ILG research Bursary Proforma

July 2016.

1. **Project Title (maximum 10 words)**

Improving transition into HE for engineering students

2. **Principal Investigator**

Clare Langman, Information Specialist, Aston University Library Services, Aston Triangle, Birmingham, B4 7ET, 0121 204 4513, c.langman@aston.ac.uk

Co-Investigator(s)

Kerstin Treder, Information Specialist, Aston University Library Services, Aston Triangle, Birmingham, B4 7ET, 0121 204 4512, k.treder@aston.ac.uk

Lynette Rendell, Learning Development Centre, Aston University Engineering Academy, Birmingham, B7 4AG, 0121 380 0570, lynette.rendall@auea.co.uk

Cathy Bedney, Post 16 Achievement Co-ordinator, Aston University Engineering Academy, Birmingham, B7 4AG, 0121 380 0570 ext. 1018, cathy.bedney@auea.co.uk

3. **Partner(s)**

Aston University Engineering Academy
Aston University Learning Development Centre

4. **Summary of the project – If the project is funded, ILG will use this in any publicity material or announcements. (Maximum 300 words)**

Staff at Aston University Library Services in collaboration with Aston University Engineering Academy (AUEA) will take part in a three year-long study to investigate how information literacy skills teaching affects the transition from school to higher education among Year 12 and Year 13 students. The study will be supported by a member of academic staff at the School of Engineering and Applied Science who are also part of the Aston STEM Education Centre (ASEC) and a member of staff at the Learning Development Centre (LDC).

Building on feedback from a workshop delivered to Year 12 students in March 2016, this longitudinal study will commence in January 2017 and continue until May 2019. The research will involve Year 12 and Year 13 students attending workshops delivered by Information Specialist staff from Aston University Library Services during which they will be supported in developing their Information Literacy skills. In order to find out how this impacts the students' approach to learning, evidence will be gathered from teachers as well as student assignment results. In addition to this data will be gathered using online surveys, focus groups and interviews to follow-up on their progress and how they feel their information literacy skills have developed from year 12 to their first year of a degree course or degree apprenticeship programme. Due to their close relationships with the pupils AUEA staff will help to recruit students to the study using their existing communication channels and

relationships with students. Small incentives (vouchers) will be offered to the students for completing the survey, attending a focus group and follow-up interview. The aim of the project is to examine the impact of information literacy interventions with Year 12 and Year 13 students and how they develop their skills over the period of transition to Higher Education.

5. **Risk assessment – Please state any risks you envisage on a scale of 1 to 5 with 1 being low and 5 being a high risk**

The risk is in relation to lone working with students under 18 years. Library staff are aware of the issues regarding working with children and would ensure that safeguarding measures are strictly adhered to. Any contact with students would always involve a minimum of 2 staff at any one time. (Risk Level 1)

Focus groups and interviews will be held at AUEA, Library Services or at the Higher Education institution where the participating student eventually progresses to. Aston University has its own policy providing guidance for working with young people. (Risk Level 2)

Students may not want to participate in the research or may pull out during the course of the study (Level 4) – to alleviate the risk we will ensure that communication with the students is regular and that incentives are used to encourage students to participate.

6. **Stakeholders**

The stakeholders involved in the project would include the following groups:

BTEC Students from Aston University Engineering Academy from Year 12 until their first year in Higher Education or Degree Apprenticeship.
The students are the key focus of the project and the aim would be to track their progress from the information literacy workshop in Year 12 and see if and how they use and develop these skills during the rest of their course and beyond onto Higher Education or Degree Apprenticeship. The plan would be to have a control group of students who didn't attend a workshop and compare them against the cohort who attended the workshop. Feedback would be gathered over a 2 year period to ascertain if and how they were using the skills covered during the initial workshop and how they felt their skills had developed since. Students will be involved in a variety of feedback methods including an online survey, focus group, individual interview and production of a talking heads video. Students' destinations will be tracked via school records

Aston University Engineering Academy staff including the Learning Development Centre Manager, Head of Sixth Form, Head Teacher and other teachers involved in teaching on the BTEC programme.
Staff from the AUEA will play a vital role in this project as the main link with the students. They will collaborate with Information Specialists in the design and delivery of the information literacy workshops to ensure they are directly linked to the course and are able to offer ongoing support to students afterwards. Staff will take a lead in the recruitment of students for the focus groups and interviews and will use existing communication routes to send out the survey.

Aston University Library Services staff including Information Specialists and the Director of Customer Service and Liaison.
Library Services (LS) have previously worked with School Liaison to deliver workshops as part of a Masterclass Programme and are keen to enhance the support they provide for local schools. This project would allow staff to map the progression of the students and find out what impact the Information Literacy workshop has made on their learning. It would also provide the opportunity to develop further the relationship between AUEA and LS which in turn would encourage further collaboration in the support for other groups of students, for example, A Level students.

