Digital Learning Essentials

The fundamentals of Instructional Design, the full, authentic guide to designing eLearning your learners will love

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The research of the past 25 years has seen learning and the learner become of central importance in the teaching - learning interaction which has led to a number of changes.

- What the learner does has become more important for student learning than what the teacher does.
- There has been a shift from curriculum centred approaches to more student-centred approaches, essentially the facilitation of student learning.
- Learning has become categorised in terms of learning outcomes rather than teaching inputs

Learning Design

For Caroline Gipps (1995) the most important question in learning design is:
- What kind of learning do we wish to foster?

In practice though, as Gipps laments this vital question is rarely asked or acted upon. It is little wonder that much teaching and learning fails to achieve what is desired.

In e-learning this question becomes ever more critical for effective design. The workshop will cover effective principles of designing for specific types of learning. This booklet is intended to amplify those principles.

Practitioners have to be aware that online learning experiences can be designed in a number of ways, some of which provide learners with richer online learning experiences than others.

An e-learning designer cannot guarantee the desired learning outcomes will be met but should aim to increase the probability that learning of the desired type and level will take place.

Instructional design theory and models, which are explained in this booklet, can assist in the structuring of the processes involved in preparing effective e-learning situations.

The Magic Elixir

The world of e-learning is full of hype, too often organisations are sold the idea that technology will solve their e-learning problems with predictable results. Too much e-learning is linear, unimaginative, and uninspiring leaving learners bored and disengaged.

I've never believed any of the hype about e-learning, creative e-learning requires a change of mindset not the latest technology solutions. Absolutely key is that without sound educational principles underpinning the whole process its doomed to fail.

The certification programme follows a well-defined approach to e-learning design and development which aims to break out of the linear, information push and often tool driven straitjacket approach. Effective e-learning should challenge and engage learners through creative thinking, independent working, investigation, and problem solving. It's all in the design, we'll show you how!

Why Design?

Teaching and learning are not synonymous, the fact that we teach does not automatically mean that the desired learning is achieved. This raises questions for teaching and learning design which is especially important in e-learning design.

Teaching activities need to be matched to the desired learning and as far as possible should address how people learn best.

Traditional instruction such as the conventional lecture-based approach rewards passivity in students rather than active involvement. As such it has less chance of developing higher level cognitive abilities which are usually stated in learning objectives (Bligh, 1971).

Don't Put Me To Sleep!

The Passive Approach

Over the last decade or more there has been a constant rise in the range of web-based tools to deliver and support e-learning in many different ways, and just as many wild claims for their ability to transform teaching and learning, as if!

The proliferation of tools and the differing learning contexts to which they are aimed, often prove an impediment to practitioners who feel intimidated by the sheer range available.

Where e-learning is attempted it too often follows a transmission of knowledge approach, which focuses on the lower levels of factual or procedural knowledge which is information heavy but action light. This approach which equates to e-reading or digital page turning rather than something worthy of the title e-learning, (Ó Súilleabháin, 2003), rewards passivity in students rather than active involvement and as a consequence has less chance of developing higher level cognitive abilities which are usually stated in learning objectives.

Technology Enhanced Learning is the latest buzz phrase used to describe the application of technology to teaching and learning. It is a broad category that isn't particularly well defined but perpetuates the myth that technology alone can produce e-learning that is fit for purpose, which has always been risibly untrue.

Don't Put Me To Sleep!

The first objective of any act of learning, over and beyond the pleasure it may give, is that it should serve us in the future. Learning should not take us somewhere; it should allow us later to go further more easily. ~Jerome Bruner

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- Information heave
- Action light
- Passive learning

The Learner Perspective

Many e-learning designers aim to achieve success and alleviate learner boredom but fall into the trap of information overload tarted up with tool-based interactions such as drag and drop, quizzes, a bit of animation or video.

As Allen (2005) laments designers have become adept at disguising page turning applications. In other words let's make it interactive through gee whizz features rather than making the learning truly engaging and stimulating.

While well-meaning their efforts are misdirected and doomed to fail. From the learner's perspective information push produces passive learning which cannot be saved by any amount of gee whizz features. Remember this!

Slip sliding Away...

Passive approaches abound in much e-Learning with learners mindlessly clicking through content, endless slides, reams of text and sleep-inducing delivery, it's just plain boring, no wonder it turns people off! Bored learners are unengaged learners and that's the last thing you want.

Engagement

Motivation

Achievement

In passive e-learning the whole process begins to slip from the first slide or screen. Despite making the effort learners engagement begins to fall away. Once that happens it's a rapid downwards spiral as motivation and achievement begin to fall off.

Let's make it clear here that there is nothing wrong with quizzes, drag and drop, audio, video, animation etc per se. The trick is for learning to lead the process then the technology will naturally follow.

Design for Learning

All genuine learning is active, not passive. It involves the use of the mind, not just the memory. It is the process of discovery in which the student is th e main agent, not the teacher. ~Mortimer Adler

The Vibrant Classroom

In the classroom, the best teachers focus on the students' needs. They strive to create an environment where all the pieces students need, emotional confidence, physical comfort, and intellectual curiosity, are present at the same time.
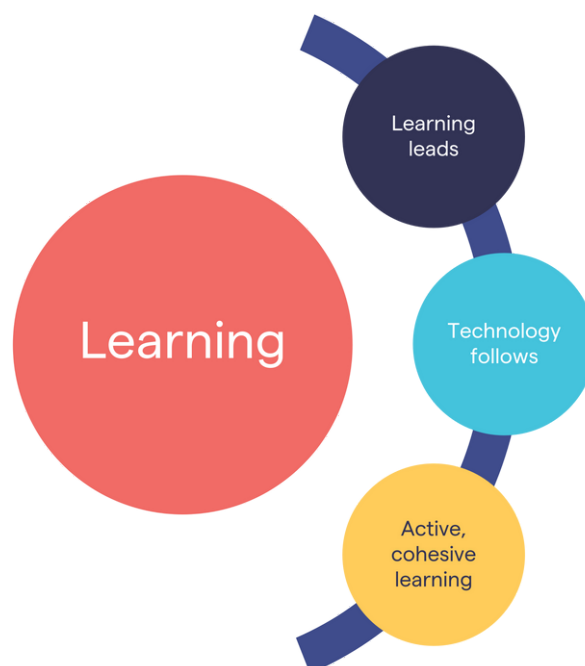
The teacher has to get out of the way; instead of being the star, they are the facilitator who helps students gain experience. They can achieve this through exercises, games, and challenges where they play a supporting rather than a primary role.

Go into any vibrant school or college lesson and you will see the best teachers at work, yet in e-learning there is too often a focus on pushing knowledge for all its worth in the mistaken belief that learners must know everything.

The result is bored, disengaged learners who quickly lose interest in the e-learning. Active learning through an action-based approach transforms the whole process maintaining engagement and learner involvement throughout.

The Learner Perspective

It's a novel idea I know but instead of placing all your faith in technology leading the learning let's put learning at the heart of the design process.

Design for Learning

When we do this the whole process turns 180 degrees. If we start with the learning rationale, or what learning we wish to achieve (remember Gipps?) then the technology will naturally follow. Selected to fit with and enhance a particular part of the e-learning rather than driving the process.

Done this way the outcome is active cohesive learning which engages throughout. Each time you begin a design programme ask yourself:
Do you want a tool to design your e-learning?

The Action Based Approach

With an action-based approach the intention is to seek to interest learners from the very start, which means a change in writing techniques as well as the content of the opening brief.

Learning experiences are most interesting when they begin with a challenge so moving smartly on, the idea is to set the learner a challenge that immediately focuses them on the task at hand.

This can be accomplished through the use of an introduction format known as the anticipatory set or set induction which provides the initial hook into the learning.

Instructional Design

Greater emphasis on the analysis and design stages will reduce the wasted time and cost involved in producing projects which are never likely to raise the intention of improving learning. ~Shirley Alexander

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It's Boring But...

