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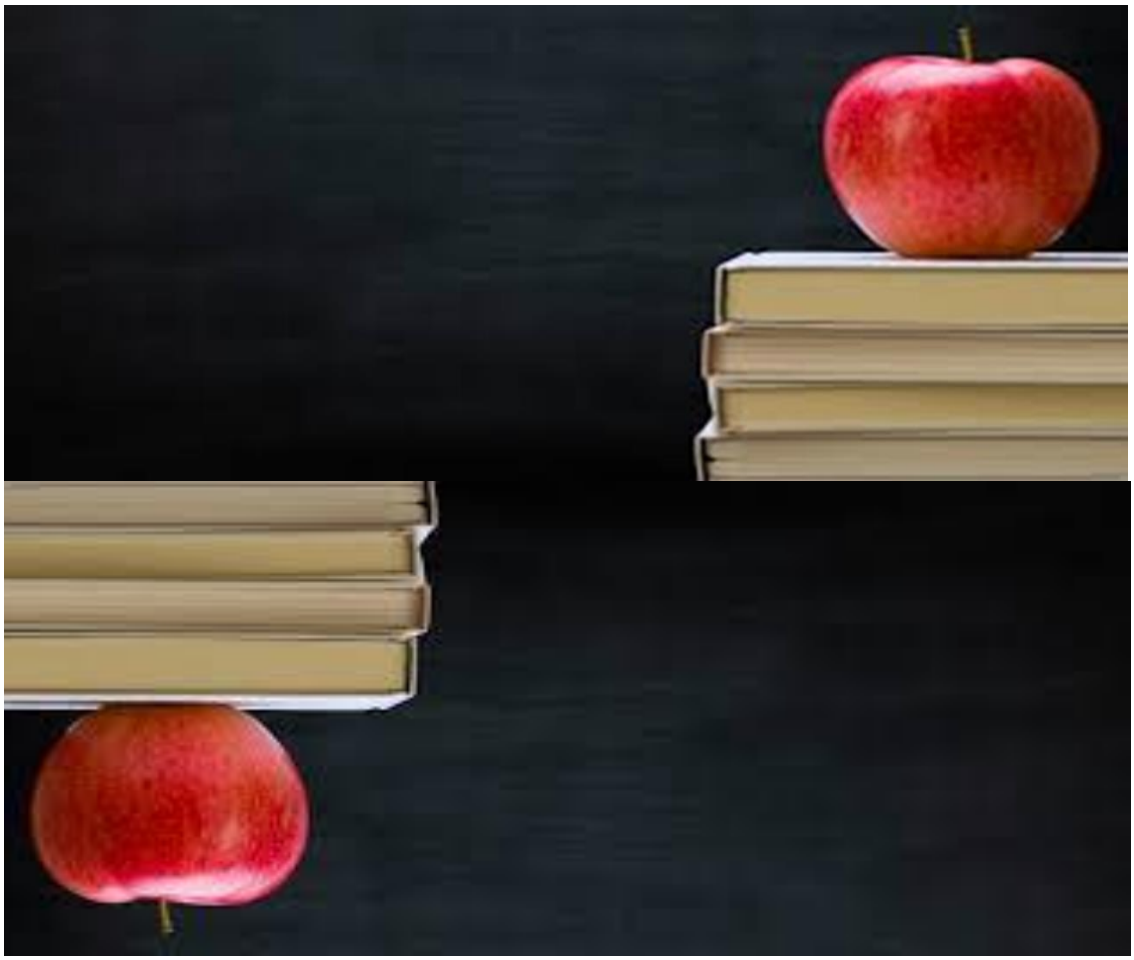
Training programme

Flipped Learning



Bradley Lightbody

AIM

To introduce and apply the concept of Flipped Learning

Key Questions

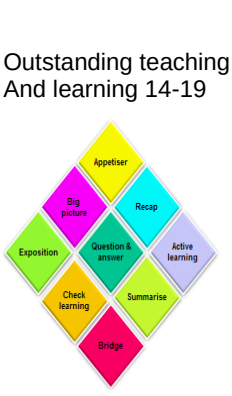
Delegates will be able to:

- **What is flipped learning?**
- **How will flipped learning alter my lessons?**
- **How will I engage my students in flipped learning?**

This programme is designed to provide teaching staff with an overview of how to introduce and support 'flipped learning'. This is one of several programmes offered by Collegenet. To view the full range of training options please visit the training page of Collegenet.co.uk or email bradley@collegenet.co.uk

Presenter

This session will be presented by Bradley Lightbody, Managing Director, Collegenet Limited and author of 'Taking Your A-Levels (1996), 'The Cold War (1999), 'the Second World War' (2004), 'Outstanding Teaching and Learning 14-19' (2009) and 'The i-Learning Revolution: A new pedagogy (2012). The Second Edition of 'Outstanding teaching and learning 14-19' was published October 2012. The Second Edition is fully updated with the new Ofsted 2012 inspection criteria and the latest academic evidence arising from The Sutton Trust, OECD, Pisa, Mckinsey reports and Professor John Hattie. Books may be ordered via Amazon or with a £2 discount from the online bookstore on Collegenet.co.uk



In praise of ‘flipped Learning’

The following article appeared in The Economist magazine in 2011 highlighting a research paper published in the Science Journal 13th May 2011. The article reports on the outcome of a controlled experiment conducted by Dr Louis Deslauriers with 850 Physics students attending the University of British Columbia. The students were divided into a ‘flipped learning’ group and a traditional ‘chalk and talk’ group to study one major course topic in parallel .

