

Ulster University

Library

Digital and Information Literacy Strategy

2017 - 2021

This Digital and Information Literacy Strategy for 2017-2021 replaces the first Library Information Literacy Strategy, 2012-2015.

The new strategy builds on the previous strategy and has been renamed Digital Information Literacy Strategy to reflect the importance of developing digital literacy and associated technologies to support engagement and interactivity in the learning environment.

It is aligned to the University's "Five and Fifty" strategic plan and reflects the content and format of the Library Services Strategy.

The new strategy emphasises the digital elements by explicitly detailing the application of new and emerging technologies in order to

- enhance the delivery of digital information literacy
- support increased active, flexible and collaborative learning
- reflect recent changes in learning pedagogies and support the curriculum change process
- recognise the importance, and promote the acquisition, of core digital skills for successful study, employability and lifelong learning.

Ulster University

Digital Literacy Strategy
V. 1.95
Jayne Dunlop
Chair DIL sub-group

Digital Information Literacy Strategy

Version	Date	Author	Description
1.0	3.2.2017	Jayne Dunlop Chair DIL Subgroup	First draft of SPs and appendix A
1.1	13.2.2017		Amends following consultation with Librarian
1.2	17.2.2017		Updated by DIL subgroup, introduction added.
1.3	16.5.2017		LMT amendments
1.4	23.5.2017		Passed by DIL subgroup
1.5	23.6.2017		Amendments following subject team day SP2 SO4 and SO5 combined and key success criteria amended to reflect the change.
1.6	10.07.2017		Amendments following June LMT
1.7	19.7.2017		Amendments from Librarian
1.75	11.9.17		Further amendments from Librarian
1.8	2.11.2017		Review by PVC (Education)
			Review by PVC (Research and Impact)
			Review by UUSU Executive
			Review by Associate Deans (Education) & (Research and Impact)
1.85	3.11.2017		Addition of cover sheet highlighting differences between this strategy and its predecessor
1.9	13.11.2017		Minor textual changes following comments by Associate Deans

Executive Summary

Introduction

Digital Literacy Strategy

V. 1.95

Jayne Dunlop

Chair DIL sub-group

This strategy document outlines the programme of work to be led by the Digital and Information Literacy (DIL) Sub Group during the period 2017-2021 in support of academic excellence at Ulster.

This strategy seeks to build on the work of the previous Information Literacy Strategy by continuing to seek new and innovative ways to deliver Information Literacy support to students and staff. The remit of the strategy has expanded to take cognisance of the increased use of digital resources and the growing reliance on emerging technologies by students, and the recognition of the importance of core digital skills for successful study, employability and lifelong learning.

Digital literacy builds upon traditional information literacy and “goes beyond this to encompass communication, collaboration and teamwork, social awareness in the digital environment, understanding of e-safety and creation of new information. Both digital and information literacy are underpinned by critical thinking and evaluation.”¹

The Library Service provides a wide range of information in electronic form and already uses new and emerging technologies in teaching. In this revised and updated Digital and Information Literacy Strategy, the Library Service wishes to formalise the development opportunities currently offered to students at all levels. The Strategy will encourage closer collaboration between academic staff and subject librarians in order to support and improve integration of digital and information skills into university programmes through increased incorporation of digital technologies and active learning approaches in library teaching, in keeping with the University’s student learning experience principles and emerging pedagogic approaches to learning and teaching at Ulster.

Context

The importance of digital and information literacy is recognised not only by those working in the information field but also by employers, professional associations and the Government as an important graduate attribute that is applicable to study, employment and lifelong learning.

The development of digital literacy skills forms one of the six Student Experience Principles to equip students “for living, learning, communicating and working in a digital world and to maximize their employability”.²

This strategy aims to build upon the former information literacy strategy with the development of core digital literacy skills, encouraging the increased use of technologies in delivering information literacy skills sessions, facilitating flexible approaches and embracing the concept of technology-enhanced learning. It also aims to promote the critical importance of digital and information literacy especially in the context of university learning and teaching to:

- Identify the digital and information literacy competencies students require in order to benefit fully from their research and studies. The competencies can be consulted on the Digital and Information Literacy Skills online guide at http://guides.library.ulster.ac.uk/ld.php?content_id=31385520
- Demonstrate ways in which these competencies can be acquired in a discipline-specific context
- Collaborate with academic colleagues in improving digital literacy skills.