Instructional design represents the planning process for designing instructional events. It is the systematic approach to course development and involves an iterative process which requires ongoing evaluation and feedback.

Due to the rapid rise of e-learning a large number of people involved in design and development across diverse sectors and organisations have been thrust into the role of instructional designer and developer without any previous background or experience in the process.

Recent developments have been focused on digital approaches – there are a number of theories that have emerged that suggest that digital learning offers fresh opportunities for ISD – these include information- processing approaches and cognitive load theories. Many of these are centred around the presentation of media rather than learning – for example, there has been much debate around the amount of text that should be presented in-screen, or how text should be broken up into useful 'chunks.'

Although many models exist, the most common and the easiest to use model is ADDIE, where each step has an outcome that feeds into the next step in the sequence. The ADDIE model is a systematic instructional design model consisting of five phases which work in a loop. (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation. Various flavours and versions of the ADDIE model exist.

These phases work in a loop and should be continually repeated with a focus on reflection and iteration to identify further improvements. It is possible, and often appropriate, to shorten the phases of instructional design but this should only be done after considering the needs of the learners.

Instructional Design

Greater emphasis on the analysis and design stages will reduce the wasted time and cost involved in producing projects which are never likely to raise the intention of improving learning. ~Shirley Alexander

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The ADDIE Model

The ADDIE process is even more important when designing distance education or Digital Learning, where the instructor and students have little, if any, face-to-face contact. The ADDIE cycle is shown below.

Don't Take My Word For It!

Since ADDIE was one of the first design models, there is much discussion about its effectiveness and appropriateness for meeting the needs of learners in the digital age.

However, most designers still use ADDIE as a process for creating e-Learning courses, (Karla Gutierrez, SHIFT e-Learning).

It is the approach followed in the workshop due to its simplicity and the fact that most instructional design models have been derived from ADDIE and are usually more complex.

If you have to spend time working out each stage of the model it becomes an impediment to the whole process.

ADDIE is not dead and we are not leaving it.
~Jared Garret, Instructional Designer, Amazon

ADDIE still matters, and always will
~Dawn J. Mahoney, ATD

Theories of Learning

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There are many theories of learning and just as many proponents of one or the other. This section is not meant to be exhaustive or to give a wide-ranging view of such theories, rather four main theories which can be usefully interlinked in the design and development of Digital Learning are covered briefly. Further reading is encouraged for a deeper understanding.

Behaviourist (B.F Skinner)

In the behaviourist approach the learner is seen as passive and dependent on the external environment and development is thought of as a linear, continuous, and quantitative process that occurs gradually over time.

Skinner (1974) maintained that through providing outward stimulation behaviour can be 'shaped' and that learners are the original blank tablets, passively waiting to be carved by reinforcement.

Comment

The behaviourist approach has been criticised for promoting a mechanical and somewhat authoritarian approach to learning which is more prescriptive rather than learner centred.

However it is often prevalent in many educational settings, with the use of positive or negative reinforcement techniques in order to bring about desirable behaviour patterns.

Use this approach to lay down the essential building blocks for your e-learning.

Comment

Scaffolded instruction is "the systematic sequencing of prompted content, materials, tasks, and teacher and peer support to optimise learning" (Dickson, Chard, & Simmons, 1993.)

This process remains in place until learners can apply new skills and strategies independently (Rosenshine & Meister, 1992).

Use this approach to create a gradually learner centred series of building blocks to increase learners' self-direction.

Scaffolded (J.Bruner)

The concept of scaffolding (Bruner, 1986) is largely based on the work of Vygotsky, who proposed that with assistance, learners could accomplish tasks that they ordinarily could not perform independently.

In order for learning to progress, scaffolds should be gradually removed as instruction continues, so that learners will eventually be able to demonstrate independence.

Theories of Learning

Constructivist (J. Piaget)

Piaget's belief was that development leads learning, as the learner interacts with the environment, makes their own discoveries and is independent, although they do not develop in isolation.

The social world is important but not as important as the independent development of the learner's internal structures

Comment

The practitioner's role, Piaget argued is that of a facilitator of learning, but his theories on learners' readiness to learn raise questions on how proactive this role ought to be.

It creates a dilemma for the practitioner in gauging how much learners should be 'left to themselves' and how much interaction or even acceleration of learning the practitioner should provide.

This is where the scaffolded approach gradually gives way to a greater degree of self-direction.

Comment

Vygotsky's zones of actual and proximal (potential) development, are the difference between what learners can do themselves and what they may achieve with the support of others.

Clarke (2003) calls this the 'challenge factor' in learning which is explained in more depth in the section on Zones of Development.

At this level learners are independent and capable of a degree of self-direction. Important in e-learning to use this approach when learners are capable enough.

Social Constructivist (L. Vygotsky)

For Vygotsky, social interactions and learners' experiences which are embedded in the social context were of real importance in his belief that learning can lead development, hence the term 'social constructivism' Vygotsky (1978).

Vygotsky argued that learners are able to move their learning forward with the help of others and their minds are not simply the products of their own discoveries as Piaget argued.

Pitching it Right

If we begin with Gipps assertion "what kind of learning do we wish to foster?" The first step should be to analyse the learning situation, identify key techniques and create a learning framework which will inform the design phase, this is the key to effective e-learning according to Diana Oblinger currently President and CEO of EDUCAUSE, and formerly the Executive Director of Higher Education for Microsoft and IBM and Director of the Institute for Academic Technology. There are three key factors that impact on the process, the learner's autonomy, the desired learning approach, and the delivery method.

Learner Autonomy

Simply put this is the ability to take charge of one's own learning independently or in collaboration with others. It can be gauged by defining how much direction a learner needs to meet learning outcomes. An autonomous learner will take more responsibility for learning and is likely to be more effective than a learner who is reliant on the teacher.

Learner-control, which is ancillary to autonomy, 'is not a single, unitary concept, but rather a continuum along which various instructional situations may be placed' and learning activities to meet this and develop their autonomy as the programme unfolds.

Procedural	Personal	Critical
Learners need significant direction from the teacher and transmission of pre-defined outcomes, knowledge and content and might involve transaction over processes or tasks.	Learners possess a level of self-management and direction, are able to discuss learning, plan and organise work. At this level they are able to decide when best to work alone, collaboratively, and to seek advice.	Learners are capable of selecting and using appropriate learning strategies and the capability to reflect on their progress and make strategic decisions about the next phase of learning.

Learning Rationale

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Learning Approach

This is essentially the depth and level of engagement with learning and can be split into three approaches, surface, strategic and deep as defined by Biggs, (1987), and Entwistle, (1994). In e-learning it is particularly important to understand what approaches ...

Surface	Strategic	Deep
Surface-motivated students focus on what appear to be the most important topics and reproduce them.	Strategic learners Identify assessment criteria, are alert to cues about marking schemes and gear learning to achieve.	The main function is knowledge transformation through an intention to understand material for oneself, thereby developing an awareness of subjects in a wider context.
Memorising facts and procedures and possessing the capability to cope with set content and tasks.	They will follow up suggested reading, try out exercises, and are strategic in their selection of learning materials.	Deep processing involves searching for analogies, relating to previous knowledge, theorising about what is learned, and de[1]riving extensions and exceptions.
Because of this focus, they do not see interconnections between elements, or the meanings and implications of what is learned.	Learners will organise their time and working space and distribute their effort to greatest effect.	

Delivery Method

There are essentially three delivery approaches outlined by Haywood (1997), all learning situations incorporate some or all of these elements, they are outlined below. Delivery methods should be selected to facilitate the desired approach to learning.

Transmission	Transaction	Transformation
Typically seen in the transmission of external knowledge and the teacher's expertise, knowledge, and advice. This is normally achieved through directed instruction and reinforcement.	Typically seen in the transaction between teacher's and learners, or between learners about process or activity, the content of an activity or task or about its goals.	Typically seen in the transformation of learners' and teacher's understanding and insight in concepts and processes associated with learning a subject.
The one-way flow from teacher (or textbook) to student can be problematic in e-learning often leading to low level, passive learning.	The emphasis is on more flexible learning strategies which are more student centred, with teachers acting as facilitators of learning.	The emphasis is on dynamic strategies aimed at higher level learning, delivered through constructivist approaches to learning with the teachers acting as advisor.

