Utilising Technology to Teach KS4 and KS5 Geography

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An electronic copy of this handout with live links can be downloaded from this link or from the QR code opposite. [http://bit.do/utilisingtechnologyingeography](http://bit.do/utilisingtechnologyingeography)

The handout provides links to all sites and examples discussed during the talk as well as some extra links and ideas that involve utilising technology to enhance the teaching and learning of geography.

Central Platforms for providing Online Learning Hubs

Example of our Centralised Online Geography Learning Hub at St Ivo School.

[www.geobytes.org.uk](http://www.geobytes.org.uk)

At St Ivo we have developed a department website as our online learning hub which centralises all of resources and communication with students and parents. It is includes links and feeds to our social media accounts as well as direct links to our online learning resources with the idea being that there is a ‘one-stop’ shop platform for the department

Schoology – Learning Management System

[https://www.schoology.com/](https://www.schoology.com/)

Schoology is a learning management system which is simple to use on any device (with apps available) and it is very easy to use by both staff and students. Whilst there is a paid for version the basic Schoology package ([https://www.schoology.com/k-12/packages/basic](https://www.schoology.com/k-12/packages/basic)) is free.
Using Schoology Courses to support KS4 and KS5
Schoology courses provide an ‘online classroom’ area – these are what our department have used to provide online support and encourage independent learning amongst our GCSE and A Level students. Course materials can be shared, and updates given. Through the notifications settings students can be notified when updates are made which provides a really useful way of communicating with exam cohorts as a whole.

Once a course has been set up, you simply share the unique course access code with your students so that they can access.

As a code is required you control who can access this area. There is also a course analytics function which enables you to see how long members have spent online – useful for when trying to identify students who are utilising materials for revision!

Schoology also has a “Groups” function the aim of this is to allow people to connect with people locally and worldwide which enables collaboration, sharing of materials etc.

With the introduction of the new specifications Schoology Groups are currently being well used by Geography teachers across the country to share resources and good practice and ask questions or discuss concerns. These groups are proving to be a great collaborative resource, providing an opportunity for Geography teachers to network with others, for example there are now over 3,800 members in the AQA group with many lesson resources and ideas being shared.

Once you have signed up to Schoology you can use access codes to join up to groups (the codes for some of the groups that I am aware of are shared below).

Schoology Groups for Geography Teachers:

KS3
KS3 Schoology Geography Group – access code QMQNZ-878GG

GCSE Groups
AQA GCSE Geography Schoology Group – access code – CKHJ6-XDHM4
Edexcel GCSE A Geography Schoology Group – access code – V2NWD-9H3QN
Eduqas B GCSE Geography Schoology Group – access code – 4N8QH-5D2QP
OCR Geography A Geography Schoology Group – access code - JXK62-XM68J
A Level Groups
AQA A Level Geography Schoology Group – access code - KFM9X-X3529
OCR A Level Geography Schoology Group – access code – SHDJC-H85BS
Edexcel A Level Geography Schoology Group – access code - R9JDK-T5J8C

There are also a number of very active facebook groups for the different specifications providing an online support network for geography teachers.

Other Learning Management Systems (Online Learning tools):
Edmodo: https://www.edmodo.com/
Google Classroom: https://edu.google.com/k-12-solutions/classroom/?modal_active=none

USE OF SOCIAL MEDIA IN TEACHING AND LEARNING

Twitter

Department accounts used with students:

Our department use twitter for a variety of purposes, our main account @StIvoGeography is used to share general geographical news stories to inspire, reminders for students, promote and share examples of good student work, celebrate success, promote the department etc. Our protected KSS A level account is used in particular to encourage students to read around the subject by providing frequent links to relevant news articles signposted to where they fit into the curriculum. Our use of twitter fits in with and follows the school’s policy on the use of social media.

Examples of Geography Department Twitter Accounts:
St Ivo Geography Department @StivoGeographers
John Colet Geography Department @JCSGeography
King’s Geography @KSGGeog
Westonbirt@geog @westonbirtgeog
Oundle Geography @oudlegeog
FHS Geography Dept @FHSGeographers
Sam Whitbread Geography @SamWhitGeog
Speyside HS Geog @speysidegeog
Why use twitter in education and how to begin?