The Strategy aligns to the following University Strategies

- SP “Five and Fifty”
- Digital Futures Strategy
- Learning and Teaching Strategy
- Research and Impact Strategy
- Internationalisation Strategy
- Library Services Strategy

Key dependencies

¹ Open University (2016) *Digital and Information Framework*. Available at <http://www.open.ac.uk/libraryservices/subsites/dilframework/> (Accessed 14 April 2016)

² Ulster University (2015) *Programme Approval Management and Review Handbook*. Available at <http://www.ulster.ac.uk/academicoffice/download/Handbooks/PAMR.pdf> (Accessed 15 April 2016) p57

For a Digital and Information Literacy Strategy to be adopted and embedded, it requires both institutional and faculty commitment. The vision is for a university where digital and information literacy learning opportunities are fully integrated into the academic curriculum in a timely and relevant manner and where subject librarians and academic staff are partners in ensuring that all students have the opportunity to gain these critical lifelong independent learning skills. The Library already works collaboratively across a broad range of business areas to include academic staff, Research and Impact, Staff Development, Access, Digital and Distributed Learning and the International Department to support the delivery of digital and information literacy to all users.

Digital and information literacy, vision, mission and values.

The Digital and Information Literacy Strategy fully supports the Library Service's vision and mission, and embraces the same values and guiding principles.

The goal of this strategy is *to ensure that all Ulster students, regardless of mode of study, are enabled to become digitally and information literate through the provision of effective digital and information literacy learning and teaching opportunities.*

This supports the Library's vision to *transform the experience of our users through excellence in the provision and development of sustainable library services and resources.* Digital and information literacy support at Ulster is also a *bench marker* which can be used for comparison with other universities.

The Strategy

This strategy sits under the Library Services Strategy as a flexible and agile document which will respond to changes in the operating environment as required. It will be reviewed annually by the Library Management Team to ensure it adequately supports the Library Services Strategy and meets the needs of stakeholders.

Strategic Priorities

The strategy will be operationalised through the delivery of an annual work plan and associated Key Performance Indicators.

Building on the above has led to the development of three strategic priorities which are the key performance areas against which the library will seek to deliver its DIL Skills programme in the period 2017/8 – 2020/1.

- SP1** To deliver digital and information literacy skills in support of learning and teaching
- SP2** To deliver enhanced digital and information literacy skills in support of Ulster's research community.
- SP3** To provide digital and information literacy support for widening participation access at regional, national and international levels.

The following overarching and enabling objectives underpin the delivery of the strategy

- EO1** To promote digital and information literacy provision and deliver evidence of impact.
- EO2** To develop and optimise the library's physical and virtual presence in line with new pedagogic approaches to learning and teaching, facilitating collaboration through the use of active learning spaces and technologies such as Blackboard Collaborate and Nearpod.
- EO3** To develop and support library staff to deliver the digital and information literacy.

Delivering the strategy

Each strategic priority has a number of supporting objectives aligned to it. The Digital and Information Literacy Sub Group will deliver an annual implementation plan, detailing activities and projects based on the supporting objectives to operationalize the strategy. The Digital and Information Literacy Sub Group will have oversight of the plan and monitor its progress, reporting to the Library Management Team on a regular basis.

SP1 To deliver Digital and Information Literacy Skills in support of teaching and learning

The library will continue to support **academic excellence** by developing and enhancing student and staff digital and information literacy skills to support teaching and learning.

SO1	Collaborate with academic staff to deliver best practice in digital and information literacy through Library induction for new students at Ulster to support retention.
SO2	Collaborate with academic staff through personal contact and formal curriculum planning to embed DIL training into the academic curriculum, ensuring timely delivery and relevant content.
SO3	Provide DIL skills training that enhances Ulster graduates' employability, and supports development of lifelong learning by promoting library EDGE activity.
SO4	Explore opportunities to use active learning, emerging technologies and personal learning devices to deliver DIL.
SO5	Support academic achievement through the promotion and delivery of referencing and other study skills support.
SO6	Explore opportunities to further enhance DIL provision for specific user groups, including international students, distance learners, part time students and students with disabilities.
SO7	Enhance existing support for new members of academic staff to support their teaching and raise awareness of DIL.