“The students were split into groups at the start of their course and for the first 11 weeks all went to traditionally run lectures given by well-regarded and experienced teachers. In the 12th week one of the groups was switched to a style of teaching known as ‘deliberate practice’ (i.e flipped learning) which inverts the traditional university model. Class time is spent on problem-solving, discussion and group work while the absorption of facts and formulae is left for homework. Students were given reading assignments before classes. Once in the classroom they spent their time in small groups, discussing specific problems with the teacher roaming between groups to offer advice and respond to questions. At the end of the test week Dr Deslauriers surveyed the students and gave them a voluntary test (sold as useful exam practice and marked on a 12-point scale) to see how much they had learned in that week and what they thought of the new teaching method. The results were striking. The traditionally taught group’s average score was 41%, compared with 74% for the experimental group – even though the experimental group did not manage to cover all the material it was supposed to, whereas the traditional group did. According to Dr Deslauriers and his team, their result is the biggest performance boost ever documented in educational research, making the new teaching style more effective even than personal one-to-one tuition – although measuring the effect immediately after the experiment, rather than waiting for the end-of-term exam results (as other research often has), may have inflated the numbers somewhat. The results are especially impressive given that the deliberate-practice method was applied by teachers with little prior experience of using it, whereas the traditionally taught students had the benefit of a seasoned lecturer with a long record of good ratings from students. …Attendance in the experimental group rose by 20% over the course of the week that the ‘deliberate practice’ was used, and three-quarters of its members said that they would have learned more had the entire course been taught in the same way.”

Generation Z

"You are a Timex watch in a digital age."

A rebuke to the character John McClane in the film Diehard 4.0

Generational differences in media usage

The following collation of Ofcom data provides an overview of the generational technology gap between the i-generation and generation X (circa 1960). The majority of teachers are Generation X and the majority of students are Generation Y although Generation Y teachers are entering our staffrooms in increasing numbers.

Aspect	i-generations Y&Z	Generation X
Telephone	Primarily mobile/cell and upgrading to smartphone	Primarily landline
Telephone usage	Prefer texting over voice. Texting forms 30% of their total media activity.	Prefer voice over texting. Texting is only 6% of their total media activity.
Computer communication	Via Facebook or instant messaging services	Via email
Computer use	Social networking and entertainment plus 40% of 15-24 year olds watch TV online.	Finding information and functional purchases of train tickets, holidays etc. Only 21% watch TV online.
Music	Digital downloads to ipod or mobile/cell or streaming from Spotify or similar	Primarily CD players
Television use	Largely use TV to watch DVDS, music channel, news channel and this accounts for 26% of their total media consumption.	Largely watch scheduled programmes like news at 6 p.m. etc and this accounts for 51% of their total media consumption.
Recorded TV	77% select programmes from iplayer /You Tube or similar on their computer or Xbox/Playstation.	42% select programmes from iplayer /You Tube or similar on their computer or Xbox/Playstation.
Radio	Preference is listening via laptop /phone and accounts for 9 % of their total media activity. Only 4% listen to a radio.	Preference is listening via a radio and accounts for 14% of their total media activity. Only 2% access radio via laptop/phone.
Games	55% on average play skills based games and often competitive with other	22% on average play electronic games and this accounts for 1% of their total

	players online and accounts for 5% of their total media activity.	media activity.
Print	Reading books, magazines or newspapers accounts for 3% of their total media activity.	Reading books, magazines and newspaper accounts for 10 % of their total media activity.
Uploading	74% have uploaded photos to the Web, 51% contributed to a blog and 26 % made and posted a video.	38% have uploaded photos to the Web, 15% contributed to a blog and 5% made and posted a video.
Social networking	77% maintain a profile on social networking websites like Facebook.	30% maintain a profile on social networking websites like Facebook.
Personal website	26% have set up and maintain their own website	12% have set up and maintain their own website
Write a blog	22% write and publish their own blog	5% write and publish their own blog
Voice over Internet Protocol (VOIP)	16% on average use services like Skype to have video and voice contact with friends and family.	5% on average use services like Skype to have video and voice contact with friends and family.

All the above data collated from Ofcom www.ofcom.org.uk survey results.

The data illustrates that the i-generation have adopted Web 2.0 technology at levels at least twice that of Generation X. However, perhaps different social priorities are at work? The i-generation and young adults largely use Web 2.0 technology to build and maintain social relationships and friendships. Generation X are much more likely to be in settled relationships with periodic, rather than daily, contacts with friends and wider family. Similarly, the online activities of Generation Z reflect their interests and consequently care must be taken not to pillory Generation X as being behind the times. Generation X will use and do use information technology once they see a particular benefit e.g. one of the highest adoption rates of new technology by Generation X is watching TV online via a catch-up service like BBC iplayer which was launched December 2007.

Generations Y and Z – the i-generations

The i-generation or Generation Y were born circa 1980 and they are familiar with and comfortable with most aspects of information technology. The i-generation has attracted many studies and many descriptive labels e.g. Googlers, Millenniums, Digital natives and increasingly their norms presage a different future. The future rests in the letter i. The i prefix could be for internet or information or individual or even interactive although some sociologists might argue, immure. However, in terms of the development of future learning the i is firmly for independent and the rise of the *independent learner.* We are all watching a significant revolution as the new rather than the older generation become the seers and the guides to the future as they

revolutionise the way we find, access, view and present information. It is notable that the dominant names and products of the Web 2.0 era e.g. Microsoft, Apple, Dell, Google, and Facebook emerged not from some corporate research department after many years of research but from the creativity of individual students. Bill Gates was 13 when he first dabbled in computers, Steve Jobs was 16, Michael Dell was 19 and Mark Zuckerberg was 20 and a student at Harvard University when he first hit upon the idea of creating an electronic version of the university 'facebook' of students' pen portraits. The rest is recent history and Zuckerberg at age 24 is currently the world's youngest billionaire with an estimated wealth of $4billion.