10 steps to creating the perfect educational twitter account http://mrkempnz.com/2014/09/10-steps-to-creating-the-perfect-educational-twitter-account.html


The beginners guide to twitter http://michaelhyatt.com/the-beginners-guide-to-twitter.html

General links supporting the use of Twitter in Education http://www.pearltrees.com/robgeog/using-twitter-education/id9104746

100 Ways to teach with Twitter http://www.emergingedtech.com/2010/02/100-ways-to-teach-with-twitter/

https://storify.com/ allows you to bring together tweets in a particular order and add extra resources in (we have used this for “GeoTweet revision” – e.g. https://storify.com/RChambers/geotweet-revision-riverprocesses-downstreamchange

Using twitter for professional development

Twitter is an invaluable professional development tool providing the opportunity to network with and share good practice, ideas, links and news stories with fellow education professionals in schools as well as from the wider geographical community including geographical related careers, research institutions etc.

Geography Teachers active on Twitter:
http://www.classtools.net/twitter4teachers/subject/geography

Particular Examples:
Benjamin Newbury @GeoNewbz
Mrs Humanities @MrsHumanities
Jennnnnn @Jennnnnn_x
David Rogers @davidErogers
Rob Chambers @RobGeog
Teachit Geography, @TeachitGeog
Anthony Bennett, @InternetGeog
Alan Parkinson @GeoBlogs
Darron Gray @DarronJGray
OCR @OCR_Geography
Edexcel @Edexcel_Geog
Simon Cracknell @CracknellSc
Jo Payne @_jopayne
Martyn ReaH @MartynReah
Bob Lang @BobLangGeog
Matt Podbury @MattPodbury
Mark Ollis @ollismark
David Drake @_DavidDrake
Rich Allaway @richardallaway
The Geographical Association @The_GA
Royal Geographical Society @RGS_IBG

Want to start a new Professional Learning Network on Twitter?

Try following some of the accounts to the left and below to get started...
**Facebook**

Facebook is another useful way for communicating with students and parents using Facebook Groups which doesn’t require members to be friends with each other.

We are very aware that not all students have access social media accounts and parents may not wish them to, so we embed the facebook and twitter feeds within the main [www.geobytes.org.uk](http://www.geobytes.org.uk) so all students can still access and see the feeds.

Pictures of students are only shared from the main School page onto the Geography page so that all student pictures have gone through the main ICT manager. Other images including photographs of work, non-student images are shared with reminders and updates for students. Parent/carers in particular have been engaging with this.

**Instagram**

[https://www.instagram.com/stivogeography/](https://www.instagram.com/stivogeography/)

This is used purely for sharing images of good examples of work / the department itself / fieldwork / picture reminders from the website / visuals supporting concepts taught in class etc. but does not include ANY pictures with students in (there is a separate school account that does).
We have just started this but have already found that it is the students who engage with this far more than facebook.

**Some interesting articles on the use of social media in schools / the classroom here**


5 reasons to use social media in the classroom [https://www.livetiles.nyc/blog/5-reasons-use-social-media-in-the-classroom/](https://www.livetiles.nyc/blog/5-reasons-use-social-media-in-the-classroom/)

10 Top Tips how schools can use social media [https://www.theguardian.com/teacher-network/teacher-blog/2014/jul/16/10-top-tips-how-schools-use-social-media](https://www.theguardian.com/teacher-network/teacher-blog/2014/jul/16/10-top-tips-how-schools-use-social-media)
Innovative Assessment Tools

Continued formative assessment is an integral part of the work in our classroom and with the continuous development of new technologies there are various excellent apps and sites which can support staff with different types of assessment.

**Kahoot** [https://kahoot.com/](https://kahoot.com/) - this is the link to create your own Kahoot quizzes – the students can use the link [https://kahoot.it/](https://kahoot.it/) to enter the Game PIN to take them to the quiz in the classroom. There is a new facility which has only recently been added called the **challenge feature** this lets you assign kahoots as homework providing a fantastic opportunity for revision. After the game students can go through the questions and review correct answers to help them reflect and review their learning. It is also possible for the teacher to keep track of progress and assess the results through the teacher account.


