by funding a Project Officer (Cate Mackay) to work on pilots in seven academic disciplines for twelve months. Building on the successes achieved (see details at [http://www2.warwick.ac.uk/fac/cross\\_fac/iatl/funding/fundedprojects/strategic/brewerton\\_final\\_report.pdf](http://www2.warwick.ac.uk/fac/cross_fac/iatl/funding/fundedprojects/strategic/brewerton_final_report.pdf)), the Library was fortunate to receive additional IATL funding for twelve months for another Project Officer to help take the programme to more embedded status, and specifically to:

- further extend the coverage to support demand from the Faculty of Science;
- develop a suite of e-learning tools to increase the spread and depth of the programme;
- strengthen partnership working across support agencies.

In April 2013 Francesca Green took up the post of Project Officer and after six months we submitted our interim report and video (see [http://www2.warwick.ac.uk/fac/cross\\_fac/iatl/funding/fundedprojects/strategic/](http://www2.warwick.ac.uk/fac/cross_fac/iatl/funding/fundedprojects/strategic/)). Francesca left post in September and – following a temporary hiatus – the post was filled for a further six months (February – July 2014) by Julie Robinson: hence the timing of this document.

The following report provides an overview of the activities undertaken since April 2013, focusing specifically on the three areas of activity highlighted above, but also covering the wider promotion and spread of the Student as Researcher approach across the University. The first bullet point above will be the focus of section 2.3. The second bullet point will be covered predominantly in section 5. The third bullet point will be addressed in sections 3 and 4.

## 2. Activities

### 2.1 Introduction

In this section we will review the growth of the Student as Researcher programme. The why? how? and where? will be covered briefly in section 2.2. The who? what? and with what results? will be covered in more detail in the rest of section 2.

### 2.2 The why? how? and where?

#### Why?

As covered in some detail in previous reports (see, for example, [http://www2.warwick.ac.uk/fac/cross\\_fac/iatl/funding/fundedprojects/strategic/brewerton\\_final\\_report.pdf](http://www2.warwick.ac.uk/fac/cross_fac/iatl/funding/fundedprojects/strategic/brewerton_final_report.pdf)) the Student as Researcher approach was developed to give more undergraduate students the opportunity to experience research first hand. Too often skills provision has been concentrated at the beginning of the academic programme, as part of induction. The University is moving away from the idea of induction as a 'one-off' event and is increasingly developing a series of interventions (for developing a sense of belonging, skills development, well-being support, etc.) at key points in the student lifecycle (see also section 4.2). The Student as Researcher programme is a shining example of how more scaffolded approaches to skills development can improve the student experience.

#### How?

As outlined previously, the full Student as Researcher programme covers the student journey from initial information finding, via academic skills, to more in-depth research skills (examples illustrated in Figure 1).

A key element of the programme is the opportunity for the 'student as researcher' to move beyond passive learning to active research, and then for the 'student as producer' to enter the wider academic world with their own outputs, by publishing in a Warwick journal or repository, or alternatively presenting at a student conference.

#### Where?

Working in partnership with academic colleagues and other service agencies, we have taken a blended approach to delivering the programme. Some elements have been delivered in a lecture setting, some elements have been made available online. Classroom activities have been used to promote technologies new to the students (eg. wikis). Traditional tools (such as lecture slides) have been made available electronically for revision purposes. Online support has been augmented by face-to-face assistance. Where possible 'flipped classroom' techniques have been employed to provide information in advance of timetabled sessions, thus making contact times even more interactive and valuable. All this has helped us to successfully meet the different learning needs of a diverse student population.

Having said this, there is a growing awareness amongst the programme team that an e-learning approach is essential to both meet student demands and to aid scalability, and this is increasingly becoming the focus of delivery (see Section 5).



**Figure 1: The Student as Researcher Programme**

### 2.3 The who? what? and with what results?

This year we have built upon the successes of the pilot project and subsequent development of the Student as Researcher programme, further embedded and increased penetration in some subject disciplines and also extended coverage to new areas, especially in the Sciences.

#### 2.3.1 Student as Researcher in the Sciences

As identified in the Introduction, one of the key objectives of the project was to further extend the coverage to support demand from the Faculty of Science.