Generation Z

Generation Y bridge the pre and post internet generations but are you ready for Generation Z? Generation Z were born 2000+ and the first cohort will be in your high school classroom in September 2011 and college classroom in September 2016. They are the first fully fledged i-generation who know nothing of life before the internet, X Box, PS2, Wii, multiple TV channels, mobile/cell phone, ipod, digital cameras, blogs, RSS feeds, Google, You Tube, Amazon, Facebook, Twitter, netbooks, tablets etc. By the time they reach college in 2016 the ipad and similar tablets will be commonplace and mobile computing will be the norm. Children tend to embrace new technology more quickly than adults because it is their norm. A BBC Television survey of 24,000 children aged 11-16 in March 2011 revealed the following access to technology:

- 95 % had access to a computer with internet at home
- 88% had a games console
- 60% coached older family members in using new technology
- 67% had a mobile /cell phone with internet access (56% for eleven year olds)
- 26.7% had a mobile / cell phone without internet access

In addition their preferred means of communication were by text message (70.3%) and social networking sites (66.6%) and talking on their mobile (49.6%). Email is falling significantly as a medium with only 12.2% of the rising generation using it to communicate. These trends reinforce the need for schools and colleges to embrace mobile computing via Smartphones and tablets.

Digital skills survey

With the fast expansion of online resources for learning and the demand by employers and universities for high levels of 'digital skills' it is important that while at college you develop and improve your digital skills. To help us plan opportunities to help you build and extend your digital skills please complete this survey. Please tick either yes or no to the following questions

1. **Computer equipment**	**Yes**	**No**
Do you have a desk top / tower computer at home?		
Do you have a laptop computer at home?		
Do you have a tablet computer at home e.g. ipad		
Do you have a mobile phone?		
Do you have a dedicated e-book reader e.g. Kindle		

2. **Internet connection(s)**	**Yes**	**No**
Do you have a home broadband connection?		
Do you have a laptop with an internet connection either wifi or permanent e.g. 3G connection		
Do you have a Smart mobile phone i.e. internet linked		

3. **Internet usage**	**Yes**	**No**
Do you have a personal email address?		
Do you have a Facebook account or similar social network		
Do you have a Twitter account?		
Do you have a blog?		
Do you have your own website?		
Do you have a cloud account for storing files/ data		

4. **Online activity** Please enter a score from 1 low to 5 high for each question	**Score**
How would you rate your general use of the internet?	
What is your score for using the internet for each of the following activities:	
Emailing	
Online chatting	
Visiting social networking site e.g Facebook	
Downloading music	
Downloading books	
Downloading films	

Downloading software	
Playing games	
Researching coursework or homework	
Preparing / completing coursework or homework	
Visiting news websites e.g. BBC, Sky	
Visiting sports websites	
Visiting You Tube	
Buying goods from online traders or shops e.g. Amazon	
Buy apps from itunes or marketplace	
phone texting	
Using Skype or similar video calling / chatting facility	
Watching TV online e.g. iplayer or similar	
Using the college learning portal to find / check information	

5. Microsoft Office programs Please enter a score from 1 low to 5 high in terms of your ability to use each program	**Score**
Word	
Powerpoint	
Excel	
Publisher	
Access	

6. Basic level ICT tasks Please enter a tick as appropriate	**Yes**	**Yes With help**
Search the internet for information		
Download files or programs from the internet		
Attach a file to an email message		
Download music from the internet		
Write and send an email		
Chat online		
Use a wordprocessor e.g. to write an essay / report		
Using an interactive white board e.g. Smartboard		

7. High level ICT tasks	**Yes**	**Yes With help**
Use software to find or get rid of viruses		
Create a database i.e. using Microsoft Access		
Edit digital photographs or other graphic images		
Use a spreadsheet to plot a graph		
Create a presentation i.e. using Microsoft Powerpoint		
Creating a multimedia presentation i.e with sound, pictures and video.		
Construct a web page		

A new Pedagogy

Try entering any of the key topics in your specification (or anything you wish to know) into Google, Ask or Bing and take a look. There will be thousands of hits but within the top rankings you will discover authoritative sources of information from leading institutions, organisations, government(s), charities, businesses, encyclopaedias, museums and academic sites etc. How much more might students discover about a topic online compared to what a teacher can present in a one hour lesson? Will the information will be more up-to-date than the class set of textbooks or the teacher's notes gleaned from the 'good' book or remembered from their past university knowledge? Might the students discover a stimulating mix of information across text, photographs video and diagrams? Could they pause and re-read or re-watch or re-examine as wished? Could they also learn at their own pace and study at a time and place of their choosing rather than in a fixed weekly lesson? Most teachers give positive responses to these sorts of questions. In a poll of 600 teachers conducted jointly between the Times Educational Supplement (TES) and the e-Learning Foundation in 2010 68% cited the importance of access to IT in the classroom over traditional teaching materials and over 80% stated that access to the internet at home was either essential or desirable. Internet resources will entirely reshape how we teach and learn because once freed from the need to impart basic factual information teachers can use their lesson time to question, evaluate, analyse and coach students on how to research, validate, present, create and add value. A thesaurus offers the alternative words '*guide*' or '*facilitator*' for a teacher and this perhaps is at the heart of the new pedagogy for the 21st century: the teacher acting as a guide and facilitator of learning. The guide aspect will be significant in terms of identifying and recommending useful resources and in particular useful books. Contrary to popular rumour books are not redundant in the internet age and in fact more are being published than ever before including millions of out-of-print books but as e-books