Blooms Taxonomy

Bloom's taxonomy identifies three domains of learning: Cognitive (Knowledge), Affective (Attitude), Psychomotor (Skills). Each domain defines learning levels which are widely used when writing objectives, selecting teaching methods and evaluating learning. The levels reflect progression within a domain of learning, each level builds on the previous level.

The aim of any teaching is to move up levels of learning, consequently action verbs in learning objectives usually map to the appropriate level. In Digital Learning the cognitive domain is most relevant.

Anderson & Krathwohl (2001) revised the original to make it more relevant to newer educational theories by combining both the cognitive process and knowledge dimensions in a way that makes for a clearer taxonomy for the design of Digital Learning in particular.

There are two major changes; firstly the level titles have been revised to simplify meaning which clarifies the design process. Secondly there is a shift in the Taxonomy order, with Synthesis being replaced with Create which now becomes the last component of the Taxonomy. This was done because it is now suggested that it is more appropriate to evaluate first, and then, based upon that evaluation, go the next step, and create new ideas.

Revised Taxonomy Cognitive Domain

Blooms in its various forms represents the process of learning. In this case in the cognitive domain where most e-learning sits. In essence each level build on the previous, it would be foolish in any learning environment to expect learners to evaluate if they don't understand.

- Before we can understand a concept, we have to remember it
- Before we can apply the concept, we must understand it
- Before we analyse it, we must be able to apply it
- Before we can evaluate its impact, we must have analysed it
- Before we can create, we must have remembered, understood, applied, analysed, and evaluated.

Some people may argue that you do not require some of the stages for each and every task, action, or process.

Some too may argue about the necessity to reach the creation level for all activities. This is the choice of the individual.

The clear fact though is that you must pitch your e-learning at the right level for your learners.

remember
Recall or remember information

understand
Explain ideas or concepts

apply
Use information in a new way

analyze
Distinguish between differents parts

evaluate
Justify a stand or decision

create
Create a new product or point of view
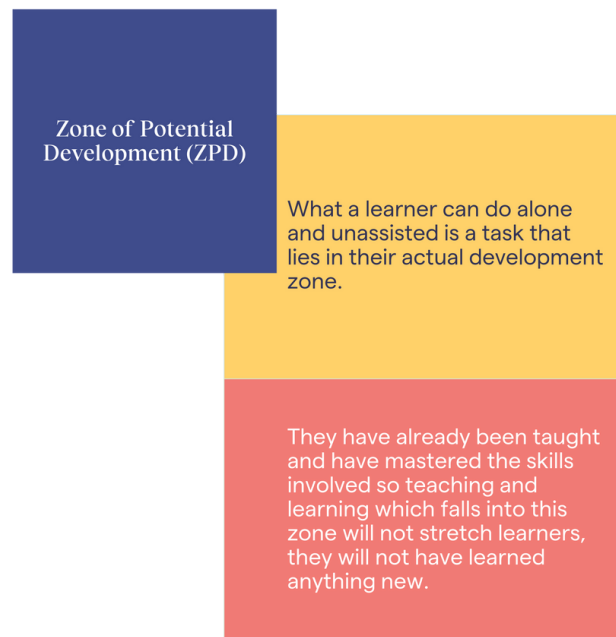
Zones of Development

What a child can do today with assistance, she will be able to do by herself tomorrow. ~Lev Vygotsky

Actual and Potential

Vygotsky (1978) established the zones of actual and proximal (potential) development, which were built on by Wells (1998) and others.
The difference between the zones is what a learner can do by themselves and what they may achieve with the support of others, what Clarke (2003) calls the challenge factor in learning.

Zone of Actual Development

What a learner can do alone and unassisted is a task that lies in their actual development zone.

They have already been taught and have mastered the skills involved so teaching and learning which falls into this zone will not stretch learners, they will not have learned anything new.

Zone of Potential Development (ZPD)

What a learner can do alone and unassisted is a task that lies in their actual development zone.

They have already been taught and have mastered the skills involved so teaching and learning which falls into this zone will not stretch learners, they will not have learned anything new.

Working in the ZPD

eLearning should be designed so that activities maximise learning.

The resulting solution should be consistent with related teaching methods where as far as possible the outcomes of one activity feed into next thereby building learning progression.

To achieve this, a variety of activities is essential to maintain interest, accommodate different learning preferences and include periods of downtime for reflection.
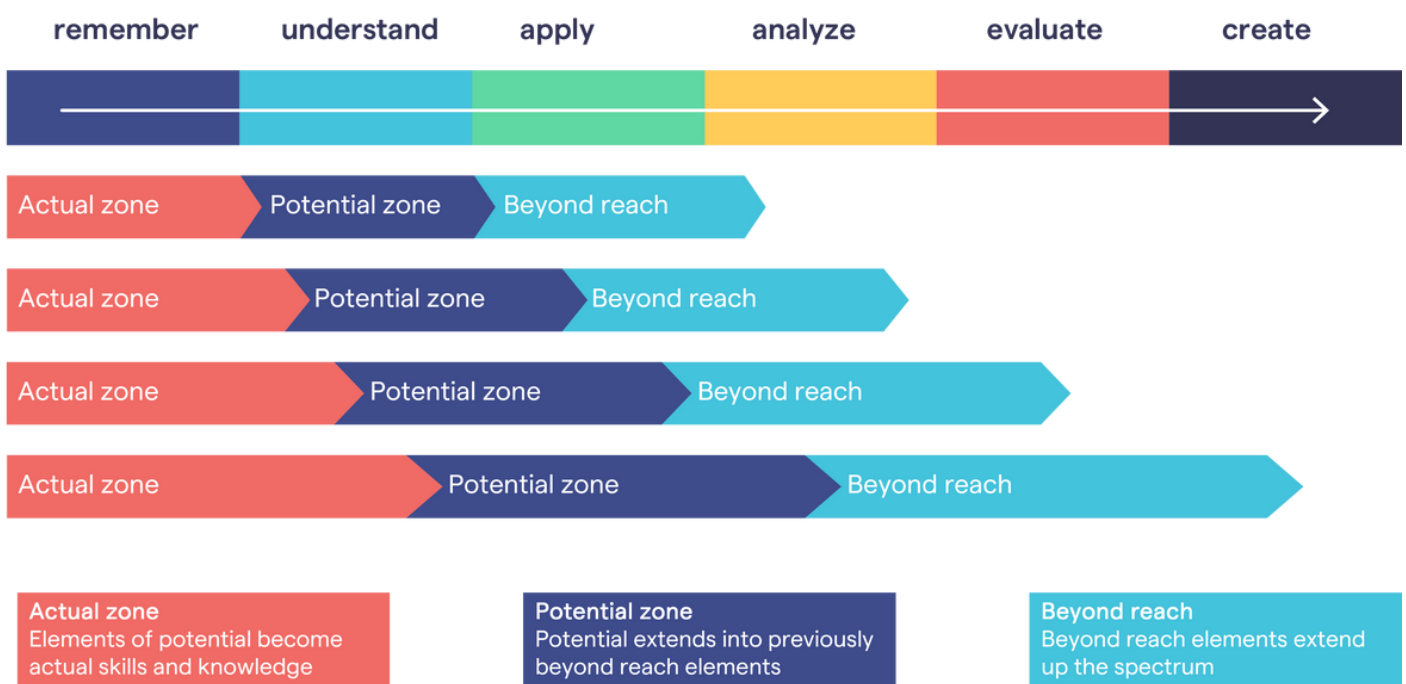

"I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!"

Adult Learners

The purpose of adult education is to help them learn, not to teach them all you know and thus stopping them from learning. ~Carl Rogers

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The key to stretching the learner is to know where they are and what comes next for them.

