

Mobile Innovation: Using QR Codes to support practical individual learning projects

*Providing students with flexible ways to engage
with learning materials*

The aim

This module faced the challenge of helping students develop real workshop/studio/laboratory-based competencies to students with varying degrees of skills. The students needed to be able to revisit teaching and learning materials, initially delivered in class, at a time and in a place that suited them. The lecturer was looking for a medium that would take students directly to the information that they required when they needed it and allow them to make more effective use of the increasingly 'everyday' technologies in their lives, such as mobile phones, to support their studies.

Benefits

- Provides students with flexible ways to engage with learning materials
- Increases learner autonomy and accommodates a variety of learning and assessment styles
- Responds to ways in which contemporary students choose to learn
- Scaffolds learning to provide differentiated, progressive learning experiences that meet individual student needs
- Extends interaction beyond the classroom

The approach

The module leader developed a range of online resources such as screencast video tutorials, skills based videos, information packs, etc. The challenge was to create learning pathways that allowed learners to access this information as quickly and efficiently as possible.

The initial idea was to use QR codes to link to these resources for viewing on mobile devices at the point of use. A QR code - abbreviated from Quick Response code, is a type of barcode first designed to track vehicle manufacturing activity in Japan. They are now widely used to provide concise visual representations of a small body of text or website URL which, once decoded on a mobile device, will link directly to a website or other textual/visual information.

QR codes were created using QR creators such as Kaywa, i-nigma, and QuickMark. These codes were placed online, printed in handouts, and put as labels directly on relevant lab equipment. Students with smart mobile devices could then download a free QR code app to access the linked resources.

After a successful trial with groups of undergraduate students and visiting teachers on CPD courses, further applications of QR codes were then explored including:

- providing focused learning pathways for embedding into hard copy or Blackboard/VLE
- linking websites to create grouped information to support a given topic
- providing additional information about items at an exhibition (e.g. Creative Spark)
- providing links to course prospectuses for visitors to open days

The outcome

The tutor found that creating and reading QR codes was a relatively straightforward process. The flexibility of the medium to provide online access in a variety of contexts quickly became apparent. Students' opinions and online usage statistics indicated that the approach had been successful in providing them with mobile learning opportunities both within and beyond the confines of the university.

A [poster is available](#) giving examples of the applications of QR codes to support teaching and learning. These included:

- giving students flexible access to learning resources (e.g. screencasts of CAD tutorials), so that students could access these when and where they are needed, on a need to know basis
- providing a deeper audio-visual dimension to visual displays of student work, – visitors to the exhibition accessed videos of students talking about their projects via QR codes
- linking to more detailed information about a product or process - e.g. links to student blogs in which they have made a record of their developing capability in their practical skills.

Profile

Tutor name:

John Lee

Faculty:

Arts, Communication,
Engineering & Sciences

Size of cohort:

Medium (30-70 students)

Technologies used:

QR Codes, smart mobile devices

If you would like your e-learning practice captured and shared in a similar case study, please contact Brian Irwin within Quality Enhancement and Student Success.

Future development

Colleagues have seen the value of the medium as a means of providing instant access to online information in a variety of contexts. As a subject group, we will continue to explore how QR codes might provide other opportunities to share information with students in innovative ways. Ideas already mooted include:

- creating an information trail - for example as an induction exercise
- providing an overview of roles and responsibilities in groups/organisations
- providing video clips of classes, workshops and studios in action for open days
- linking to online/audio feedback
- use of colour QR coding to demarcate learning materials - either in terms of topic or level
- combining descriptive images or text within the QR codes
- creation of QR codes by students
- supporting group activities with bespoke information tailored to collaborative tasks
- supporting administration of field trips (maps/schedules etc)

Recommendations

The module leader recommends that others use QR codes to provide additional, timely and flexible ways to access content in teaching and learning, whether this is third party content, or produced by tutors or students themselves.

However don't assume that everyone has the technology, or the inclination to use this information pathway, so use QR codes only as part of an inclusive range of information-giving strategies available to students.