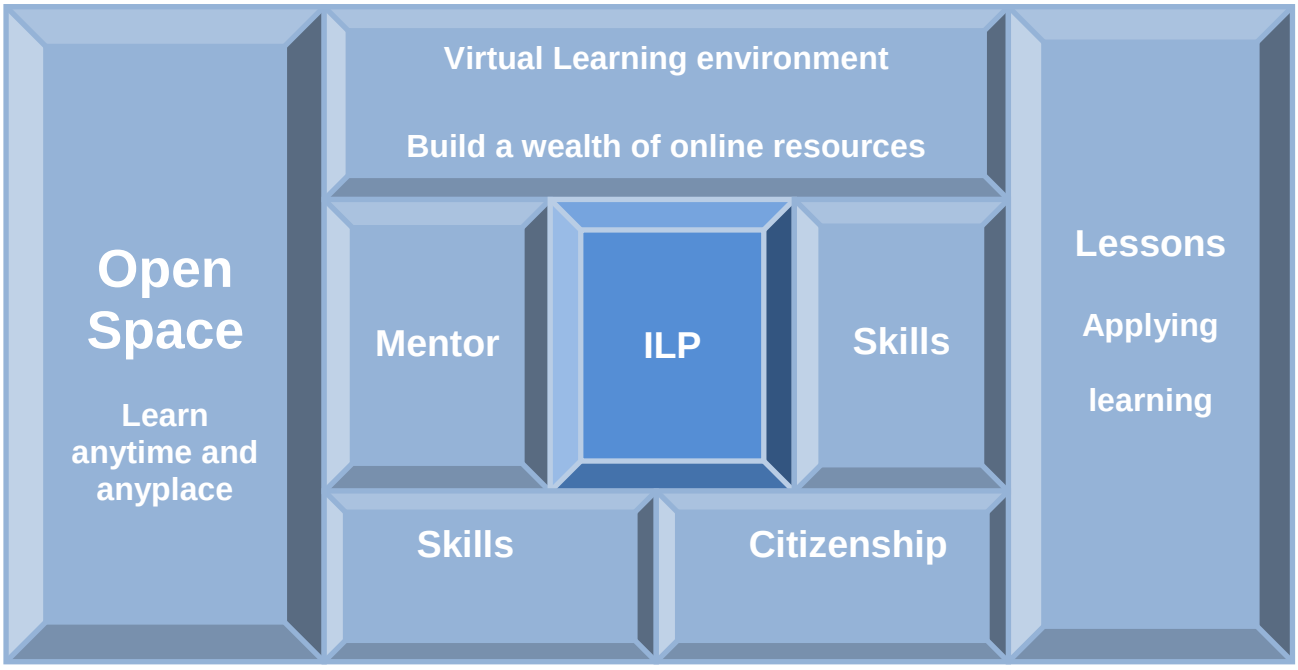
21st century learning

Suppose the key question in a Geography lesson was, ***'Name the longest river in the world and its ecological issues?*** Not too long ago a class would have listened while a teacher talked for the whole of several lessons to convey this factual information and/or copied from the board and perhaps referred to a class set of atlases. Some more motivated children might also have visited the library and tried to find a relevant book on the library shelves.

Generation Z merely put the question into Google, Bing or Ask. The response in less than a split second is 4,810,000 hits but the first 15 or so are all excellent authoritative sources with full and detailed answers to the question. The first hit displays a table of the 25 longest rivers in the world and the answer (not the one you were thinking of) is the Nile which is 4,135 miles long. The Amazon is in second place at 3,980 miles. Interestingly the fourth hit on Google is the Virtual Learning Environment (VLE) of Woodlands Junior School in Kent UK where the children have completed a project on rivers and everything you would wish to know about major world rivers including their ecology complete with video and photographs is there to read and download. Generation Z might then visit Google Earth and follow the length of the Nile by satellite and if wished call up live web cameras along its route to view real time pictures. They might also find and email schools in the region and ask direct questions of other children about their lives and interact via a video link. Their questions might lead to investigating how best to provide clean drinking water and link to science to explore current technology and development projects and perhaps fundraising for a relevant charity. Finally, they might choose to present their findings in a short publication, a podcast, a video, a photo slideshow or a direct presentation supported by Powerpoint or Prezi. This interactive learning is highly engaging, develops individual skills, builds knowledge and leads to creativity. Learners who are regularly involved in individual, paired and group activities to research and present core information will also develop the interpersonal, intrapersonal, research and creative skills valued by the high tech and service sectors of the 21st Century economy. This rich online world of learning is the present not the future. Will Generation Z be content to sit still in straight rows when they reach your High School in September 2012 or your College classroom in September 2016 and listen for most of the lesson and copy down lots of notes from the board or a textbook? How many might be tempted to defy the rules and switch on the smartphone in their pocket and find the information? Rather than our students being passive recipients of information we are drawing them into being active participants. The future is one of continuous updating, exploring and learning and shifting our focus from the teacher as the sole source of information to the multiple information resources of the internet and drawing upon peers, friends, family and the wider community i.e. promoting and facilitating independent or more simply i-learning.