##### 2.3.1.1 Chemistry

Working with Lynne Bayley (Director of Student Experience) in the Chemistry Department, Francesca developed embedded skills programmes for both first year and second year core skills modules, with a reach of approximately 240 students

##### 2.3.1.1.1 Chemistry Laboratory and Assessed Work (CH155)

CH155 has both a laboratory component and an online component, which is delivered via Moodle.

The information skills component provided by the Library sits within the 'IT Workshops' course, a programme of activities designed to provide students with the tools they need to produce lab reports and other assignments. The Library's Searching and Referencing tutorial covers:

- accessing physical and electronic information sources;
- developing search strategies;
- identifying key databases;
- applying Chemistry subject knowledge to assess the quality and relevance of sources;
- evaluating sources;
- referencing.

Students were required to complete a short self-assessment quiz at the end of each section to test their knowledge with the answers to be submitted no later than Term 1, Week 7 with longer quizzes on Web of Knowledge and Accessing Primary databases submitted in Term 3, Week 1. Students were awarded 6 CATS for successful completion of all IT Workshops assessments with the Library activities accounting for 1.5 CATS.

As this module has a cohort of 100 students, offering embedded skills support via Moodle aids scalability. Assessments were completed and submitted via the VLE, allowing for automatic marking and instant feedback for the students.

#### **2.3.1.1.2 Chemistry Key Skills (CH2A5)**

The principal learning outcomes of this compulsory Year 2 intervention are to:

- retrieve relevant information from a range of paper and electronic resources;
- make use of online databases to search the literature.

The programme supports this by using blended approaches to guide students through developing search strategies, searching specialist databases, referencing and avoiding plagiarism. The online element of CH2A5 adopted a similar format and structure to CH155, as this Year 2 cohort had not experienced the first year CH155 module. The intention is to modify this for future iterations to promote greater variety and support incremental development across the two years.

#### **2.3.1.1.3 Chemistry Online Tutorial**

In addition to the two modules mentioned above, Francesca also developed an online Chemistry tutorial which built upon this work and will support any future developments within the department.

#### **2.3.1.1.4 New developments in Chemistry for 2014/15**

For 2014/15, Lynne Bayley has requested that the activities previously hosted in the CH155 Moodle course are contained within a separate Library 'module' that can be accessed by all Chemistry students. Completion will still be compulsory and assessed for Year 1. Additional material will be added introducing students to the Library and we will also be developing a new EndNote referencing tutorial.

The programme for CH2A5 will adopt a 'flipped classroom' model. New material will be developed for the Library 'module' giving support with finding and selecting resources, with students expected to complete this before attending an interactive face-to-face session based around updating a bibliography provided by Lynne. Students will then be required to submit their suggestions via Moodle in order to complete the activity.

#### **2.3.1.2 Engineering**

For 2014/15, the Library is working with Dave Britnell to develop an extensive programme of online and face-to-face interventions. The key resource is an Engineering 'toolbox' offering information and research skills support across all four years, plus a 'resources' page signposting students to other useful material available from Student Careers and Skills (SC&S). Face-to-face sessions will run again in ES186 (Engineering Skills, core for Year 1), ES2A5 (Forensic Engineering; c.30 students) and ES327 (core for Year 3), with ES2A5 and ES327 being brought into the Student as Researcher programme for the first time. There will also be short tutorials on planning an oral presentation and

creating an academic poster, aimed specifically at Year 3 and 4 students working on individual and group projects, but available to students in other years who may also be required to deliver presentations (depending upon their module choices).

### 2.3.1.3 Life Sciences

Life Sciences were early adopters of Moodle and already offer their students extensive skills support. Julie and Academic Support Librarian (ASL) Sam Johnson are working to complement this with additional online resources to help students make the most of databases (see Figure 2) and to provide support for poster presentations, focusing on design and content as well as finding and using images. This material will be uploaded to the Life Sciences Moodle for the start of Term 1, 2014/15.

The screenshot shows a Moodle tutorial interface with the following structure:

- Life Sciences Making the Most of Databases** (Main Title)
- Making the most of databases** (Section 1)
  - Introduction
  - Search terms
- Basic Searching** (Section 2)
  - Web of Science
  - Scopus
  - PubMed
- Going further** (Section 3)
  - Evaluating your results
  - Finding the full text
  - Citation searching

A small speaker icon is visible in the bottom left corner of the interface.