This is the guided learning (scaffolded) stage where the designer should aim to take the learner beyond their current level of knowledge and skill in a progressive way.

remember   understand   apply   analyze   evaluate   create

Actual zone | Potential zone | Beyond reach
Actual zone | Potential zone | Beyond reach
Actual zone | Potential zone | Beyond reach
Actual zone | Potential zone | Beyond reach

Actual zone
Elements of potential become actual skills and knowledge

Potential zone
Potential extends into previously beyond reach elements

Beyond reach
Beyond reach elements extend up the spectrum

Adults are generally characterised by maturity, self-confidence, autonomy, solid decision-making, and are generally more practical, multi-tasking, purposeful, self-directed, experienced, and less open-minded and receptive to change. All these traits affect their motivation, as well as their ability to learn. As e-learning essentials is geared to adult learning then an appreciation of the typical adult learner is of use and is outlined below. Think this area through from your own perspective, how would you feel in any of these scenarios?

Adult Learners

The purpose of adult education is to help them learn, not to teach them all you know and thus stopping them from learning. ~Carl Rogers

Motivation

Adults need a reason to learn, a 'need to know,' a 'what's in it for me.' In general they are self-motivated and self-directed if they have a clear sense of the purpose for learning specific material. Usually not motivated to learn for the sake of learning, nor "because I said so" or 'everybody needs to know this.'

Independent

See themselves as capable of taking care of their own needs in learning, as they do in the workplace or in their personal lives. Are not as comfortable being placed in a passive role. They may go so far as to avoid learning situations if they feel they will be treated like children. What's your thoughts?

Task Oriented

Are not engaged by material that is abstract or too hypothetical. Since they need a reason to learn, they want to learn by applying the information provided to real life situations as quickly as possible. They expect their time to be well spent and hope their sessions will help them solve problems in their daily lives.

Diverse

Have accumulated life, personal and work experience that they call on as a point of reference for new learning. Active forms of learning help connect the content to the learners' own meaningful structures. They do not react positively to being treated as blank slates, do you?

Creating a Learning Framework

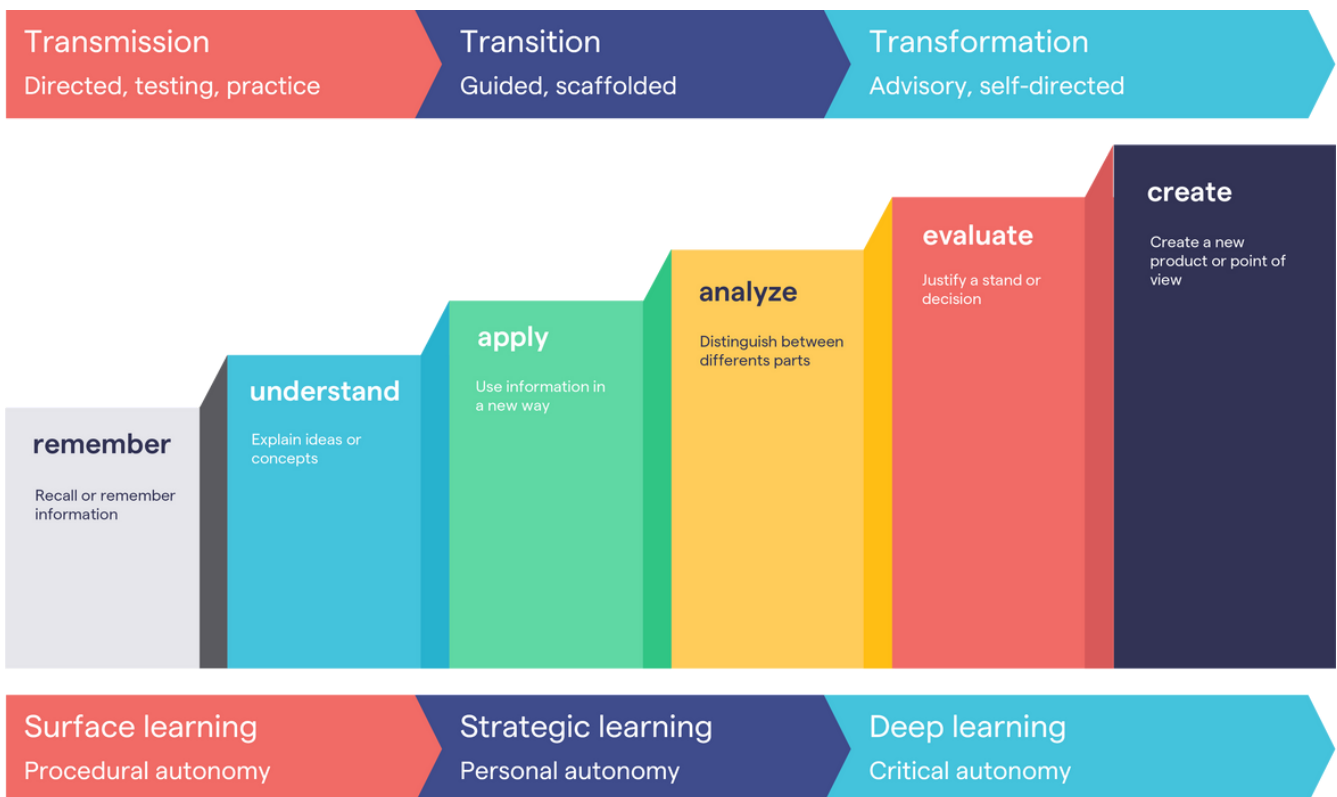An act that produces effective surprise is the hallmark of the creative enterprise ~Jarome Brunner

Mapping it Out

In order to make creative sense of all that has gone before the creation of a learning framework is vital to keep the design process on track and suited to the level of learning you are trying to achieve at any point in the process.

If we overlay learner autonomy, learning approaches and delivery methods across Blooms revised taxonomy the type of learning we need to foster at any point on the process becomes clear.

Learning Framework

As the graphic shows learning levels rise as learners progress up the taxonomy. Crucially the pace of learning also changes as learners move through stages of remembering right up to adopting creative skills.

Transmission	Transition	Transformation
Directed, testing, practice	Guided, scaffolded	Advisory, self-directed

remember
Recall or remember information

understand
Explain ideas or concepts

apply
Use information in a new way

analyze
Distinguish between differents parts

evaluate
Justify a stand or decision

create
Create a new product or point of view

Surface learning	Strategic learning	Deep learning
Procedural autonomy	Personal autonomy	Critical autonomy

Creating a Learning Framework

Although it may look as if the process rises in a linear manner, in practice it does not. Rather learners go through many iterations of understanding and skills development through to application before they begin the arduous climb towards analysis, evaluative and creative skills.

At the lower levels of remembering and understanding the typical delivery method will be transmissional to deliver what is essentially surface learning using directed and practice-based approaches.

As learners rise up the spectrum their autonomy levels begin to rise and with it the type of learning will now be more strategic as learners become adept of applying and analysing in different situations.

The delivery method changes through the mid-levels to a more transactional approach with more guided and scaffolded activities underpinning learning.

As learners move towards the top levels of critical autonomy the learning becomes much deeper and delivery methods once again alter to a more transformational approach with learning much more self-directed and tutor involvement on a more advisory level.

David Kolb's reflective model is referred to as experiential learning. The basis for this model is our own experience, which is then reviewed, analysed and evaluated systematically in three stages. Once this process has been undergone completely, the new experiences will form the starting point for another cycle.