The i-learning pedagogy

The concept of learning a subject within the confines of 3 or 4 weekly timetabled lessons can no longer be sustained and teaching and learning is spilling over the edges and filling the physical open spaces across our campuses and the open spaces of time in our days, evenings and weekends. We can learn anywhere and anytime as independent or i-learning opportunities expand.



Log-in

Many of our schools and colleges have benefited from bright, new buildings which are fully 'wired' and reflect the support requirements of the digital age. The key is a wifi campus to permit staff and students to log-in from any position and in particular from regular 'open spaces' i.e. in addition to Learning Centres clusters of chairs and tables for individuals and small groups to log-in across the campus taking advantage of any open space including outdoor seating. Take down walls if need be to open up space and post examples of role models, student successes, sports successes, exam successes, self-employment and career suggestions, local and world citizenship involvement etc to promote an opportunity rich environment. The educational advantage of having books at home is well known with the possession of around 200+ books correlating with higher achievement. Access to the internet is perhaps even more important given the access not only to books but to wider resources as well. The disparity between low and high income households in terms of access to both books and the internet is indicated by these figures from OECD research. This is an average across

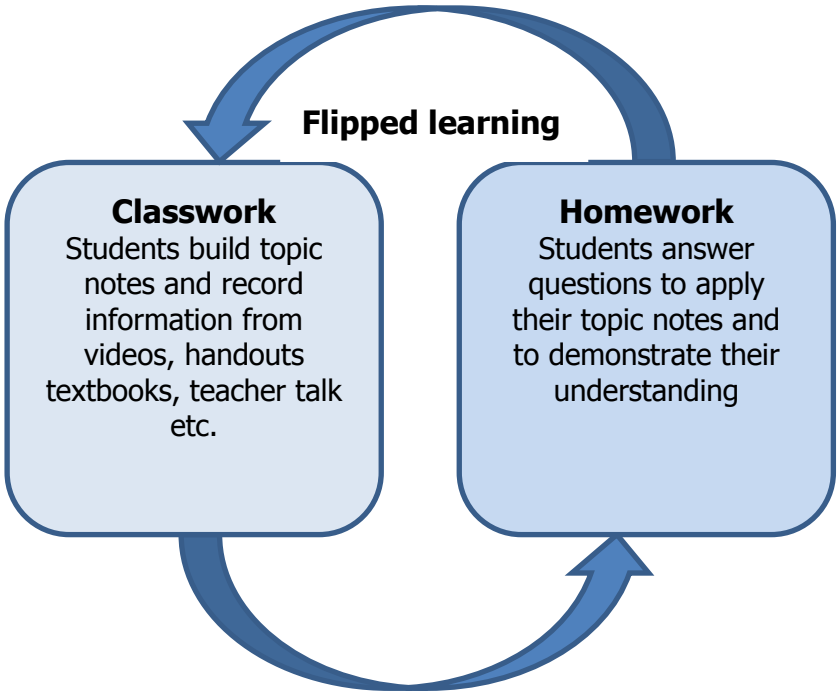
OECD member states and the most recent Ofcom statistics for internet access indicate that 95% of homes in Britain internet access. Interestingly there is a strong correlation between homes with books and homes with the internet regardless of income status and tis underlines the need to reach out to parent(s) and guardians(s) as far as possible to draw into a learning partnership.

Home access	Low income household	High income household
Text Books	75%	96%
Internet	72%	97%

Schools and colleges are increasingly purchasing and leasing tablets like the ipad or netbooks to students to ensure that they all have access to a computer at home. This often beyond the means of many schools with small budgets to administer but the e-Learning Foundation charity (www.e-learningfoundation.com) is dedicated to helping to manage access to computers and the internet. The Foundation offers expert guidance and can manage leasing arrangements and provide grants for the purchase of computers. Access to the internet is more difficult to resolve for those without a home broadband connection and students in this situation will have to seek and take advantage of free wifi hotspots. To ease the issue of multiple files students should also be encouraged to take up the free 'cloud' space that is offered by Google and many other providers so that they can always access and work on the same version of their assignments rather the confusion of multiple versions on memory sticks, laptops and computers. Alternatively your server may have sufficient capacity to grant personal file space. Not all students are competent online learners and some will lack the study and organisational skills to research and manage their own learning. Most students will need their teachers to help them navigate across the internet clutter and to draw upon respected and trustworthy sources of information. They will need lessons and curriculum plans punctuated with Key Questions to answer to focus their research and in particular they will need teachers to help them understand and apply what they find and to avoid the trap of, 'cut and paste'. They will also need our safeguarding guidance to ensure their online privacy and security. The role of the teacher will switch from primarily imparting information to a coaching and a facilitation role with a focus on individuals and their progress rather than classes. We do not teach classes but rather individuals who all happen to be in the same room and with the skilful application of online learning and support we can offer all students the help they need to flourish.

Flipped Learning

A common approach to teaching and learning is to use lesson time for 'chalk and talk' to describe and explain key topic information which pupils or students record as notes (teaching) and to use homework to set questions or tasks to promote a deeper reflection, analysis and evaluation of the topic information (learning). However, the latter is more demanding and it is common for most pupils and students to experience difficulties and misunderstandings with homework tasks. Without a teacher at home to help most will ask their siblings, parents and/or their friends for help. The problem is so common that the BBC Radio Two, 'Drive Time' programme has a feature entitled 'homework sucks' to help listeners to complete their homeworks. Most pupils or students find homework tasks difficult because they are analysing and evaluating information. In contrast the classroom often raises fewer demands because the focus is largely on note-taking from teacher 'chalk and talk', a textbook or watching video etc. Flipped learning 'flips' the less demanding note-taking tasks out of the classroom to form the homework task and reserves the classroom for a mixture of individual, paired and group tasks to discuss and apply the topic information with the added advantage of teacher support.

