**University of Sunderland**

Wooff, David and McLain, M (2015) Educational use of QR Codes. In: 2015 SOLSTICE eLearning Conference Learning and Teaching in Higher Education: Effective Practices, 4th-5th June 2015, Edge Hill University.

**Usage guidelines**

# The Educational use of QR Codes.

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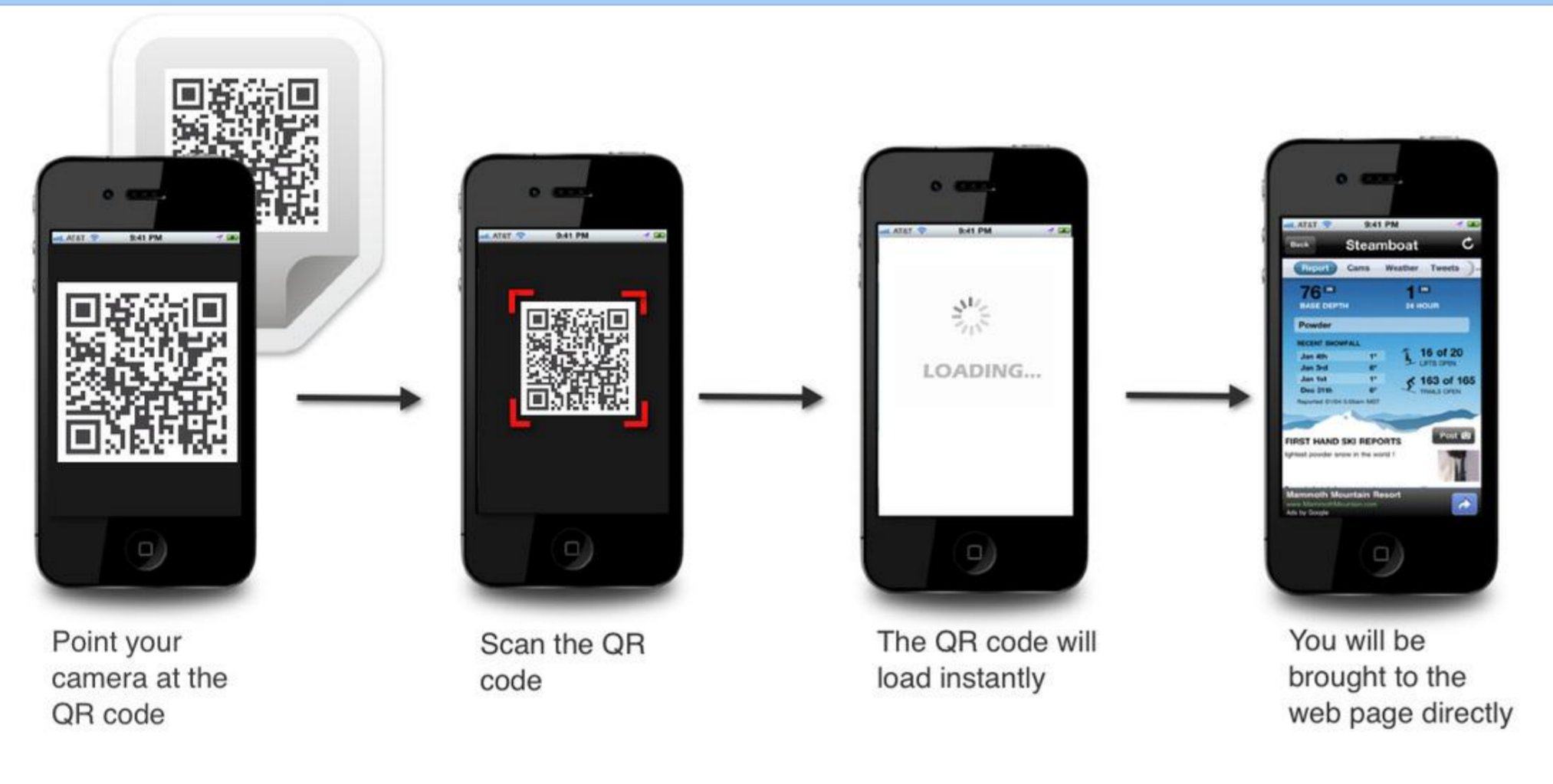**Faculty of Education, Edge Hill University, Ormskirk, Lancashire L39 4QP**

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## Abstract

Quick Response (QR) Codes were developed in 1994 by a company called Denso-Wave looking for an alternative to barcodes for the Toyota motor corporation. They contain significantly more information than barcodes and can be read and decoded by almost any mobile device with a scanner or camera function. In a little over twenty years they have become part of everyday life, from appearing on railway tickets in China, to bank notes in Nigeria and even part of gravestones in Japan! The revolution has not stopped there and they can frequently be seen in classrooms and lecture theatres across continents.

