Rohan's DIGITAL Differentiated Instructional Strategies

Content - What students need to learn

<table>
<tr>
<td colspan="2">Guiding Focus Questions:

- Can I choose a familiar context to help make connections or will I scaffold to broaden student world knowledge?

- What links can I make to real life?

- Can I change the context to match student interests?</td>
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<tr>
<th>Digital Pedagogy</th>
<th>Resources</th>
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<tr>
<td>Building Connections

These resources can help students who need scaffolding to build connections</td>
<td>http://eduscapes.com/sessions/needs/all2.html</td>
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<tr>
<td>Online Learning Activities
There is a huge range of online learning activities that can make up the content of your lessons or provide homework activities. Listed are a very few of these.</td>
<td>Scootle - Learn, teach and collaborate using digital resources to support the Australian Curriculum
http://www.mathletics.com.au/ - there are costs, but worth it.

http://www.literacyplanet.com/ - - there are costs, but worth it.

http://www.khanacademy.org/ - one stop shop

http://www.bbc.co.uk/bitesize/ - fun online learning activities</td>
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Content Cont…

Digital Pedagogy	Resources
Class data Can used to group students into traffic light groups: Green – above standard Amber – at standard Red – below standard	You can use conditional formatting to change the colour of a cell. There are instructions in Excel's help, and here: http://www.contextures.com/xlCondFormat01.html Or http://www.xldynamic.com/source/xld.CF.html#lights2 OR this is done for you: http://www.nordberg.co.uk/ExcitingExcel/raglights.htm
Pre-tests These tests are good for getting to know your class and for your students to understand how they learn.	Multiple intelligences - http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks3/ict/multiple_int/questions/choose_lang.cfm Personality - http://www.online-distance-learning-education.com/personality-test.html Personality types, multiple intelligence preferences and predominant learning styles - https://www.kidzmet.com/pages/snapshot_general_new http://www.edutopia.org/multiple-intelligences-learning-styles-quiz
Quizzes and exit notes. This can be used on mobile phones as well as any platform	http://socrative.com
Inquiry based learning opportunities	https://www.diigo.com/user/rdean6/inquiry

Process - How students learn

Guiding Focus Questions:

- Can I tier the activities around concepts and skills to provide different levels of support or opportunities to demonstrate deeper knowledge?

- Do I need to vary the length of time students require to grasp a concept either by compacting the curriculum or extending the time frame?

Digital Pedagogy	Resources
Tiered Instruction This is a link to theory and concepts. Basically, if you pitch a lesson at level or standard, then you can use technology to remediate (for those below) or extend (for those above or those that complete the standard and need extension). A good strategy here is to offer self-paced online instruction and an element of choice in assessment tasks (layering – see below), with teachers modelling exemplars.	Tiered Instruction
Choice Boards This is a link to theory and concepts. Also known as Tic-Tac-Toe Menus, Think-Tac-Toes, Learning Menus and Extension Menus. Digital options below.	Choice Boards
How To Use **Pinterest as a Choice Board.** This is blocked at my site from 9-4 but could be used in a flipped classroom situation. You could also find something similar or use your virtual classroom or edstudio	http://www.snagglebox.com/2012/09/how-to-use-pinterest-as-choice-board.html
Layered Curriculum Simply offers student a choice of assignments and requires demonstration of learning in order to pass the assignment. This eliminates the need for pre-assessment and is useful for teachers with large class loads, such as in high school. Our assessment is already based on Bloom's, so it's just a matter of choice based on needs. This lines up nicely with the Three story intellect model	Layered Curriculum

Process Cont…

Guiding Focus Questions:
- Can I provide opportunities for students to construct and demonstrate knowledge using digital resources and technologies?