Aston University Engineering and Applied Sciences staff including Associate Dean for Learning and Teaching/Directors of Aston STEM Education Centre
Staff with the School of Engineering have existing links with AUEA as well as expertise and experience of research within Engineering Education. Findings from the project will be used to inform best practice and make recommendations within the teaching on the Foundation Programme and to support the transition from school to HE.

Aston University as an institution
Aston University has a strong reputation for work with Widening Participation (WP) students and has an active Outreach Programme aimed at raising the aspirations of local students from non-traditional backgrounds. There are a number of initiatives currently in place at Aston which Library Services has been involved in, including the Aston Progression Pathway (APP) Programme involving STEM students with an interest in applying to Aston. Library Services has delivered Information Literacy workshops in collaboration with colleagues from the Learning Development Centre which have provided an opportunity to help school pupils identify and develop IL skills needed for the transition to Higher Education.

7. Aims and Objectives

SMART objectives

Specific: what do we want to accomplish: what, who, where, why?

This study will investigate how the introduction of information literacy skills to year 12 and 13 students at the AUEA affects their approach to learning. This longitudinal study will be carried by two Information Specialists supporting STEM subjects at Aston University in collaboration with staff at AUEA, an academic from the School of Engineering and Applied Science and staff at the LDC. After delivering information literacy workshops data will be gathered through a mixed approach using online surveys, focus groups and follow-up interviews.

Measurable: evaluate and demonstrate to what extend the goal has been met. Track and measure the outcome

Compare assignment marks of participating students with assignments from previous year. Compare the bibliographies on students' assignments before and after the workshop. Ask students how they approach information gathering during the focus groups to establish how the information literacy workshops have affected their learning. Invite studenst to write a reflective blog (group task) in advance of the focus groups and discuss this during the focus groups. Invite students to meet for a follow-up interview when in their 1st year at university/degree apprenticeship to learn about their experience and approach to learning and information finding.

Achievable: is the goal reasonable enough to be accomplished?

The study goal links in with LS strategy and follows on from previous collaborations with the AUEA. Support for the study is provided through professional staff at Aston University Library Services, at the AUEA, the LDC staff and an academic from the School of Engineering and Applied Sciences.

Relevant: how does the goal tie into our responsibilities? How is it aligned to our objectives?

LS support students at the School of Engineering and Applied Science through information literacy workshops. It is part of the objectives to embed information literacy teaching and enable students to access and use library resources. Community engagement and widening participation is high on the agenda of Aston University's institutional strategy. Library Services Information Services Team

objectives include collaboration with local schools and supporting the student during the transition to HE. Over recent years LS have contributed in a number of ways, including delivering workshops as part of the APP programme and providing support for Extended Project Qualification (EPQ).

Timely: set timeline by which goal has to be achieved.

To be achieved by May 2019. See the milestones section for timeline and study stages and milestones.

8. Milestones

See attached document for a breakdown.

The project consists of stages and activities to be carried out in each academic year. The completion of all activities in each stage marks the milestone.

Stage 1 – 2016/17: January 2017 – April 2017. Completion of activities in April 2017 = **Milestone 1**
Stage 2 – 2017/18: October 2017 – May 2018. Completion of activities in May 2018 = **Milestone 2**
Stage 3 – 2018/19: February 2019 – May 2019. Completion of activities in May 2019 = **Milestone 3**
Stage 4 – 2018/19: June 2019 – Dec 2019. Completion of activities by Dec 2019 = **Milestone 4**

9. Description (Maximum 1,000 words)

Introduction

Information Specialists at Aston University Library Services aim to investigate the impact of information literacy skills training on the transition from school to further and higher education among students from AUEA. The project would be a collaboration between students and staff at AUEA, supported by an academic member of staff at Aston University's School of Engineering and Applied Science and staff at the Aston University Learning Development Centre.

The literature suggests that there is a 'copy and paste culture' (Secker and Coonan, 2013) among students entering university. It also suggests that the approach to students' information seeking behaviour can be influenced (Walton and Hepworth, 2010) and improve students' information literacy skills prior to entering HE. Creating an understanding of information literacy at this stage can support students during their transition to university as well as support their approach to completing assignments (Anderson and Bull, 2014) at AUEA, such as the Extended Project Qualification. This study seeks to investigate how introducing information literacy skills, aspects of critical thinking and evaluating information before entering university affects students' approach to the information searching and evaluation. At the same time, the study contributes to the university's widening participation by including pre-university students in the Library's information literacy programme and with a view to learning gain, as defined by HEFCE, as the students' progress through higher education. Feedback gathered from a 'Masterclass' run with Year 12 AUEA students in March 2016 suggests that there has been a net benefit to students' learning and that additional workshops could further improve the students' experience.