Key success criteria

- The introduction of new and emerging technologies to enhance the delivery of DIL
- Increased uptake of induction DIL training by new students at Ulster.
- Increased inclusion of DIL in course planning, documentation and delivery.
- Increased student engagement with library EDGE award.
- Increased use of new active learning spaces by library staff delivering DIL.
- Increased uptake in referencing and Refworks classes.
- Increased variety of DIL delivery formats to extend and improve DIL skills support for all learners.
- Offer all new academic staff one to one library induction and DIL support and training.

Key risks

- Low engagement by academics with Library Digital and Information literacy initiatives
- Low uptake by students of Digital and Information Literacy opportunities
- Lack of engagement by Library staff with active learning spaces and emerging technologies.

SP2 To deliver enhanced Digital and Information Literacy Skills in support of Ulster's research community.

The Library will continue to develop, enhance and promote **Academic Excellence** in support of the University's wider Research & Impact Strategy 2017-2022.

SO1	Offer all new research staff one-to-one Library and DIL support and training.
SO2	Collaborate with the Research and Impact Office to embed DIL into the new Doctoral Development Programme.
SO3	Provide ongoing enhanced digital and information literacy skills support for research staff and PhD students taking cognisance of the new research landscape and the doctoral college.
SO4	Engage collaboratively at all levels of the research process to fully embed DIL into the research cycle, provide enhanced skills support training and contribute to post-doctoral employability.
SO5	Update and inform researchers on current and emerging DIL developments.
SO6	Support operational excellence by utilising emerging technologies to provide DIL skills training resources where appropriate.

Key Success Criteria

- Increased uptake of one-to-one support by new PhD researchers for enhanced digital and information literacy skills training.
- Continued delivery of DIL skills as part of a refreshed and enhanced training and development programme to be delivered via the Researcher Development Programme.
- Increased use of active learning spaces by library staff delivering DIL to the research community.
- Increased satisfaction with range of DIL provision, by PhD researchers, including specific skills support to enhance employability.
- Enhanced DIL skill and expertise embedded in the whole research life cycle.
- Increased awareness of current and emerging DIL developments by researchers.
- Increased provision of online DIL skills training resources.

Key Risks

- Failure to engage with new PhD researchers.
- Inability to deliver an enhanced, flexible approach to DIL provision aligned with SP "Five and Fifty" and the Research and Impact Strategy, to meet the needs of new PhD researchers, and support research output at Ulster.

SP3 To provide Digital and Information Literacy support for widening participation access at regional, national and international levels.

The Library will continue to deliver DIL services to support the institution's strategic **Global Vision** and **Civic Contribution** and promote the Library's commitment to civic engagement.

Digital Literacy Strategy
V. 1.95
Jayne Dunlop
Chair DIL sub-group

SO1	Collaborate with the International Department to provide and improve DIL skills training as part of the International Student Induction Programme.
SO2	Collaborate with the Centre for Widening Access and Participation to improve DIL support for institutional activities e.g. Taster events.
SO3	Deliver appropriate DIL skills support for Ulster Students taught in Partner Institutions.
SO4	Provide enhanced DIL support for students transferring from Partner Institutions.

Key Success Criteria

- Improved delivery of DIL provision as part of the International Student Induction Programme in collaboration with the International Department
- Increased international student satisfaction with DIL skills provision.
- Delivery of appropriate DIL skills support for institutional initiatives in conjunction with the Centre for Widening Access and Participation.
- Engagement with Partner Institutions to deliver appropriate DIL skills support.
- Increased uptake and satisfaction of enhanced and accelerated DIL support for transfer students.

Key Risks

Inability to provide adequate DIL skills support to international students, those attending and transferring from partner institutions and those on widening access programmes.

EO1 To promote DIL provision and deliver evidence of impact.

DIL activities will seek to deliver **Operational Excellence** through appropriate analysis and utilization of relevant business intelligence.

SO1	Application of current and emerging digital tools to market, promote and measure DIL provision.
SO2	Develop infographics based on core statistics to market and promote library DIL activity.
SO3	Liaise with Library's Head of Customer Focus and Business Support to develop existing data collection to provide a quantitative assessment of DIL activity uptake across all modes of study.
SO4	Develop a range of qualitative and quantitative tools to evaluate impact of DIL activity.