Experimental Learning

Learning is the process whereby knowledge is created through the transformation of experience. ~David Kolb

Active experimentation

Actively practising newly acquired knowledge- the basis for the new cycle. As experiences within the active experimentation stage become new "concrete experiences".
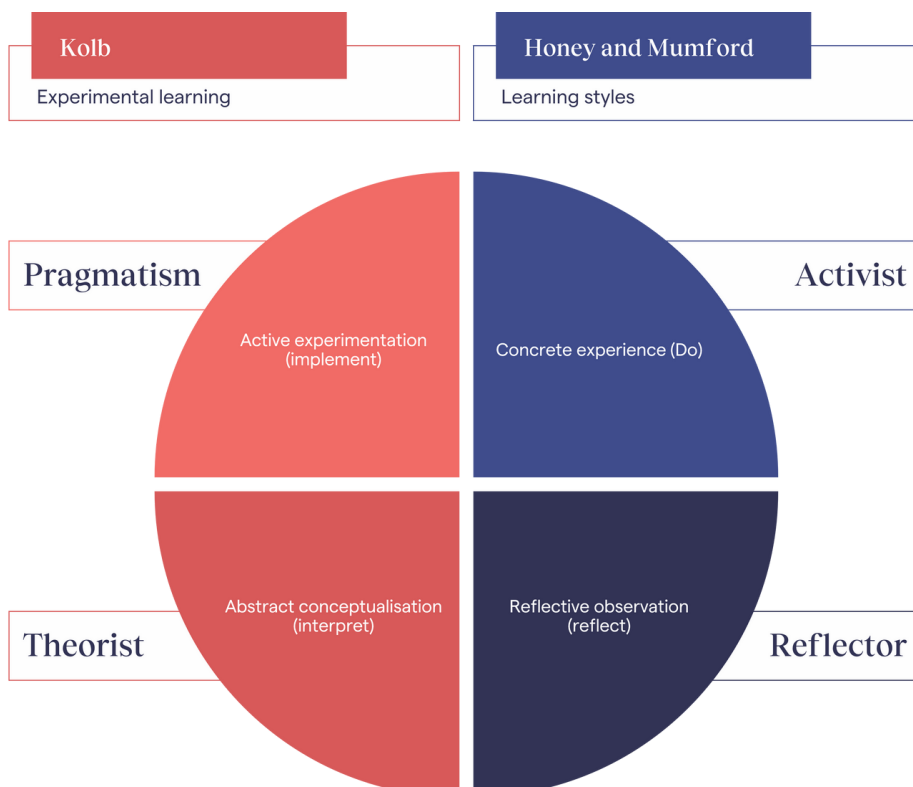
Concrete experience

At this stage you will make a note of the specific situation and just describe what you see, how you feel and what you think

Reflective observation

The questions you need to ask yourself are: what worked? what failed? why did the situation arise? why did others and I behave the way we did?

Abstract conceptualisation

The guiding question for this stage leads on from the questions in the reflective observation stage: what could I have done better or differently? how can I improve?

Kolb	Honey and Mumford
Experimental learning	Learning styles

Pragmatism

Active experimentation (implement)

Concrete experience (Do)

Activist

Abstract conceptualisation (interpret)

Reflective observation (reflect)

Theorist

Reflector

Experimental Learning

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Honey and Mumford learning styles were developed by Peter Honey and Alan Mumford in 1986. Their work is inspired from and built upon Kolb's learning styles model (Leaver, 2005). however, they produced their own Learning Styles Questionnaire (LSQ) because it was found that Kolb's LSI had low validity with managers.

Therefore instead of asking people directly how they learn, as Kolb's LSI does, Honey and Mumford gave a questionnaire that probes general behavioural tendencies. The rationale behind this is that most people have never consciously considered how they really learn. And to be an effective learner, individuals must know about their learning styles or preferences and find ways to learn using those methods.

Pragmatists

These individuals have the capacity to perceive how to put the learning into practice in their present reality. Conceptual ideas and recreations are of constrained utility unless they can see an approach to put the concepts practically in their lives. Experimenting with new ideas, speculations and methods to check.

Activists

Learn by doing, have a receptive way to deal with learning, including themselves completely and without inclination in new encounters. The learning activities can be brainstorming, problem solving, group discussion, puzzles, competitions, role -play etc.

Reflectors

Learn by watching and contemplating what happened, gathering information and using the opportunity to work towards a suitable conclusion. They like paired discussions, self-analysis questionnaires, personality questionnaires, time out, observing activities, feedback from others. coaching, interviews etc.

Theorists

Like to break down and integrate, drawing new data into a methodical and consistent 'hypothesis'. Their choice of learning activities includes models, statistics, stories, quotes, background information, applying concepts theoretically etc.

Style or Preference?

The term Learning Styles is endemic in education and is often the subject of heated debate, they categorise and attempt to define the different ways in which individuals prefer to learn. Thus learning styles are not really concerned with what learners learn, but rather how they prefer to learn. I am not a believer in much of the hype surrounding learning styles but do believe that in creating e-learning experiences we do need to answer the questions that are most important to adult learners.

Learning Preferences better categorises the natural way different people prefer to learn. For example, some individuals learn best from presentations using visual aids. Others prefer to listen or talk through ideas, rather than reading the same information.

While people obviously approach learning in very different ways, there are some broad categories into which people can be placed.

As a designer, understanding learning preferences allows you to plan learning more effectively. This doesn't necessarily mean designing learning just for individuals with a particular learning preference. Rather, by using a range of activities and resources to cater for a range of learning preferences and suggesting alternatives where you recognise problems.

As with almost all educational research the terms used and underpinning writing is a barrier to most busy professionals as they seek to apply lessons in their practice so some simplification of the whole process and what to do with it in a practical manner is covered below. By simply placing the preferences into types we can quickly look at what motivates each preference and act on it in designing e-learning.
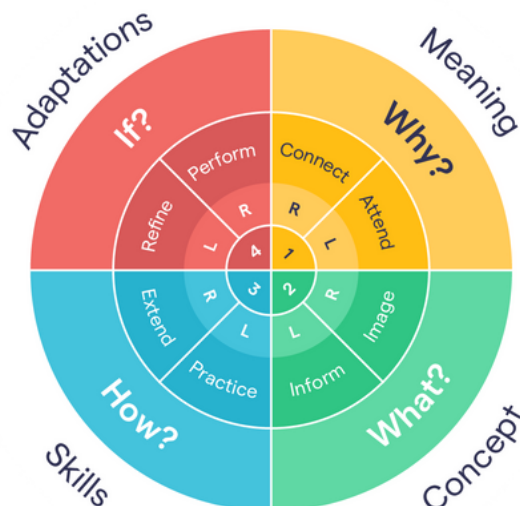
How Learning Preferences Impact on Design

Today its imperative for talent development to tap into the potential, and preferences, of all learners. ~LinkedIn 2019 Workplace Learning Report

Learning Preferences Simplified

Every student can learn, just not on the same day or the same way ~George Evans

Type 1

Prefer to learn concepts that can be applied to their own practise and are keen to try things out. They tend to be impatient with long discussions and lectures.

Tend to learn effectively when there is an obvious link between the topic and job, they have the chance to try out techniques with feedback e.g. role-playing, they are shown techniques with obvious advantages e.g. saving time.

Key Question: Why?

Why am I here? What's in this for me?

Type 2

Like to stand back and analyse situations from different perspectives before coming to any conclusions. Enjoy observing others and listening to their views.

Learn effectively when observing other individuals or groups at work, have the opportunity to review and reflect on what they have learned, producing detailed reports and analyses, doing tasks without tight deadlines.

Key Question: What?

What do I need to know?

Type 3

Integrate observations into logical theories by thinking problems through. Tend to be perfectionists, a little detached and do not show much emotion.

Learn effectively when In structured situations with clear purpose, offered alternatives that are interesting even if not directly relevant, have the chance to question and probe ideas.

Key Question: How?

How can I make this work?

Type 4

Open minded and enthusiastic about new ideas, but get bored with implementation. Tend to act without considering the implications. Work well in groups, but may dominate.

Learn effectively from new experiences, problems and opportunities, work well in team tasks, discussions and role-play, solving difficult tasks without guidance.

Key Question: What if?

What if I do it differently?

Be Aware

People naturally lean towards their own preferences, e-learning designers need to be aware of personal preferences during the design process. In the design of e-learning it is important to ensure that all four learning preferences are catered for. Individual preferences and strategies to cover all four quadrants are shown below. If you are broadly a type one learner your natural inclination will be to design experiences that fit with your type, similarly for the other three types. Be aware of this and when designing experiences ensure you cover all bases.

