Thematic Update 2019:

Technology in Learning and Teaching

Introduction

As part of the ELIR method, QAA Scotland produces regular Thematic Reports to support learning from the outcomes of individual ELIR reports. The purpose of the Thematic Reports is to inform future development work in the sector, and to inform future QAA activity including work carried out in collaboration with the Scottish Higher Education Enhancement Committee (SHEEC).

In 2017, we produced a [Thematic Report on technology in learning and teaching](#). This report provides an overview of sector activity in this area as at the beginning of the 2019-20 academic session. This analysis is based on the Technical Reports published for the first seven reviews of the ELIR 4 cycle (Queen Margaret University, Royal Conservatoire of Scotland, University of Aberdeen, University of Dundee, University of Strathclyde, University of Glasgow and Scotland's Rural College).

Key points

- **Strategy** - It is clear from the ELIR 4 reports published to date that technology is a critical element of activity. This is reflected in high-level digital strategies, which are often linked closely to learning and teaching strategies.
- **Purpose** - Among other things, institutions use technological solutions to: support student transitions; provide information; enhance learning; manage assessment, feedback, and student progress; support academic skills development; provide mental health support; support accessibility, equality, diversity, and inclusion; and enhance student feedback and representation.
- **Staff development** - These technological solutions can only be effective if staff feel that they are competent users. There is a range of institutional approaches to staff development.
- **Consistency** - As technologies develop, practice within an institution can become increasingly divergent. It can therefore be difficult to ensure consistency.
- **Virtual learning environments (VLEs)** - This technology continues to be high on institutional agendas. Consistency of practice can be particularly challenging in relation to VLEs.
- **Online distance learning (ODL)** - Technologies that facilitate ODL have been used increasingly to deliver distance learning programmes. Some institutions seeking to grow their student numbers are increasing the number of ODL programmes they offer. This is resulting in a change in student demographics, with a larger proportion of ODL students than would have been typical in the past. Many of these ODL students are postgraduate taught (PGT) students, resulting in a further demographic shift. A number of challenges seem to disproportionately affect ODL students: these include student feedback, representation, engagement and community.
- **Lecture recording** - This is emerging as a key area of activity.

Areas covered in the 2017 Thematic Report

Institutional strategies relating to technology (and their implementation)

Queen Margaret University's (QMU) Student Experience Strategy (SES), approved in 2015, focuses on several priority areas for enhancement, including technology enhanced learning. The University has undertaken a major programme of work to enhance its digital infrastructure in response to changes in the technological needs of staff and students, and has developed a Digital Development Road-Map of enhancements scheduled for completion.

At the time of its ELIR, the Royal Conservatoire of Scotland (RCS) had created an IT Governance Committee and was about to review its Digital Technical Strategy (2016-18).

The University of Aberdeen's Digital Strategy, approved in 2016, aims to enhance the student learning environment through the implementation of multiple delivery methods, the development of technology-enhanced learning spaces, optimising the use of the virtual learning environment (VLE) (MyAberdeen) and making more effective use of data.

The University of Dundee's Strategy to 2022 has four interdisciplinary themes, including innovating technological solutions to tomorrow's problems.

The University of Glasgow's Learning and Teaching Strategy (LTS), introduced in 2014, was reviewed in 2017-18, resulting in closer alignment with its Digital Learning Strategy.

The vision of the University of Strathclyde is that of a leading international technological university. The University has a corresponding strategic aim to provide a range of high-quality, technology-rich learning spaces, and the institution's commitment to this aim is reflected in a significant capital investment programme. Strathclyde's Learner Experience Framework (LEF) outlines six themes, with key metrics, to enhance the student experience, and these include measures for use of digital technologies. The institution has developed its digital systems since its 2014 ELIR, and has been working towards developing a digital infrastructure that enables efficient evaluation and analysis of subsequent impact.

Scotland's Rural College (SRUC) has developed a digital strategy.

Virtual learning environments (VLEs)

QMU's VLE, The Hub, hosts all programmes delivered by the University, including some delivered in collaboration with external partners. The VLE also acts as a repository for information and support. The institution recognises there remains variability in how staff use learning technologies to support their pedagogical practice, leading to inconsistency across the University. In response, it has launched an online induction module to support staff and students in using the VLE, and has developed templates for use by academic staff to support a consistent user experience.

RCS has used its current VLE for more than a decade, but at the time of its ELIR its use was underdeveloped and inconsistent, with some modules containing a great deal of information, some being empty, and others redirecting students to the programme handbooks in the student portal. It was recommended that RCS ensure there is more consistent use of learning technologies, including the VLE, and consider how these could be used to promote engagement and to facilitate sharing key information between staff and students.