Figure 2: *Making the most of databases* tutorial for Life Sciences

#### **2.3.1.4 Mathematics**

In 2013/14 we offered some support for MA213, notably trialling a 'Padlet Wall' approach where students could post questions for Library staff. We are currently working with Dave Wood (Director of Undergraduate Studies) to build on this trial. For 2014/15 we plan to offer fuller support for MA213, with a Moodle tutorial replacing the current static webpage.

Following poor uptake of the drop-in for 2013/14, students will be given the opportunity to sign up for an additional support session if required and a Facebook group will replace the Padlet Wall as this was felt to be more effective in encouraging student engagement.

Year 3 and 4 students will also be given access to the online resource and additional support will be provided on planning presentations, with additional links to online and face-to-face presentation support offered by the Learning Grid and SC&S.

#### **2.3.1.5 Physics**

For 2014/15, the Library is working with Dr Thomas Hase to provide a face-to-face Library session which will sit within the 'Physics Laboratory' module (PX110), which provides a basic grounding in practical lab work and is compulsory for all Year 1 students (c.120). The skills session will run in Term 1 and is designed to support the students' first lab report (due 3 December 2014). There will be no standalone Library assessment, but marks are allocated for the inclusion of correct references and an image (also correctly referenced) in the report itself.

Initially, online support will take the form of an enhanced version of the PowerPoint used in the session, with additional links to further sources of help and information. However, it seems likely that Physics will be adopting Moodle for the 2015/16 academic year, so there is scope to develop a more blended approach in future. Julie and Helen Ireland (ASL, Physics) are also looking into the possibility of providing a self-assessment quiz so students can test their knowledge after the session.

#### **2.3.1.6 Psychology**

Building on previous pilots, Julie is now working with Sam Johnson (ASL for Psychology) to apply the Student as Researcher approach to a new Year 1 module 'Academic Skills for Psychology'. This module will be compulsory for all students and will run for the first time in October 2014. The aims of the module are to engage students in critical thinking and self-directed learning to develop essential academic skills.

The Library's contribution will comprise two face-to-face sessions with follow up activities online to reinforce the concepts explored. The first session (to take place at the start of Term 1) will take the form of a basic introduction to the Library and the print and electronic resources available, and will include a Library tour. The second session (Term 2) will cover more sophisticated search strategies and how to evaluate sources.

#### **2.3.1.7 Warwick Manufacturing Group**

Julie and Helen Ireland are currently in contact with Kevin Neailey about providing information skills support for students joining the BEng in Applied Engineering in 2014/15 (c.70 students). In previous years the Library has provided some face-to-face support but the plan for the new academic year is to bring the session within Student as Researcher programme and develop an online resource on the same model as the Engineering 'toolbox' (see 2.3.1.2). The Library session is expected to run as part of the 'Foundation Block' in September 2014 with the accompanying 'toolbox' content to be made available at the same time.

#### **2.3.1.8 Other Departments in the Sciences**

We are also exploring opportunities to develop Student as Researcher interventions for Computer Science and Statistics.

### 2.3.2 Student as Researcher in the Arts and Social Sciences

Although the focus for the IATL-funded post has been to develop offering for the Sciences, the Library has also continued to develop and deliver interventions in other departments. For example:

- In April/May 2013, the Student as Researcher programme supported Year 1 students in **Classics and Ancient History** with poster presentations following an IATL-funded trip to the British Museum as part of their module on 'Roman Culture and Society' (CX110). For 2014/15, Helen Ireland (ASL for Classics) has been approached by Michael Scott about a potential activity in his new module on 'Greek Religion' (CX314), which is being run with an IATL Pedagogic Intervention award
- Julie has worked with Chris Bradford (ASL for the Centre for Lifelong Learning) to repurpose the existing Early Childhood Studies tutorial for **Counselling** students
- ASL Helen Riley has identified 'The World Economy: History & Theory' module (EC104) as having potential for a Student as Researcher intervention aimed at first year **Economics** students in 2014/15.
- Kate Williams (ASL for **English and Comparative Literary Studies**) has worked to develop an English Research Skills activity in Moodle to be rolled out in 2014/15 (Figure 3). Initially intended to sit within the 'Modern World Literature's module (EN123), this has since been extended to cover 'Modes of Reading' (EN122) and may also be offered to students on 'Modes of Writing' (EN124), representing the entire Year 1 cohort of c.220 students.

