



Initial Teacher Training

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DAY 1 – COURSE

HANDBOOK

'Andragogic Education' - 11 Church Road, Great Bookham, Surrey, KT23 3PB

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DAY 1

Aim/s:

By the end of the session you will develop an understanding/appreciation of

- **The qualification and its requirements**
 - **Adults as learners and their learning needs**
 - **The many aspects in planning a good learning experience for a variety of learners**
-

Objectives: (SMART - Specific, Measurable, Achievable, Realistic & Timely)

By the end of the session you will/should have...

(HOW each objective will be achieved and demonstrated will be identified)...

- 1. Reviewed (and completed) all documents relating to the course**
- 2. Been introduced to the group**
- 3. Reviewed and discussed the English educational structure**
- 4. Completed a learning styles questionnaire and discussed its implications for yourselves and your learners**
- 5. Completed an exercise examining the 'barriers to learning' and the possible solutions**
- 6. Reviewed & discussed the many aspects in planning a good learning experience for a variety learners by examining the theoretical and practical aspects**
- 7. Completed the aims and objectives (only) for a fictitious lesson/session plan**

(Be prepared to complete a lesson plan to be submitted before your assessed teaching session – allowing feedback on this vital component of the course)

EXERCISE- Introductions – (15 minutes approx.)

You will need to **present** to the group (for 2 minutes at the most!) some basic information about the person sitting next to you and vice-versa, such as;

1. Name (of the person sitting next to you);
2. Current place of work
3. Career history;
4. What has brought them to this course today? WHY?
5. Hobbies;

EXERCISE – 2 minutes (approximately). Whole group activity.

Consider the different **‘life experiences’** of the following teachers / trainers. Broad or narrow experience?

1) SCHOOL teachers

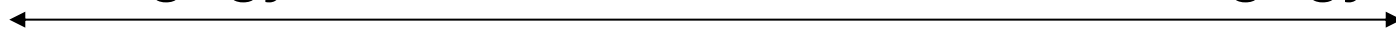
2) UNIVERSITY lecturers

3) Teachers and trainers (like you perhaps) as well as college of further education lecturers.

Ways of teaching – teaching philosophies

Pedagogy

Andragogy



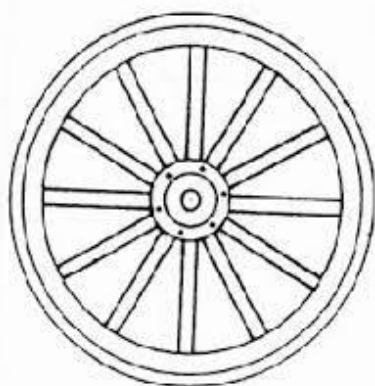
These arrows represent a continuum. A continuous range of different teaching methods.

Teacher centred. The pedagogical model of instruction was originally developed in the monastic schools of Europe in the Middle Ages. Young boys were received into the monasteries and taught by monks according to a system of instruction that required these children to be obedient, faithful, and efficient servants of the church (Knowles, 1984). From this origin developed the tradition of pedagogy, which later spread to the secular schools of Europe and America and became and remains the dominant form of instruction.

WHERE THE TEACHER GENERALLY

Controls
Directs
Manages
Suggests

The teacher will often be at the HUB of the learning experience with most activities being controlled by the teacher, through the 'spokes' of the 'wheel'. **For example:**



Learner centred. As adults mature, they become increasingly independent and responsible for their own actions. They are often motivated to learn by a sincere desire to solve immediate problems in their lives. Additionally, they have an increasing need to be self-directing. In many ways the pedagogical model does not account for such developmental changes on the part of adults, and thus produces tension, resentment, and resistance in individuals (if a pedagogic approach is used) - (Knowles, 1984).

WHERE THE TEACHER GENERALLY

Empowers learners to learn for themselves.

Will **facilitate** collaborative learning environments where all contributions are part of the learning process.

Will use small group and pair work, EXCLUDING direct input from the teacher – but needs to be closely monitored and structured

The teacher will often '**facilitate**' learning environments with a tightly structured framework of instructions usually contained in 'resource packs'. The teacher's role can often be to offer personal support through guidance and advice.

Exercise - Individually, after reviewing the definitions of ‘Pedagogy’ and ‘Andragogy’, complete the table below by indicating if each teaching method listed on the left is either **generally** pedagogic (teacher centred) or andragogic (learner centred). (5 minutes approximately).

Teaching method / learner activity	Pedagogic?	Andragogic?
1. EXAMPLE. Lecture (by the tutor);	YES	
2. EXAMPLE. Self (learner) evaluation in formal way (using prescribed assessment criteria);		YES
3. Tutor led discussions, e.g. through the use of ‘brainstorming’		
4. Researching and then writing; Essays, Reports, Projects		
5. The learners engaged in solving problems and developing plans by identifying problems, posing problems, defining problems, analysing data, reviewing, designing experiments, planning, applying information by working individually or in pairs or groups; using case studies, simulations (scenario based work – real or fictitious);		
6. Demonstration (by the teacher)		
7. Role Play (by the learner)		
8. Peer teaching (i.e. learners research, prepare and then formally teach their own colleagues, with the ‘teacher’ facilitating the event);		
9. Demonstration (by the learner – for peer teaching);		
10. Teacher led question and answer;		
11. Peer evaluation in formal way (using prescribed assessment criteria);		
12. Pair and small group work in discussions, debates;		
13. Tutor led Power Point presentation;		

Exercise - 'Levels' commonly used in Education

R(N)VQ LEVEL;	SIMILAR QUALIFICATIONS AS;
Pre-level 1	(ESOL - English for speakers of other languages ESOL Skills for Life qualifications are available at five levels on the Qualifications and Credit Framework (QCF) – Entry 1, Entry 2, Entry 3, Level 1 and Level 2. There are three modes at each level – Reading, Writing, and combined Speaking and Listening. Entry level qualifications, 1, 2 &3, subject based). Skills for life:
LEVEL 1 (Further education – levels 1 to 3) Functional skills:	
LEVEL 2 Functional skills:	
LEVEL 3 Functional skills:	- 2 'A' Levels, OR; - Advanced Extension Awards, OR; - International Baccalaureate, OR; - (National) Diplomas, Certificates and Awards
LEVEL 4 (Further/higher Education)	
LEVEL 5 (Higher Education)	

University 'levels'

1 Certificate	C level	Certificates of Higher Education
2 Intermediate	I level	Foundation degrees, ordinary (Bachelors) degrees, Diplomas of Higher Education and other higher diplomas
3 Honours	H level	Bachelor's degrees with Honours, Graduate Certificates and Graduate Diplomas
4 Masters	M level	Masters degrees, Postgraduate Certificates and Postgraduate Diplomas
5 Doctoral	D level	Doctorates

EXERCISE – 5 minutes (approximately). Whole group activity.

Case study:

You (as a trainer) will be running a ‘level 3’ course soon.

You have many applicants. You have issued a ‘pre-course’ assessment form and found that two applicants include;

1) a 19 year old who has a LEVEL ONE qualification.

2) a 42 year old who has NO FORMAL qualifications at all.

QUESTION - What do you do? Discuss!

A

P

E

L

The NQF (National Qualification Framework) and QCF (Qualifications and Credit Framework), set out the levels that different qualifications can be recognised in England, Northern Ireland and Wales. The framework groups together qualifications that place similar demands on you as a learner. However, within any one level, qualifications can cover a wide mix of subjects, and take different amounts of time to complete. The NQF can also help you see how one type of qualification can lead on to other, higher levels of qualifications.

Level	(old) NQF	(new) QCF	What they give you
Entry	- Entry level certificates - English for Speakers of Other Languages (ESOL) - Skills for Life - Functional Skills at entry level (English, maths and ICT)	- Awards, Certificates, and Diplomas at entry level - Foundation Learning at entry level - Functional Skills at entry level	- basic knowledge and skills - ability to apply learning in everyday situations - not geared towards specific occupations
1	- GCSEs grades D-G - BTEC Introductory Diplomas and Certificates - OCR Nationals - Key Skills at level 1 - Skills for Life - Functional Skills at level 1	- Awards, Certificates, and Diplomas at level 1 - Functional Skills at level 1 - Foundation Learning Tier pathways	- equivalent to five GCSEs at grades D to G - basic knowledge and skills - ability to apply learning with guidance or supervision - may be linked to job competence
2	- GCSEs grades A*-C - Key Skills level 2 - Skills for Life - Functional Skills at level 2	- Awards, Certificates, and Diplomas at level 2 - Functional Skills at level 2 - Nationals	- good knowledge and understanding of a subject - ability to perform variety of tasks with some guidance or supervision - appropriate for many job roles - note that the new (2011) Higher Diploma is a level 2 qualification, equivalent to seven GCSEs at grades A* to C
3	- A levels - GCE in applied subjects - International Baccalaureate - Key Skills level 3	- Awards, Certificates, and Diplomas at level 3 - Nationals	- ability to gain or apply a range of knowledge, skills and understanding, at a detailed level - appropriate if you plan to go to university, work independently, or (in some cases) supervise and train others in their field of work - note that the new Advanced Diploma is a level 3 qualification for those over 16, equivalent to three and a half A levels
4	- Certificates of Higher Education	- Professional Diplomas Certificates and Awards - HNCs	- specialist learning, involving detailed analysis of a high level of information and knowledge in an area of work or study - appropriate for people working in technical and

			professional jobs, and/or managing and developing others
5	- HNCs and HNDs - Other higher diplomas	- HNDs - Professional Diplomas, Certificates and Awards	- ability to increase the depth of knowledge and understanding of an area of work or study, so you can respond to complex problems and situations - involves high level of work expertise and competence in managing and training others - appropriate for people working as higher grade technicians, professionals or managers
6	- National Diploma in Professional Production Skills - Advanced Professional Diplomas, Certificates and Awards	- Advanced Professional Diplomas, Certificates and Awards	- a specialist, high-level knowledge of an area of work or study, to enable you to use your own ideas and research in response to complex problems and situations - appropriate for people working as knowledge-based professionals or in professional management positions
7	- Diploma in Translation - Advanced Professional Diplomas, Certificates and Awards	- Advanced Professional Diplomas, Certificates and Awards - NVQs at level 5 (in the QCF framework)	- highly developed and complex levels of knowledge, enabling you to develop original responses to complicated and unpredictable problems and situations - appropriate for senior professionals and managers
8	- specialist awards	- Award, Certificate and Diploma in strategic direction	- opportunity to develop new and creative approaches that extend or redefine existing knowledge or professional practice - appropriate for leading experts or practitioners in a particular field

OFQUAL - Explaining the RQF <https://ofqual.blog.gov.uk/2015/10/01/explaining-the-rqf/>

Jeremy Benson, Executive Director for Vocational Qualifications. 1 October 2015. Vocational qualifications. The RQF replaced the Qualifications and Credit Framework, and National Qualifications Framework in October 2015, but has some similar features.

The framework should help people understand all the qualifications OFQUAL regulate, general and vocational in England, and vocational in Northern Ireland, and how they relate to each other. Its intention is to improve consistency around how awarding organisations describe the size and challenge, or demand, of the qualifications they offer.

OFQUAL have introduced the RQF because they think it's important that there is still a frame of reference available now that the Qualifications and Credit Framework (QCF) rules are no longer in operation.

Sizing up qualifications

OFQUAL have asked the awarding organisations that OFQUAL regulate to begin describing the size of their qualifications using some new terminology – Total Qualification Time (TQT). TQT is, essentially, an indication of how long a typical learner might take to study a qualification, including the time spent on their individual study and on assessment. It also includes Guided Learning Hours (GLH), which is the time spent actually being **taught**.

OFQUAL know that some learners will study faster or slower than others, so size really is a guide, not an absolute. But OFQUAL know it's useful to have an estimate of things like teaching and assessment time, not least for those who plan timetables or who are responsible for funding. It's also helpful to get an understanding of how long an employee might need to be away from work to study, or knowing as an individual how much time you might need to dedicate to achieving your qualification.

On the level

OFQUAL have been careful to build on what already worked with qualification frameworks, and so the RQF uses the same levels that OFQUAL are already familiar with, Entry 1-3 and Levels 1-8. The RQF **maps** to the Framework for Higher Education Qualifications, as well as to the European Qualifications Framework too, as OFQUAL know that portability is important to those looking for jobs or seeking to employ people from across the continent.

While OFQUAL have updated how the levels are described, OFQUAL have not changed the demand of the levels themselves. The level descriptors are more outcomes-focused now, covering both academic and vocational

qualifications, and setting out the 'skills' and 'knowledge and understanding' that you might typically expect of someone with a qualification at that level.

2+2=5?

Qualifications can serve a wide variety of different purposes and assess very different skills and knowledge. So being at the same level, or of similar size, does not make qualifications directly equivalent to one another.

To understand how qualifications might compare, you need to look in more depth, and not just at size and level. OFQUAL encourage you to take the look online at the Register of Regulated Qualifications - <http://register.ofqual.gov.uk>

OFQUAL's intention is that the RQF acts as a simple tool for describing qualifications. OFQUAL don't claim that it will transform the qualifications landscape, but OFQUAL do hope it will help people to understand qualifications a little better and to use them more confidently.