How Learning Preferences Impact on Design

Today its imperative for talent development to tap into the potential, and preferences, of all learners. ~LinkedIn 2019 Workplace Learning Report

Type 1

- Encourage self-awareness, authenticity and individual growth
- See knowledge as valuable for growth in personal insight
- Like discussions, group work and realistic feedback about feeling
- Appreciate supportive students who share their sense of mission

May Need To...

- Focus more on specific outcomes and procedures
- Spend more time on how to implement ideas and make them workable
- Spend more time planning
- Deal more readily with conflict
- Take action more decisively
- Support students who share their sense of mission

Type 2

- Keen to transmit knowledge and being as accurate and knowledgeable as possible
- See knowledge as valuable for deepening comprehension and understanding
- Like facts, details and systematic presentation of organised, sequential information
- Appreciate well organised students who follow through on assignments

May Need To...

- Take more risks
- Act before the plan is perfect
- Go more on instinct
- Try to inspire others
- Be more open to change

Type 3

- Interested in developing productivity, competence and skills for economic independence
- See knowledge as valuable for enabling students to be capable of making their own way
- Like technical knowledge and hands-on activities, plans and time lines
- Appreciate students who are task-oriented and move quickly

May Need To...

- Take more time to chat with people about day-to-day issues
- Pay more attention to other people's needs and feelings
- Value ideas more for their own sake, take more time to consider all ideas before coming to closure
- Take the time to let others find their own meaning/ learning

Type 4

- Interested in helping students to act on their own vision and enabling self-discovery
- See knowledge as a tool for improving society
- Encourage experiential learning, creativity and drawing new boundaries
- Appreciate students who can build on their ideas and are not dependent on the instructor for structure

May Need To...

- Focus more on structure
- Appreciate the need for follow-up and attention to detail
- Think more strategically
- Appreciate that others have lower tolerance for chaos
- Choose which risks to take

Information Push

Earlier on we touched on how passive approaches abound in much e-Learning with learners mindlessly clicking through content endless slides, reams of text and sleep-inducing delivery. It arises from the thought that learners need to know everything there is to know about a subject. It results in information overload and often follows a liner approach with steadily building knowledge pushed at learners such as the approach below which is more common than you would believe.

As Cathy Moore says droning design tells, tells, tells, then tests. Its more about content than learners, makes them work harder then needed, fears humour, conflict and creativity. Its also just plain boring, no wonder it turns people off!

The designers mind-set is:
- First, we'll tell them the subject basics, to make sure everyone knows them.
- Then we'll tell them what the research shows about the subject and the whys and wherefores.
- Then we'll tell them about for and against theories, and finally we'll test their knowledge retention with a test.
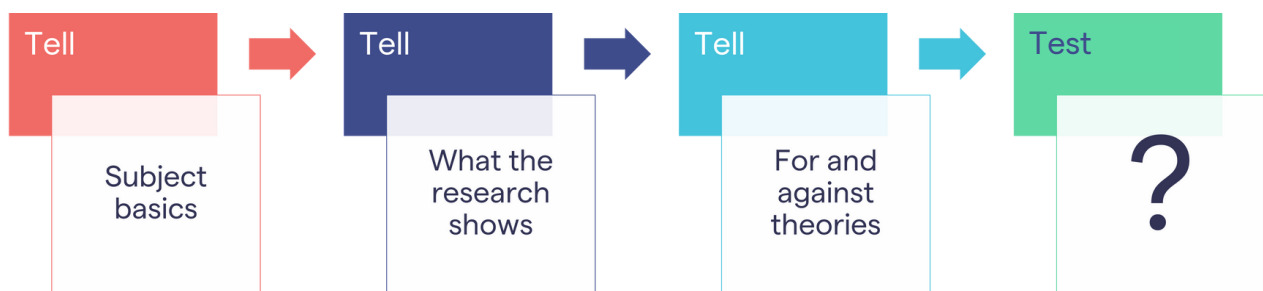
Its boring and inefficient, learners have to trudge through many screens before they finally get to use their brains. Some people already know the stuff presented on the many screens. The how-to info is presented immediately before the test, making it a simple check of short-term memory. As said earlier bored learners are unengaged learners and that's the last thing you want, but how do you change?

Changing Your Mindset

An ounce of practice is worth more than a ton of preaching. ~Ghandi

Engaging Learners

For e-learning to work it has to capture the learners imagination otherwise they are unlikely to engage for long. If you design the learning experience seeking to pique learners interest, stimulate their thought processes, challenge them they will become hooked into the learning. For the process to work designers need to keep in mind two things, the content and the language used.

Content

Make your content challenging for your learners, if its too easy they won't engage.

Make it investigative so learners can get stuck in rather than just reading reams of text.

Make it action based, the more actions for learners the better.

- **Challenging**
- **Investigative**
- **Action-based**

- **Easy to understand**
- **Talk to them**
- **Not at them**

Language

Its vital that you make the language easy to understand.

If learners have to take time trying to work out what they need to do they will turn off.

Talk to your learners, not at them, make it a conversation rather than a set of instructions

Putting Learning (and learners) First

What's required is nothing short of a complete change of mind-set so that you design e-learning activities to create an experience, not a presentation. If you keep in mind that learners (and learning) comes first your design will go through a 180 degree phase shift.

From the start look to grab learners interest immediately, get rid of the boring opening replacing it with a dynamic one which leads quickly to the first challenge. You've got their interest at this point and they become hooked into the learning.

Stick a problem scenario in to follow, doesn't have to be major just keeps the learning moving on at a pace with. Lead them on into an investigative phase before pausing for a recap.

| Dynamic opening | → | Challenge | → | Problem scenario | → | Investigation | → | Recap |

Done this way you have immediately piqued their interest then plunged learners into a realistic scenario — followed by another and another. Then you can concisely recap what they've figured out through the scenarios.

The material feels like a stream of activities, not pages of information followed by one lonely memory check. The recap can be memorable and concise because it refers back to concrete examples, such as, "As you saw with Tom's objection, it's best to etc"

You can mix it up any way you like. Shuffle the parts as you see fit, there is no right way. Every piece of e-learning will follow its own path, but keep the activities coming for learners and they will engage and immerse themselves in the e-learning, and thank you for it.

Success Based Design

Michael Allen talks about this concept in his book Designing Successful e-Learning and identifies seven keys to successful design based around learner motivation. When learners are motivated they are more a-tuned to the learning and it becomes easier and more enjoyable for them. Allen's seven keys are:

Context

1) Build anticipation of outcomes from the outset in an engaging way.
2) Make the content appealing (use novelty, suspense, humour, fascinating graphics, sound, music, animation etc)

Challenge

3) Put the learner at risk.
4) Select the right content for each learner.
- Adjust the challenge level to match the learner's readiness level.
- Provide challenges that integrate previous learning and provide spaced practice.
- Provide challenges that build confidence

Activity

5) Have your learner perform multi step tasks.

Feedback

6) Provide intrinsic feedback (more on this in the assessment section)
7) Delay judgement

Scenario based design offers the most rewarding to put into practice Allen's seven keys to success.

Scenario Based eLearning

Simply put, enquiry is the personal path of questioning, investigating and reasoning that takes us from not knowing to knowing. It is the engine for student driven learning.
~Suzie Boss

Scenario Based Approaches

Scenario based eLearning is effective because it provides a framework for learners to practice in a safe environment and learn from mistakes. In order to do this in an engaging manner, good scenario based eLearning draws on stories, which are contextualised in the real world.

Similar to the experiential model of learning, it has the ability to engage learners and gives them the possibility to make decisions, try out different versions of solving a particular problem and see the consequences of their actions without translating them into the real world.

The adherents of experiential learning are fairly adamant about how people learn. Learning seldom takes place by rote. Learning occurs because we immerse ourselves in a situation in which we have to perform. We get feedback from our environment and adjust our behaviour. We do this automatically and with such frequency in a compressed timeframe that we hardly notice we're going through a learning process.

