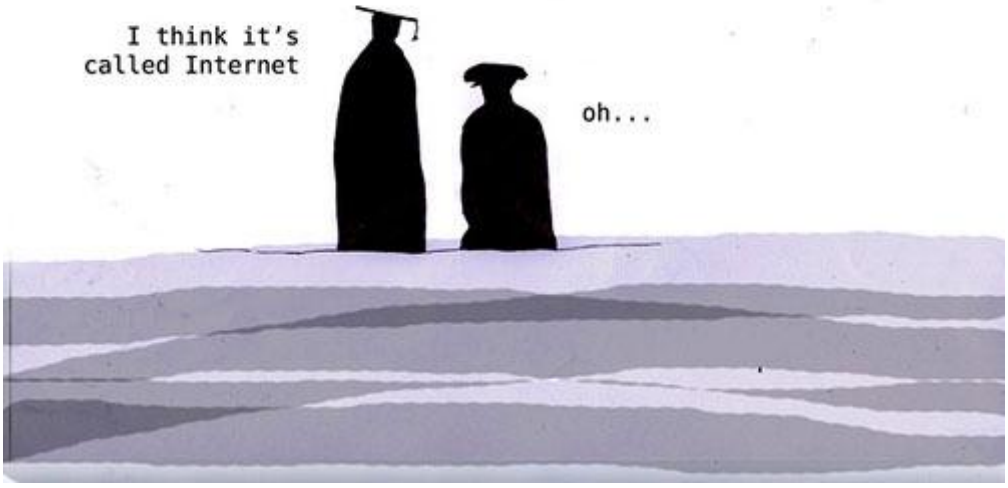
Introduction to eLearning

Waikato Centre for eLearning

One does not discover new lands without consenting to lose sight of the shore for a very long time.

– *André Gide*



Introduction

Let’s start by getting to know each other.

Tell us your name and what area you work in, then tell us what one of your favourite holiday locations was as a kid and why.

You can make some notes here if you want.

Defining eLearning

In groups of 3 or 4, describe some characteristics of eLearning. We want to work towards a definition of eLearning that is a useful reference point for us. This definition might not be the same for everyone.

Definitions

eLearning

A mode of learning that makes ~~extensive~~ deliberate use of ICT

> **From Ministry of Education**
>
> e-Learning is learning that is enabled or supported by the use of digital tools and content. It typically involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. e-Learning opportunities are usually accessed via the internet, though other technologies are also used in e-learning.
>
> e-Learning environments can be rich, interactive, dynamic and customisable, connecting learners with an almost limitless wealth of information. New patterns of learning are starting to emerge as a result. We are seeing an increasing emphasis on information literacy, increased flexibility as to where, when and how people learn, and exploration of new ways in which learners can be empowered to structure and manage their own learning experiences.
>
> ***Pasted from <http://www.minedu.govt.nz/educationSectors/TertiaryEducation/PublicationsAndResources/TertiaryELearningInNewZealand.aspx>***

ICT - Information & Communication Technologies

Technologies which allow

1. communication between people at a distance whether synchronously or asynchronously
2. Access to information via an electronic medium

In terms of eLearning, both parts are important. Information on its own is passive and not conducive to deep learning - Communication is the key element that is often overlooked.

Web2.0

The World Wide Web (WWW or Web) was first envisioned as a collaborative space where researchers could share information. Its first integration was in fact very unidirectional. A web page author created content and others were able to read it. Although there could be bells and whistles, flashy animation and forms to fill in, there was basically no opportunity for interaction or for users to create content.

Web2.0 was coined as a term to describe the style of program development that redressed these issues. Increasingly, users are able to create their own content; to publish material; to interact with others; and to repurpose material. Blogs, wikis and social networking sites such as Facebook are some examples.

Flexible Learning

Not distance education (well not just, but also)

Flexibility in location, time, course, resources, choice, learning style, activities.

> **From Ako Aotearoa**
>
> Distance and Flexible Learning includes flexible learning and support, blended learning, and technology-assisted learning such as e-learning and m-learning.
>
> *Pasted from <http://akoaotearoa.ac.nz/topics/term/16>*

Blended Learning

A mix of face to face and eLearning - NZ uses a continuum of terms -

- web enabled; compulsory use of extensive online resources
- web enhanced; recommended use of online resources - these may be a significant resource for completion of the paper
- web supported; voluntary use of limited online resources

mLearning

Mobile learning refers to learning opportunities using small portable devices. These originally were cell phones but have diversified to include some MP3 players, games consoles and PDAs. The key element is that these devices can typically fit in a pocket and are carried on one's person all the time, making them ubiquitous.