The University of Aberdeen has made enhancements to its VLE, MyAberdeen, which hosts a wide range of information to students, though it recognises the need for further development

to ensure accessibility and inclusivity of materials. There are also plans to develop guidance to encourage good practice and support parity of student experience.

It was recommended that the University of Dundee develops similar guidance, particularly given that the institution uses two VLEs - one for the Medical School and one for the rest of the institution.

The University of Glasgow uses its VLE to support induction activity and academic skills development (see below).

The University of Strathclyde has invested in its VLE, Myplace, a development welcomed by students.

Students at SRUC expressed dissatisfaction with the quality of some of the VLE materials, and the institution recognised that, while they promote good practice in the use of the VLE, the experience of students remains variable. There were also plans to develop online training materials for class representatives via the VLE.

Use of technology to support student transitions

The impact of the previous Enhancement Theme, Student Transitions (2014-17), is evident in some of the technological developments made by institutions in recent years.

Transitions into university (induction)

The University of Aberdeen offers a range of online resources to support transition into the institution, including Maths and English access modules for school pupils, a Massive Open Online Courses (MOOCs) in Medical Sciences, and a suite of online materials for all incoming students.

As indicated above, the University of Glasgow uses its VLE to support induction activity, and acknowledges that this is a complex activity, as it applies to a number of different degree structures. Glasgow's VLE is also used to support transition activity for articulating Higher National Certificate students studying at further education colleges.

The University of Strathclyde's 'We Are Strathclyde' course is designed to support first-year undergraduate students arriving at the institution to aid transition into university life.

At SRUC, new postgraduate research (PGR) students receive an induction from their awarding institution, and complete online induction modules provided by SRUC.

Transitions out of university (employability)

The University of Aberdeen has a compulsory non-credit-bearing level one Online Professional Skills course, a skills development site 'Achieve', and a new 'Achieve+' site for postgraduate taught students. PGR students at the institution have created an online postgraduate interdisciplinary journal called 'Granite'.

The University of Dundee has developed LIVE Smart and LEARN Smart, two online resources that assist with three stages of transition, from entry to thinking about employment.

Use of technology to provide information

RCS has a portal, with separate areas for staff and students, that is clearly laid out and contains a lot of documentation, though the institution is working to make it more easily navigable.

The University of Aberdeen has enhanced its course catalogue and online course choice system (MyCurriculum). The institution also offers a personalised timetabling system (MyTimetable) and Webchat facility.

The University of Strathclyde has a mobile app, with a range of features including personalised class timetables, exam results, library search, coursework deadlines, room bookings and PC availability. The app is widely used by students.

Technology enhanced learning

The University of Aberdeen is making increasing use of video and web conferencing to support learning and teaching, has re-branded its online portal (Student Hub), and introduced two Digitally-Enhanced Learning Spaces (DELS), created to support collaborative and distributed learning.

The University of Dundee has invested in a substantial refurbishment of its Library and Learning Centre, a project designed in consultation with students that embraces the latest technology.

The University of Glasgow is also making significant investment in infrastructure. The James McCune Smith Learning Hub, scheduled to open in 2019-20, is intended to provide flexible and technology enhanced teaching and learning spaces. The institution has also created Technology Enhanced Active Learning (TEAL) spaces, supported by high density Wi-Fi, upgrades to AV/IT and collaboration software.

At the University of Strathclyde, use of digital technologies and the development and delivery of online courses have permeated across the University's portfolio of provision. Students can also use the aforementioned app to book study spaces and report noise in the library.

Use of technology to manage assessment, feedback, and student progress

A fully automated Electronic Management of Assessment (EMA) system is in operation at Queen Margaret University. This system supports electronic submission, marking and feedback, and is viewed by the University as key to enhancing to its assessment and feedback practices. Collaborative partners are also expected to adopt EMA (or an equivalent process). The system offers value to staff and students, for example by offering the potential to provide more personalised feedback.

RCS uses an online Student Contract to allow both staff and students to track the student's progress. The contract is a single online platform where students can view the modules on which they are enrolled, and see both marks and feedback from completed assignments.

At the University of Strathclyde, monitoring of PGR progression and supervision has been strengthened with formal reporting online providing a facility for tracking key reporting points.

Use of technology to support academic skills development

The University of Aberdeen has a Learner's Toolkit that offers comprehensive support to students and staff in digital skills, University systems and software, and study skills. The Toolkit is widely used by students.