How does it work?

In the previous QCF, everything learnt was valuable. All qualifications in the QCF were made up of smaller units of learning. Every unit and qualification has a credit value.

There are three sizes of qualification in the QCF:

- Award (1 to 12 credits)
- Certificate (13 to 36 credits)
- Diploma (37 credits or more).

How much time it takes to complete — one credit represents a notional 10 hours) and a level between Entry level and level 8 (showing how difficult it is).

There were three sizes of qualifications in the QCF:

- **Awards (1 to 12 credits)**
- **Certificates (13 to 36 credits)**
- **Diplomas (37 credits or more).**

Learner Records (LRs) - unique learner numbers

When a unit of credits and/or qualification is awarded, it will be recorded on the learners own centralised online Learner Record. See also; <https://www.gov.uk/government/publications/lrs-unique-learner-numbers>
<https://idp.lrs.imservices.org.uk>

"APEL is the accreditation of prior experiential learning, that is, the award of credit for learning based on prior experience -- from work, community or volunteer experience -- which has not previously been assessed and/or awarded credit. By converting informal learning into certificated learning, APEL provides cost-effective routes to qualifications. It has potential significance for people who, through life and work experience, have learned knowledge, skills and analytical abilities that are comparable to those in a higher education award. APEL offers the possibility for what learners know to be recognised, assessed with the same rigour as any other learning would be at HE level, and awarded credit." (Learning from Experience Trust 2000:1).

This process involves learners who have gained knowledge, skills and abilities in different walks of life successfully claiming to equate these achievements with learning delivered in modules and accounted for in numbers of credits (normally in UK points which are equivalent to double the value of European Credits). Most of this provision is based in the New Universities (which prior to 1992 were Polytechnics) and has had a significant degree of acceptability.

The accreditation of prior experience and learning at University level is of increasing importance as institutions address the operational issues surrounding entry to awards posed by the lifelong learning agenda.

How are mid-career learners admitted onto courses when they have few formal qualifications?

How do institutions give credit for forms of learning which have not been previously accredited or which do not come within more traditional accreditation processes - for example learning that arises from life or vocational experiences?

These issues have led to formal accreditation structures within schemes and programmes. For example, accreditation may be delegated to a Scheme approvals board (at the level of a School/Department) which will expect to see evidence covering: the nature of the experiences for which credit is sought; evidence, direct or indirect, to substantiate the experiences; the nature, scope and magnitude of experiences in terms of the learning that occurred; the relationship of the learning to the award or programme for which entry or advanced standing is being sought.

Exercise - Learning effectively **recalling learning**

In twos (or threes), please **rank** the following teaching methods in order of promoting the best recall rates – i.e. the ability to remember the session later on.

Consider these teaching methods on a **national average** and **exclude** your own personal learning style preferences.

i.e. **1 = BEST** recall rate etc. to **7 = WORST** recall rate

- A. Practice by doing (by the learner)
- B. Reading (by the learner)
- C. Teaching others (i.e. immediate use of new skills/knowledge by learners) – peer teaching
- D. Lecture (by the tutor)
- E. Audio-visual (e.g. running a video for 30 mins)
- F. Demonstration (by the teacher)
- G. Peer discussion groups (excluding the tutor)

To complete in your 'teams', after discussion and debate to agree on the ranking

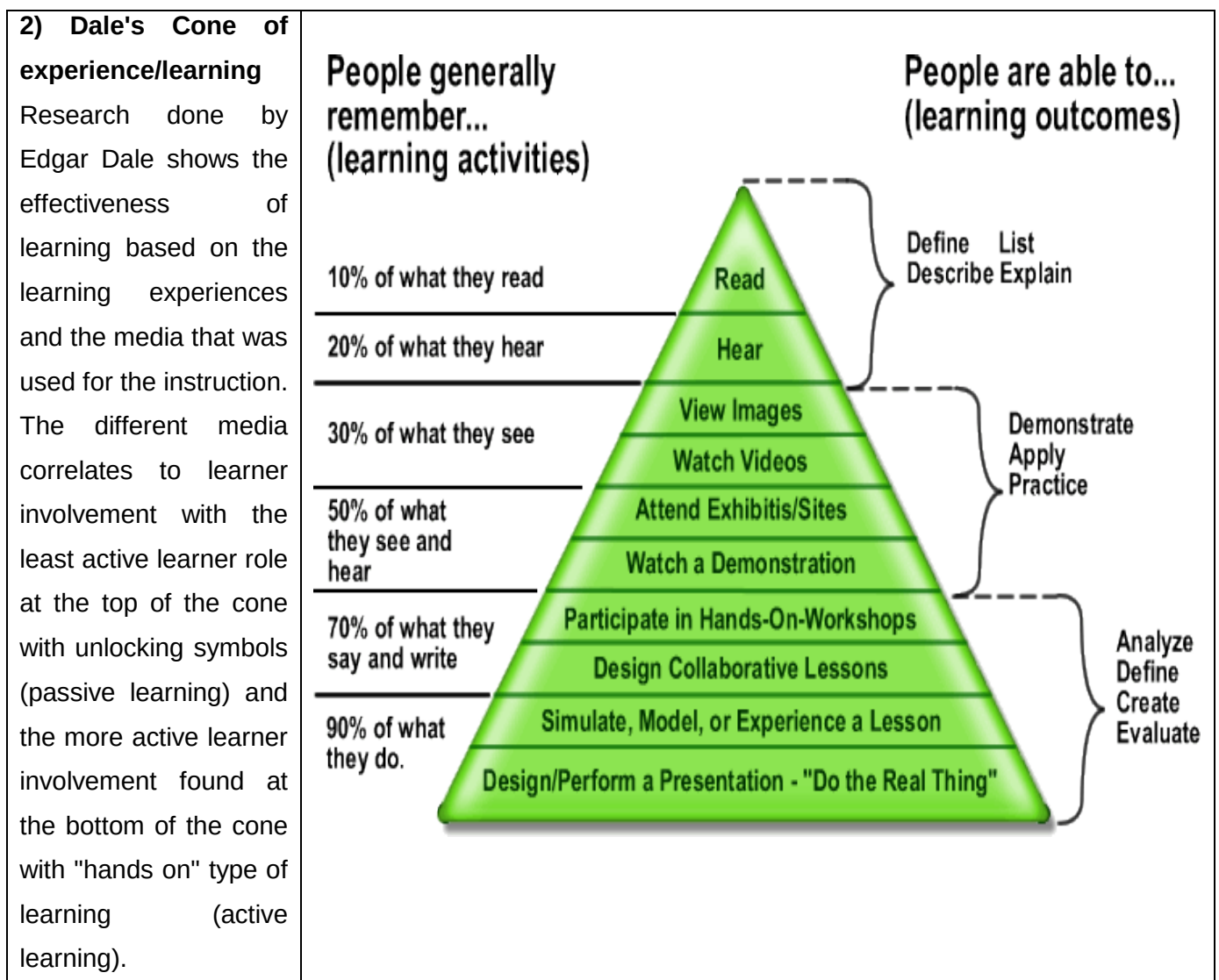
Item	Your response i.e. rank each method 1 to 7	Research answers (To complete)
A Practice by doing		
B Reading		
C Teaching others		
D Lecture		
E Audio-visual		
F Demonstration		
G Discussion groups		

What is Active Learning?

There are several definitions for "active learning", but a common theme to the various definitions is that the learners must "actively" manipulate the material at hand to learn the concepts. Often, it has been said: "Learning is not a spectator sport!" This saying is key to the active learning classroom.

1) Dale's Learning Pyramid See results from the previous exercise!

From Dale's research, additional studies were performed by the National Training Laboratories in Maine and the "Learning Pyramid" was created to illustrate the average retention rate for different teaching methods used by the instructor. The least effective method of instruction given is shown to be for "lectures" with a retention rate of 5%. This finding alone is alarming because of "the lecture" being the most common teaching method in today's universities.



From: <http://www.accd.edu/spc/iic/master/active.htm>

Introduction - The Brain

Much of what we understand about how the brain works has been discovered during the last ten years. Advanced scanning technology has enabled neuro-scientists to detect and analyse the parts of the brain that are active during thinking and learning. We can put this knowledge to good use to improve learning and teaching in our classrooms.

How do the different parts of the brain work together to help us to learn?

The Brainstem

This is the most primitive part of our brain. It regulates basic life functions such as breathing, and controls our reactions and movements. It keeps our bodies running as they should, and ensures survival. Under stress, the brainstem tells us to **fight, to flight (run away) or to freeze**. If we feel stress when we are learning, the Brainstem can slow down our learning. It is sometimes called The Reptilian Brain and cannot be said to think or learn.

The Neo Cortex

The top layers of our brain allow us to think rationally and to solve problems. We achieve higher levels of thinking using this part of the brain. This 'thinking' brain evolved over millions of years and grew from our emotional brain, the Limbic System.

The Limbic System

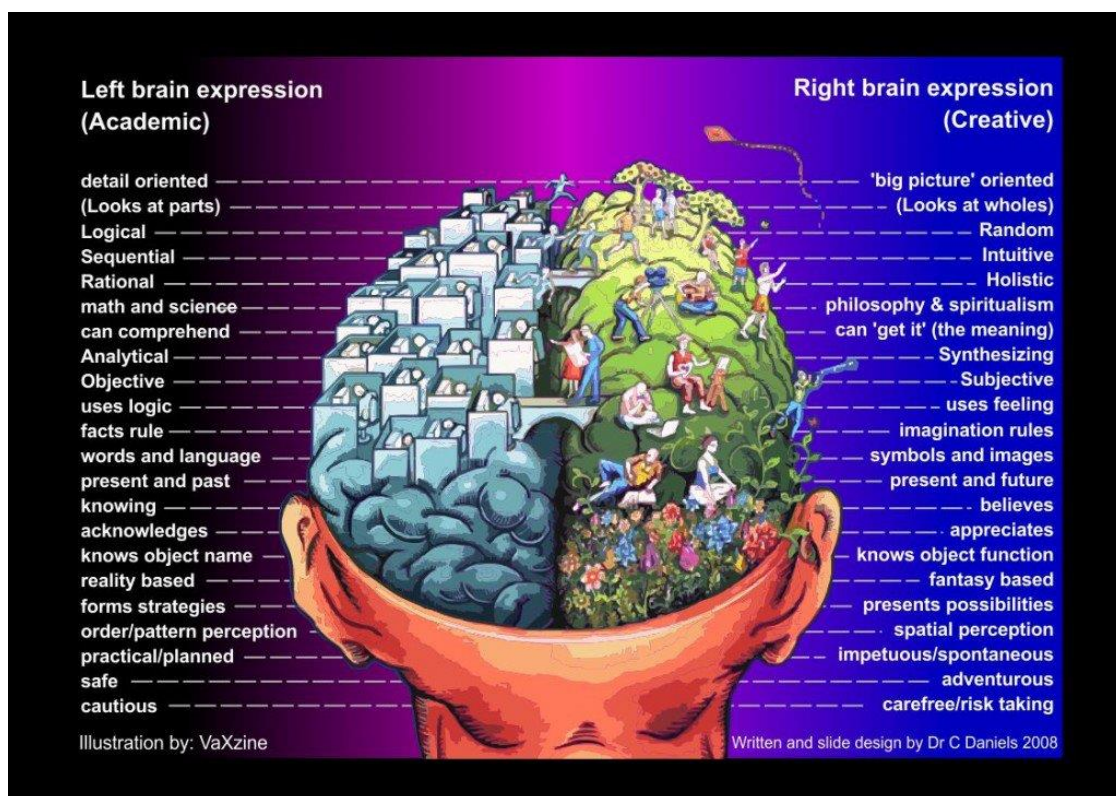
This is the emotional and long-term memory part of our brain. **We are good learners, and can remember things well, when we can use our emotions as we learn.** When we are comfortable, at ease and relaxed we can learn! To maximise learning capacity we need to provide a calm and secure environment within which we can create degrees of challenge. We can then use our 'thinking brains' more effectively.

The Brain Needs Fuel

The brain uses over 20% of the body's oxygen. It requires water, rest and protein. When we sit down for long periods of time, the brain is not as efficient because we use less oxygen. If we haven't had anything to eat or drink for a long period of time we run out of fuel, and learning becomes difficult. If we have to sit for a long time in lessons and we are thirsty or hungry, we will be inefficient learners.

Brain-based Learning (left brain thinking verses right brain thinking)

The neo cortex, the thinking brain, is divided into left and right hemispheres. We use both sides of the brain to a greater or lesser extent in virtually all activities. Some people however, use one side of the brain more than the other. The logical left hemisphere helps us with language, number and logic, sequencing, writing, reading and fine detail. The creative right hemisphere helps us to visualise, to see patterns, images and pictures and to appreciate music, art and design. Although the two sides operate in different ways we should aim to connect the hemispheres. If we can learn in variety of ways, we can retrieve information easily when we need to. The brain enjoys multi-sensory simultaneous input! Information that has been received, processed and stored in a variety of ways is much more likely to be retrieved when we need it! Learning is best done when a balance of multi-sensory approaches is used.