Principles, theories and ideas of learning

Constructivism - Piaget

Constructivism's central idea is that human learning is *constructed*, that learners build new knowledge upon the foundation of previous learning. This view of learning sharply contrasts with one in which learning is the passive transmission of information from one individual to another, a view in which reception, not construction, is key.

Pasted from <http://www.sedl.org/pubs/sedletter/v09n03/practice.html>

Social Development Theory - Vygotsky

Social constructivism

social interaction plays a fundamental role in the development of cognition.

Pasted from <http://tip.psychology.org/vygotsky.html>

Knowledge is constructed in a social context -

"… community plays a central role in the process of "making meaning.""

Pasted from <http://www.simplypsychology.pwp.blueyonder.co.uk/vygotsky.html>

Zone of Proximal Development (ZPD)

This is an important concept that relates to the difference between what a child can achieve independently and what a child can achieve with guidance and encouragement from a skilled partner.

Vygotsky sees the **Zone of Proximal Development** as the area where the most sensitive instruction or guidance should be given - allowing the child to develop skills they will then use on their own - developing higher mental functions.

Vygotsky also views interaction with peers as an effective way of developing skills and strategies. He suggests that teachers use cooperative learning exercises where less competent children develop with help from more skilful peers - within the zone of proximal development.

According to Vygotsky, much important learning by the child occurs through social interaction with a skilful tutor. The tutor may model behaviours and/or provide verbal instructions for the child. Vygotsky refers to this as co-operative or collaborative dialogue. The child seeks to understand the actions or instructions provided by the tutor (often the parent or teacher) then internalises the information, using it to guide or regulate their own performance.

Shaffer (1996) gives the example of a young girl who is given her first jigsaw. Alone, she performs poorly in attempting to solve the puzzle. The father then sits with her and describes or demonstrates some basic strategies, such as finding all the comer/edge pieces and provides a couple of pieces for the child to put together herself and offers encouragement when she does so. As the child becomes more competent, the father allows the child to work more independently. According to Vygotsky, this type of social interaction involving co-operative or collaborative dialogue promotes cognitive development.

For example, the child could not solve the jigsaw puzzle (in the example above) by itself and would have taken a long time to do so (if at all), but was able to solve it following interaction

with the father, and has developed competence at this skill that will be applied to future jigsaws.

Pasted from <http://www.simplypsychology.pwp.blueyonder.co.uk/vygotsky.html>

Constructionism - Papert

Papert proposed Constructionism based on Piaget's ideas of Constructivism. He suggests that building knowledge structures is more effective when the learner has a real world entity to construct.

> "Constructionism—the N word as opposed to the V word— shares constructivism's view of learning as "building knowledge structures" through progressive internalization of actions… It then adds the idea that this happens especially felicitously in a context where the learner is consciously engaged in constructing a public entity, whether it's a sand castle on the beach or a theory of the universe" (Papert, 1991, p.1)

Pasted from <http://learning.media.mit.edu/content/publications/EA.Piaget%20_%20Papert.pdf

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Andragogy - Knowles

All the above theories were developed from studying how children learn. Andragogy is a counterpoint to pedagogy and suggests how adults can use different strategies in their learning. It doesn't mean that the constructivist theories have no relevance to adult learning. In fact I think that the postulates of Andragogy can also be valid when children are learning. A key difference is that adults are often more able to express their needs and have more choice over their education and learning modes.

> Andragogy makes the following assumptions about the design of learning: (1) Adults need to know why they need to learn something (2) Adults need to learn experientially, (3) Adults approach learning as problem-solving, and (4) Adults learn best when the topic is of immediate value.
>
> In practical terms, andragogy means that instruction for adults needs to focus more on the process and less on the content being taught. Strategies such as case studies, role playing, simulations, and self-evaluation are most useful. Instructors adopt a role of facilitator or resource rather than lecturer or grader.