Digital Pedagogy	Resources
Information Literacy Process Using the Big6 information literacy process, students identify their information research goals, then seek, use, and assemble relevant and credible information. They then reflect: is the final product effective and was the process efficient.	http://big6.com/
Blooms Digital Taxonomy These are all great web 2.0 tools (interactive/dynamic) that can be used in the process of learning. They are all categorised against Bloom's Taxonomy.	35 Digital Tools That Work With Bloom's Taxonomy Bloomin' Apps Bloom's Taxonomy: Bloomin' Peacock Blooms digital taxonomy and web 2.0 tools
Web 2.0 tools Same as above but not categorised against Bloom's Taxonomy.	Cool Tools for Schools Wiki – one stop shop for all your interactive/dynamic online tools for learning http://teachweb2.wikispaces.com/home - a group of curious teachers who explore and brainstorm ways to integrate Web 2.0 technologies into our teaching WebTools4U2Use – categorised and analysed
Interactive Online Tools I have developed a WebQuest around interactive online tools. The WebQuest is located at ZUNAL and entitled Integrating online tools for learning into your lessons. This may be useful if you want to run a PD session on integrating web 2.0.	Integrating online tools for learning into your lessons
Avatars There are various options to create avatars. These are great for multi-modal presentations and great for literacy.	http://www.voki.com/ - Voki is an educational tool that allows users to create their very own talking character.
Animation Again another great way to create/synthesise/present.	http://goanimate.com/ - free and well supported for education.
Comics A great alternative and engaging way to create/synthesise/present.	http://www.makebeliefscomix.com/Comix/ - this is the easiest to use, with no sign-up required.

Process Cont…

Guiding Focus Questions:	
- Can I scaffold activities or break larger tasks down into smaller tasks? - Can I provide study guides or graphic organisers for targeted students?	
Digital Pedagogy	**Resources**
Graphic Organisers There are heaps of printable organisers and a quick search will also yield the theory behind them. The dynamic online ones require registration.	freeology.com - [free, printable graphic organizers for a wide variety of topics](#) http://www.eduplace.com/graphicorganizer/ http://www.classtools.net/ - some of these are online and dynamic.
Concept Maps Great for brainstorming, pre-test-post-test concepts, essay plans or just to organise thinking.	https://bubbl.us/ http://www.mindmeister.com/
Guiding Focus Questions: - Can I modify delivery modes for individuals or small groups?	
Digital Pedagogy	**Resources**
How To Use Pinterest as a Choice Board. This is blocked at my site from 9-4 but could be used in a flipped classroom situation. You could also find something similar or use your virtual classroom or edstudio	http://www.snagglebox.com/2012/09/how-to-use-pinterest-as-choice-board.html
Guiding Focus Questions: - Can I use peer tutoring?	
Digital Pedagogy	**Resources**
Peer Review I have given a breakdown of the peer review process that I use in my learning place blog (link on right). Recently, I have also use the peer review facility in turn-it-in. This is difficult to set up, so I would seek some training and beta-test it with your class first.	Using Blogs for the Student Drafting Process http://turnitin.com/en_us/home

Product - How students demonstrate what they know

Guiding Focus Questions:
- To complete the scheduled assessment task will some students require more/less time?

Digital Pedagogy	Resources
Inquiry based, problem based and project based assessment These tasks are great here as students must manage their own learning and teachers can have project meeting with them to see if they have reached their milestones.	[Zunal](#) is the best place for all things webquests http://daretodifferentiate.wikispaces.com/WebQuests - heaps of links

Guiding Focus Questions:
- Can students be extended by communicating the information in a more challenging way?

Digital Pedagogy	Resources
Multimodal	**Wordle** and **Tagxedo** – **make tag clouds** http://www.debugmode.com/wax/ - Wax is a high performance and flexible video compositing and special effects software http://www.goztun.com/products/flipflashalbumfree - FLIP Flash Ablum free can help you to make a real album like Flash photo album http://monkeyjam.org - MonkeyJam is a digital penciltest and stopmotion animation program. It is designed to let you capture images from a webcam, camcorder, or scanner and assemble them as separate frames of an animation http://photosynth.net - Capture your world in 3D Photostory 3 - Photostory 3 is a free download from Microsoft that can be used in digital storytelling projects with excellent results http://www.storyjumper.com/ - publish your own children's book
Screencasts These are great ways to present student learning as they record the screen and speech as well.	**http://screencast-o-matic.com/** **Community Clips - Microsoft**
Digital Portfolios These enable students to determine what to learn, how to learn it and what evidence to provide of their learning.	5x5 model - http://electronicportfolios.org/portfolios/howto/

Product Cont…

Guiding Focus Questions:
- Can students be extended by communicating the information in a more challenging way?