We all use a combination of learning styles, but many of us prefer to learn in a limited few ways. If we can learn to use both sides of the neo cortex (whole brain learning), and begin to use different learning styles, our learning may improve.

Corpus Callosum. The brain is divided into the right and left hemisphere, and the two halves are connected by the corpus callosum. This bundle of nerve tissue contains over 200 million axons (nerve fibers that carry electrical impulses from neurons' cell bodies) by rough estimate. This neural tissue facilitates communication between the two sides of the brain.

The corpus callosum is the largest collection of white matter within the brain, and it has a high myelin content. Myelin is a fatty, protective coating around nerves that facilitates quicker transmission of information. White matter should not be confused with gray matter. The brain uses gray matter for computation, thinking, memory storage, and more. White matter, like the corpus callosum, allows different parts of the brain to communicate with each other. <http://www.healthline.com/human-body-maps/corpus-callosum>

Questions to consider:

1) Reflecting on the English educational system for children ages 4 to 7 years old, would you say that the learning environment is generally a right hand brain or a left hand brain environment, for the children, and why? See also - <http://childdevelopmentinfo.com/child-development/piaget.shtml>

2) Reflecting on the English educational system for children ages 11 to 16 years old, would you say that the learning environment is generally a right hand brain or a left hand brain environment, for the children, and why?

3) What 'labels' might children get from their school, aged 11 to 16 years old, if they are very right-hand brain thinkers in a very left-hand brain learning environment and why? See also - <http://www.therightsideofnormal.com/2013/06/12/dyslexia-or-right-brained-dominant/>

Understanding Dislexea Dyslexia (see also www.bdadyslexia.org.uk)

- The word dyslexia comes from the Greek and means 'difficulty with words'.
 - Around 4% of the U.K. population is severely dyslexic. A further 6% of the population have more moderate problems.
 - Dyslexics can and do learn effectively, but often need a different approach.
 - Tends to run in families, which suggests it's hereditary.
-

Possible Strains of Dyslexia

1. Meares-Irlen, named after the two researchers who first discovered the connection between white page "glare" and reading difficulties in the early 1980s. It is also called Scotopic Sensitivity Syndrome. I.e. Visual difficulties. Visual stress occurs in about 35% of people with dyslexia, so while all weak readers should be assessed for visual stress, not everyone with dyslexia will necessarily benefit from coloured overlays – <http://www.crossboweducation.com>
 2. Dysgraphia - Writing difficulties
 3. Dyspraxia - Clumsiness & speech difficulties
 4. Dysphasia - Word order & pronunciation
 5. Auditory - Short term memory
 6. Attention Deficit Disorder (ADD) - Concentration
 7. Attention Deficit Hyperactivity Disorder (ADHD)
 8. Dyscalculia - learning or comprehending mathematics
-

Strengths of Dyslexics

1. Lateral Thinkers
2. Innovative Thinkers
3. Intuitive Problem Solvers
4. Excellent Problem Solvers
5. Creative
6. Suggestion of being 'right-hand brain thinkers'
7. Human Skills

Famous People with the Gift	of Dyslexia
Actors & Entertainers: Harry Anderson Tom Cruise Dave Foley Danny Glover Whoopi Goldberg Susan Hampshire Jay Leno Keanu Reeves. Kiera Knightley Edward James Olmos Oliver Reed. Billy Bob Thornton. Tom Smothers Robin Williams Loretta Young Henry Winkler	Inventors & Scientists: Albert Einstein. Ann Bancroft, Arctic Explorer. Alexander Graham Bell. John Britten, Inventor. Thomas Edison. Michael Faraday. Dr. James Lovelock. Willem Hollenbach, astronomical photographer and inventor. John R. Horner, Paleontologist. Paul MacCready "Engineer of the Century." Werner Von Braun
Entrepreneurs & Business Leaders: Richard Branson, Founder of Virgin Enterprises. Systems. Henry Ford. William Hewlett, Co-Founder, Hewlett- Packard. Craig McCaw, Telecommunications Visionary. Charles Schwab, Investor. Ted Turner, President, Turner Broadcasting Systems. F.W. Woolworth	Political Leaders: Winston Churchill. King Carl XVI Gustaf of Sweden. Michael Heseltine. Andrew Jackson. Thomas Jefferson. John F. Kennedy. Gavin Newsom, Mayor of San Francisco. Nelson Rockefeller. Paul Wellstone, U.S. Senator. Woodrow Wilson. George Washington

How might you recognise a learner with dyslexia in your group?



Source: http://archive.excellencegateway.org.uk/media/jpg/recognise_dyslexia.jpg

What is dyslexia?

There are many reasons why people find it difficult to learn to read, write, or spell. For many such people, those difficulties can be explained by the normal range of opportunity and experience.

For others, however, those difficulties do not seem so easily explainable. Such learners may be what is termed 'dyslexic'. We understand dyslexia to be a specific difficulty, typically characterised

by an unusual balance of skills. Dyslexia affects information processing (receiving, holding, retrieving and structuring information) and the speed of processing information. It therefore has an impact on skills such as reading, writing, using symbols and carrying out calculations. However, there are many differing definitions; dyslexia is an umbrella term. It is important to recognise that:

- dyslexia is not related to intelligence and can occur in severe, moderate, or mild forms
- people with dyslexia have their own individual profiles of strengths and weaknesses; no two people are exactly the same and the impact of dyslexia on each individual is different
- dyslexia does not only affect literacy skills such as spelling, but most of what we know about it relates to its relationship to language and literacy
- dyslexia may overlap with related conditions such as dyspraxia, attention-deficit disorder (with or without hyperactivity) and dysphasia
- most people appear to be born with dyslexia, although others acquire it through accident or illness
- many people with dyslexia have a family member with the same condition
- some researchers think that dyslexia affects more men than women; others think that roughly the same numbers of males as females are affected.

Making sense of the different theories – Source: <http://archive.excellencegateway.org.uk/article.aspx?o=126811>

There is no consensus among experts on a definition of dyslexia – nor is there agreement on its exact causes.

There is a way of thinking about dyslexia which helps to understand the complexity. It is known as a “causal modelling framework” (Frith, 1997). This framework, which is widely used, suggests that three levels of description are useful for a better understanding of dyslexia:

- Biological (genetics and neurology)
- Cognitive (information processing)
- Behavioural (primary characteristics such as reading and spelling).

At the behavioural level, these biological and cognitive factors can result in difficulties in:

- learning to read
- phonological tasks
- naming

speech development
balance
time estimation
memory
spelling
phonic skills
motion detection.

The introduction to this document explores how such difficulties translate into learning behaviours and suggests appropriate responses to them by teachers.

The social interactive theory of dyslexia is an additional level of description. It focuses on how society's reactions to dyslexia make the differences into a disability.

The particular social values that impact on dyslexia involve:

- viewing some learning differences (especially those involving literacy difficulty) as reflecting deficits in the learner

- valuing certain forms of literacy over other forms and thus those who can access these forms over those who cannot

- using certain sorts of literacy skills as a proxy for intelligence and educability, so that those people who lack such skills are deemed unintelligent or uneducated

- ideas that link speed of information processing to intelligence, so that those people who do not process information as quickly as others are seen as unintelligent

- assumptions about short-term memory and retrieval of information that associate lack of intelligence with any observable delay.

This model acknowledges biological and cognitive differences and the relevance of individual experience. However, it argues that social perceptions and values effectively construct a disability from them.

EXERCISE - LEARNING STYLES

Answer the following 80 questions (20 mins approx.).

When you have completed the questionnaire – score yourself.

Then read the 4 learning style descriptors.

Questions:

1) Do you agree with the descriptions of aspects of the way you learn?

2) What are the implications for teachers when planning their sessions?

(If time, please examine ‘What Makes a Good Teacher?’ and ‘Moving from Pedagogy to Andragogy’ following this section on learning styles).

This questionnaire is designed to find out your preferred learning style(s). Over the years you have probably developed learning 'habits' that help you benefit more from some experiences than from others. Since you are probably unaware of this, this questionnaire will help you pinpoint your learning preferences so that you are in a better position to select learning experiences that suit your style.

There is no time limit to this questionnaire. It will probably take you 15 – 20 minutes. The accuracy of the results depends on how honest you can be. There are no right or wrong answers. If you agree more than you disagree with a statement, put a tick by it (✓). If you disagree more than you agree, put a cross by it (X). Be sure to mark each item with either a tick or cross.

- 1 I have strong beliefs about what is right and wrong, good and bad.
- 2 I often act without considering the possible consequences.
- 3 I tend to solve problems using a step-by-step approach.
- 4 I believe that formal procedures and policies restrict people.
- 5 I have a reputation for saying what I think, simply and directly.
- 6 I often find that actions based on feelings are as sound as those based on careful thought and analysis
- 7 I like the sort of work where I have time for thorough preparation and implementation.
- 8 I regularly question people about their basic assumptions.
- 9 What matters most is whether something works in practice.
- 10 I actively seek out new experiences.
- 11 When I hear about a new idea or approach I immediately start working out how to apply it in practice.
- 12 I am keen on self discipline such as watching my diet, taking regular exercise, sticking to a fixed routine, etc.
- 13 I take pride in doing a thorough job.
- 14 I get on best with logical, analytical people and less well with spontaneous, 'irrational' people
- 15 I take care over the interpretation of data available to me and avoid jumping to conclusions.
- 16 I like to reach a decision carefully after weighing up many alternatives.
- 17 I'm attracted to more novel, unusual ideas than to practical ones.
- 18 I don't like disorganised things and prefer to fit things into a coherent pattern.
- 19 I accept and stick to laid down procedures and policies so long as I regard them as an efficient way of getting the job done.
- 20 I like to relate my actions to a general principle.
- 21 In discussions I like to get straight to the point.

LEARNING STYLES QUESTIONNAIRE - SCORING

You score one point for each item you ticked (✓). There are no points for items you crossed (X). Simply indicate on the lists below which items were ticked. Then circle your total scores on the chart.

	2	7	1	5
	4	13	3	9
	6	15	8	11
	10	16	12	19
	17	25	14	21
	23	28	18	27
	24	29	20	35
	32	31	22	37
	34	33	26	44
	38	36	30	49
	40	39	42	50
	43	41	47	53
	45	46	51	54
	48	52	57	56
	58	55	61	59
	64	60	63	65
	71	62	68	69
	72	66	75	70
	74	67	77	73
	79	76	78	80
Totals (MAX 20)				
	Activist	Reflector	Theorist	Pragmatist

NOW – Plot your scores on the following page – as each number does not have the same meaning in the different columns.

LSQ - PROFILE BASED ON GENERAL NORMS FOR 1302 PEOPLE

Simply plot your 4 scores under each column as appropriate – then read what each learning style means.

Activist	Reflector	Theorist	Pragmatist	PREFERENCES
20 19 18 17 16 15 14 13	20 19 18	20 19 18 17 16	20 19 18 17	Very strong preference
12 11	17 16 15	15 14	16 15 14	
10 9 8 7	14 13 12	13 12 11	13 12	
6 5 4	11 10 9	10 9 8	11 10 9	
3 2 1	8 7 6 5 4 3 2 1	7 6 5 4 3 2 1	8 7 6 5 4 3 2 1	

NOTE: YOU MUST now read the general descriptions AND the specific descriptions over the next few pages for each learning style, to see how you and your learners learn best and how you and they learn least well. Do you agree with the how the scores have portrayed you or your learners? Generally we are mixtures of each learning style – these mixtures can change on a daily basis and over time. Fundamentally however, we may remain characteristically the same ‘person’ throughout our lives BUT we may learn how to COPE personally and professionally in different situations, consequently our answers and scores may change.

Honey & Mumford Learning Styles – Class Results:

It may be useful to complete this table by inserting your name and your colleague's names & scores for when you plan and run your own micro-teaching session whilst on the course.

NAME	ACTIVIST	REFLECTOR	THEORIST	PRAGMATIST
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				

Read the next few pages for the descriptions of each learning style. Do your scores represent your personality?

LEARNING STYLES - GENERAL DESCRIPTIONS

ACTIVISTS

Activists involve themselves fully and without bias in new experiences. They enjoy the here and now and are happy to be dominated by immediate experiences. They are open-minded, not sceptical, and this tends to make them enthusiastic about anything new. Their philosophy is: 'I'll try anything once'. They tend to act first and consider the consequences afterwards. Their days are filled with activity. They tackle problems by brainstorming. As soon as the excitement from one activity has died down they are busy looking for the next. They tend to thrive on the challenge of new experiences but are bored with implementation and longer term consolidation. They are gregarious people constantly involving themselves with others but, in doing so, they seek to centre all activities around themselves.