Key success criteria

- Development of a range of tools to assess uptake and impact of library DIL activity.
- Development of resource, including online booking system (e.g. LibCal) to market and promote library DIL activity.

Key risks

Failure to promote DIL adequately and inability to develop appropriate measures of the extent of DIL delivery and its effectiveness.

E02 To develop and optimise the library's physical and virtual presence as per E02 on Page 2, in line with new learning pedagogies.

SO1	Deliver engaging and collaborative DIL activities using both existing and next generation flexible learning spaces and emerging technologies.
SO2	Enhance existing library subject web content using Libguides 2.0.

Key success criteria

- Increased use of active, flexible and personalised learning in library DIL activities.
- Development, promotion and ethical reuse of DIL web content on Libguides and other platforms.
- Increased use of current (e.g. Libguides, Nearpod etc.) and other emerging technologies to improve active learning.

Key risks

Inability of library subject teams, academic staff and students to engage with new learning landscapes and technologies.

E03 To develop and support library staff in delivery of DIL.

SO1	Enhance and develop Subject Librarians' DIL skills through attendance at relevant professional courses, conferences and training events, and by encouraging subject staff engagement with PgCHEP, CHERP and HEA activity.
-----	---

SO2	Encourage development of core DIL competencies in frontline staff, to further support active learning in library DIL induction and subject sessions.
-----	--

Key success criteria

Increased engagement of all library staff in DIL developmental opportunities.

Key risks

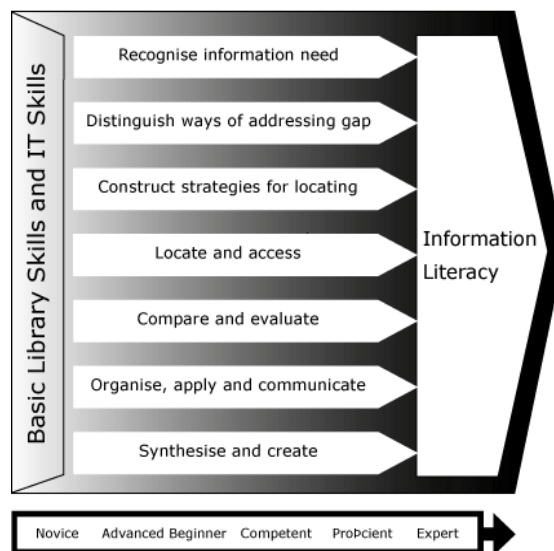
Inability to harness adequate financial resources to enable staff to attend training events and develop their DIL skills.

Appendix 1: SCONUL Seven Pillars (Old and New Models)

SCONUL Seven Pillars Model (1999)

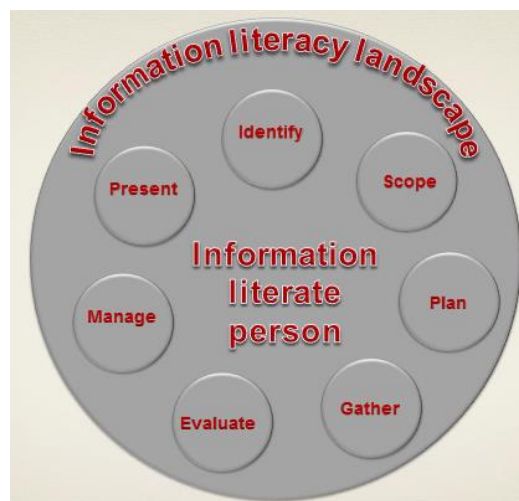
(http://www.sconul.ac.uk/sites/default/files/documents/Seven_pillars2.pdf)

SCONUL Seven Pillars Model for Information Literacy
© Society of College, National and University Libraries



SCONUL Seven Pillars Model (2011)

(<http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf>)



The SCONUL7 Pillars of Information Literacy through a Digital Literacy 'lens'