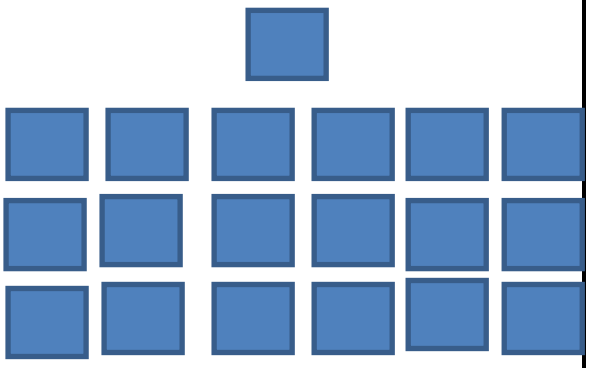
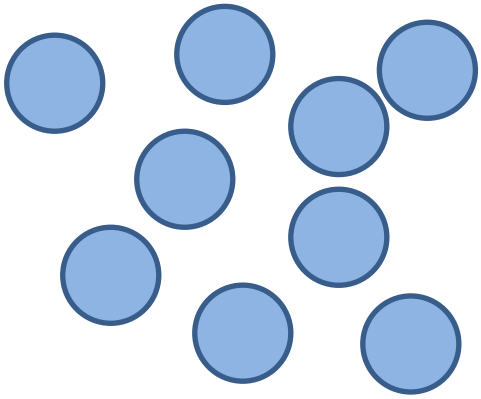


The concept of flipped learning arose in 2007 from an innovative experiment by Jonathan Bergmann and Aaron Sams who were both teachers at

Woodlands Park High School in Woodlands, Colorado. Bergmann and Sams videoed their lessons to help students who had missed the lessons to catch-up. The videos proved popular and both discovered that if all the students watched the videos they could save their lesson time to discuss and analyse the information rather than spending most of the lesson time presenting basic information. They could also plan and perfect short, sharp presentations of key topics / explanations / demonstrations on video and by collaborating reduce their overall workload. The students gained the opportunity to re-watch as wished and to learn at their own pace anytime and anywhere. Students entered classrooms with questions and moved from being passive listeners to active participants as the teachers gained time to focus on coaching and building higher order thinking and reasoning skills. Consequently far from being redundant the flipped learning model needs teachers more than ever to apply their subject expertise to identify and resolve student misunderstandings, to support and stretch each student and to target the achievement of high grades. Although the term 'homework' is used in the above diagram in practice it refers to engaging in independent learning outside of the classroom whether at home, school, college, local library etc and using resources placed by the teacher on the school or college Virtual Learning Environment (VLE) for ease of access. The resources can include a core of recommended videos sourced from the internet, personally produced videos, ebooks, websites, handouts etc. The online reading and research is steered by setting key questions and with encouragement to conduct a wider webquest.

A common reaction to the concept of flipped learning is concern that too many students will fail to complete the advance online reading and note-taking tasks and arrive at their lessons ill-prepared. However, the non-completion of homeworks by a minority of pupils or students is not a new issue and the response should be the same. A repeated failure to complete advance reading and note-taking tasks may highlight a need for some students to receive extra study skills support or behaviour management intervention and appropriate strategies are discussed and provided. However, as the advance tasks are largely note-taking from specified resources, along with encouragement to conduct a wider web quest, all should able to manage and will hopefully enjoy and gain motivation by exploring the mix of resources. Within the classroom those who have completed their advance reading and note-taking can engage with individual, paired and group tasks to deepen their learning and those who have not completed the advance task can be directed to the Learning Centre to complete the necessary reading and note-taking. Once flipped learning is introduced the 20th century classroom of a teacher standing at the front with largely passive students seated in straight

rows listening will give way to the 21st century classroom of participative learning with the teacher circulating, prompting, listening, explaining and questioning.

20th Century classroom	21st Century classroom
	
Whiteboard OHP Scheme of Work for teacher Teacher provides information Lessons dominated by note-taking Passive listening Teacher assessment / marking Focus on cognitive skills Focus on primacy of academic achievement	Interactive whiteboard You tube / Google images Learning portal or similar Web quests / learner presentations Lessons dominated by Q&A Active group / paired tasks Peer assessment / marking Focus on functional/ employability skills Focus on creativity and entrepreneurship

The significant advantage of flipped learning is that the teacher is in the classroom and able to respond to questions as they arise, to help students to resolve any misunderstandings or misconceptions as they apply to their research and compare their note-taking with other students in regular individual, paired and group tasks. This will promote much deeper learning because the students will have had time to reflect upon their note-taking and will have questions and be aware of aspects they do not fully understand. In contrast in standard 'chalk and talk' lessons, students are expected to immediately respond to and question new information as it is presented. The involvement in paired and group discussions will also promote peer learning because students will often ask questions of each other that they would not ask in front of a whole class and confidence will grow when they discover that someone else shares the same misunderstanding. To facilitate beneficial exchanges the students should be placed into regular mixed ability groups or pairs to encourage peer questioning and peer teaching. Deeper and more productive learning will result because peer working extends and challenges individual assumptions.

It's all about learning?