REFLECTORS

Reflectors like to stand back to ponder experiences and observe them from many different perspectives. They collect data, both first hand and from others, and prefer to think about it thoroughly before coming to any conclusion. The thorough collection and analysis of data about experiences and events is what counts so they tend to postpone reaching definitive conclusions for as long as possible. Their philosophy is to be cautious. They are thoughtful people who like to consider all possible angles and implications before making a move. They prefer to take a back seat in meetings and discussions. They enjoy observing other people in action. They listen to others and get the drift of the discussion before making their own points. They tend to adopt a low profile and have a slightly distant, tolerant unruffled air about them. When they act it is part of a wide picture which includes the past as well as the present and others' observations as well as their own.

THEORISTS

Theorists adapt and integrate observations into complex but logically sound theories. They think problems through in a vertical, step by step logical way. They assimilate disparate facts into coherent theories. They tend to be perfectionists who won't rest easy until things are tidy and fit into a rational scheme. They like to analyse and synthesise. They are keen on basic assumptions, principles, theories models and systems thinking. Their philosophy prizes rationality and logic. 'If it's logical it's good'. Questions they frequently ask are: "Does it make sense?" "How does this fit with that?" "What are the basic assumptions?" They tend to be detached, analytical and dedicated to rational objectivity rather than anything subjective or ambiguous. Their approach to problems is consistently logical. This is their 'mental set' and they rigidly reject anything that doesn't fit with it. They prefer to maximise certainty and feel uncomfortable with subjective judgements, lateral thinking and anything flippant.

PRAGMATISTS

Pragmatists are keen on trying out ideas, theories and techniques to see if they work in practice. They positively search out new ideas and take the first opportunity to experiment with applications. They are the sort of people who return from management courses brimming with new ideas that they want to try out in practice. They like to get on

with things and act quickly and confidently on ideas that attract them. They respond to problems and opportunities 'as a challenge'. Their philosophy is: 'There is always a better way' and 'if it works it's good'.

"The Marvel of Learning Styles"

ISBN 0 950844403

<http://www.peterhoney.com>

FULLER DESCRIPTIONS - ACTIVISTS

Activists learn best from activities where:

1. There are new experiences / problems / opportunities from which to learn.
2. They can engross themselves in short 'here and now' activities such as business games, competitive teamwork tasks, role-playing exercises.
3. There is excitement / drama / crisis and things chop and change with a range of diverse activities to tackle.
4. They have a lot of the limelight / high visibility, i.e. they can 'chair' meetings, lead discussions, give presentations.
5. They are allowed to generate ideas without constraints of policy or structure of feasibility.
6. They are thrown in at the deep end with a task they think is difficult, i.e. when set a challenge with inadequate resources and adverse conditions.
7. They are involved with other people, i.e. bouncing ideas off them, solving problems as part of a team.
8. It is appropriate to 'have a go'.

Activists learn least from, and may react against, activities where:

1. Learning involves a passive role, i.e. listening to lectures, monologues, explanations, statements of how things should be done, reading, watching.
 2. They are asked to stand back and not be involved.
 3. They are required to assimilate, analyse and interpret lots of 'messy' data.
 4. They are required to engage in solitary work, i.e. reading, writing, thinking on their own.
 5. They are asked to assess beforehand what they will learn, and to appraise afterwards what they have learned.
 6. They are offered statements they see as 'theoretical', i.e. explanation of cause or background.
 7. They are asked to repeat essentially the same activity over and over again, i.e. when practising.
 8. They have precise instructions to follow with little room for manoeuvre.
 9. They are asked to do a thorough job, i.e. attend to detail, tie up loose ends, dot the i's, cross t's.
-

REFLECTORS

Reflectors learn best from activities where:

1. They are allowed or encouraged to watch / think / chew over activities.
2. They are able to stand back from events and listen / observe i.e. observing a group at work, taking a back seat in a meeting, watching a film or video.
3. They are allowed to think before acting, to assimilate before commenting, i.e. time to prepare, a chance to read in advance a brief giving background data.
4. They can carry out some painstaking research, i.e. investigate, and assemble information, probe to get to the bottom of things.
5. They have the opportunity to review what has happened, what they have learned.
6. They are asked to produce carefully considered analyses and reports.
7. They are helped to exchange views with other people without danger, i.e. by prior agreement, within a structured learning experience.
8. They can reach a decision in their own time without pressure and tight deadlines.

Reflectors learn least from, and may react against, activities where:

1. They are 'forced' into the limelight, i.e. to act as leader / chairman, to role-play in front of on-lookers.
2. They are involved in situations which require action without planning.
3. They are pitched into doing something without warning, i.e. to produce an instant reaction, to produce an off-the-top-of-the-head idea.
4. They are given insufficient data on which to base a conclusion.
5. They are given cut and dried instructions of how things should be done.
6. They are worried by time pressures or rushed from one activity to another.
7. In the interests of expediency they have to make short cuts or do a superficial job.

THEORISTS

Theorists learn best from activities where:

1. What is being offered is part of a system, model, concept, theory.
2. They have time to explore methodically the associations and inter-relationships between ideas, events and situations.
3. They have the chance to question and probe the basic methodology, assumptions or logic behind something, i.e. by taking part in a question and answer session, by checking a paper for inconsistencies.
4. They are intellectually stretched, i.e. by analysing a complex situation, being tested in a tutorial session, by teaching high calibre people who ask searching questions.
5. They are in structured situations with a clear purpose.

6. They can listen to or read about ideas and concepts that emphasise rationality or logic and are well argued / elegant / watertight.
7. They can analyse and then generalise the reasons for success or failure.
8. They are offered interesting ideas and concepts even though they are not immediately relevant.
9. They are required to understand and participate in complex situations.

Theorists learn least from, and may react against, activities where:

1. They have to participate in situations emphasising emotions and feelings.
 2. They are involved in unstructured activities where ambiguity and uncertainty are high, i.e. with open-ended problems, on sensitivity training.
 3. They are asked to act or decide without a basis in policy, principle or concept.
 4. They are faced with a hotchpotch of alternative / contradictory techniques / methods without exploring any in depth, i.e. as on a 'once over lightly' course.
 5. They doubt that the subject matter is methodologically sound, i.e. where questionnaires haven't been validated, where there aren't any statistics to support an argument.
 6. They find the subject matter platitudinous, shallow or gimmicky.
 7. They feel themselves out of tune with other participants, i.e. when with lots of activists or people of lower intellectual calibre.
-

PRAGMATISTS

Pragmatists learn best from activities where:

1. There is an obvious link between the subject matter and a problem or opportunity on the job.
2. They are shown techniques for doing things with obvious practical advantages, i.e. how to save time, how to make a good first impression, how to deal with awkward people.
3. They have the chance to try out and practice techniques with coaching / feedback from a credible expert, i.e. someone who is successful and can do the techniques themselves.
4. They are exposed to a model they can emulate, i.e. a respected boss, a demonstration from someone with a proven track record, lots of examples / anecdotes, a film showing how it's done.
5. They are given techniques currently applicable to their own job.
6. They are given immediate opportunities to implement what they have learned.
7. There is a high face validity in the learning activity, i.e. a good simulation, 'real' problems.
8. They can concentrate on practical issues, i.e. drawing up action plans with an obvious end product, suggesting short cuts, giving tips.

Pragmatists learn least from, and may react against, activities where:

1. The learning is not related to an immediate need they recognise / they cannot see, an immediate relevance / practical benefit.
2. Organisers of the learning, or the event itself, seems distant from reality, i.e. 'ivory towered', all theory and general principles, pure 'chalk and talk'.
3. There is no practice or clear guidelines on how to do it.
4. They feel that people are going round in circles and not getting anywhere fast enough.
5. There are political, managerial or personal obstacles to implementation.
6. There is no apparent reward from the learning activity, i.e. more sales, shorter meetings, higher bonus, promotion.

WHAT MAKES A GOOD TEACHER? LEARNERS AND TEACHERS GIVE THEIR VERDICTS

Excellent teachers are understanding, give clear instructions and have a sound knowledge of their subject, according to a survey of learners.

TOP FIVE PROFESSIONAL CHARACTERISTICS (learners)

Understanding and supportive	31%
Committed, dedicated and hardworking	25%
Fair with an inclusive/respectful approach	22%
Warm	14%
Humorous	11%

TOP FIVE TEACHING SKILLS (learners)

Clear instruction and presentation	25%
Strong communication/active listening	24%
Patience	20%
Motivation and encouragement	16%
Organisation and classroom management	15%

TOP FIVE FAVOURITE TEACHER QUALITIES (learners)

Sound subject knowledge	31%
Understanding and gives good advice	30%
Creative, interesting and imaginative	23%
Warm and cheery	14%
Clear instruction and presentation	14%

TOP FIVE PROFESSIONAL CHARACTERISTICS (teachers)

Fair with an inclusive/respectful approach	94%
Enthusiastic	90%
Committed, dedicated and hardworking	80%
Good rapport and empathy	56%
Humorous	47%

TOP FIVE TEACHING SKILLS (teachers)

Organisation and classroom management	96%
Flexibility	93%
Strong communication/active listening	91%
Motivation and encouragement	54%
Variety of learning styles	41%

MOVING FROM PEDAGOGY TO ANDRAGOGY

(Adapted and Updated from Hiemstra, R., & Sisco, B. (1990). *Individualizing instruction*. San Francisco: Jossey-Bass.)

There is little doubt that the most dominant form of instruction in Europe and America is pedagogy, or what some people refer to as didactic, traditional, or teacher-directed approaches. A competing idea in terms of instructing adult learners, and one that gathered momentum within the past three decades, has been dubbed andragogy. The purpose of this resource piece is to provide the interested reader with some background information regarding both instructional forms.

The pedagogical model of instruction was originally developed in the monastic schools of Europe in the Middle Ages. Young boys were received into the monasteries and taught by monks according to a system of instruction that required these children to be obedient, faithful, and efficient servants of the church (Knowles, 1984). From this origin developed the tradition of pedagogy, which later spread to the secular schools of Europe and America and became and remains the dominant form of instruction.

Pedagogy is derived from the Greek word "paid," meaning child plus "agogos," meaning leading. Thus, pedagogy has been defined as the art and science of teaching children. In the pedagogical model, the teacher has full responsibility for making decisions about what will be learned, how it will be learned, when it will be learned, and if the material has been learned. Pedagogy, or teacher-directed instruction as it is commonly known, places the learner in a submissive role requiring obedience to the teacher's instructions. It is based on the assumption that learners need to know only what the teacher teaches them. The result is a teaching and learning situation that actively promotes dependency on the instructor (Knowles, 1984).

Up until very recently, the pedagogical model has been applied equally to the teaching of children and adults, and in a sense, is a contradiction in terms. The reason is that as adults mature, they become increasingly independent and responsible for their own actions. They are often motivated to learn by a sincere desire to solve immediate problems in their lives. Additionally, they have an increasing need to be self-directing. In many ways the pedagogical model does not account for such developmental changes on the part of adults, and thus produces tension, resentment, and resistance in individuals (Knowles, 1984).

The growth and development of andragogy as an alternative model of instruction has helped to remedy this situation and improve the teaching of adults. But this change did not occur overnight. In fact, an important event took place some thirty years ago that affected the direction of adult education in North America and, to some extent, elsewhere as well. Andragogy as a system of ideas, concepts, and approaches to adult learning was introduced to adult educators in the United States by Malcolm Knowles. His contributions to this system have been many (1975, 1980, 1984; Knowles & Associates, 1984), and have influenced the thinking of countless educators of adults. Knowles' dialogue, debate, and subsequent writings related to andragogy have been a healthy stimulant to some of the growth of the adult education field during the past thirty years.

The first use of the term "andragogy" to catch the widespread attention of adult educators was in 1968, when Knowles, then a professor of adult education at Boston University, introduced the term (then spelled "androgogy") through a journal article. In a 1970 book (a second edition was published in 1980) he defined the term as the art and science of helping adults learn. His thinking had changed to the point that in the 1980 edition he suggested the following: ". . . andragogy is simply another model of assumptions about adult learners to be used alongside the pedagogical model of assumptions, thereby providing two alternative models for testing out the assumptions as to their 'fit' with particular situations. Furthermore, the models are probably most useful when seen

not as dichotomous but rather as two ends of a spectrum , with a realistic assumption (about learners) in a given situation falling in between the two ends" (Knowles, 1980, p. 43).

The andragogical model as conceived by Knowles is predicated on four basic assumptions about learners, all of which have some relationship to our notions about a learner's ability, need, and desire to take responsibility for learning:

1. Their self-concept moves from dependency to independency or self-directedness.
2. They accumulate a reservoir of experiences that can be used as a basis on which to build learning.
3. Their readiness to learn becomes increasingly associated with the developmental tasks of social roles.
4. Their time and curricular perspectives change from postponed to immediacy of application and from subject-centeredness to performance-centeredness (1980, pp. 44-45).

Andragogy as a concept and set of assumptions about adults was actually not new to Knowles' popularization of the term. Anderson and Lindeman (1927) had first used the word in the United States via a published piece, although Stewart (1986a, 1986b) notes that Lindeman apparently even used the term as early as 1926. Brookfield (1984) suggests that Anderson and Lindeman drew upon the work of a German author of the 1920's, Eugene Rosenstock. However, Davenport and Davenport (1985) assert that the word was first coined in 1833 by Kapp, a German teacher.