Digital Pedagogy	Resources
Multimodal	**Wordle** and **Tagxedo – make tag clouds** http://www.debugmode.com/wax/ - Wax is a high performance and flexible video compositing and special effects software http://www.goztun.com/products/flipflashalbumfree - FLIP Flash Ablum free can help you to make a real album like Flash photo album http://monkeyjam.org - MonkeyJam is a digital penciltest and stopmotion animation program. It is designed to let you capture images from a webcam, camcorder, or scanner and assemble them as separate frames of an animation http://photosynth.net - Capture your world in 3D Photostory 3 - Photostory 3 is a free download from Microsoft that can be used in digital storytelling projects with excellent results http://www.storyjumper.com/ - publish your own children's book
Screencasts These are great ways to present student learning as they record the screen and speech as well.	**http://screencast-o-matic.com/** **Community Clips - Microsoft**
Digital Portfolios These enable students to determine what to learn, how to learn it and what evidence to provide of their learning.	5x5 model - http://electronicportfolios.org/portfolios/howto/

Product Cont…

Guiding Focus Questions:
- Are there students who need the assessment task to be broken down for them?
- Will some students need adjustments to the task e.g. having concrete materials at hand or access to digital technologies?

Digital Pedagogy	Resources
Inquiry based, problem based and project based assessment tasks are great here as students must manage their own learning and teachers can have project meeting with them to see if they have reached their milestones.	
RAFT Gives students a fresh way to think about approaching their writing	http://www.vrml.k12.la.us/cc/18str/raft/raft.asp - online tool http://daretodifferentiate.wikispaces.com/R.A.F.T.+Assignments – all things RAFT

Guiding Focus Questions:
-Will some students need feedback provided more frequently or in a different manner?

Digital Pedagogy	Resources
Peer Review I have given a breakdown of the peer review process that I use in my learning place blog (link on right). Recently, I have also use the peer review facility in turn-it-in. This is difficult to set up, so I would seek some training and beta-test it with your class first.	Using Blogs for the Student Drafting Process http://turnitin.com/en_us/home

Environment - How learning is structured

Guiding Focus Questions:
- Which of a range of flexible groupings: whole class, small group and individual, best suits this concept and skill set?

Digital Pedagogy	Resources
Cooperative Learning Strategies The main mode I use is a blended mode of face-to-face and online learning. I still use these strategies, but all feedback is usually in a blog. This way there is a record of learning and there is a literacy aspect. I also have a rule: post one and respond to three. This way students know that they are writing for an audience and will be engaged in constructive reciprocal feedback.	Three Step Interview Four Corners Graffiti Inside-Outside Circle Jigsaw Placemat Think-Pair-Share

Guiding Focus Questions:
- Have I offered a range of materials and resources -including ICT's to reflect student diversity?

Digital Pedagogy	Resources
Digital Differentiated instruction should take care of this question	

Guiding Focus Questions:
- Can I vary the level of class teacher support for some students?

Digital Pedagogy	Resources
In a digital mode, teachers tend to be learning designers and managers, with students engaged in self-paced or project-based learning. This allows teachers to have management meetings with each students as well as giving extra support to less able students.	

Environment Cont…

Digital Pedagogy	Resources
Virtual Excursions Excursions are great opportunities for learning, but tend to be limited by resources. Digital technology enables you to go on a virtual excursion or connect with outside experts every day! There are seemingly limitless opportunities for this. Most major art galleries in the world are online, NASA will take you from here to the stars and many dangerous experiments can be conducted virtually.	**Just a very few examples:** http://www.fieldtripearth.org/index.xml http://www.google.com/culturalinstitute/project/art-project?hl=en http://www.nasa.gov/audience/foreducators/index.html http://www.mhhe.com/biosci/genbio/virtual_labs/BL_16/BL_16.html

Guiding Focus Questions:
- What routines can I put into place to assist students in developing independent and group work skills?