Identify	Scope	Plan	Gather	Evaluate	Manage	Present
Understands: The concept of digital literacy within an educational setting The Internet is not regulated but content may be structured and regulated in a variety of ways depending on the requirements of the provider Technology is constantly evolving and the exploration and evaluation of new and emerging information systems is a lifelong process The lifecycle of digital content, including issues around provenance, sharing and long-term access and preservation The benefits and limitations of using different forms of digital content, tools and technologies to meet specific needs	Understands: Issues around copyright, IPR and CC licences in relation to the use and creation of digital material The need to address issues of accessibility relating to digital content The characteristics of different digital publication formats, the functionality available within software platforms and the benefits and limitations of these in relation to the task The impact of online collaboration and networking as a means of developing, exchanging and communicating information	Understands: How to search for digital content using appropriate tools and techniques The differences between search tools (operating within and between environments), recognising their benefits and limitations The impact of sharing digital content How the use of different online communication tools can extend reach and enable teamwork and collaboration Where to locate and publish digital content for formal publication purposes and for information exchange purposes, appreciating the differences between the two	Understands: The range of different forms of digital publication and media, the different audiences they are designed for and how they are organised Issues around the popularity of a resource versus its academic quality How digital technologies are providing collaborative tools to create and share knowledge and the implications this has on gathering specific information. The risks of operating in a virtual world and how they can be mitigated The importance of appraising and evaluating results of online searches	Understands: The need to make choices in the use of different technologies to meet specific needs Issues of quality, accuracy, relevance, credibility, format and accessibility relating to digital information How to assess the profile and visibility of digitally published information using analytic functionality and tools The need to be a critical user of digital technologies The importance of citation of digital resources in learning and research contexts	Understands: The need to handle, store and disseminate digital information and data in a responsible and ethical way Issues of plagiarism The principles of citing and referencing digital sources and formats to enable verification The need to keep systematic records of digital sources using relevant technology How technologies can be used to personalise individual and shared digital environments How security profiles can be used to manage levels of interaction	Understands: The need to select a communication approach suitable for the audience Issues around accessibility of digital information, formats and compatibility with accessibility software The importance of online security and privacy How to communicate appropriately online The need to consider the digital self and ones online presence That new technologies allow for information in new ways (blogs, wikis, open access)
Is able to: Recognise the importance of skills in locating, creating managing and sharing information through a variety of digital forms Identify gaps relating to the use, application or development of digital environments and tools Continuously assess how the use of digital content and tools could enhance academic practice Recognise where digital solutions can meet a specific information task or need	Is able to: Identify gaps in knowledge relating to digital tools or content Identify search tools for locating quality digital material Assess different digital formats and select those to meet current need Use new tools and technologies as they become available and evaluate them for suitability Assess how online collaboration can enhance academic practice	Is able to: Identify appropriate online search techniques Remotely access external digital sources in order to extend opportunities for discovery Assess which form(s) of digital media best meets the criteria identified Use different online communication approaches to extend reach Assign meta-data tags to content to enable future discoverability	Is able to: Use a range of digital retrieval tools and technology effectively Access, read and download digital information and data Engage in online collaboration and networking to access and share information	Is able to: Assess the suitability of digital content for the intended audience Assess the quality, accuracy, relevance, credibility, format and accessibility of digital material Read online information critically, taking into account access restrictions Maximise discoverability of own digital material using indexing strategies	Is able to: Use appropriate tools to organise digital content and data (social bookmarking, bibliographic software) Cite and reference electronic sources appropriately Manage digital resources effectively taking account of version control, file storage and record keeping issues Personalise the digital environment according to need	Is able to: Communicate effectively in a digital environment, using appropriate tools, to meet audience needs, taking account of accessibility issues Confidently use the digital media appropriate for presentation Develop an online personal profile using appropriate networks and technologies Stay safe and, if necessary, private in the digital world Select appropriate publication and dissemination outlets to share information

http://www.sconul.ac.uk/sites/default/files/documents/Digital_Lens.pdf

APPENDIX 2: Digital and Information Literacy Competencies for Students and Researchers

A. Library/ICT Induction Core Competencies

Library

- Authenticating to Ulster network using B Number and Network Password
- Library Catalogue – searching for a print and e-book
- Book loan categories and how to avoid fines (include e-payments)
- Request and reserve books
- Accessing electronic journals and e-books
- Renewing material
- Accessing module reading lists
- Subject Guides
- Finding help and using LibChat

ICT

- Accessing University email
- One Drive and use of pen drives
- Accessing BlackBoard.
- Wi-Fi – device connectivity

B. Framework for Minimum Levels of Post-Induction Digital and Information Literacy Competencies.

The suggested minimum levels of digital and information literacy competencies required by students and researchers are outlined below. They are based on SCONUL's 7 Pillars model and are progressive over the whole academic career from undergraduate to postgraduate then to research level.