How to use Kahoot in the classroom (2 minute video tutorial) [https://www.youtube.com/watch?v=BJ3Er1-tCMc](https://www.youtube.com/watch?v=BJ3Er1-tCMc)

**Quick Key** [http://get.quickkeyapp.com](http://get.quickkeyapp.com)

Quick Formative Assessment – The Quick Key App [https://ictacrossthecurriculum.wordpress.com/tag/quick-key/](https://ictacrossthecurriculum.wordpress.com/tag/quick-key/)

**Plickers** [https://plickers.com](https://plickers.com)


**Formative** [https://goformative.com](https://goformative.com)


**Socrative** [http://www.socrative.com](http://www.socrative.com)

Using GIS in Geography Teaching and Learning

**ArcGIS Online** - ESRI are providing free access to ArcGIS Online for all UK Schools. One of the best bits about ArcGIS is it doesn’t require any installing – it is cloud based so all you need is a browser! It also works well on mobile devices. If you / your school haven’t signed up yet, full details and a link to sign up can be found here [https://schools.esriuk.com/](https://schools.esriuk.com/)

**GeoMentors Programme** – In a joint project with the RGS, ESRI have been working to develop a UK network of GeoMentors to support the use of ArcGIS Online in the classroom with a GeoMentors for Teachers scheme which involves linking GIS Professionals with teachers to help teachers develop their GIS skills and enthuse students by using GIS in teaching and learning. Details of the scheme and sign up can be found here [https://schools.esriuk.com/geomentor/](https://schools.esriuk.com/geomentor/) (scroll down to the Teachers section)

ArcGIS Online Getting Started Guide
ArcGIS Teaching Resources – Lots of excellent readymade resources for using ArcGIS in the classroom
https://schools.esriuk.com/teaching-resources/

Teaching and Learning with ArcGIS
http://www.arcgis.com/home/item.html?id=0f9b161d6d5041e6b5030e89e8cc017b

GIS4Schools Facebook page – frequently updated with ideas and links for the use of ArcGIS in the classroom
https://www.facebook.com/GISforSchools/

Jason Sawle is a GIS Education Evangelist at ESRI UK – you can follow him on twitter here
@GIS4Schools – he provides lots of excellent support for schools with regards to the use of ArcGIS

GIS Starts Here http://www.geography.org.uk/resources/gisstartshere/ - useful set of pages and resources from the Geographical Association to support in understanding and using GIS in the classroom.

GIS Support and Resources (Royal Geographical Society)
http://www.rgs.org/OurWork/Schools/Teaching+resources/GIS+resources/GIS+resources.htm A uge array of resources to support teachers in getting up-to-date with using GIS in lessons

Storymaps

Esri Story Maps helps you make use of ArcGIS along with photographs, images, multimedia and text to create web apps. There is a useful A Level Data Analysis Storymap here as an example

There are already thousands of Storymaps which are available for use in the classroom (Explore the following link https://storymaps.arcgis.com/en/gallery/#s=0). However there are also templates available to help you make your own storymaps https://storymaps.arcgis.com/en/app-list/ - these can also be made by students and could be a great way of presenting fieldwork findings.

Using GIS in Fieldwork

Survey123 for ArcGIS is an app which allows you to capture data using your mobile devices or laptop/desktop. You can create smart surveys for questionnaires as well as capture audio and images enabling precise, located data collection great for fieldwork studies. https://survey123.arcgis.com/

There are various tutorials available to help with this -for example: “Using Survey123 to create data collection forms (Field Studies Council)” https://www.youtube.com/watch?v=1ihEip8ffWc

The Field Studies Council provide a lot of other useful video tutorials for use of ArcGIS on this page
https://www.youtube.com/user/FieldStudiesCouncil/videos

ArcGIS Collector App is another example of an app for smartphones or tablets to collect and update information in the field. There is a video here from the FSC on using Collector App https://www.youtube.com/watch?v=xxF9g67R_gI

Both the above apps can be used whether connected or disconnected – you can then sync any data collected when you are back online.

Using ArcGIS to present fieldwork data (an example of how ArcGIS has been used in fieldwork)
http://www.rgs.org/OurWork/Schools/Fieldwork+and+local+learning/Fieldwork+techniques/Fieldwork+technology/Esri+ArcGIS.htm

There are some useful video tutorials embedded on this page from the Field Studies Council on using GIS to create maps from data that has been collected https://www.geography-fieldwork.org/a-level/before-starting/data-presentation/using-gis/

Other GIS Resources

LondonMapper – exploring a World city through Census data
http://www.rgs.org/OurWork/Schools/Teaching+resources/GIS+resources/Teachers+guide+to+Londonmapper.htm

QGIS – a free / open source Geographic Information System
http://www.rgs.org/OurWork/Schools/Teaching+resources/GIS+resources/Teachers+guide+to+Londonmapper.htm