One of the main aims of using scenarios is to not just push information out to learners, but make them work for it. This will not only test their problem-solving skills but also increase learner engagement. You need to be able to set the learner a challenge so that they feel some kind of satisfaction when they achieve it and so there's some focus for their learning.

There are many ways to design scenario based e-learning and this guide is not meant to be exhaustive. Rather it gives a flavour of what is possible with a little imagination and a lot of work. The results though are invariably worth it for your learners.

Creating Scenario Based eLearning

Aim to:
- Develop specific skills as the focus of the e-learning, such as problem solving, investigation, thinking etc
- Learners should at least have basic skills to help them solve the scenarios.
- Organisation must support a scenario-based approach, in terms of time, budget and effort etc.

Scenario Based eLearning

Scenario Types

Pick the right scenario frame for your design. There are several types of scenarios, each best suited for teaching a particular kind of skill. You have to decide which will result in the most effective transfer of learning.

Skill-based scenario

The learner is expected to demonstrate skills and knowledge they have already acquired. May work best as follow up to previous sessions or a short workshop in which some basic information is covered.

Problem-based scenario

Ideal for situations where learners have to tap into their theoretical and practical knowledge to investigate or figure out the ramification of a problem. Decision-making, logical reasoning, critical thinking and analysis are integral components of these scenarios.

Issue-based scenario

Not necessarily looking for a clear-cut resolution, learners are asked to take a stand on issues, usually with humanitarian perspectives, and think about these in order to understand the bigger picture.

Speculative scenario

Learners are asked to predict the outcome of an event in the future based on what they know at the present time and how they feel things are evolving tapping into their own intuition.

Gaming scenario

Probably the most fun kind, these scenarios involve the use of games as learning tools. They can be used to home decision making skills through immersing learners in real world situations where they need to think and act.

Write With Verve!

Through school, college and university when was the last time you were asked to write 'an exciting, engaging story on...'? Probably never, instead its 'write six sides of A4 on...', 'write10 pages on...', 'your assignment should be 2000 words, 4500 words etc'.

The writing style most of us were taught to use emphasised the passive voice which results in vague, often verbless text that oozes a numbing grey fog over business and academia. It sneaks into all aspects of e-learning, including dramatic scripts. Moreover writing for print follows a traditional pyramid style of introduction followed by the body of the subject through to conclusion.

Lingo and Tepper (2010) argue that 'students are arriving on campus brimming with creativity and curiosity... they are active learners and problem solvers who demand new ways of learning'. If its true of learners on campus, its equally true of learners in the workplace yet all too often they are served up passive, unengaging language in their learning and especially e-learning.

In e-learning the passive approach is the first sleeping pill learners are often given, its fatal. To change this designers need to develop a new writing style for e-learning (and learning in general) which is the opposite of much they have been taught.
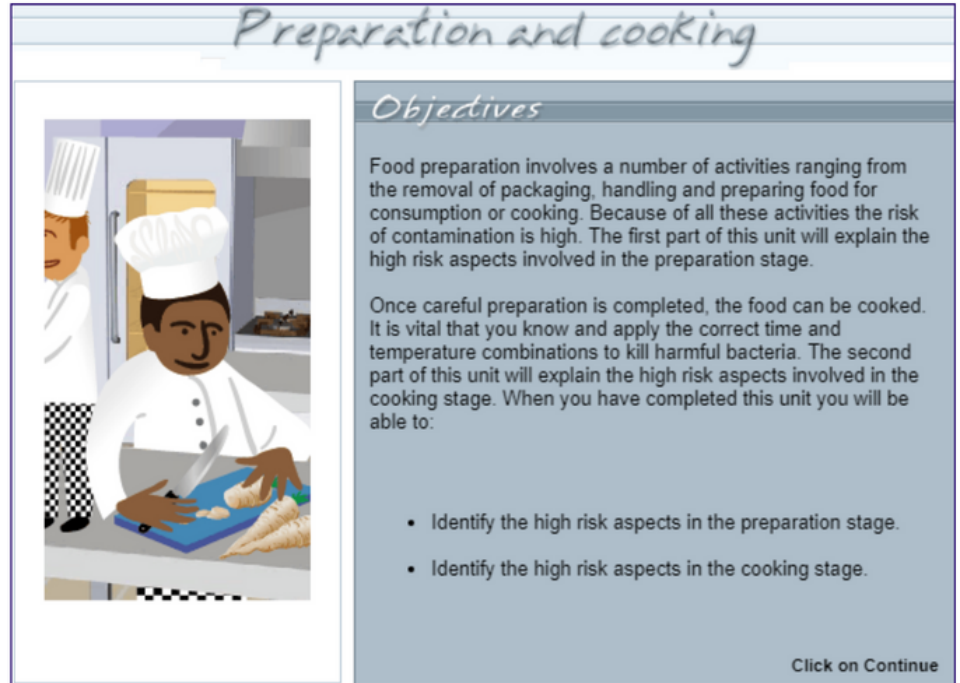
Look at the two actual examples below.

In the first the traditional intro with its focus on corporate drone and the tell, tell, tell approach.

In the second an immediate welcome and dynamic scene setting. Which one is more likely to engage and enthuse?

Writing for eLearning

Clear, creative design inspires clear, creative language. ~Cathy Moore

Example 1

- The learner is immediately put on the back foot
- Here is what you need to learn and we will tell you...
- Written in the passive voice, long winded and wordy
- Talks at them not to them
- Information heavy, tells the learner, then tells again, then again
- A bland introduction which struggles to enthuse
- No clear direction of what they are expected to do

Preparation and cooking

Objectives

Food preparation involves a number of activities ranging from the removal of packaging, handling and preparing food for consumption or cooking. Because of all these activities the risk of contamination is high. The first part of this unit will explain the high risk aspects involved in the preparation stage.

Once careful preparation is completed, the food can be cooked. It is vital that you know and apply the correct time and temperature combinations to kill harmful bacteria. The second part of this unit will explain the high risk aspects involved in the cooking stage. When you have completed this unit you will be able to:

- Identify the high risk aspects in the preparation stage.
- Identify the high risk aspects in the cooking stage.

Click on Continue

Example 2

Introduction | Work environment | Kitchen tools | Select, prepare | Cutting tools

Kitchen Peparation

Hello, I'm pleased your here. My kitchen manager has gone off sick and we have an important function to get ready for, I'd like you to step into her shoes and help me get it right.

Our catering staff are casual workers and they need guidance on working safely and hygienically. I'd like you to prepare a guide for them so they will know how to:

- Work cleanly and safely
- Select kitchen tools
- Select and prepare vegetables
- Use basic cutting tools

Can you check out the requirements for me and compile a report which we can use to formulate our procedures before the staff arrive.

- The learner is pitched straight into a scenario based problem solving activity
- Written in the active voice. Short and punchy wording
- Talks to them not at them
- It gets straight to the point in the first paragraph, then expands upon it
- Uses bullet points that are short and snappy
- Provides the hook, a great example of an anticipatory set in action
- Tells learners what they need to do

Developing a Writing Style

When something can be read without effort, great effort has gone into its writing .
~Enrique Jardiel Poncela

Refining Your Writing Style

For effective e-learning the writer needs to develop an active, lively and concise writing style. Sounds easy but it takes a while to achieve. Some things to keep in mind and tips to help you develop your writing style are below. You wont get it right first time, don't worry, everyone takes time to develop their style.

Voice

- Write in the active voice. Use action words. Avoid the passive voice unless it is specifically called for (which is not often).
- Tell your learners what to do. Keep the flow of your pages moving. In other words keep to the point!

Conversational Style

- Write conversationally. Talk to your learners not at them. This is vital especially in introductions and as you prepare learners for new challenges.
- Don't write to impress, imagine you are writing to a single reader, not to a crowd of people.
- Write how you talk, listen to that little voice in your head - you know, the voice of reason. If you listen to that voice when you talk you can listen to it when you write. And when you do, your conversational style will definitely shine through.