Why learn…?	What to learn…?	How to learn…?
Aim to raise motivation and personal ambition by 'selling' the benefits of your subject. • Employment options • Personal satisfaction • Self-Development • University options • Role models • Current research • Motivational displays • Visiting speakers • Raising self-belief	Offer clear guidance to the major topics, exam format and monitor clear targets. • Specification details • Learning Plans • VLE support • Stretch and challenge • Exam requirements • Marking schemes • How to improve • English, Maths & employability skills	Instruct and model how to research, write, calculate and present etc. • Organisational/study skills • Time management • Writing frames/ templates • Exemplars • Peer support • Home support • Applying effort • Reciprocal teaching

Why learn…?

The students of the Urban Prep Boys School in Chicago start each day with a recital of their personal creed, *"We are the young men of Urban Prep. We are college bound. We are exceptional – not because we say it but because we work hard at it. We believe in ourselves. We believe in each other. We believe in Urban Prep"* [6]Too many of our students lack ambition and a clear awareness of the different career opportunities, including self-employment, linked to their course of study. Despite the best efforts of our career service many pupils receive insufficient careers guidance and may enter a course of study with very limited horizons and limited ideas of where it might lead. In the internet era with its low start-up costs self-employment is a real possibility. Abi Wright was discouraged from entering business by a careers adviser but founded www.spabreaks.com and today employs 35 staff and enjoys a turnover of £7 million per year. Those with parent(s) or guardian(s) who have been to university and/or held regular employment or established their own business tend to hold the advantage because they can offer significant guidance and support to their children. They also tend to place a high value on education and promote and expect progression to university. Therefore from first interview and induction forward it is important to ensure that all students have a sense of purpose, a career goal or at least a significant interest in their chosen course. To combat low or uncertain careers goals we need to promote ambition by raising awareness of the knowledge and skills the students will gain and the range of future career opportunities. Course titles like Biology, Business Studies or Engineering may not convey much to a student in terms of opportunity but if the classroom wall has a list of 50 associated jobs with examples of salaries, major

employers, role models, university options, current research etc the subject becomes much more meaningful and our students might develop greater ambition and establish personal goals. Within the Motor Vehicle field the future is possibly all electric or even self-driving cars. Within Biology In-vitro technology is set to produce meat grown from animal cells in the laboratory and eventually replace animals in the field. Within Physics the Cern project is questioning Einstein's theory of Relativity etc. What are the 'big questions' in your subject? Referencing current research often makes a good lesson 'appetiser' or starter activity to make links to the world of work, new developments or university cutting edge research. Invite your students to maintain a current affairs learning wall in your classroom and prompt greater application by organising appropriate visits, invite role models and past students into your classroom, advertise local, regional and national competitions and organise creative and challenge events. Essentially the most effective schools and colleges aim to inspire and raise personal horizons and ambition because it drives effort and ultimately achievement.

What to learn…?

Independent learners are well organised and tend to examine the specification, the examination requirements, past exam papers, the marking criteria and the relative importance of each key topic and this 'strategic' planning is a major factor in their success. However, the *dependent* and *directed* learners tend to lack the skill and confidence to source this depth of information and to know what to study and in what order and to what depth. Their parents may also not have studied at a higher level and lack the knowledge or ability to offer helpful guidance of how to find information or even the confidence to ask teachers for further information. Course specifications are also not the most illuminating of documents and are often too formal for students to unpick in terms of precise study goals. Equally staff Schemes of Work, even if shared with students, may lack sufficient clarity of what to study. The majority of our students need much more structured support in terms of the key topics and associated resources in order to study ahead and to develop independent learning skills. Without clarity of 'what to learn' students are made dependent on the weekly lesson for their information and support and we may find ourselves building and supporting dependency rather than independence. In the Knowledge Age the Virtual Learning Environment (VLE) is the significant vehicle for sharing and accessing information and should provide topic by topic study guidance. The term 'advance organiser' is a descriptive term often applied to guidance on 'what to learn' and some form of advance organiser is a vital support tool to underpin independent study. This clarity of 'what to learn' should also extend

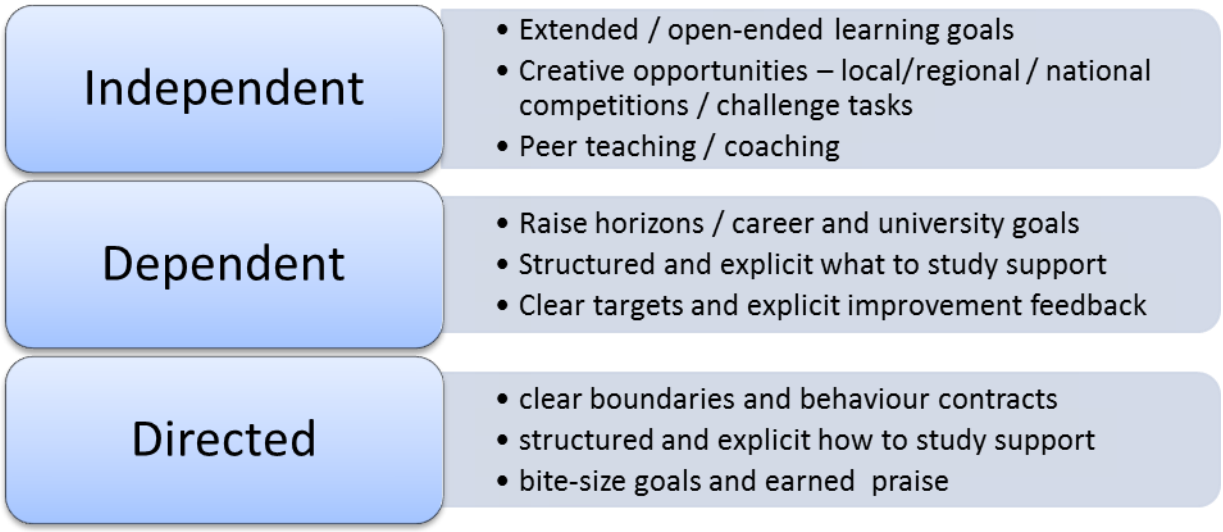
into the classroom with the sharing of explicit objectives or better still key questions so that the students are in no doubt as to what they are going to learn and the associated success criteria.