Pasted from <http://tip.psychology.org/knowles.html>

Deep / Surface learning

The features of Deep and Surface approaches can be summarised thus:

Deep	**Surface**
Focus is on “what is signified”	Focus is on the “signs” (or on the learning as a signifier of something else)
Relates previous knowledge to new knowledge	Focus on unrelated parts of the task
Relates knowledge from different courses	Information for assessment is simply memorised
Relates theoretical ideas to everyday experience	Facts and concepts are associated unreflectively
Relates and distinguishes evidence and argument	Principles are not distinguished from examples
Organises and structures content into coherent whole	Task is treated as an external imposition
Emphasis is internal, from within the student	Emphasis is external, from demands of assessment

(based on Ramsden, 1988)

Pasted from <http://www.learningandteaching.info/learning/deepsurf.htm>

Active / Passive learning

Recent theories put more emphasis on *student activity* than on *teachers teaching*. That is, they argue that the student's own experience and study are where learning starts.

This has been related to a change of psychological theories of learning from **behaviourism** to **constructivism**. This is how Anthony Basiel distinguishes the two:

> *"Behaviourism defines learning as a passive accumulation of information.... The teacher feeds progressively more difficult bits of data to the student...*

Constructivism shifts the responsibility of learning to the student. This learner-centred approach... sees the student actively constructing...knowledge. The teacher's role is to guide [students] through the process of learning".

> *Pasted from <**http://www.mdx.ac.uk/WWW/STUDY/glolea.htm**>*

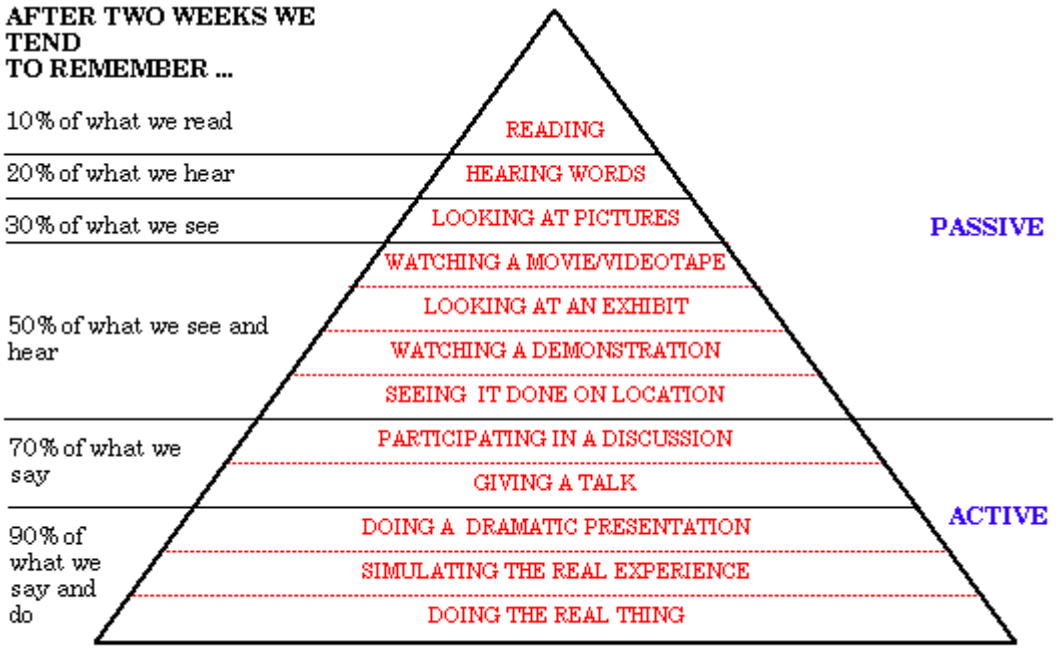
This difference is often described as the “Sage on the stage versus the Guide on the side”. Remember though that it isn’t the equivalent of the teacher abrogating responsibility for the class and the learners.

The best answer to the question, "What is the most effective method of teaching?" is that it depends on the goal, the student, the content, and the teacher. But the next best answer is, "Students teaching other students."

> Wilbert J. McKeachie, Author of *Teaching tips: Strategies, research and theory for college and university teachers,* Houghton-Mifflin (1998).

Active Learning

Most of the time, in a typical classroom setting, students are involved only **passively** in learning, i.e., in listening to the instructor, looking at the occasional overhead or slide, and reading (when required) the text book. Research shows that such passive involvement generally leads to a limited retention of knowledge by students, as indicated in the 'cone of learning' shown below.



Adapted from: Edgar Dale *Audio-Visual Methods in Teaching*, Holt, Rinehart and Winston.

The Cone of Learning

Pasted from <http://courses.science.fau.edu/~rjordan/active_learning.htm>

Cognitive Load

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

Describe a square so that someone who has never seen one knows what one is. Compare this to showing a picture of a square with some annotation.