The research will involve Year 12 and Year 13 students attending workshops where aspects of information literacy will be introduced, specifically relating to Stand 1 of the ANCIL framework (Secker and Connan 2011). In order to find out how this will affect the students' approach to information searching and evaluation when completing assignments, it is intended to analyse students' assignment bibliographies. In addition, students will be asked to complete an online survey to ascertain their level of IL skills and they will be invited to participate in a focus group to assess IL skills within specific scenarios. With incentives to help engage students with the project

In March 2016 two Information Specialists at Library Services and a Learning Advisor from the Learning Development Centre delivered a Masterclass to a group of year 12 AUEA students, introducing them to aspects of information literacy and academic learning resources in preparation for studying at university. Building on this it is intended to continue our collaboration with this group in year 13, as well as the incoming year 12. The study will commence in January 2017 and continue into May 2019. The workshops aim to improve year 12 and 13 students' learning and study experience during their transition into higher education and will help to inform our understanding of how this affects their approach to research and learning. This study seeks to:

•find out how students' approach to learning is changed as a result of attending the information literacy workshops

•find out about their experience of being a 1st year university or apprenticeship degree student

•learn about how librarians' collaboration with AUEA teachers supports the students

•learn about how AUEA teachers perceive information literacy

•support the wider university strategy in relation to widening participation and inclusion

Data collection

Data will be collected through a mixed method approach using online surveys, focus groups and interviews to follow up on the students' experience and destinations, from year 12 to being a year 1 university or apprenticeship degree student. The online surveys will be prepared using Bristol Online Survey and distributed by AUEA staff. The focus groups will take place at the AUEA and at Aston University Library Services and will be led by the Information Specialists with support from AUEA staff. Notes will be made for subsequent analysis. Based on our experience. Relationship building and communication will be key to maintaining their involvement. The follow-up interviews are to be help at the participant's university or apprenticeship placement. The Information Specialists will travel to hold the interviews with the participant (travel costs in financial breakdown). Interviews will be recorded and transcribed. Having spoken to AUEA staff it is envisaged that many AUEA students attend local or midlands based universities, therefore it is expected that travel will take place within the West Midland region.

The gathered data will be analysed by the Information Specialists with support from staff at the LDC and the School of Engineering and Applied Sciences.

Sample population – Student recruitment

The total population will be up to 200 students, 100 in year 12 and 13 each. We will liaise with AUEA staff.

In March 2016, a group of year 12 BTEC students attended a masterclass where 65 students attended out of a possible 95. This group of students will be invited to participate in the study. This will be the year 13 group from autumn 2017. With support from AUEA staff, students from the incoming year 12 cohort will also be invited to participate. It is envisaged that similar numbers will attend the workshops in February 2017 as those who attended in March 2016.

10. Dissemination strategy (maximum 500 words)

As a result of the research project an article will be written jointly with research staff from Aston STEM Education Centre (ASEC) with the aim of getting it published within the field of Engineering

Education, for example, a Higher Education Academy (HEA) journal. Transition is a particular challenge within engineering as very little research has been carried out which has looked at the impact of Information Literacy skills teaching on students undertaking engineering subjects it is anticipated that there is a demand for literature in this area.

This project and its' findings would make an interesting workshop or presentation at LILAC or one of the USTLG (University Science & Technology Librarians) meetings. There is a growing interest in transition and how Library Staff can make an impact in helping students to move smoothly from School to Higher Education. Engineering students, particularly BTEC students are often viewed as a hard to reach group and are traditionally reluctant to use the Library and its' services. As LILAC attracts delegates from all types of libraries this topic would be particularly relevant for anyone working in schools, FE or HE who work with Engineering students or those doing BTEC courses. The USTLG events provide an excellent opportunity for the sharing of good practice between Science and Technology Librarians who are facing similar challenges.

The project would provide an interesting topic for Sconul Focus magazine. In order to disseminate the findings to as wide an audience as possible the aim would be to have an article published in a either a school libraries journal or Information Literacy journal.

This project would present an excellent opportunity to work with Schools & Colleges Liaison to disseminate the findings and outputs to other schools in the region with the aim of building new relationships with them and setting up new agreements to work in partnership. Aston University Library Services has been gradually building up on collaborations with Schools and Colleges Liaison and aims to increase the number of workshops delivered to local schools so it is hoped that this project would raise the profile of what Library Services can offer for schools in terms of support.