How to learn…?

Coaching how to learn is the third and often most significant teaching function to build the skills of independent learning. Our *directed learners*, in particular, lack effective study skills and may need our help with quite basic aspects like time management and how to maintain a file etc. Model how to maintain a file or how to structure an essay or report or even specify the minimum study kit of A4 paper, pen, pencil, calculator etc. as required. To be effective there should be common staff expectations so that students receive consistent messages in relation to how their work should be presented and completed. Publish standard behavioural contracts and consistently enforce your non-negotiable minimum standards and identify 'at risk' students who may need rapid intervention to cope with the course. The simple provision of standard writing frames or how to lay out an assignment can make the difference for many students. Exemplar answers can also be of significant help to illustrate what a good answer looks like. It is common on many courses for higher marks to be awarded for writing that is analytical and evaluative in style and lower marks for writing that is largely descriptive. However, how is this difference shared with your students and how are all coached to improve their writing to the higher standard? Without explicit exemplars and 'how to learn' support and guidance many students will not achieve as well as they might and those on the margins of pass/fail may end up on the wrong side. It is notable that the expansion of Higher Education in the UK has been accompanied by a significant increase in the number of 'drop outs' because too many students lack effective study skills and the skills to be independent learners. This is a significant teaching function but one that is often neglected and/or relegated to the tutorial session. All staff should teach relevant 'how to learn' skills in context as they approach each significant task or topic. This includes how to present which is a vital skill for the workplace and life. Too many teachers watch clearly nervous young people struggling to give a presentation but fail to coach body language, voice projection, breathing techniques, use of cue cards, visual slides etc. to help them develop the skills of confident public speaking. Confidence is not something we are born with but it is something we can develop with help. However, the key intervention is to ensure that all students are applying sufficient effort to succeed and to comment upon and measure effort at relevant assessment points.

Overall strategies

The overall strategies to lift the performance of each broad group of learners may be summarised as follows:



Cornell note-taking system

Key points	My notes
After you have recorded your notes re-read them and use this space to identify key points raised	Use this space to record all your notes whether from a lecture, a textbook, video etc.

My questions

Use this space to record questions you want to ask or simply points for clarification.

Havering College

Human Biology Learning Plan 1

The human body

Lesson 1 (list the lessons linked to this topic)

Lesson 2

Lesson 3

Key learning aim

Insert one overarching aim

Big Picture

Insert an overview description here about the topic, its importance and links to future assessment/exams.

Key Questions

Can you answer the following key questions? Use the questions as a checklist for your own learning and be prepared to ask and seek answers as appropriate. You should be able to find answers by referring to the key resources listed overleaf.

Insert a list of questions with graduated levels of difficulty ranging through pass level, merit level and up to distinction level or grades D/E to grades A/B. Apply Bloom's taxonomy to ensure differentiation.

Learning Strategy

Use this column to provide some overview information about the topic i.e importance within the overall programme of study, comments related to exam standards and/or links to other topics. Provide some guidance on the nature of the tasks set with encouragement to try the challenge task.
Highlight any opportunities to practice and develop functional and/or employability skills and any links to Equality and Diversity issues.
Develop links to practical workshop sessions between relevant theory and practical sessions as the lessons listed on the title page might encompass a mix of theory and practical lessons.

Classroom learning

The following resources will be used to support this topic in the classroom and may also be found on the VLE.

- Textbook chapter
- DVD
- Powerpoint
- Handout etc

Library learning

The following resources may be found in the Learning Centre and will help to extend your knowledge;

- Textbook title
- DVD title
- Periodical article

Online learning

The following online resources are very useful:

- Website address or paste in a QR code.
- Recommended app
- Other VLE resources
- You tube video

Challenge task

Insert here an extended study suggestion or additional task that all are encouraged to have a go to stretch their knowledge and understanding.

The ipad and learning

The ipad and similar tablets provides an immediate boost and gateway to independent learning. However to work successfully it is important for colleges and course teams to develop a structured approach. Reduce the screen clutter by placing useful Apps into folders and place the folders into a logical learning sequence.

1 A link to the learning portal or similar VLE page displaying key topic details i.e what students should learn?

2. A link to the relevant exam specification

3. Reference sources e.g. Wikipedia, Britannica, Wolframalpha, Google – invite students to capture overview notes on a key topic

4. Books – upload key ebooks

5. Periodicals – upload links to key periodicals

6. Websites – provide links to key websites

7. Video – upload or provide links to key video support e.g. Khan Academy and You Tube, itunesU.

8. Apps – identify any useful subject based Apps.

9. Tools – identify and upload useful classroom Apps like mini whiteboards, sticky notes, Word, Powerpoint, Excel (or Apple equivalents) Dropbox, Calculator, mindmaps, poster creation, photo editing, note taking apps etc

Finally design and upload your own videos and Powerpoints