Several European countries, such as Hungary, Poland, and Yugoslavia, also had used the term prior to 1968. Hungarian educators, for example, place teaching and learning within an overall system called "anthropogogy" (Savicevic, 1981). This system is subdivided into pedagogy (dealing with youth education) and andragogy (concerned with adult education). There is some variety, too, in the application of related terms. Some countries use adult pedagogy, one (the Soviet Union) uses the term auto didactic among others to refer to adult education activities, and a few countries use andragology to refer to andragogical science (Knoll, 1981, p. 92).

Outside of North America there actually are two dominant viewpoints: ". . . one by which the theoretical framework of adult education is found in pedagogy or its branch, adult pedagogy . . . and the other by which the theoretical framework of adult education is found in andragogy . . . as a relatively independent science that includes a whole system of andragogic disciplines" (Savicevic, 1981, p. 88).

Knowles in describing his particular version of andragogy associated it with a variety of instructional suggestions and he, too, detailed roles of facilitation for instructors and talked about ways of helping learners maximize their learning abilities. His early work with andragogy and subsequent interpretation of the learning projects research by Tough (1978) and others led to a 1975 publication on self-directed learning where he provides a variety of inquiry projects and learning resources on the topic.

Knowles (1975) offered some reasons for his evolving scholarship in the area of self-directed learning. One immediate reason was the emerging evidence that people who take initiative in educational activities seem to learn more and learn things better than what resulted from more passive individuals. He noted a second reason that self-directed learning appears "more in tune with our natural process of psychological development" (1975, p. 14). Knowles observed that an essential aspect of the maturation process is the development of an ability to take increasing responsibility for life.

A third reason was the observation that the many evolving educational innovations (nontraditional programs, Open University, weekend colleges, etc.) throughout the world require that learners assume a heavy responsibility and initiative in their own learning.

Knowles also suggested a more long-term reason in terms of individual and collective survival: ". . . it is tragic that we have not learned how to learn without being taught, and it is probably more important than all of the immediate reasons put together. Alvin Toffler calls this reason 'future shock'. The simple truth is that we are entering into a strange new world in which rapid change will be the only stable characteristic" (Knowles, 1975, p. 15).

It is this ability to carry out individual learning long after the stimulation of some activity like a class or workshop is completed that we believe results from individualizing the instructional process (Hiemstra & Sisco, 1990).

Knowles and the andragogical movement as some refer to it, has not been without critics. Carlson (1989) summarizes some of the concerns many people have had about Knowles at times zealous promotion of andragogy. Welton (1995) brought together four other colleagues who share in various ways a more radical philosophy of adult education. They present several arguments against aspects of andragogy and self-directed learning.

However, it is clear that andragogy and Malcolm Knowles have brought considerable attention to the adult education field as a separate field during the past three decades. Applied correctly, the andragogical approach to teaching and learning in the hands of a skilled and dedicated facilitator can make a positive impact on the adult learner. Appendix A provides a bibliography that contains many of the references devoted to andragogy and Malcolm Knowles.

Links to the work of Brunner (amongst others) can also be seen. See next article.

Constructivist Theory (J. Bruner) - Overview:

A major theme in the theoretical framework of Bruner is that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provides meaning and organization to experiences and allows the individual to "go beyond the information given".

As far as instruction is concerned, the instructor should try and encourage learners to discover principles by themselves. The instructor and learner should engage in an active dialog (i.e., socratic learning). The task of the instructor is to translate information to be learned into a format appropriate to the learner's current state of understanding. Curriculum should be organized in a spiral manner so that the learner continually builds upon what they have already learned.

Bruner (1966) states that a theory of instruction should address four major aspects: (1) predisposition towards learning, (2) the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, (3) the most effective sequences in which to present material, and (4) the nature and pacing of rewards and punishments. Good methods for structuring knowledge should result in simplifying, generating new propositions, and increasing the manipulation of information.

In his more recent work, Bruner (1986, 1990) has expanded his theoretical framework to encompass the social and cultural aspects of learning.

Scope/Application: Bruner's constructivist theory is a general framework for instruction based upon the study of cognition. Much of the theory is linked to child development research (especially Piaget). The

ideas outlined in Bruner (1960) originated from a conference focused on science and math learning. Bruner illustrated his theory in the context of mathematics and social science programs for young children (see Bruner, 1973). The original development of the framework for reasoning processes is described in Bruner, Goodnow & Austin (1951). Bruner (1983) focuses on language learning in young children.

Example:

This example is taken from Bruner (1973):

"The concept of prime numbers appears to be more readily grasped when the child, through construction, discovers that certain handfuls of beans cannot be laid out in completed rows and columns. Such quantities have either to be laid out in a single file or in an incomplete row-column design in which there is always one extra or one too few to fill the pattern. These patterns, the child learns, happen to be called prime. It is easy for the child to go from this step to the recognition that a multiple table, so called, is a record sheet of quantities in completed multiple rows and columns. Here is factoring, multiplication and primes in a construction that can be visualized."

Principles of teaching:

1. Instruction must be concerned with the experiences and contexts that make the learner willing and able to learn (readiness).
2. Instruction must be structured so that it can be easily grasped by the learner (spiral organization);
3. Instruction should be designed to facilitate extrapolation and or fill in the gaps (going beyond the information given).

Bruner, J. (1990). Acts of Meaning. Cambridge, MA: Harvard University Press.

Howard Gardner's multiple intelligences

<http://www.businessballs.com/howardgardnermultipleintelligences.htm>

Howard Gardner's multiple intelligence theories model, free multiple intelligences tests, and VAK learning styles

The Multiple Intelligences concepts and VAK (Visual Auditory and Kinaesthetic), and VARK (Visual-Auditory-Reading-Kinaesthetic) or VACT (Visual-Auditory-Kinaesthetic-Tactile) learning styles models offer relatively simple and accessible methods to understand and explain people's preferred ways to learn and develop. Occasionally well-intentioned people will write that the use of such models and tests is wrong because it 'pigeon-holes' people, and ignores the point that we are all a mixture of styles and preferences, and not just one single type, which is true. Please remember that over-reliance on, or extreme interpretation of, any methodology or tool can be counter-productive.

In the case of the Multiple Intelligences model, and arguably to greater extent VAK (because VAK is such a simple model), remember that these concepts and tools are **aids** to understanding **overall** personality, preferences and strengths - which will almost always be a mixture in each individual person.

Therefore, as with any methodology or tool, use Multiple Intelligences concepts, VAK and other learning styles ideas with care and interpretation according to the needs of the situation.

Multiple intelligences theory

Howard Gardner's Multiple Intelligence Theory was first published in Howard Gardner's book, *Frames Of Mind* (1983), and quickly became established as a classical model by which to understand and teach many aspects of human intelligence, learning style, personality and behaviour - in education and industry. Howard Gardner initially developed his ideas and theory on multiple intelligences as a contribution to psychology, however Gardner's theory was soon embraced by education, teaching and training communities, for whom the appeal was immediate and irresistible - a sure sign that Gardner had created a classic reference work and learning model.

Howard Gardner was born in Scranton, Pennsylvania USA in 1943 to German Jewish immigrant parents, and entered Harvard in 1961, where, after Gardner's shift from history into social relations (which included psychology, sociology, and anthropology) he met his early mentor Erik Erikson. Later Gardner was also influenced by psychologists Jean Piaget, Jerome Bruner, and philosopher Nelson Goodman, with whom Gardner co-founded 'Project Zero' in 1967 (focusing on studies of artistic thought and creativity). Project Zero's 1970's 'Project on Human Potential', whose heady aim was to address 'the state of scientific knowledge concerning human potential and its realization', seems to have been the platform from which Gardner's multiple intelligences ideas grew, and were subsequently published in Gardner's *Frames Of Mind* 1983 book. A wonderful example of 'thinking big' if ever there was one.

At time I write this summary (Apr 2005) Howard Gardner is the John H and Elisabeth A Hobbs Professor of Cognition and Education at the Harvard Graduate School of Education; he serves as adjunct Professor at Harvard University, Boston University School of Medicine, and remains senior director of Harvard Project Zero. Gardner has received honorary degrees from at least twenty foreign institutions, and has written over twenty highly regarded books on the human mind, learning and behaviour. How ironic then that Gardner, who has contributed so much to the understanding of people and behaviour, was born (according to his brief auto-biographical paper 'One Way To Make Social Scientist', 2003), cross-eyed, myopic, colour-blind and unable to recognise faces. There's hope for us all.

Howard Gardner's multiple intelligences theory

This simple grid diagram illustrates Howard Gardner's model of the seven Multiple Intelligences at a glance.

intelligence type	capability and perception
Linguistic	words and language
Logical-Mathematical	logic and numbers
Musical	music, sound, rhythm
Bodily-Kinesthetic	body movement control
Spatial-Visual	images and space
Interpersonal	other people's feelings
Intrapersonal	self-awareness

[Free multiple intelligences tests](http://www.businessballs.com/howardgardnermultipleintelligences.htm) based on Howard Gardner's model are available below in MSExcel self-calculating format, manual versions in MSExcel and pdf, and manual test versions for young people. See <http://www.businessballs.com/howardgardnermultipleintelligences.htm>

Gardner said that multiple intelligences were not limited to the original seven, and he has since considered the existence and definitions of other possible intelligences in his later work. Despite this, Gardner seems to have stopped short of adding to the seven (some might argue, with the exception of Naturalist Intelligence) with any clearly and fully detailed additional intelligence definitions. This is not because there are no more intelligences - it is because of the difficulty of adequately and satisfactorily defining them, since the additional intelligences are rather more complex than those already evidenced and defined.

Not surprisingly, commentators and theorists continually debate and interpret potential additions to the model, and this is why you might see more than seven intelligences listed in recent interpretations of Gardner's model. As mentioned above, Naturalist Intelligence seems most popularly considered worthy of inclusion of the potential additional 'Gardner' intelligences.

Gardner's suggested possible additional intelligences

intelligence type	capability and perception
Naturalist	natural environment
Spiritual/Existential	religion and 'ultimate issues'
Moral	ethics, humanity, value of life

If you think about the items above it's easy to see why Gardner and his followers have found it quite difficult to augment the original seven intelligences. The original seven are relatively cut and dried; the seven intelligences are measurable, we know what they are, what they mean, and we can evidence or illustrate them. However the potential additional human capabilities, perceptions and attunements, are highly subjective and complex, and arguably contain many overlapping aspects. Also, the fact that these additional intelligences could be deemed a measure of good or bad poses extra questions as to their inclusion in what is otherwise a model which has hitherto made no such judgement (good or bad, that is - it's a long sentence...).

Gardner's multiple intelligences – detail. The more detailed diagram below expands the detail for the original seven intelligences shown above, and also suggests ideas for applying the model and underpinning theories, so as to optimise learning and training, design accelerated learning methods, and to assess training and learning suitability and effectiveness.

	intelligence type	description	typical roles	related tasks, activities or tests	preferred learning style clues
1	Linguistic	words and language , written and spoken; retention, interpretation and explanation of ideas and information via language, understands relationship between communication and meaning	writers, lawyers, journalists, speakers, trainers, copy-writers, english teachers, poets, editors, linguists, translators, PR consultants, media consultants, TV and radio presenters, voice-over artistes	write a set of instructions; speak on a subject; edit a written piece or work; write a speech; commentate on an event; apply positive or negative 'spin' to a story	words and language
2	Logical-Mathematical	logical thinking , detecting patterns, scientific reasoning and deduction; analyse problems, perform mathematical calculations, understands relationship between cause and effect towards a tangible outcome or result	scientists, engineers, computer experts, accountants, statisticians, researchers, analysts, traders, bankers bookmakers, insurance brokers, negotiators, deal-makers, trouble-shooters, directors	perform a mental arithmetic calculation; create a process to measure something difficult; analyse how a machine works; create a process; devise a strategy to achieve an aim; assess the value of a business or a proposition	numbers and logic
3	Musical	musical ability , awareness, appreciation and use of sound; recognition of tonal and rhythmic patterns, understands relationship between sound and feeling	musicians, singers, composers, DJ's, music producers, piano tuners, acoustic engineers, entertainers, party-planners, environment and noise advisors, voice coaches	perform a musical piece; sing a song; review a musical work; coach someone to play a musical instrument; specify mood music for telephone systems and receptions	music, sounds, rhythm
4	Bodily-Kinesthetic	body movement control , manual dexterity, physical agility and balance; eye and body coordination	dancers, demonstrators, actors, athletes, divers, sports-people, soldiers, fire-fighters, PTI's, performance artistes; ergonomists, osteopaths, fishermen, drivers, crafts-people; gardeners, chefs, acupuncturists, healers, adventurers	juggle; demonstrate a sports technique; flip a beer-mat; create a mime to explain something; toss a pancake; fly a kite; coach workplace posture, assess work-station ergonomics	physical experience and movement, touch and feel
5	Spatial-Visual	visual and spatial perception ; interpretation and creation of visual images; pictorial imagination and expression; understands relationship between images and meanings, and between space and effect	artists, designers, cartoonists, story-boarders, architects, photographers, sculptors, town-planners, visionaries, inventors, engineers, cosmetics and beauty consultants	design a costume; interpret a painting; create a room layout; create a corporate logo; design a building; pack a suitcase or the boot of a car	pictures, shapes, images, 3D space
6	Interpersonal	perception of other people's feelings ; ability to relate to others; interpretation of behaviour and communications; understands the relationships between people and their situations, including other people	therapists, HR professionals, mediators, leaders, counsellors, politicians, educators, sales-people, clergy, psychologists, teachers, doctors, healers, organisers, carers, advertising professionals, coaches and mentors; (there is clear association between this type of intelligence and what is now termed ' <u>Emotional Intelligence</u> ' or EQ)	interpret moods from facial expressions; demonstrate feelings through <u>body language</u> ; affect the feelings of others in a planned way; coach or counsel another person	human contact, communication, cooperation, teamwork
7	Intrapersonal	self-awareness , personal cognisance, personal objectivity, the capability to understand oneself, one's relationship to others and the world, and one's own need for, and reaction to change	arguably anyone (see note below) who is self-aware and involved in the process of changing personal thoughts, beliefs and behaviour in relation to their situation, other people, their purpose and aims - in this respect there is a similarity to <u>Maslow's Self-Actualisation</u> level, and again there is clear association between this type of intelligence and what is now termed ' <u>Emotional Intelligence</u> ' or EQ	consider and decide one's own aims and personal changes required to achieve them (not necessarily reveal this to others); consider one's own ' <u>Johari Window</u> ', and decide options for development; consider and decide one's own position in relation to the <u>Emotional Intelligence model</u>	self-reflection, self-discovery

Roles and intrapersonal intelligence: Given that a 'role' tends to imply external style/skills, engagement, etc., the intrapersonal ability is less liable to define or suggest a certain role or range of roles than any of the other characteristics.