This poster draws together the experiences of a significant number of undergraduate trainee teachers in their journey to use and develop QR Codes in classrooms as part of their initial teacher training. Initially based in the secondary education (11 – 16years old) sector in England, it also looks at the work being undertaken that uses QR Codes to support these trainees whilst they are studying in Higher Education in pursuit of their professional qualification.

Problems observed in practice with QR codes tend to be linked to a lack of wifi signal or the site (if an online resource is being used) being unavailable. There is also a clear access problem with respect to hardware availability both in schools with regard to limitations placed on settings through fiscal management and budget limitations, and in Higher and Further Education where such hardware is self financed by students themselves.

Point your camera at the QR code

Scan the QR code

The QR code will load instantly

You will be brought to the web page directly

## Method and Application

Generating QR codes is very simple, there are many QR Code generators freely available online, a simple internet search reveals a myriad of hits leading to suitable programs that can be used. QR codes can be used to point an electronic device towards a webpage, a youtube™ video clip, a blog or a picture. They can be used to directly link to email addresses or simply to reveal text on the screen of the reading device.

QR codes can be printed in colour, or with embedded images, and they still work with around 25% damage to the actual QR code itself. Applications are far and wide in the commercial world; revealing ingredients on food products, promotional offers on electronic goods, or they can even be used for boarding passes on airlines. So, how can they be used effectively in education? The work illustrated here shows some of the ways it can (and has) been used effectively within teacher education.