The University of Dundee's Academic Skills Centre (ASC) works closely with the Centre for Technology & Innovation in Learning and school staff to provide tailored and more generic workshops and courses for students in academic and information technology skills. The ASC also offers online versions of some of its courses, including the four-day event, Gateway to Postgraduate Study, focusing on academic culture, research skills and writing.

The University of Glasgow uses its VLE to test students' writing skills, and also to provide online writing courses depending on students' specific needs.

Use of technology for broader student support

Institutions are increasingly using the online environment to provide mental health support to students. Examples include RCS's Big White Wall, the University of Aberdeen's CluedUp, and online services at the University of Glasgow and the University of Strathclyde. Students on the University of Aberdeen's campus in Doha can access the Counselling Service in Aberdeen by remote digital connection.

RCS was encouraged to ensure there is more consistent use of learning technologies across the curriculum to enhance the learning experience of both campus-based students and distance learners.

The University of Strathclyde also has a Mobility Online tool, used by multiple professional services for supporting students while on mobility.

Use of technology to support accessibility, equality, diversity, and inclusion

Institutions are increasingly using the online environment to provide training in equality, diversity and inclusion to students (University of Strathclyde) and staff (University of Dundee; SRUC).

SRUC's online student record system is widely and effectively used by staff to access summary student support needs information, so any adjustments required can be made to support students with their learning and assessment.

Use of technology for student feedback and representation

At the University of Aberdeen, approaches to gathering student feedback include surveys, online discussion groups and social media.

At the University of Dundee, through the Student Representative Council's online portal, students are able to provide anonymous feedback.

The University of Glasgow's MyClassReps system offers online discussion and sharing of information, for example, student-staff consultative committee minutes, and summaries of issues can be posted on the VLE to close the feedback loop.

At the University of Strathclyde, a consistent approach to class evaluation has been piloted in the Faculty of Engineering using an online evaluation system.

Where institutional systems for feedback and representation are not effective, students establish their own online environments: students at SRUC have set up social media networks to overcome shortcomings in communication mechanisms through the VLE.

Staff and student skills development in the use of technology

At QMU, the Technology Enhanced Learning team (based in the Centre for Academic Practice) provides support to both staff and students in relation to the use of learning technologies, and work to promote positive approaches and good practice in the use of technology enhanced learning. QMU also delivers a Postgraduate Certificate in Professional and Higher Education online, and has online systems to manage staff development more broadly.

The University of Aberdeen's Centre for Academic Development (CAD) leads on staff development around the use of learning technologies and pedagogy, promoting good practice in this area and offering student support. CAD has developed a five-week course to support staff with online course development. Tutors can receive training in online delivery and student support from an external partner organisation. The University also uses online systems for staff development in a broader sense, which has proved to be of particular benefit to staff on its Doha campus.

The University of Dundee's Academic Skills Centre (ASC) works with the University's Centre for Technology and Innovation in Learning to provide bespoke training, while initiatives such as Digital January, Digital Friday, the 'APPvent calendar', the 'Digital Dundee' column in the University newsletter, and the Distance Learning Forum help to maintain staff (and student) engagement. The Digital Literacies Community of Practice includes academic staff as well as staff from key professional services such as the Library and Learning Centre and Student Services.

At the University of Glasgow, support for digital education is provided by the Learning Enhancement and Academic Development Service (LEADS), with Academic and Digital Development Advisors assigned to support particular colleges. There has been significant investment in the development of blended and online learning, including a framework for supporting understanding of student and staff transitions into blended/online learning and resources to help staff developing online provision. An Online Distance Learning Board, convened by the Assistant Vice-Principal (Digital Education), has been established to foster effective communication and coordination of activity across the institution.

At the University of Strathclyde, staff development is aligned with institutional strategy. In the area of digital education, this includes support in making effective use of the enhanced physical and virtual learning environment through the Strathclyde Teaching Excellence Programme (STEP) and the Teaching and Learning Online (TALON) course, which can be formally incorporated into the PGCert. In developing its approach to digital education, the University has established a collaborative, cross-disciplinary way of working with resource and expertise shared between faculties and Student Experience and Enhancement Services. This has resulted in an ecosystem that allows the institution to benefit widely from its effective use of digital technologies and online resources.

The University of Glasgow and the University of Strathclyde have both found that offering MOOCs has contributed to establishing a cohort of staff who are actively engaged in teaching in an online space, which can in turn benefit the whole institutional portfolio.