The screenshot shows the Moodle interface for the 'English Research Skills' course. At the top, the Warwick logo and user information 'You are logged in as Julie Robinson: Student' are visible. The navigation menu on the left includes 'My home', 'Site pages', 'My profile', and 'Current course' with sub-items for 'English Research Skills'. The main content area is titled 'English Research Skills' and contains the following text: 'This research skills activity has six parts. Please work through these in order. **You will need to complete each section before progressing to the next.** Completion of the whole activity will involve a short quiz and some reflective questions posted on a forum.'

The six sections are:

1. Finding secondary literature for your assignment (Image: Stack of books)
2. Selecting the right database and assessing search results (Image: Word cloud with terms like 'surrealism', 'Kafka', 'related', 'terms', 'synonyms', 'variations')
3. Scholarly and non-scholarly sources (Image: Open book)
4. Applying your search skills (Image: Library shelves)
5. Following citations and secondary referencing (Image: Windmill)
6. Reflection (Image: Word cloud with 'WRITE')

Figure 3: English Research Skills Moodle course



- The existing Student as Researcher programme in **French Studies**, offered as part of the Year 2 module 'In the Family Way' (FR245, c.20 students), was run successfully again during 2013/14.
- In **History**, Julie is currently working with ASL Lynn Wright and colleagues from the Academic Services Development Team and the Learning Grid to bring the Library's presentation skills session for the 'Making History' module (HI175) into the Student as Researcher programme for the first time in 2014/15. The Student as Researcher Project Officers were also approached by David Beck to create a variation of the English Research Skills Moodle activity, entitled Research Skills for Historians, which will sit within the Year 1 module 'The Making of the Modern World' (HI153).
- We continue to build on the **Law** pilot to develop a Moodle version of the Property Law tutorial.
- Julie and Kate Williams (ASL for **Philosophy**) are working with Simon Scott and Guy Longworth to devise a programme of activities for their new 'Philosophy in Practice' module, including a Library Skills session, a 'Making History'-style intervention to support presentation skills and a research skills Moodle activity.
- The Library has been in discussions with Renske Doorenspleet and Tina Freyburg from **PAIS** to discuss possible opportunities for a Student as Researcher activity to support three modules across Years 1 and 2.
- The original pilot activity for **Warwick Business School** ran again in 2013/14 and was completed by students on 'Understanding Organisational Behaviour' (IB1230) as well as the cohort from 'Markets, Marketing and Strategy' (IB1170). For 2014/15, Year 1 students will complete an updated version of this activity and a new tutorial will be developed for the 'Global Integrative Project' (IB2500) in collaboration with Rochelle Sibley of the Warwick Writing Programme.

### 3. Outcomes

#### 3.1 Increased coverage and embedding of the Student as Researcher programme

As outlined in 2.3.1 above, the Student as Researcher programme has achieved its primary objective of extending coverage to support demand from the Faculty of Science, with activities in Chemistry (CH155, CH2A5) and Mathematics (MA213) running for the first time in 2013/14 and a considerable number of new initiatives to be introduced into undergraduate programmes in Engineering, Life Sciences, Physics and WMG in 2014/15.

Julie and Francesca have also been involved in developing new interventions in departments outside of the Sciences, including the 'English Research Skills' activity, and are working to bring other Library activities currently outside of Student as Researcher into the programme for the first time (2.3.2).

There has also been a further consolidation of existing Student as Researcher activity in past pilot projects, most notably in WBS, with the online tutorial now covering most of the Year 1 cohort (c.400 in total), plus students from other departments (Computer Science, Engineering and Economics) taking business modules.

In addition, the team has also worked to strengthen partnership working across support agencies (see examples throughout Section 2), working closely with SC&S as well as developing and delivering interventions for the Undergraduate Research Support Scheme (URSS) (July 2013, July 2014) and the IGGY Junior Commission (2 July 2013).

### 3.2 Evaluation

Evaluation of the project has been based on three main types of evidence:

- student assessment;
- feedback from academic partners;
- feedback from students.

**Student assessment** varied from module to module. In Chemistry, successful completion of the Library Searching and Referencing tutorial and associated quizzes contributed 0.5 CATS to an overall total of 6.0 for the IT Workshops element of CH155, with the Databases quizzes (set by the department) attracting a further 1 CAT. Take up on this module was excellent with around 95% of students completing the Library activity and quizzes. However, in CH2A5, where the activities were not compulsory, student engagement was relatively poor, providing further evidence that interventions need to be compulsory, embedded and assessed for maximum impact. The new activities being developed for CH2A5 for 2014/15 will be far more firmly embedded within the course.