That said, there is a clear correlation between intrapersonal ability/potential and introverted non-judgemental roles/working styles. Intrapersonal capability might also be seen as the opposite of ego and self-projection.

Self-awareness is a prerequisite for self-discipline and self-improvement. Intrapersonal capacity enables an **emotionally mature** ('grown-up') response to external and internal stimuli. The intrapersonal characteristic might therefore be found among (but most definitely not extending to all) counsellors, helpers, translators, teachers, actors, poets, writers, musicians, artists, **and also any other role** to which people can bring **emotional maturity**, which commonly manifests as adaptability, flexibility, facilitation, reflection, and other 'grown-up' behaviours.

There are also associations between **intrapersonal** capacity and Erikson's '**generative**' perspective, and to an extent Maslow's **self-actualization**, that is to say: both of these 'life-stages' surely demand a reasonably strong level of self-awareness, without which adapting one's personal life, outlook and responses to one's environment is not easy at all.

EXERCISE: We can usually accommodate all of the 4 learning styles to a greater or a lesser extent.

In the next **5 minutes (or so)**, in your allocated teams, using the table below, please **MATCH UP JUST THREE** teaching methods from the ten teaching methods in your allocated column to **each of the 4 learning styles** as appropriate, assuming that the potential learners had very high scores in their learning styles.

E.g. First column, number 1 (lecture) – would predominately suit the Reflector and the Theorist. Some teaching methods will suit Activists AND Pragmatists OR Theorists and Reflectors – or all 4 on some occasions, if managed appropriately!

Teaching and Learning methods for different learning aims [<http://www.bbk.ac.uk/asd/Bourne.htm>]

	To: Disseminate knowledge	To: Develop capability to use ideas and information	To: Develop the learner's ability to test ideas and evidence	To: Develop the learner's ability to generate ideas and evidence	To: Facilitate the <i>personal development</i> of learners	To: Develop the capacity of learners to <i>plan and manage</i> their own learning
Ten common teaching methods	1. Lectures 2. Up-to-date textbooks 3. Reading 4. Handouts 5. 'Guest' lectures 6. Use of exercises that require learners to find up-to-date knowledge 7. Develop skills in using library and other learning resources. 8. Directed private study. 9. Open learning materials. 10. Use of the Internet	1. Case studies 2. Practical 3. Work experience 4. Projects 5. Demonstrations 6. Group working 7. Simulations (e.g. computer based) 8. Workshops 9. Discussion and debate 10. Essay writing	1. Seminars and tutorials 2. Supervision 3. Presentations 4. Essays 5. Feedback on written work 6. Literature reviewing 7. Exam papers 8. Open learning 9. Peer assessment 10. Self-assessment	1. Research projects 2. Workshops on techniques of creative problem solving 3. Group working 4. Action learning 5. Lateral thinking 6. Brainstorming 7. Mind-mapping 8. Creative visualisation 9. Coaching 10 Problem solving	1. Feedback 2. Experiential learning 3. Learning contracts 4. Action learning 5. Learning logs 6. Role play 7. Structured experiences in groups 8. Reflective documents 9. Self-assessment 10. Profiling	1. Learning contracts 2. Projects 3. Action learning 4. Workshops 5. Mentors 6. Reflective logs and diaries 7. Independent study 8. Work placement 9. Portfolio development 10. Dissertations

Key: A = Activists, P = Pragmatists, R = Reflectors & T = Theorists.

All = all four learning styles could be addressed if the situation is managed appropriately

Exercise - Barriers to learning

In the following groups (where possible):

Group 1	Group 2	Group 3

In the next 10 minutes (approx.), use the 'Post-It' notes provided to list **UP TO 7** 'Barriers to Learning' on flip chart paper, under the following headings (**ONE barrier to EACH 'Post-It' note**).

Group 1: Personal (to the learner) barriers (e.g. dyslexia)

Group 2: Social barriers (to the learner) (e.g. age, sex, culture etc.)

Group 3: Organisational (your organisation's barriers e.g. limiting access, timing of sessions etc.)

NEXT!

In the following 10 minutes (approx.), **SWAP** groups (by moving 1 group UP – **i.e. 3) becomes 1) – 1) becomes 2) and 2) becomes 3)**. Use the 'Post-It' notes provided to list **SOLUTIONS** to each 'Barrier to Learning'. (ONE solution to EACH 'Post-It' note). **You can re-arrange the barriers in to groups, as one solution could cover a number of barriers.**

Note that you are the TEACHER and not the manager/owner. You don't have access to money directly.

What are the barriers to engaging adult learners?

<http://senet.lsc.gov.uk/guide2/wideparticipationovercomebarriers/index.cfm>

There can be many different barriers to adult learning, largely relating to the individual's own circumstances, background and personality. A comparison between the National Adult Learning Survey 2002 and previous studies found that obstacles to learning change very little over time. They fall into roughly three categories.

Personal/Physical barriers. These might include:

- lack of time due to work, family, and childcare responsibilities
- difficulties in paying course fees and fear of losing benefits
- disability, particularly lack of mobility
- ill health
- difficulties with reading and writing, English and numeracy.

Social/Attitudinal barriers. These are often the hardest to overcome. They might include:

- being nervous about going back to the classroom and concern about not being able to keep up
- negative perceptions of schooling and scepticism about the value of learning
- low self-esteem and lack of confidence both generally and in relation to learning
- low aspirations and lack of role models
- lack of trust in 'officialdom' and formal institutions or organisations
- age. One in five non-learners think that they are too old to learn.

Organisational/Structural barriers. These may relate to both supply (provider) and demand (learner), and might include:

- lack of transport
- limited learning opportunities locally
- lack of facilities and equipment
- lack of necessary qualifications
- lack of knowledge about local learning opportunities and learning advice sources.

Space for note-taking during the ‘barriers to learning’ activity

Personal barriers;

Social barriers;

Organisational barriers;

LESSON PLANNING – EXAMPLE / CASE STUDY

Course / Programme of Study HR	Subject The law/policy/procedure/ of 'X'
Group X	Session time & place TBA
Date X	Tutor YOUR NAME
Aim/s: <i>By the end of the session the learner will develop an understanding/appreciation of</i> The law/policy/procedure of 'X'	
Objectives: <i>Must BE S M A R T – i.e. the task must be Specific and physically Measurable, (and Achievable, Realistic & Timely in terms of the learning that the learners have taken on board to give them the skills needed to complete the task successfully!) i.e. explain HOW each objective will be achieved and demonstrated – e.g. by review & discussion, completion of a test etc.).</i> By the end of the session the learner should be able to..... 1. In pairs/small groups analyse, review and discuss a written case study (a different one each) to examine the legal problems involved and provide workable solutions according to current legislation, (in writing, using teaching materials) 2. Present your findings to your colleagues in the whole group 3. Assess the quality of your colleagues analysis of the problems and possible solutions by completing a structured assessment form 4. Complete a quiz individually to confirm learning.	
Skills for life/Functional Skills Outcomes Relates to the standards to be achieved in each subject, such as application of number, communications and ICT, i.e. Maths, English and Information Communication Technology when assessed during the vocational programme. NONE	Health & Safety Safe working environment confirmed Fire procedure outlined

Time (approx)	Activities		Resources	Assessment of learning
	Tutor	Learner		
0	Welcome, Housekeeping, ground rules. Overview of the course – aims and objectives. Review contents and how to use resource pack.	Q+A, Discussion (T & R) COGNITIVE DOMAIN	Resource pack Power point slides for aims and objectives and instructions for exercises.	Q&A
3	ICE-BREAKER Visit each pair/three to confirm understanding and ensure they are on track. 'FISHING'	Work in pairs (or a three) to review each other's knowledge and experience of the law on X – 2 mins. 'FISHING' T,R,P,A AFFECTIVE DOMAIN		Review quality of responses to ensure understanding of the topic.
7	Collect responses on flip chart. Comments as appropriate.	Relate peers information to whole group. A & P	Flip chart	
11	Thank and move people into groups of two, depending on level of experience – i.e. mix. Set up case study exercises by reviewing resource pack and instructions for work. Monitor progress of each pair/group – support, guide and advise.	1) In pairs analyse a written case study (a different one each) to examine the legal problems involved and provide workable solutions according to current legislation – write on teaching materials. T,R,P,A. AFFECTIVE & COGNITIVE DOMAINS – INTRINSIC MOTIVATION	Power point – instructions for exercises and resource pack for underpinning knowledge to allow people to 'tease out' the key information and legislative detail.	Ensure everyone is involved. Body language.
20	Monitor progress of each pair/group – support, guide and advise. Spot any misconceptions – see what whole group thinks – steer to correct.	2) Present your findings to your colleagues in the whole group. A&P - AFFECTIVE & COGNITIVE DOMAINS INTRINSIC MOTIVATION	Flip chart pens & post-its for peer teaching	Review quality of responses to ensure understanding of the topic.
30	Let pairs/groups go to the front to review their work. Facilitate peer feedback	3) Assess the quality of your colleague's analysis of the problems and possible solutions by completing a structured assessment form. T, P&R - AFFECTIVE & COGNITIVE DOMAINS INTRINSIC MOTIVATION	Resource pack & peer assessment form	Review quality of responses to ensure understanding of the topic.
35	Provide quiz to recap session and provide evidence of learning.	4) Undertake quiz individually T, R & P COGNITIVE & AFFECTIVE DOMAIN INTRINSIC MOTIVATION	Quiz in resource pack.	
40	Review quiz – trainees to mark each other's papers & give answers Q&A? Conclude. END	Review quiz – give answers – assess each other's papers. Q&A? T, R & P COGNITIVE & AFFECTIVE DOMAIN INTRINSIC MOTIVATION	Write answers give (if correct) on flip chart.	Collect quiz to see how each person got on

Differentiated learning for individual learners – TO DO

Identify specific needs: (For slower learners in this session) E.g. Jim (Identified by pre-course assessment)	Point in session At 11.00 when reading is required.	Materials Coloured plastic slides, as Jim is dyslexic and can't easily read black writing on a white background.
Identify specific needs: (For faster learners in this session) E.g. Frances	Later in the session, pair up with a slower learner to act as a mentor.	Additional activities in the resource pack/work book.

LESSON PLANNING - CONSIDERATIONS

Domains (AREAS) of Learning - Bloom's Taxonomy (i.e. 'STEPS') of Learning

Bloom's Taxonomy. Benjamin S. Bloom (born 21 February 1913 - died September 13, 1999), an American educational psychologist, made contributions to the classification of educational objectives and to the theory of mastery-learning.

Bloom's Taxonomy is a reference model for all involved in teaching, training, learning, coaching - in the design, delivery and evaluation of learning programmes. At its basic level (**see the next four pages**), the Taxonomy provides a simple, quick and easy checklist to start to plan any type of personal development. It helps to open up possibilities for all aspects of the subject or need concerned, and suggests a variety of the methods available for delivery of teaching and learning. As with any checklist, it also helps to reduce the risks of overlooking some vital aspects of the development required.

The more detailed elements within each domain provide additional reference points for learning design and evaluation, whether for a single lesson, session or activity, or training need, or for an entire course, programme or syllabus, across a large group of trainees or students, or a whole organisation.