SRUC has invested in a collaborative learning space at its Barony campus which provides staff with the opportunity to develop their skills in the use of these new technologies to support learning, teaching and assessment. The institution supports staff delivering distance learning programmes through the VLE, with the help of e-learning managers, an Education Manual, and additional guidance in the VLE itself. The University of Dundee has a Digital Literacies Framework, introduced in 2015, to provide the baseline skills and behaviours for supporting learning in the workplace and at university. The aforementioned Digital January, Digital Friday, and 'APPvent calendar' are intended to engage students as well as staff.

At RCS, staff and students place less emphasis on standard educational technologies and significantly more on the use of industry-standard software, especially in music, theatre design and production, and film.

SRUC recognises the need to offer practical working environments, and remains committed to making ongoing investment in technology, learning spaces and staff development to ensure the student experience continues to keep pace with innovations in technology and advances in pedagogical practice.

Emerging areas of interest

Technology to support online distance learning (ODL); resultant changes in student demographics

The University of Aberdeen has what it describes as an 'ambitious' target to double its PGT population by 2020, anticipating this growth will come primarily from overseas markets and through the expansion of online provision. The institution recognises that this will require further investment in online systems such as the VLE.

The number of ODL programmes offered at the University of Glasgow has increased significantly from three to 24 in a four-year period. Its Blended and Online Learning Development (BOLD) initiative, which has examined how best to develop and expand ODL, has also highlighted the need for staff to develop their capabilities in writing online teaching material, provide more support for their students, and to make much wider use of technology-enhanced learning across campus. The University has established a framework for supporting student and staff transitions into the blended and online learning environment, and a number of resources have been developed as a result. These include a multimedia resource to motivate and inspire staff to become involved in developing online and blended learning, and the introduction of an induction course to assist students transitioning into blended learning and online learning.

The University of Dundee also plans to expand ODL provision. Its 'Learning Spaces' site hosts the Distance Learning Forum, which meets eight times a year (four times on campus and four times online) to showcase, share, and develop good practice.

The University of Strathclyde is planning to expand PGT numbers through ODL provision. As noted elsewhere in this report, the University has a collaborative approach towards the development and delivery of online courses that has transformed the way in which expertise and resources are shared across the University. As a result, the University's use of digital technologies and online resources has acted as a catalyst for enhancement across its portfolio of provision. The University has an Online Course and Class Approval Process to promote a consistent approach to quality.

At QMU, fully online and blended induction programmes have been developed to support PGT students who are not based on campus. Some programmes have adopted the use of online discussion forums as means of holding asynchronous student-staff consultative committee meetings and are using online platforms to host synchronous class meetings. The University has also taken steps to ensure those studying at a distance are able to access equivalent support during their studies. Information to students is increasingly been made available online, with significant enhancement to the University's website and increased use of the VLE (the Hub) to support communication with students studying at a distance. Personal Academic Tutors are also making increased use of video technologies, such as Skype, to conduct meetings with students. Collaborative partners are expected to provide a level of student support that is equivalent, but not identical, to that at the University.

The development of personal tutoring is a live issue at the University of Aberdeen, where it was recommended that the existing system be extended to PGT students, including those studying online. The University has made significant advances in its online delivery, in terms of the quality and scalability of provision.

RCS uses a bespoke system for remote music teaching, particularly for pre-HE students studying in remote rural areas. A range of resources are used for the MEd programme.

It was recommended that SRUC reviews the needs and experience of ODL students to ensure they are effectively supported. This would include consideration of pedagogical approaches for ODL, minimum expectations for online materials, student induction, IT support, library access, and the use of video conferencing.

A number of challenges seem to disproportionately affect ODL students: these include student feedback, representation, engagement and community. These issues have arisen at the University of Aberdeen, the University of Dundee, and the University of Strathclyde. Institutions are working closely with their students' associations, and sparqs (student partnerships in quality Scotland, to address these challenges.

Lecture recording

The University of Aberdeen has introduced a Lecture Capture Policy, and staff have spoken positively of this policy, describing it as mainstreaming accessibility in teaching and having a positive impact on student learning. It has also been viewed positively by students. The University is investigating the roll-out of lecture recording to students on the Doha campus, but faces challenges due to contextual and cultural differences and issues of consent.

Students of the University of Glasgow studying at the Singapore Institute of Technology (SIT) value the availability of online lecture material from the associated programmes delivered in Glasgow.

The University of Strathclyde is piloting projects relating to the management of digital assessment and lecture recording.