As in previous years, the online tutorials for 'Markets, Marketing and Strategy' (IB1170) were compulsory, with students who either did not submit or who failed the assignment required to attend a follow up session in the Library. However, not all Student as Researcher activities were formally assessed and, also as in previous years, this tended to have an adverse effect on student engagement (see 4.1.3).

**Feedback from academic partners** has been very positive. Rochelle Sibley of WBS has praised the Student as Researcher programme for its innovative methods, particularly the use of online delivery, which has enabled it to reach the School's particularly large cohort of students. For Cathy Hampton, the flipped classroom approach adopted for her module 'In the Family Way' (FR245) has given students "the confidence to believe that they can be at the centre of... the creative process of discovering ideas around a particular topic and allowed them to feel as though they are more in control of their own curriculum" (see <http://www2.warwick.ac.uk/services/library/staff/teaching/student-as-researcher>).

**Feedback from students** has also been favourable. Students taking the IB1170 follow up session were asked to evaluate the whole programme, including the online activity and formative assessment, and on the whole had found the material useful. Several students highlighted material on referencing and the evaluation of sources as being particularly welcome.

The IGGY Junior Commissioners were also asked for feedback on their session and, again, they particularly valued the material on referencing and evaluation. The Project Officers also received informal feedback from participants in the session (see Figure 4).



Figure 4: IGGY Junior Commissioners' feedback

### 3.3 Dissemination

Alongside the development and delivery of Student as Researcher interventions, the Project Officers have also continued with marketing activities designed to raise the profile of the programme and increase engagement. In addition to the usual advocacy with departments, these include:

- Presenting an overview of the Student as Researcher programme and how it might make the Warwick Science degree more distinctive to the Science Faculty Distinctiveness Forum (March 2014)
- Poster presentations at the Institutional Teaching and Learning Showcase (19 June 2013, 24 June 2014) (Figure 5)
- A video report for the IATL website ([http://www2.warwick.ac.uk/fac/cross\\_fac/iatl/funding/fundedprojects/strategic/brewerton\\_2\\_interim\\_report\\_video.mp4](http://www2.warwick.ac.uk/fac/cross_fac/iatl/funding/fundedprojects/strategic/brewerton_2_interim_report_video.mp4)) (October 2013)
- A growing Student as Researcher web presence, which includes video interviews with academic colleagues and student feedback (<http://www2.warwick.ac.uk/services/library/staff/teaching/student-as-researcher>) (Figure 9)

In May 2013, Ant Brewerton and Cate Mackay were Awarded and Commended (respectively) with Warwick Awards for Teaching Excellence, partly for their Student as Researcher activities. This work was recognised for having exceptional impact on the student learning experience and was highlighted by Ann Caesar in her award-giving speech.

## Student as Researcher: Bringing the Library to the Classroom

**Student collaboration**



**Groupwork**



**Peer Instruction**



**Peer Influence**

**Staff collaboration**



**Flipped Classroom**



**Blended Learning**



**Transferable Skills**

**The Library – connecting you with information, support and your community**



**Research Skills**



**Information Fluency**



**Creative Outputs**

Figure 5: Teaching & Learning Showcase 2014 interactive poster

## 4. Implications

### 4.1 Specific lessons learnt

Reviewing the practicalities of extending the programme (see 2.3), there were several lessons learnt, or – at least – previous findings confirmed:

#### 4.1.1 Engagement of academic colleagues

As with the first year of the programme it is very clear that – to be successful – we need academic colleagues as partners and champions to ensure students see the relevance of the programme and become fully engaged. By developing close working relationships with colleagues in the Sciences we have been able to really develop the spread and penetration of the Student as Researcher. In this regard, we would note that the development of the Director of Student Experience post in several departments has been a huge boon for the University.

#### 4.1.2 Timing

Linked to 4.1.1, we need to work with academic colleagues to get the programme embedded at relevant times throughout the course. In one case in 2013/14 we failed to do this, sessions were run at inappropriate times and take up was consequently poor. With WBS, on the other hand, the Student as Researcher continues to be run out on a week-by-week basis, enabling the students to successfully undertake their weekly assignments. Engagement with these programmes, unsurprisingly, remains impressive.