It is recognised that the technological landscape is constantly evolving; consequently, the framework below is intended as a guide, suitable for interpretation and adaptation to match differing subject demands.

During Year 2, undergraduate students may be offered additional digital and information literacy classes to further embed the competencies developed in Year 1 and an introduction to referencing software and associated topics will also be offered at this stage.

Framework for Minimum Levels of Post-Induction Digital and Information Literacy Competencies.

Stages to Information Literacy	First Year Undergraduate	Final Year Undergraduate /Taught Postgraduate	Researcher/Academic Staff
Recognise and define information need	<ul style="list-style-type: none"> ● Recognise the need to use quality information both digital and print, to support study. ● Know where to ask for help in the library: <ul style="list-style-type: none"> ● At the library information points. ● By contacting the relevant subject librarian. ● Through the library's online help facilities. ● Identify key concepts and relevant keywords that describe the information need. ● Recognise when to move beyond Google. 	<ul style="list-style-type: none"> ● Recognise the need to use a broad range of quality resources across a variety of print and digital media for coursework and dissertation. ● Differentiate between primary and secondary information sources. (Recognise how their use and importance vary with discipline.) ● Identify synonyms, broader and narrower terms and variants. 	<ul style="list-style-type: none"> ● Understand the need to collaborate with librarians to ensure students have access to the full range of high quality academic material both in print and online. ● Able to fully articulate information requirements.
Construct strategies for locating information	<ul style="list-style-type: none"> ● Can select a limited number of appropriate sources to search for information to support their research such as the following digital sources: <ul style="list-style-type: none"> ● Online reading list ● Library catalogue ● Subject guides ● Electronic journals ● USearch ● One or two suitable databases ● Can select appropriate keywords from a reference to search for an item on the catalogue or database. ● Can create a database search strategy using basic search functions e.g.: <ul style="list-style-type: none"> ● Combining search operators (i.e. using <i>and /or</i> connectors) ● Phrase searching ● Can identify when to use different formats of information e.g. books 	<ul style="list-style-type: none"> ● Can select a wide range of appropriate print and digital sources to search for information to support study e.g. <ul style="list-style-type: none"> ● Databases relating to a particular topic. ● USearch (search this effectively). ● Can select appropriate keywords to find information on a particular topic. ● Can employ a good range of search functionalities across a specific subject area such as: <ul style="list-style-type: none"> ● Truncation/Wildcard searching ● Select controlled vocabulary specific to subject ● Select tailored subject terminology to produce focused searches ● Use of proximity searching (e.g. n/5 or w/3) ● Knowing how/when to use controlled vocabulary ● Can recognise the problems of too much or too little information and plan accordingly. 	<ul style="list-style-type: none"> ● Employ complex search strategies across all forms of information to harvest comprehensive sets of references. ● Employ all advanced search functionalities across databases in potentially different subject areas.