Digital Pedagogy	Resources
Cooperative Group Roles Cooperative learning works best with clearly defined roles. In a blended environment, the recorder and presenter role can be same person, as everything is recorded in a blog. This is great for situations where ICT devices are limited, as not everyone needs access.	http://www.readwritethink.org/files/resources/lesson_images/lesson277/cooperative.pdf
Class dojo ClassDojo is a classroom tool that helps teachers improve behaviour in their classrooms quickly and easily. It also captures and generates data on behaviour that teachers can share with parents and administrators Better learning behaviours, smoother lessons and hassle-free data - and its free	http://www.classdojo.com/
Backchannels These are great for ad hoc sharing and collaborating, without the need to set anything up. Strict guidelines for use need to be enforced though.	http://todaysmeet.com/ http://meetingwords.com/ - Work together on meeting notes, brainstorming sessions, homework

Environment Cont…

Digital Pedagogy	Resources
Virtual Classrooms I use Blackboard because it is 24/7, has a markbook, has quizzes, blogs, wikis, webpages and heaps of other tools for communicating and collaborating online.	Learning Place
EdStudio This is a good project space to use and it tends to be preferred by junior school teachers.	Learning Place
Classroom Management Systems These are great for tracking what students are doing. Most will give a thumbnail of the whole class and you can take control of a student's screen. You can also show your screen or a student's screen to the whole class on their screen. There are a whole host of other features as well. This is well worth investigating.	http://www.lanschool.com/ http://www.abtutor.com/

Recipes

The strategies listed here can be used in countless combinations. The main blended mode I tend to use is this:

1. **Learning Intentions** – I list these in my virtual classroom along with Habits of Mind at the beginning of an activity/lesson. If I am doing some longer-term project-based learning, then these are listed at the beginning of the unit.

2. **Assign groups** – there are countless ways to achieve this. My only recommendation is that you assign roles.

3. **Literacy Activity** – most cooperative activities start with acquiring knowledge that is text-based. This should be an individual thing for homework (flipped classroom) if you can manage it. Depending on the level of the group and the complexity of the text, you may like to employ a reciprocal reading strategy. Otherwise, the group needs to blog a brief summary. This takes care of the first tier.

4. **Bloom's Taxonomy/Critical Thinking/Higher Order Thinking** – I now look for opportunities for students to analyse, synthesise/create and evaluate and use web 2.0 tools (these are engaging as well as useful). Different content and curriculum goals will yield very different opportunities. Usually, though, a quick look at learning intentions will yield the appropriate emphasis. I am, also, looking to move to the next tier in learning.

Analysis – concept maps (   ) and graphic organisers such as fishbone diagrams are great here. These can all be exported and then imported to a blog, to record evidence of student learning.

Evaluation – use graphic organisers such as ranking ladders or PMI and then blog. Or, have students evaluate the posts of others (make sure to give them guidelines).

Synthesis/Create – Remember, this is not present, this is make a conclusion or create new knowledge. It can also mean create a new product, so there is an element of presenting information in a multimodal (see resources in product) way. The best way to achieve this is to use a mini webquest as these have an essential question to answer: "What is the best way to…..". Otherwise, an inquiry process should be employed.

5. **Debrief/Wrap/Reflect/Scale** – There is no point having learning intentions if you don't reflect on whether or not these have been achieved. You may also want to tie the current lesson into future lessons, so that students can make learning connections. My favourite tool is socrative. Socrative student response system that runs on tablets, smartphones, and laptops. You can't use this all the time as students can become disengaged, so there are also heaps of online quizzes and random name generators. You can also have lots of fun with QR codes as most students have smartphones. I like using these to conduct treasure hunts.