#### 4.1.3 Mandatory v. Optional / Assessed v. Not Assessed

Again, unsurprisingly, where the Student as Researcher is treated as a mandatory/assessed part of the course uptake is far greater (see 3.2). Close working with Lynne Bayley in Chemistry, for example, is enabling us to extend this approach.

#### 4.1.4 Blended Learning in the Flipped Classroom

As outlined throughout Section 2, we have continued to find a 'blended' approach the most successful way of delivering the programme. In WBS, students who have struggled with aspects of the course have particularly welcomed the face-to-face 'catch up' sessions, whilst in Psychology face-to-face support is augmented with a virtual back-up. Increasingly, though, we are using virtual approaches to help address different learning needs, meet the preferences of our students and cope with large cohorts (see Section 5). 'Flipped classroom' approaches are also becoming more commonplace. For one Chemistry module (CH2A5) students have to complete a virtual tutorial to 'qualify' for face-to-face support and in the French 'In the Family Way' module flipped classroom approaches are used to disseminate information before the session to enable more time for interaction in the classroom setting (see 3.2).

### 4.2 Providing a seamless student experience

Student surveys and other indicators tell us that relevance to the course of study – the primary focus for student attention – is central to student appreciation and engagement with skills development. Where there is dislocation, skills sessions can be viewed as irrelevant by students, not related to need, lacking obvious benefit and are hence often ignored. On the other hand, embedding academic skills for all is valued by students: this was given as a key reason behind Sheffield's recent success in the *Times Higher Education's* Student Experience Survey (<http://www.timeshighereducation.co.uk/news/times-higher-education-student-experience-survey-2014/2013333.article>).

Warwick should similarly take an holistic approach to skills development across the student journey. The Library, working in conjunction with the Students' Union and other service agencies, has developed a lifecycle approach to map the student journey (see Figure 6) to identify needs and plot support. This includes areas of current provision, areas of neglected demand, points where agencies already work together and opportunities for greater inter-agency working. The Student and Academic Services Network is taking this forward with the intention to 'simplify, collaborate and deliver' an improved student experience.





**Using the Library for Chemistry**

Due to incompatibility issues between Internet Explorer and some of the interactive activities, we recommend accessing this course using Google Chrome or Mozilla Firefox.

You may also find these links helpful:

- Library Homepage
- Warwick Library Proxy
- Chemistry Subject Page

**Introduction**

- In (Indium) 114.818

**Library Basics**

- Ba (Barium) 137.327

**Searching Using Encore**

- Se (Selenium) 78.96

**Databases and Search En...**

- Db (Dubnium) 262.114

**Scholarly and Non-scholar...**

- Sc (Scandium) 44.956

**Advanced Search Strategies**

- Sr (Strontium) 87.62

**Obtaining the Literature**

- Li (Lithium) 6.941

**Referencing**

- Re (Rhenium) 186.207

**Endnote Bibliographic Sof...**

- Bi (Bismuth) 208.98

Figure 7: Using the Library for Chemistry Moodle tutorial

Francesca has also worked with Kate Williams (ASL, English) to create a Prezi/video which captures the process of developing an effective search strategy for the English department's dissertation undergraduates (see Figure 8).