School Art Exhibition with QR Code Links to Pupil Blogs

## Examples of Work Undertaken

**Use by Trainee Teachers:**
Trainee teachers have been using QR Codes in their own practice in a variety of ways, these include:
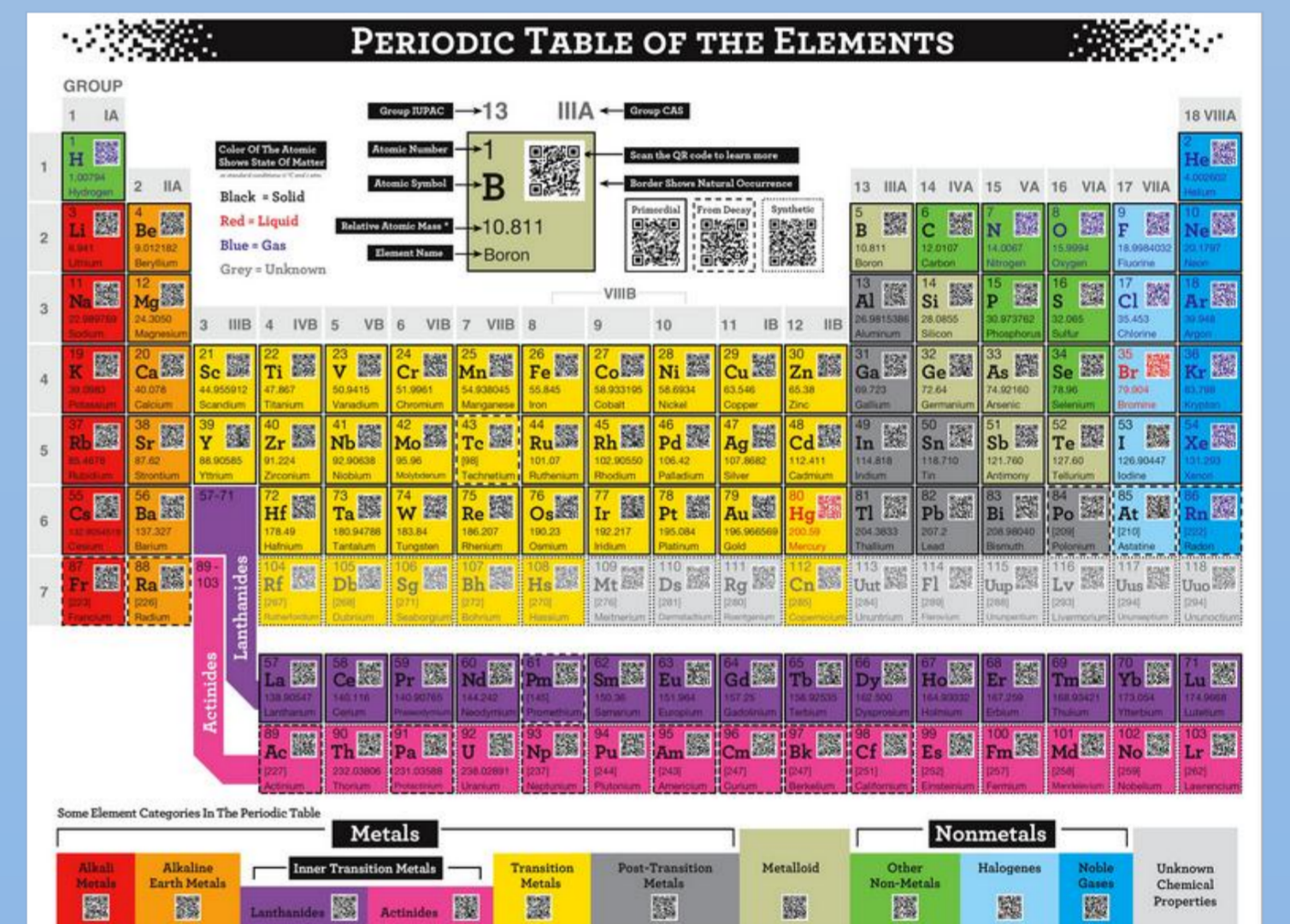
- Linking to webpages for home work,
- Hints and tips on handouts (See Right),
- Enhancing posters and teaching aids,
- Pointing students towards blogs,
- Providing text in a second language to support pupils who's first language is not English,
- Enabling pupils to access audio recordings of instructions for recapitulation purposes,
- Sign posting parents to parts of the school website
- Sending digital letters and reminders home,
- Treasure hunt activities to familiarise pupils with the school / department,
- Self help sheets for PE activities linking to videos illustrating exemplar moves and activities,
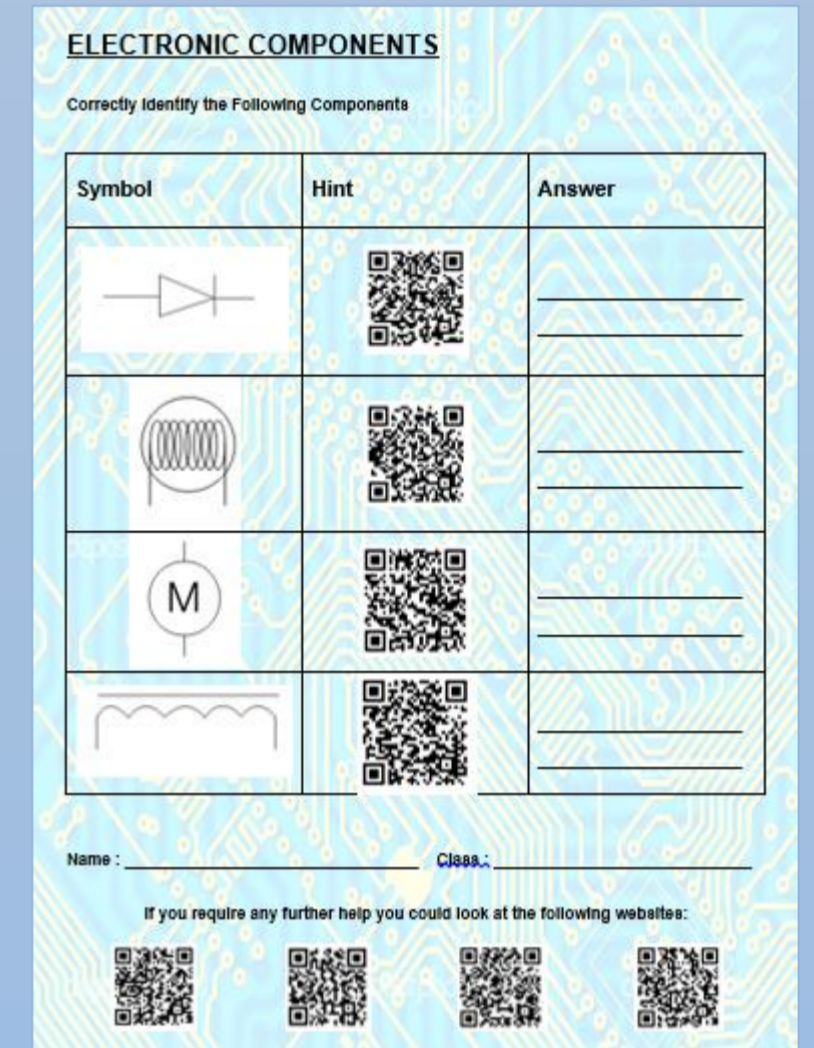
These are some of the examples used, although others exist including excellent poster resources based around the periodic table of elements (see below) and electronic circuit symbols.

**Use with Trainee Teachers:**

Lecturers have been using QR codes to provide links to blogs, videos and further links on VLE's to support and supplement lecture notes. Additionally, trainees have used them to include video clips in their module work for submission for assessment and interactive elements in electronic portfolios.

## Useful Links

**QR Code Generators**
http://www.qrstuff.com/
http://www.qr-code-generator.com/
http://goqr.me/
https://qrcode.kaywa.com/
https://www.unitag.io/qrcode

**QR Code Readers**
http://www.beetagg.com/en/beetagg-qr-reader/
http://webqr.com/
https://scan.me/download

Images sourced from google images, or generated by the author's from their own work.