And at its most complex, Bloom's Taxonomy is continuously evolving, through the work of academics following in the footsteps of Bloom's early associates, as a fundamental concept for the development of formalised education across the world. <http://www.businessballs.com/bloomstaxonomyoflearningdomains.htm>

Bloom & co-researchers considered the following three ways of learning:

Cognitive covers mental skills (Knowledge - HEAD) – see page 54;

Affective covers growth in feelings or emotional areas (Socialisation and professionalisation - Attitude - HEART) – see page 55;

Psychomotor covers manual or physical skills (Skills - HANDS) – see page 56.

Benjamin Bloom headed a group of cognitive psychologists at the University of Chicago who developed a taxonomic hierarchy of cognitive-driven behaviour deemed important to learning and to measurable capability. (For example, one can measure an objective that begins with the verb "describe", unlike one that begins with the word "understand".)

Bloom's taxonomy provides a structure in which to categorize educational objectives and assessment. He designed the taxonomy in order to help teachers and instructional designers to classify objectives and goals. The taxonomy relies on the idea that not all learning objectives and outcomes have equal merit.

For example, memorization of facts, while important, does not equate to the learned ability to analyze or to evaluate. In the absence of a classification-system (a taxonomy), teachers and instructional designers may choose, for example, to emphasize memorization of facts (which makes for easier testing) rather than emphasizing other (and likely more important) learned capabilities.

Bloom's taxonomy in theory helps teachers better prepare objectives and, from there, derive appropriate measures of learned capability and Higher order thinking skills.

Trainers often refer to these as KAS, SKA, or KSA (Knowledge, Attitude, and Skills). This taxonomy of learning behaviours can be thought of as "the goals of the educational process." That is, after the training session, the learner should have acquired new; knowledge, physical skills and the 'right' attitudes related to each.

This compilation divides the three domains into subdivisions, starting from the simplest behaviour to the most complex. The divisions outlined are not absolutes and there are other systems or hierarchies that have been devised in the educational and training world. **However, Bloom's taxonomy is easily understood and is probably the most widely applied one in use today.**

Exercise – planning lessons effectively – The different learning areas (domains)

Over the next 5 minutes (approximately), by working in pairs/threes/etc. (as appropriate) you need to list **TWO** teaching methods that will address **EACH** of the **THREE** learning domains;

1) Cognitive covers mental skills (Knowledge - HEAD),

E.g. case study

2) Affective covers growth in feelings or emotional areas (Attitude - HEART),

E.g. role play

3) Psychomotor covers manual or physical skills (Skills - HANDS).

E.g. production of an 'end product' – a hair style perhaps?

Which learning domain might be the most important?

See the next three pages for a more detailed review of each learning domain.

Cognitive Domain – i.e. (new) knowledge

The cognitive domain (area of learning) involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behaviour to the most complex. The categories can be thought of as degrees of difficulties. That is, the first one must be mastered before the next one can take place.

MAJOR CATEGORIES IN THE COGNITIVE DOMAIN – i.e. achieve ‘step by step’

TEACHING METHODS – to use to apply to steps 3 to 6 TO MAKE OUR SESSIONS: RELEVANT ENGAGING CHALLENGING INTERESTING CASE STUDIES SIMULATIONS ROLE PLAY DISCUSSION PROJECTS ASSIGNMENTS ‘P.B.L.’ – PROBLEM BASED LEARNING PEER TEACHING	A TEACHERS AIM IS TO PROVIDE OUR LEARN- ERS WITH OPPORT- UNITIES (STEPS 3 TO 6) TO USE THEIR ABILITIES (STEPS 1 & 2)	6) Evaluation A true professional doesn’t need anyone else to tell them when they have done a good job. Involves acts of decision-making, judging, problem solving, or selecting based on critical rationale. A good teacher will build in ‘self obsolescence’ – i.e. will not be needed by the learner any more as they now have the skills to be ‘professional’.
3) Application Uses information in a situation different from original learning context. Requires comprehension of information in order to apply in new situation	4) Analysis Separates whole into its parts, until relationship among elements is clear. E.g. ‘steps’ in conflict management. I.e. can recognise component part of problems. Requires ability to apply information in order to analyze	5) Synthesis Combines elements of existing knowledge and experience with new knowledge & experience to form a new understanding. Requires analysis in order to synthesize – think of ‘photo-synthesis’. I.e. mixing up new knowledge with old knowledge to gain a NEW understanding – making the ‘penny drop’.
2) Comprehension Is the new information understood? (Assessment). Requires knowledge in order to demonstrated comprehension 1) Knowledge recognition and recall of new facts and specifics	Assessed through; Formal and informal assessments, such as Q&A and exams. Taught by: Lecture, Demo & Reading	NEW ABILITIES LEARNT AT STEPS ONE AND TWO

Affective Domain – i.e. ‘socialisation’ AND ‘professionalisation’ process, (which varies according to culture and profession – e.g. health service & security services etc.) New attitudes/emotions. This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes.

MAJOR CATEGORIES IN THE AFFECTIVE DOMAIN

TEACHING METHODS – to use to apply to steps 1 to 5 TO MAKE OUR SESSIONS:

**RELEVANT
ENGAGING
CHALLENGING
INTERESTING**

**ROLE PLAY
PAIR & GROUP
WORK**

**CASE STUDIES
SIMULATIONS AND
SCENARIO BASED
WORK**

**DISCUSSION
DEBATE
WORK
EXPERIENCE**

5) Characterizing

Total behaviour is consistent with values internalized.

i.e. a person is now a ‘socialised’ and ‘professionalised’ person who has adopted their society’s and professions ‘norms’ – i.e. become true professional and will act accordingly.

4) Organizing

Committed to set of values as displayed by behaviour. **i.e. taking on board the attitudes and behaviours of someone in ‘their’ profession.**

3) Valuing

Displays behaviour consistent with single belief or attitude in situations where he is not forced to comply or obey. **i.e. will value the ‘norms’ in that field of work.**

2) Responding

Complies with given expectations by attending or reacting to stimuli or phenomena; i.e. interests. **i.e. will work WITH the teacher to take on board new learning.**

1) Receiving

Aware of; passively attending to certain phenomena and stimuli; e.g. listening. **i.e. once the teacher has created a conducive learning atmosphere, learners will WANT to learn and WORK WITH the teacher.**

**AS TEACHERS
WE PERSONALLY
ARE ALSO A KEY
FACTOR IN
ADDRESSING
THIS DOMAIN**

**BECAUSE WE
ARE THE ‘ROLE
MODEL’ AND
SUBTLY
INFLUENCE
PEOPLES
ATTITUDES**

Psychomotor Domain – i.e. manual dexterity with physical skills

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution.

MAJOR CATEGORIES IN THE PSYCHOMOTOR DOMAIN

TEACHING METHODS – to use to apply to steps 3 to 5 TO MAKE OUR SESSIONS:

**RELEVANT
ENGAGING
CHALLENGING
INTERESTING**

**WORK
EXPERIENCE
PRODUCT
OBSERVATION
CASE STUDIES
SIMULATIONS
AND
SCENARIO
BASED WORK**

5) Naturalization

completes one or more skills with ease and becomes automatic with limited physical or mental exertion

i.e. a true professional

4) Articulation

combines more than one skill in sequence with harmony and consistency

3) Precision

reproduces a skill with accuracy, proportion, and exactness; usually performed independent of original source

2) Manipulation

performs skill according to instruction rather than observation

1) IMITATION

Copying a technique from others

Taught by:

Demonstration

Peer teaching

E. D. I.P.

(**Explain, Demonstrate, Imitate, Practice**) looks as it should work – **BUT**

anecdotal evidence from practitioners suggests that it is usually the **PRACTICE** element where people truly learn in **mean- ingful** ways

Exercise – Aims and Objectives in lesson planning

Note: An objective **MUST** have at least one VERB (an ‘action’ or ‘doing’ word) related to an outcome which can be physically evidenced and measured – i.e. has it been achieved or not? E.g. hearing, seeing, touching.

Mark which of the following are aims and which are objectives

	By the end of the session, the learner will have;	Aim	Objective
1	Covered the principles of learning		
2	Written an aim		
3	Completed a case study		
4	An understanding of how to be a confident practitioner		
5	Reviewed and discussed what an objective is		
6	An awareness of the main elements of educational theory		
7	A knowledge of the Equality Act 2010		
8	Been able to research and list the procedure for dealing with an unconscious person		

EXERCISE - Aims and Objectives

TO DO - Individually/pairs/threes as appropriate,
draft aim/s and objective/s for a fictitious lesson –
15 mins. approx.

For example

Aim:

By the end of the session you will develop an understanding of;
**the principles in making a tasty cup of
tea**

Objectives:

By the end of the session you will be able;.....

- 1) to demonstrate an understanding of the principles in making a 'good' cup of tea **by completing a short quiz**
- 2) to demonstrate the principles in good tea making **by preparing a cup of tea that passes the 'taste' test**

Lesson Planning - Planning a Lesson from a scheme of work or using an ILP?

A lesson (or session) plan is a teacher's/trainers detailed description of the course of instruction, or 'learning trajectory' for a lesson. A daily lesson plan is developed by a teacher to guide class learning. Details will vary depending on the preference of the teacher, subject being covered, and the needs of the learners. Some teachers plan in detail, some teachers don't. Among those who don't are a number who contend that it is impossible to plan if one is to take full account of the way learners are motivated. **But, consider how the actual lesson would go if that teacher were away ill? Without some sort of detailed lesson plan how could someone else step in and replicate that lesson as if the usual teacher was able to attend?**

Planning a lesson is quite distinct from planning a course. A **scheme of work** defines the structure and content of a programme of study, be it a week or thirty-six weeks, (the common length of a course in an academic year in a college of further education). It maps out clearly how resources (e.g. books, equipment, time) and class activities (e.g. teacher-talk, group work, practicals, discussions) and assessment strategies (e.g. tests, quizzes, Q&A, homework) will be used to ensure that the learning aims and objectives of the course are met. It will normally include times and dates. The scheme of work is usually an interpretation of a set of standards, assessment criteria, course specification or syllabus and can be used as a guide throughout the course to monitor progress against the original plan. Schemes of work can be shared with students so that they have an overview of their course.

http://en.wikipedia.org/wiki/Scheme_of_work

A scheme of work is a plan of what will be covered in each week or session of the learning programme or course. It can be very detailed or brief. A scheme of work may, for example, consider how many lessons will be needed to cover a specific theme. It can also support communication and planning between departments. **Once it has been finalised, a scheme of work can be used to write lesson plans.**

ILP? An 'individual learning plan' can be used with or instead of a 'scheme of work'. As the term ILP suggests, it is a (usually) a negotiated list of 'things to do', for the learner, (i.e. assessment criteria or standards to achieve), over a set period of time with target completion dates.

This can be used especially where the teacher/trainer's role is mainly in assessing work based standards/competencies, as may be the case in work-based apprenticeship schemes. The assessor may only visit the learner/trainee once a month for example, to monitor progress and then negotiate a new ILP for the next set of standards/competencies.

A strategy for lesson planning: a sequence of operations

1 Reviewing the syllabus – and OR your Scheme of Work

What's in the syllabus? This prescribes the facts the pupil should know, and for many teachers in secondary schools it is the *de facto* starting point.

2 Collecting possible activities

List as many activities as you can related to the syllabus! Create new activities (imagination needed here!) Many ideas at this stage will help, as some will be rejected later.

3 Screening activities

Is the activity going to involve the learners? For how long? Ascribe a time for which it can hold their attention.

4 Organising activities into a sequence

Can you introduce variety of activity where appropriate? How long will each take? How flexible can you be?

5 Planning feedback

Where can feedback be obtained? Is another activity required? Test? Homework?

6 Checking objectives

Which objectives fit the activities you have selected? Bearing these objectives in mind,, how could you improve the activities?

7 Checking motivation

What words will you use to introduce the lesson? In what way will you arouse and maintain interest?

8 Anticipating safety hazards and organisation problems

Has your plan any special consequences for either of these?