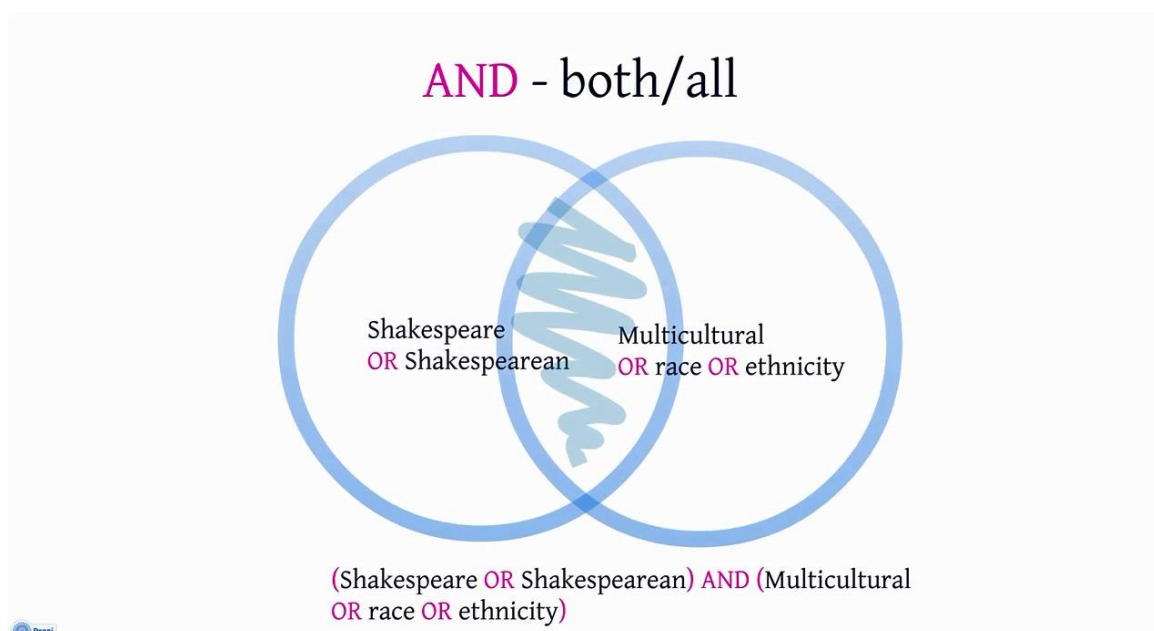


Figure 8: Creating an Effective Search Strategy Video

Students value online learning tools for their flexibility and the fact that they can be accessed at any time: see, for example, comments by WBS student Bas Bergmans (Figure 9)



**Figure 9: YouTube video of student reflections on the benefits of e-learning**

## 5.2 Sharing tools

A number of e-learning tools created for the Student as Researcher programme have been re-developed by the Academic Services Development team for use in generic tutorials and vice versa.

Following the success of the WBS Student as Researcher tutorial (developed in the initial pilot), the tutorial template has been adapted to provide e-learning packages for Business and Economics, Politics and Sociology, Film and Television Studies, English dissertation studies, Law and Chemistry, and continues to evolve, with a further iteration of the Business and Economics tutorial about to launch and a new tutorial for Engineering currently in development.

The *Creating an Effective Search Strategy* video has also been reused, featuring on the French, Hispanic Studies and Italian Library support webpages and more widely on the Library's Skills Development pages. A revised and adapted version also appears in the English Research Skills Moodle course. The Research Skills format itself has since been repurposed for History and is likely to be adapted in future for both Politics and Philosophy.

Parts of the Life Sciences *Making the Most of Databases* tutorial are currently being repurposed for Psychology and may also be introduced as part of phase 2 of the Engineering 'toolbox'.

The material developed for Chemistry was incorporated in both CH155 and a more generic tutorial for all Chemistry students hosted on the Library website. Much of this material is being reused to form the basis of the new Library 'module'.

This has proved a highly cost-effective model.

### 5.3 Sharing technologies

The Student as Researcher Project Officers have also shared tools and technologies with the wider academic community and other agencies across the University, including promoting the use of Articulate software and presenting on the 'English Research Skills' course for English at the Moodle Course Development Workshop (June 2014). Jim Judges of the Academic Technologies Team subsequently described the course as a "model of good practice that will hopefully inspire others and can be replicated elsewhere".

## 6. Conclusion

As we hope the above report illustrates, the Library, working in collaboration with colleagues across the institution, has been able to grow, strengthen and further embed the Student as Researcher programme in the curriculum over the period from April 2013 to July 2014. This is in response to expressed need, especially in the Sciences. To quote one of our academic partners:

"I think a lot of the students who come to Warwick... are attracted by the research excellence and research-led teaching and so 'Student as Researcher' is an opportunity to embed activities that relate to research and scholarly study from an early stage and we can start to put activities that appeal to that kind of student in [the course] right from the start of the degree and all the way through their curriculum."

- Lynne Bayley, Chemistry

We are grateful to ITAL for additional funding to help move this valuable programme forward and make it the success that this report describes.

So where next?

Despite some great developments there feels like there is more we can do around the 'student as producer'. To develop both academic skills and enhance employability there is more we could offer with developing presentation skills and allied technical abilities (for example, with Prezi), poster production, academic writing and writing for publication (including for *Reinvention: an International Journal of Undergraduate Research*). How can we work more closely with colleagues to further enrich the student experience?

The other big issue is around scalability. As mentioned throughout, we have adopted e-learning where appropriate but are there other approaches we can take to cope with growing demand?

We would be keen to discuss these and any other pertinent issues with IATL colleagues and explore opportunities to move the Student as Researcher approach even further forward.