	versus journal articles, print or digital.		
Ability to locate and access information	<ul style="list-style-type: none"> • Can access: <ul style="list-style-type: none"> • Online reading lists • Library catalogue • Can carry out a simple search and understand how to use additional features on the library catalogue e.g. filtering to e-books. • Can search USearch and one or two appropriate databases for relevant references. • Can locate and use the library online reading lists. • Know how to use basic services e.g. printing, photocopying, scanning, online reservation service (self-issue and online renewal). • Can source the full-text of a journal article from the library's collections by using: <ul style="list-style-type: none"> • UFind It link in a journals database • USearch • Electric journal catalogue • Journal search option on the library catalogue. • Scanned articles on reading lists through Blackboard • Be able to access subscribed content through Google using built-in link resolvers 	<ul style="list-style-type: none"> • Can access: <ul style="list-style-type: none"> • Relevant individual databases. • USearch. • Print and digital material. • Can search USearch effectively and be fully aware of its limitations. • Can identify key subject resources for the subject area. • Understand the function and limitations of the UFindIt button. • Can select the appropriate authentication method for each electronic resource. • Can save database searches (e.g. using 'My Account' options). • Can analyse the types of specialist information common in the student's discipline e.g. datasets, statistics, archival evidence. • Can evaluate the extent of material required. • Can use the Library's online reusable help for self-directed learning. 	<ul style="list-style-type: none"> • Academic staff can use the University's online reading list system to ensure material is in the library to support their students. • Academic staff understand the library's purchasing practices in relation to books, journals and e-resources with reference to the current <i>Collections and Information Access Policy</i>. • Can search for and access different formats of information, e.g. grey literature, the invisible web and open access materials, ongoing research, and completed research. • Can search systematically across a wide range of resources both within USearch and the native interfaces of databases. • Can source and obtain material beyond local sources through British Library On Demand Secure Electronic Delivery (SED). • Can access material from other libraries through SCONUL and ALCID and make use of the Library Travel Fund. • Can create current awareness strategies and use alerting services such as Table of Contents (e.g. ZETOC), RSS, Twitter, Facebook, blogs and other social media and online digital collaboration tools. • Can access and use academic discussion lists (e.g. JISCmail) and other online forums to discuss and debate information.
Ability to evaluate information	<ul style="list-style-type: none"> • Can recognise whether content is relevant to a research topic. 	<ul style="list-style-type: none"> • Can evaluate whether content is relevant to coursework/dissertation. 	<ul style="list-style-type: none"> • Understand the peer review process and academic publishing models.

	<ul style="list-style-type: none"> • Understand the differences between academic and non-academic sources. • Can note down relevant points. • Can recognise differences in quality of digital sources especially bias and authority of information on the web. • Appreciate the difference between freely available online resources and library databases. • Understand the difference between Google/Google Scholar and Library databases e.g. USearch. 	<ul style="list-style-type: none"> • Critically test information sources with regard to appropriateness, accuracy, quality, reliability, currency, authority and bias. • Can clearly differentiate between peer-reviewed/refereed journals and trade/ popular magazines. • Can redefine a search based on the information already found. • Can use subject-specific critical appraisal evaluation tools as appropriate. 	<ul style="list-style-type: none"> • Recognise when to undertake a cross-search within USearch and a sophisticated search within the native interface of a database. • Understand bibliometrics and altmetrics, citation searching, be aware of SCIVAL and how to set up an ORCID ID and Google Scholar profile. • Can find and interpret journal impact factors, publication counts and H-indexes. • Understands the function, academic standing and limitations of OA repositories. • Be aware and able to identify predatory journals and publishers.
Ability to organise and apply information	<ul style="list-style-type: none"> • Has a basic understanding of plagiarism. • Is aware of <i>Turnitin</i> • Can note down complete references for use in a bibliography. • Can cite ideas obtained from others in a text including the use of direct quotes where appropriate. • Can create bibliographies of print and digital sources manually following a referencing standard relevant to the student's discipline. • Can process several pieces of information and synthesise to form a reasoned argument. • Can use appropriate tools to manage information, e.g. social bookmarking and mind mapping tools and One Drive cloud storage. 	<ul style="list-style-type: none"> • Can fully develop and evidence their own ideas and opinions on a topic based on wide reading of quality sources. • Can select and download references for use in academic work. • Can explain the ethics of citation and the need for bibliographies and referencing. • Know how to use <i>RefWorks</i> to manage references and create a bibliography. • Understand the intricacies of plagiarism and how to avoid it (including the use of <i>Turnitin</i> software as appropriate). • Understand the nature of copyright – fair use and copyright exceptions. • Recognise the social and legal issues associated with using information and data (e.g. intellectual property). • Recognise ethics of sharing information digitally. 	<ul style="list-style-type: none"> • Has extensive knowledge of how to use <i>RefWorks</i> in managing, manipulating and sharing bibliographic references. • Can build on existing knowledge and progress into new areas of knowledge. • Can complete research through identifying and collaborating with other researchers working in a similar field of study using digital and other tools e.g. Researchgate, Twitter and LinkedIn. • Can communicate research findings ethically through written publication and also, for example, at appropriate conferences. • Has in-depth understanding of copyright issues and the University's policy on intellectual property rights. • Understand open access issues and how to get research published. • Can upload new research to the Ulster Repository.