Other Digital Mapping

Digimaps http://digimapforschools.edina.ac.uk/dfs/schools Digimap for Schools Blog http://digimapforschools.blogs.edina.ac.uk/

Quick Ideas for using Digimap for Schools (Alan Parkinson)
http://digimapforschools.edina.ac.uk/schools/Resources/Secondary/quick_ideas.pdf

Digimap for schools launches historic maps of Great Britain

Ordnance Survey https://www.ordnancesurvey.co.uk/

Other uses of Technology in Teaching Geography

Encouraging background reading / Collating useful resources / articles

Flipboard allows you to pull together articles from across the website in personal magazines – these are great for KS5 in particular as you can create web magazines for background reading for particular case studies or topics as a whole (you could also encourage students to curate their own magazines in order to encourage them to read around topics).

Flipboard

Flipboard https://flipboard.com/
Flipboard for Educators https://about.flipboard.com/inside-flipboard/flipboard-for-educators/
How to use Flipboard in the classroom http://edtechreview.in/trends-insights/insights/1278-tips-for-teachers-how-to-use-flipboard-in-the-classroom

Examples of Flipboard in use in Geography

R Chambers - Geography Flipboards
https://flipboard.com/@RobChambers7ach
Pearl Trees (A great way of archiving links to support students / departments)

Pearltrees is a fantastic visual and collaborative social library tool with great potential in education! It allows you to create ‘favourited’ URL links which are called ‘pearls’ which can be organised within ‘pearltrees’, providing a logical and hierarchical structure for organising links. You can collaborate with others on pearltrees, pick ‘pearls’ from others to add to your trees or indeed link other ‘pearltrees’ of interest to your own. You can also team up so that you have a collaboration between people to create a pearltree related to a similar interest – perfect for establishing a bank of professional development links and collaborating with others interested in the same field! Rather than having a favourites list on an individual browser – you can access your favourite links from any browser at any time using pearltrees. Great for building up banks of suggested background reading for students at A’level.

- Pearltrees http://www.pearltrees.com/
- Pearltrees for Teachers - tips for teachers http://educationtechnology-theoryandpractice.blogspot.co.uk/2012/12/pearltrees-for-teachers.html

Examples of PearlTrees in use in Geography

- Geography Pearltree - http://www.pearltrees.com/robgeog/geography/id9081141

Collaboration

Student Collaboration

- Padlet https://padlet.com/
- Padlet’s many uses in the classroom (video) https://www.youtube.com/watch?v=5c9vWCPn8ys
Staff (and in some cases student) Collaboration

- Dropbox - [www.dropbox.com](http://www.dropbox.com) - giving us access to all our documents, files etc. anywhere - plus can be used for team work. You can create 'shared folders' which appear on every team member’s computer. As new files are uploaded - everyone in that team can access it (what a great way of collaborating for the new specs!)
- GoogleDocs [https://docs.google.com](https://docs.google.com) - enables you to work on one document together at the same time and can collaborate on online documents, presentations and spreadsheets (particular strength is you don’t need office software installed!) (this also records a history of changes made) - and free! Great for collaboration within a department.
- Slack [https://slack.com/](https://slack.com/) - messaging app for teams - free for small groups (priced options available) - also integrates with dropbox and can send documents within it.
- Google Hangouts - a tool which allows you to video-conference with up to 100 people for free. [https://hangouts.google.com/](https://hangouts.google.com/)
- Stormboard (online brainstorming and Collaboration) [https://www.stormboard.com/](https://www.stormboard.com/)
- The 20 best tools for online collaboration [http://www.creativebloq.com/design/online-collaboration-tools-912855](http://www.creativebloq.com/design/online-collaboration-tools-912855)

iPads in Geography

- iPad apps to support Geography fieldwork [http://www.pearltrees.com/robgeog/fieldwork/id9922932#I697](http://www.pearltrees.com/robgeog/fieldwork/id9922932#I697)
- iPhone and iPads in Geography (Geography Pods) [http://www.geographypods.com/using-ipadiphone.html](http://www.geographypods.com/using-ipadiphone.html)
- iPads in Education [http://www.pearltrees.com/robgeog/ipads-education/id9081019#I462](http://www.pearltrees.com/robgeog/ipads-education/id9081019#I462) (including an overview of useful iPad apps for general teaching and learning)
- iPads in Education - Geography [http://www.ipadineducation.ianwilson.biz/iPad_in_Education/Geography.html](http://www.ipadineducation.ianwilson.biz/iPad_in_Education/Geography.html)

Teacher Organisation

iDoceo - [http://www.idoceo.net](http://www.idoceo.net) App - which is a teacher's planner, gradebook, calendar, seating plan, diary etc.. all in one. You can even upload or link resources to your plans you can export lesson plans as a .pdf for each group as an archive at the end of a year.