Taken from: Science Teacher Education Project. "Theory into Practice" Published by McGraw-Hill Book Company (UK) Limited

Differentiation in lesson planning (See example on page 51)

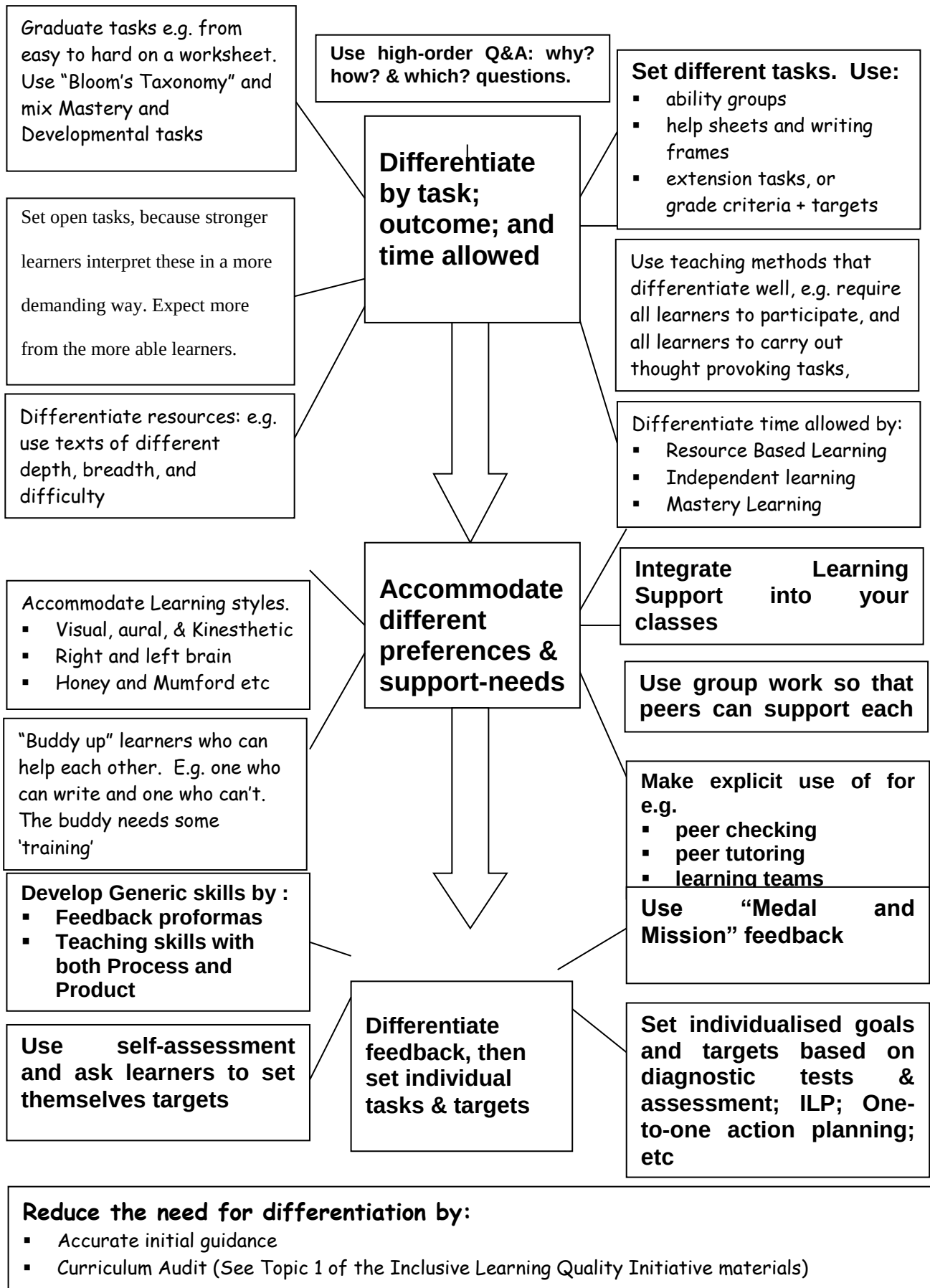
Differentiation is the process by which differences between learners are accommodated so that all learners in a group have the best possible chance of learning. We used to teach subjects and classes - now we teach learners.

See the bottom 'boxes' on the lesson plan form, where learners have been divided between slower learners and faster learners, so we are attempting to keep everyone engaged in some meaningful activities throughout the session.

You may find the following website particularly useful.

<http://www.geoffpetty.com/differentiation.html>

Differentiation: How to do it - Geoff Petty diagram for third edition of Teaching Today



Extract from the lesson plan

The remainder of the lesson plan will be above these boxes

Differentiated Learning

Identify specific needs: (E.g. for slower learners in this session) <i>E.g. Assess for learning difficulties & styles using a pre-course assessment form</i> <i>Arrange to see individually</i>	Point in session <i>E.g. Individual discussion, when appropriate</i>	Materials <i>E.g. Review today's materials</i>
Extension Work: (e.g. for faster learners) <i>E.g. Arrange to see individually</i>	Point in session <i>E.g. When appropriate</i>	Materials <i>E.g. Resource pack/s</i>

Note that you will need to address the differentiation boxes when you formally submit your lesson plan for your assessed teaching session.

You are very welcome to simply copy the above phrases (in italics) in your own lesson plan.

Guidelines for Lesson Planning

- 1 The lesson normally consists of an introduction, a development and application and a conclusion.
- 2 The introduction must quickly arouse interest and should include a concise statement of intent which links previous work and cues into the current topic.
- 3 The development stage introduces new knowledge and should be an active experience for the learners. Learners should be guided (rather than led) from the known to the unknown, the concrete to the abstract and from the particular to the general.
- 4 Learners must know when the lesson is ended. Learners should leave the classroom on the peak of learning not a wave of apathy and boredom.
- 5 There must be life and variety in every lesson. People remember things better when they are alert rather than tired.
- 6 Knowledge of results is vital for both teacher and learner. Planning must provide the means for this feedback.
- 7 We must make provision for the learners to achieve some degree of success. Work can be graded into things that all learners in the class must know, things that they should know, and things that they could know.
- 8 **It is clearly established that learners learn by:**
 - **association**
 - **interest**
 - **success**
 - **sequential development**
 - **understanding**
 - **recapitulation**
 - **things that are meaningful**
 - **social interaction**

NB We cannot guarantee learners will learn but we can minimise the risk of failing to teach effectively by careful attention to lesson planning.

The rule of the 6 Ps is:

Proper Planning and Preparation Prevents Poor Performance!

Tips for completing the lesson plan successfully

- Please review the “Lesson Planning case study” (pages 50 & 51) – note the following;
 - a) The lesson plan is an aid for you, to massage your own confidence and to make the learning experience for your learners effective, i.e. relevant, interesting, engaging and challenging.
 - b) The lesson plan needs to contain sufficient detail so if you were away ill (for example), a stranger, who knows your subject, could pick up your lesson plan and replicate the lesson if you had been there;
 - c) The aims and objectives need to be written from the **LEARNERS** perspective (NOT the tutors’), where the AIMS are a general statement of the intent / outcomes of the lesson and the OBJECTIVES explain HOW the aim/s will be met so that they can be MEASURED. Note that the **SMART** mnemonic (Specific, Measurable, Achievable and Timely) contains TWO very different aspects, i.e.
 - 1) **Specific and Measurable (related to the activities / tasks that you have set for your learners during your session)**. Is the task clear and specific to the aims and learning outcomes (and intelligible to the learners – written simply and concisely)? Then, can the result of the learners work be tangibly identified? I.e. seen, heard, smelt, felt – using a person’s physical senses. The objectives will need to be written using VERBS (doing words), related to an outcome that can be measured.
 - 2) **Achievable, Realistic and Timely** – are the tasks / activities achievable for your learners, **bearing in mind what you have already taught them**? Is the task realistic and timely in terms of where they are now in the learning programme?
 - d) The objectives should be a shortened version (perhaps) of the text written in the ‘learner activities’ column. I.e. whatever the learner activities are they must be the same as the objectives and vice-versa. This can easily be done by copying and pasting in a word processed document.
 - e) Note that on the lesson plan case study in the Day One Course Handbook, the four learning styles and three learning domains have been identified under the learner activities

column. It is very important to address the needs of the **activists**, especially early on as well as to provide affective domain (the heart) opportunities to make people feel comfortable and secure on a social basis as well as finding the topic relevant and interesting, early on. i.e. you will switch people on and / or keep people switched on during your session, using 'andragogic' (learner centred) teaching methods, where appropriate.

f) A relevant ice-breaker could be a very important early activity, to 'break the ice' between the learners, by using pair work to explore each other's knowledge or experience, before feeding back each other's information to the whole group.

A good question to get learners to ask of each other (in pairs) is WHY would this session be useful and what do you hope to get out of it? Put your answers on post-its or get the other pair to review their colleague's answers. This could form an effective ice-breaker.

g) Your lesson plan should be able to encourage effective learning through the planned use of andragogic strategies that will address the 'heart' especially through the use of pair work. Case studies provide some excellent opportunities for collaborative learning.

h) Theorists and reflectors (and very left brain thinkers), amongst many other personality types, (dyslexics for example), will **NEED** a resource pack from the very start of your session and a pen to take notes to make sense of your words in their own language.

i) Activists and pragmatists will want 'things to do' early on. An ice-breaker should address this.

j) The key is to design a lesson where people can work with the material in an andragogic way, so that they develop an interest/passion in the subject themselves. Using pair and group work can help very well.

Aims and Objectives - The importance of writing aims and objectives

The importance of classifying, writing and evaluating educational objectives in the field of curriculum development has been recognised for many years. During those years Barnes, Bloom, Coltham and Fines, Gagné, Gerlach and Sullivan, Mager, Tyler and others have written important works suggesting methods of stating aims and behavioural objectives with a view to increasing the efficiency of teaching and learning.

An aim is a broad statement of intent and is written in the early stages of programme design. It is a non-specific guideline and relates to an overall policy or strategy rather than to detailed specifications. For example the following may be the aims of a short course on visual aids:

- a to understand the operation of basic audio visual equipment**
 - b to understand how to produce a range of simple materials, and**
 - c to appreciate how make the most effective use of resources in the classroom**
-

An objective describes precisely what the learner is expected to be able to do , in order to demonstrate learning and must be physically measurable (to see, hear, touch or taste).

It is now possible to distinguish between two forms of statement made by the teacher - **aims and objectives**.

AIM		OBJECTIVE
1	Implicit statement	Explicit statement
2	Imprecise wording	Precise wording
3	No indication of performance level	Indicate level of performance
4	No statement of conditions	State conditions necessary to achieve an intended outcome

The importance of writing measurable objectives

When clearly defined goals are not stated, it is impossible to evaluate a course or teaching unit efficiently, and there is no sound basis for the selection of appropriate materials, content, or instructional method.

It is vital for teachers to be able to specify exactly what they want their learners to be able to do at the end of a period of instruction, investigation etc. in order that they may display, to the teacher, the learning that has taken place.

Another important reason for stating objectives relates to the evaluation of the degree to which the learner is able to perform in the desired manner. Tests and examinations are supposed to inform the teacher and the learner, the degree to which both have been successful in the teaching/learning process. However, unless the learning goals are clearly and firmly fixed, tests are misleading, or even worse, irrelevant, unfair or useless.

An additional advantage of clearly defined objectives is that the learner is provided with the means to evaluate their own progress at any point in the learning process and is able to organise their own efforts into relevant activities.

Writing a reflective diary

How to Start. You can't write the wrong thing. Whatever you write will be right - for you.

The initial stage of writing can be a valuable communication with the self. But in order to allow this relationship with yourself to be meaningful, you have to tell yourself that the words which cover the page may not be useful in themselves (you may never need to read them / allow others to, or you may redraft and edit them out of recognition); but the act of committing them to paper is invaluable. Writing is a staged process: every written word does not have to be perfect.

This first stage of writing is invaluable for reflective writing. It is also, however, fundamentally the same whether you are writing a story, a report or an essay. Some lucky people create everything clear in their head before beginning to write, and then write their complete piece without having to alter a word; their first draft is also more or less their last. But most of us feel we have nothing, or just a jumble, in our heads initially. Further to this, when confronted with a blank sheet of paper, I think all sorts of things need to be done before I can begin to write (like looking up just one more reference, or watering the plants). Although it is possible I am not ready yet to begin on this dangerous journey, these are usually mere delaying tactics.

Try this method before you get in a dither about what you are going to write. It involves dumping the bits and bobs that are cluttering your head onto your paper. Some of these will be useful for the diary, some might be only your shopping list - (or a general moan!). But if that list is safely on paper, you'll be able to move on and concentrate more single mindedly on whatever you should be writing:

Have a go at the how to start method - writing for six minutes without stopping - try and allow your writing to be purposeless. You may find a subject emerges you wish to pursue for longer. If so - follow the vein - whatever it is, and the same way of writing, for about twenty minutes.

Now you no longer have a blank sheet or screen in front of you. You may have written quite a lot by now, or only a little seeming rubbish. Don't worry: the six minutes writing sometimes turns up gold, sometimes dross. It is always useful, however, for beginning to scratch the surface. As you write in this next way, try and remind yourself this is the first draft only, so it doesn't matter what you say - because you can redraft it - no-one else need read it. What matters is capturing those ideas.

The main purpose in the teacher training diary is to reflect on the course content and how it relates to you personally, considering your own development. This will include many aspects of the work undertaken, the style of the teaching, the personalities involved, your own frustrations and achievements etc.

Initial Teacher Training – Review of day 1 – Quiz

Please insert your name:

Marked by (name): **Total score (out of 24)**

On your own, please provide answers to the following questions, you may examine your course resources:

Marks awarded per question are identified by each question. **(MARKER to add the correct answers if required):**

1. What are the differences between 'Pedagogy' and 'Andragogy'? (4)
2. Name each of the four learning styles. (4)
3. A lecture would suit which type of learning style? (1)
4. Role-play would suit which type of learning style? (1)
5. List three barriers to learning. (3)
6. Complete the following phrase: (3)

 'Proper planning and preparation, **p** **p** **p**
7. What distinguishes an aim from an objective? (2)
8. Name the three learning domains. (3)
9. Describe which areas/aspects of learning each domain (above) addresses. (3)