	<ul style="list-style-type: none">• Has an understanding of web safety.		<ul style="list-style-type: none">• Can compare dissemination practices in their discipline across a range of publication platforms (preprint repositories, blogs, bibliographic sharing services etc.).
--	---	--	--

Case Study 1

Developing Digital and Information Literacy Skills in Social Policy

Social Science subject librarians provide library support for new students in Social Policy by running a workshop which forms part of their Social Policy Skills and Analysis first semester module. The module aims to help students develop practical skills and skills in policy analysis that will assist their academic and personal development as they progress through their studies.

The library workshop in turn aims to contribute to the development of the students as independent learners. It focuses on developing students' skills in finding high quality scholarly literature, which they can then use to enhance their coursework. The workshop takes place in week three of semester one and builds on an initial library and ICT induction. It is designed and delivered by the Social Science subject librarians working closely with academic staff and takes the form of a practical hands on session, with guided searching based on a subject specific tailored worksheet. By the end of the workshop students can find their reading lists online in Blackboard, search the library catalogue for books, find key electronic journals in their subject area and undertake USearch and basic database searching.

Students are assessed on their newly acquired digital and information literacy skills in a Blackboard Learn test developed by the Module Coordinator in conjunction with the subject librarians.

One to one support for students who find difficulty developing the requisite information literacy skills for success in their modules is available from the library Social Sciences team at all times.

Joanne Knox, Assistant Librarian, Faculty of Social Sciences

Case Study 2: Developing Digital and Information Literacy Skills in Life & Health Sciences

For a number of years, as part of the module BMS108 (Professional Skills) on the Coleraine campus, the subject librarians deliver a session at around Week 6 covering essential skills for navigating the Library's key resources. First year students from Biomedical Sciences, Biology, Food and Nutrition, Human Nutrition and Dietetics are included.

The main aim of the session is to help ensure students know how to search for and locate reading list material and be familiar with Library services, particularly online guidance materials.

Prior to the class, the subject librarians compile several sets of questions. The quiz covers key aspects of locating certain types of materials. There are several versions of the quiz for each student cohort – considerable time is invested in the development of these. The questions and answers are forwarded to the academic staff in advance, and the students are given a question sheet on the day. They are required to complete the quiz after the session and return it to their Study Skills tutor for marking within a set period of time.

The session covers basic guidance - specific and campus-based. During the class, the students are guided towards resources which will help them to successfully complete their quiz. Web-based teaching tools are used throughout the sessions to engage students and facilitate learning outcomes.



While this library assessment is formative rather than summative it allows academic staff to assess how the students have engaged with the Library. Feedback provided by the academic staff has been very positive with reports from students stating their increased confidence in using the Library and in frequenting it more often.

Sarah Smyth, Assistant Librarian, Faculty of Life and Health Science

Case Study 3

Developing Digital and Information Literacy Skills in the Ulster University Business School (UUBS)

Academic and Career Employability (ACE) is a module offered by the Department of International Business at Magee, and taken by almost all 1st year business undergraduate students in Semester 1. It is designed to provide students with a foundation in the core learning tools and skills that they will need at university and when they graduate.

The library contribution to the module is written into the structure of the module and begins with the basic library & ICT Induction in week one. In the weeks following this introductory session three subject specific library classes gradually build up the students' abilities. All sessions are provided by the UBS subject assistant librarian, with the assistance of other library staff as necessary. Each of the follow-up sessions covers a specific aspect of library & information skills, ranging from recognising reference types (so that students choose the appropriate resource to find what they need); using the library catalogue, efficient use of e-resources such as e-books and electronic journals; the identification of quality academic sources (and why Google is not a substitute for these); the creation of effective database search strategies.

Every session includes one or more practical elements such as short exercises and worksheets. Turning Point, an interactive response system, is also used during the classes. It helps break up a lecture style presentation and functions as an icebreaker and encourages student discussion and interaction. It also measures initial levels of knowledge and (at the end of the session) subsequent levels of understanding or retention of the information presented.

The final session is a practical workshop session which is focused on retrieving relevant information for the module assignment. In the 2015/16 academic year the assignment topic related to the issue of plagiarism and the importance of academic referencing. This helps new students understand *why* it is important they acquire the essential information literacy skills.

Janice McQuilkin, Assistant Librarian, Ulster University Business School