CREATING TEACHING AND LEARNING RESOURCES FOR KS4/KS5

QR Codes - Adding Interactivity to Displays and Resources

A QR code is a barcode like logo which can be scanned by smart phones, tablets etc. These codes can contain a variety of information which they direct the user to once scanned, including weblinks and text.

- QR Codes for Education
  [https://sites.google.com/site/alicekeelerqrcodes/home](https://sites.google.com/site/alicekeelerqrcodes/home)
  Exploring QR Codes in Education
- 44 QR Codes Resources for Teaching and Learning
- QR Code Reader and Scanner (Free App on Apple Store)
- Short URL / QR Creator - excellent tool from Russell Tarr - simply drag button onto your bookmarks bar on your browser - and simply click it to create either a shortened URL or QR code for any page you are currently on
  [http://www.classtools.net/shorturl.php](http://www.classtools.net/shorturl.php)

Ideas for using QR codes in KS4 and KS5 Geography

- Interactive Geography in the News Wall display – pictures and headlines of major geographical news stories with associated QR codes linking to online news video clips, websites and further images. This works with other wall displays – for example in one of our rooms we have a river from source to mouth display – there are embedded QR codes for each of the river features which takes students to pages on the internet with either animations or further information of how the features are formed.
- Interactive Revision Guides – to help ensure students have a fully integrated and interactive revision programme at GCSE - we found this particular useful and updated our revision guides to include QR codes with links to the online resources, specific podcasts and where relevant model answers to exam questions).
- Further Extension links in presentations used in A’level lessons to encourage students to undertake further background reading.
- Use of QR codes on information posters around school

Creating Interactive Quizzes

We have found these invaluable for revision at GCSE and they are easily shared online via a blog or website. Multiple choice quizzes are also excellent for use in the classroom as a whole class resource on the whiteboard.

Content Generator Quiz Generators [http://www.contentgenerator.net](http://www.contentgenerator.net) (Andrew Field)
These are programmes which allow anyone to generate their own e-learning quizzes (doesn’t require any coding knowledge – simply writing the questions! These are however flash based, so one downside is that at the moment these don’t work on i-devices. They do however work very well on desktop PCs / laptops.

Examples:

- Practice Papers: https://geobytesgcse.wordpress.com/2017/06/10/unit-3-practice-papers-human-environments/

ClassTools.net www.classtools.net (Russell Tarr)

All the fantastic tools on the classtools.net website are free and can be hosted on blogs, websites etc. You can also make great use of them during lessons on the interactive whiteboard - definitely worthwhile exploring the website and looking at the different possibilities provided by the various different generators.

No technical knowledge is required – simply input the information and generate your own quizzes!

Timers in the Classroom

These work well for KS4/KS5 in adding Pace and particular for practising under timed conditions.

- Countdown Time http://www.online-stopwatch.com/bomb-countdown/full-screen/
- Rocket Timer http://www.online-stopwatch.com/rocket-timer/
- Candle Timer http://www.online-stopwatch.com/candle-timer/full-screen/
- Visnos Classroom Timer http://www.visnos.com/demos/classroom-timer
- Balloon Pop Timer http://www.springfield.sheffield.sch.uk/staff/timers/timer_super.html
Online Revision Tools

Encouraging students to take ownership of their revision is important in them becoming independent learners there are lots of interactive tools that can sit alongside more traditional revision techniques and students are able to create their own flashcards / quiz activities centred around areas they particular need to revise.

Mind Mapping Tools
- Mindomo https://www.mindomo.com
- Coggle https://coggle.it
- Xmind https://www.xmind.net

Online Revision Tools
- Quizlet https://quizlet.com/
- Examtime https://www.examtime.com/en-GB/
- Get Revising http://getrevising.co.uk
- Flashcards to go http://www.flashcardstogo.com
- Memrise – helping to learn vocab https://www.memrise.com

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