Tone

- Get rid of Corporate Drone. Use plain English, don't try and dress it up. Leonardo da Vinci said simplicity is the ultimate sophistication. Keep it punchy. Shorter sentences are better than longer ones. If in doubt, use a full stop and move on.
- Vary your tone to suit the circumstances. It may be formal, informal, serious, comic, sarcastic, sad, or cheerful, or it may be any other existing attitude.

Tell a Story

- The most important part of a conversational writing piece is that it tells a definitive story. The story is fluid and delivered in such a way that the reader will feel as if he or she were talking with their best friend.
- Add human interest and don't be afraid of humour. Sometimes it may not be appropriate, but a little light humour can work wonders, especially when dealing with seemingly dry subject matter.

Wordiness and Jargon

- First impressions really matter, try to break up your writing into bite-sized chunks. Avoid wordiness, get rid of everything that is not essential to making a point. The point is to be smooth and conversational.
- Rambling creates both chaos and confusion. It should be avoided at all costs.

- Avoid jargon, say what you mean, see or think. Don't dress it up too much. Never use a long word where a short one will do.

Readability

- The written word is used to communicate a whole host of ideas and information. But, what if without even being aware of it, your writing was stopping people engaging with your content?
- Readability scores measure whether content is likely to be understood by your intended reader. the readability of a given text influences the extent to which people engage with and take on a message.
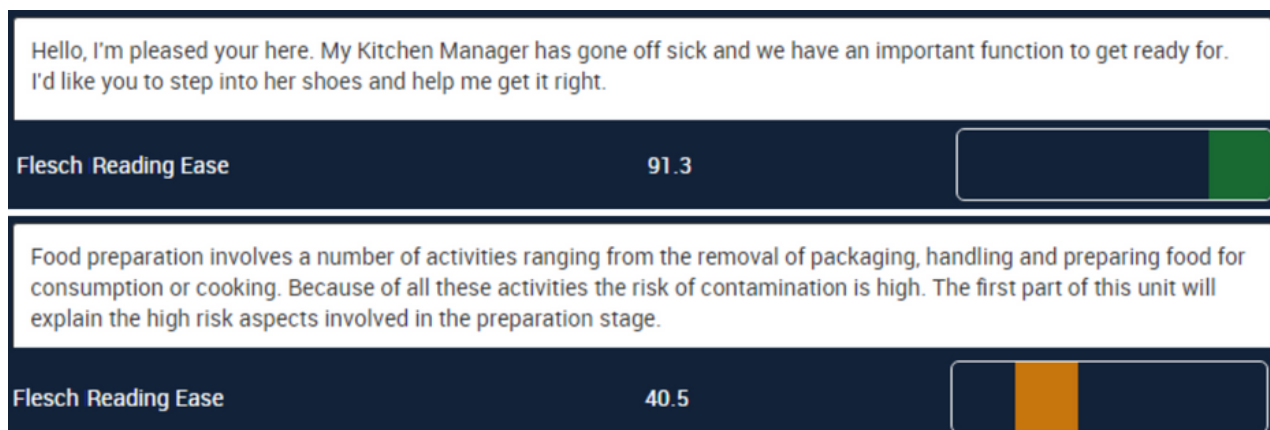
Flesch Reading Ease

The Flesch Reading Ease is an index number that rates the text on a 100-point scale. The higher the score, the easier it is to understand. Authors are encouraged to aim for a score of approximately 60 to 70. As Cathy Moore laments a lot of e-learning ends up in the 40-something category, thanks to corporate drone.

Developing a Writing Style

When something can be read without effort, great effort has gone into its writing .
~Enrique Jardiel Poncela

Comparison

- The opening paragraphs from the two examples on the previous page put through the Flesch Reading Ease Index test scored markedly different.
- There are plenty of online readability index testing tools or you can use Microsoft Word's inbuilt feature.

Hello, I'm pleased your here. My Kitchen Manager has gone off sick and we have an important function to get ready for. I'd like you to step into her shoes and help me get it right.		
Flesch Reading Ease	91.3	
Food preparation involves a number of activities ranging from the removal of packaging, handling and preparing food for consumption or cooking. Because of all these activities the risk of contamination is high. The first part of this unit will explain the high risk aspects involved in the preparation stage.		
Flesch Reading Ease	40.5	

Final Word

All of this is really saying….Write with a bit of verve. Try to stand out from the crowd. Dare to be different. Show a little leg. Whatever it takes…

David Kolb

American educational theorist whose interests and publications focus on experiential learning, the individual and social change, career development, and executive and professional education.

Mortimer J Adler

American philosopher, educator, editor, and advocate of adult and general education by study of the great writings of the Western world.

Enrique Jardiel Poncela

Spanish writer and playwright. He is one of the most relevant comedians and dramaturges of Spain's 20th century. His writing is related to the Avant-garde and the theatre of the absurd.

Carl Rogers

American psychologist known for his influential psychotherapy method known as client-centred therapy. Rogers was one of the founding figures of humanistic psychology.

Horace Mann

American educational theorist whose interests and publications focus on experiential learning, the individual and social change, career development, and executive and professional education.

Grant Wiggins

Educator and author who helped usher in a shift in the pedagogical approach to classroom instruction .

Ralph Speth

German automotive executive, currently chief executive officer of Jaguar Land Rover, following previous roles with BMW, Linde and Ford's Premier Automotive Group.

Suzie Boss

Educational consultant from Portland, Oregon, working to harness the power of teaching, learning, and storytelling to improve lives and transform communities.

Ernest LeRoy Boyer

American educator who served as Chancellor of the State University of New York, United States Commissioner of Education, and President of the Carnegie Foundation for the Advancement of Teaching.

George Evans

American cartoonist who worked for many publishers and also drew the comic strip Secret Agent Corrigan from 1980 to 1996.

Lorinda Mamo

Founder of A Bird With A French Fry and Co-Founder of Belle & Beau Handmade. Creative writer, designer and maker.

Jerome Bruner

American psychologist who made significant contributions to human cognitive psychology and cognitive learning theory in educational psychology.

Mahatma Ghandi

Indian lawyer, anti-colonial nationalist, and political ethicist, who employed nonviolent resistance to lead the successful campaign for India's independence from British Rule

Alfred Mercier

Doctor and writer and was part of a group responsible for promoting an awareness of French literature in Louisiana during the late 1800s. Believed in the value of inspired learning.

Antoine De Saint-Expury

French writer, poet, aristocrat, journalist and pioneering aviator. He became a laureate of several of France's highest literary awards and also won the United States National Book Award..

Lev Vygotsky

Lev Vygotsky was a seminal Russian psychologist who is best known for his sociocultural theory. He believed that social interaction plays a critical role in children's learning.

Cathy Moore

Internationally recognised training designer who wants to save the world from boring instruction. She helps L&D professionals make an impact by solving performance problems and deeply challenging learners.

Onur Mustak Cobanli

Founder of OMC Design Studios and Jury Coordinator of A' Design Award and Competition. Research Fellow at Faculty of Design, Politecnico di Milano, Milan, Italy

Shirley Alexander

Deputy Vice-Chancellor and Vice-President (Education and Students) responsible for UTS's key priorities in teaching and learning, the student experience, and the use of data analytics.

Miles Davis

American jazz trumpeter, bandleader, and composer. He is among the most influential and acclaimed figures in the history of jazz and 20th century music.

Plutarch

Greek biographer and author whose works strongly influenced the evolution of the essay, the biography, and historical writing in Europe from the 16th to the 19th century.

Brooke Schepker

Executive Vice President at Yukon Learning. Involved in e-Learning, instructional design, learning theory, adult education, learning technologies.

Mike Fisher

Instructional coach and education consultant specialising in the intersection between instructional technology and curriculum design.

Milton Glaser

American graphic designer. His designs include the I ❤ NY logo, the psychedelic Bob Dylan poster, and the logos for DC Comics and Brooklyn Brewery.

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