In addition to sharing findings with colleagues in the library and teaching professions it is planned that the project would be shared with students from AUEA, Aston University and more widely with prospective students through talking head videos which students themselves would produce. The aim would be to capture the student journey through the milestones in order to gain an honest account of the impact of the IL interventions. The videos could be used to demonstrate to students the value of IL skills and how the workshops can help with skills development needed for the transition to HE as well as being used for promotional purposes, for example, to help with student recruitment to AUEA or Aston University.

11. Outputs

Publication of a journal article in Sconul Focus, Journal of Engineering Education

Conference workshop slides/workshop materials to be made available via Slideshare/CoPilot

Reflective blog to be written by the students for upload to AUEA website

Talking head videos to be used for school publicity and to publicise to other schools through Schools & Colleges Liaison

Photos for publicity to be used for school publicity and to publicise to other schools through Schools & Colleges Liaison

12. Evaluation strategy

Progress of the project will be monitored by checking and keeping to the timeline as laid out in the

Milestones section. There will be regular communication between all stakeholders to ensure deadlines are adhered to and all stakeholders are engaging with the project. As the Objectives are SMART they can easily be measured against the aims. On completion of the study, conclusions will be drawn in order to evaluate the extent to which the project objectives have been met. This will also include the project investigators to determine the impact and value the study has had, comparing assignment grades as well as qualitative feedback from students and teachers at AUEA and academic staff from students' future universities/apprenticeship programmes.

Analysis of student bibliographies of assignments completed after attending a will provide evidence of the impact of the IL interventions compared with those who did not attend. Bibliographies from previous assignments will also be consulted to get a before and after picture. And assess whether attendance at the workshop has made a difference.

Focus groups will be used to assess IL skills in a particular scenario, for example, students will be asked to describe how they would approach the process of searching for information for an assignment, what sources would they shoes and how would they evaluate them.

13. Financial breakdown

See attached document

ILG research bursary proforma - instructions

General comments

When writing your text, please be as concise and clear as possible. Write your bid for intelligent non-expert, avoid jargon, acronyms and abbreviations. Make sure that your bid addresses as many criteria as possible as specified in the call document. All word limits are to be strictly observed – exceeding the limit specified will automatically disqualify the application.

Where sections do not apply e.g., Co-Investigator please insert 'N/A'.

1. Project Title

Short and imaginative titles are preferred that capture the imagination and convey the essence of the project.

2. Principal Investigator

Please insert your full name, job title, affiliation, postal address, telephone number and email address. **The Principal investigator must be a member of the ILG**.

3. Co-Investigator(s)

These will be colleague(s) who will share the doing of the research and will incur their own costs. Please insert full name, job title, affiliation, postal address, telephone number and email address of all co-investigators

4. Partners

These will be individuals or organisation involved in the research but not actually carrying it out and therefore do not incur a cost. These could be 'research buddies' (academics or researchers you have enlisted to help with the methodology, etc.). Please insert full name, job title, affiliation, postal address, telephone number and email address of all co-investigators

5. Summary of the project

If the project is funded ILG will use this in any publicity material or announcements. (Maximum 300 words)

This is to be written in an informal style to communicate the project to the wider community and media.

6. Risk assessment

Please state any risks you envisage on a scale of 1 to 5 with 1 being low and 5 being a high risk

7. Stakeholders

This is anyone who might have a direct interest or who may benefit from the project – for example school children, teachers or business owners etc.

8. Aims and Objectives

These should be SMART (specific, measurable, achievable, relevant and timely) objectives that meet funders' criteria

9. Milestones

This is the detail of the project plan and can be in the form of a simple Gantt chart.

10. Description (Maximum 1,000 words)

This is the candidates opportunity to explain the project in more detail and could address issues such

as why this project and why now? Also how the project will be carried out.

11. Dissemination strategy (maximum 500 words)

How will you make sure that your work and its findings reaches the widest possible audience? This might include all or some of the following: seminars, blogs, webinars, conference papers, press releases, YouTube etc.

12. Outputs

These are tangible artefacts such as webpages, blogs, a learning and teaching resource, peer reviewed journal articles, books, book chapters and so on.

13. Evaluation strategy (maximum 500 words)

The evaluation strategy should seek to answer the following questions:

How will progress of the project be monitored?

To what extent were the project objectives met?

What was the impact of the project?

What is the added value of the project?

14. Financial breakdown

This will include:

Amount requested and why for example, salary costs, travel and subsistence and conference fees.

This should be in the form of an itemised list of each separate cost. Maximum allowed £10,000, in practice we anticipate bids for smaller amounts than this.

If you have further queries about this form please contact:

Dr Geoff Walton: geoff.walton@northumbria.ac.uk

Andrew Walsh: a.p.walsh@hud.ac.uk

Please return this form to: cilipilg@gmail.com