Describe all the steps required to make a cup of tea – compare this to watching (a video of) the process.

The way in which information is presented can affect the effort required for the brain to process the information. This therefore has an effect on the ability of the brain to add and place that information in its world view. Reduce any extraneous cognitive load so that students can concentrate on learning the subject, rather than learning their way around the system.

Emotional Learning

Emotion of shame

In the literature, the emotion of shame has become prominent in recent years (Frijda, 1994; Kitayama, 1994). Scheff (1991) describes shame as the 'master emotion', basic to the dynamics of relationships because of the way in which shame generates alienation while its opposite, pride, accompanies solidarity. He argues that

> *shame is crucial in social interaction because it ties together the individual and social aspects of human activity as part and whole. As an emotion within individuals it plays a central role in consciousness of feeling and morality. But it also functions as signal of distance between persons, allowing us to regulate how far we are from others (pp 13, 14).*

Distance between persons in social settings – and this can be seen particularly in learning settings – is a strong indicator of acceptance and rejection by those one looks to for recognition, especially parents, teachers and peers. Shame generally accompanies distance, whether through one's own conscience or distancing by others. Shame is a normal part of the process of social control (Scheff 1997 p 74) in families and the wider society, and is fundamental to control in classrooms and schooling. Shame and pride are significant in the classroom experiences which make learning possible (Ingleton 1994) as they are fundamental in the formation of confidence, anxiety and fear. Pride and shame are central in the construction of identity, and so are significant in the theorising of emotion and learning.

Emotion and identity

Scheff's theory of the social bond (1997) provides a useful framework for relating identity, emotion and learning. Acceptance and recognition are key components in establishing pride, and are the basis of what Scheff calls the social bond. His theory of the social bond describes the social relationships of solidarity and alienation as basic to the development of identity and self-esteem. Or, to put it another way, self-esteem hinges on a cluster of 'self-conscious emotions, particularly pride' (Kitayama 1995 p 524). An application of this theory may be seen in Salzberger-Wittenberg's account of her own tertiary students who were experienced school teachers returning to study. She analysed their emotional reactions on first entering their university classroom in terms of transference onto teachers of the early experiences of hope and fear, love and rejection, that they had experienced in relation to authority figures (Salzberger-Wittenberg et al 1983). The emotions central in early learning experiences were seen to continue actively into the present. If the social bond and self-esteem are high, one may be disposed to act with the confidence of positive expectation. This link between the social bond and confident expectation is a central element in the theory of emotion and learning proposed here.

… Shame and pride are powerful emotions in learning because they are part of social bonding, and the basis of self-identity and self-esteem. Because they are part of identity building, they are essential to the protection of self-esteem. In learning, one works hard at minimising risk, or avoiding risk, to avoid shame and the lowering of self-esteem.

> *Emotion in learning: a neglected dynamic*
> Christine Ingleton, Advisory Centre for University Education, University of Adelaide HERDSA Annual International Conference, Melbourne, 12-15 July 1999

There have also been studies of online learning in which emotion, while not being the major focus, has at least been acknowledged. Martinez [5] has carried out research into online learning and devised a model of learning orientations which 'recognizes a dominant influence of emotions, intentions and social factors on how individuals learn differently.' Some of the research has identified some of the emotions experienced by students studying

online. A study by Schaller and colleagues [44] found that students experienced bewilderment and confusion as they attempted to navigate their way through the required learning site. Wegerif [45] reported that students of the Open University were inhibited by feelings of fear and alienation as they experienced the exposure and the isolation that learning online can entail. Ng [46] discovered that some students studying online reported considerable anxiety at communicating electronically, realizing that this form of communication required new social and communication skills. Hara and Kling [47] set out specifically to investigate students' distress associated with studying a web based course. In their study, the expected problem of isolation did not emerge as an issue. They did however, identify considerable frustration experienced by students with the technical aspects of leaning online, with interpreting and following instructions and with managing the enormous amounts of email they were required to deal with. They questioned the apparently positive results of some surveys into online learning, suggesting that students' private revelations sometimes bore considerable contrast to their public responses in which they may be reluctant to express negative attitudes.

Emotion and eLearning

Kerry O'Regan, Learning and Teaching Development Unit, The University of Adelaide. JALN Volume 7, Issue 3 — September 2003

A. Frustration—*Well, that's the university for you*

B. Fear, anxiety, apprehension—*every single day*

C. Shame/embarrassment—*surely a three year old could manoeuvre through this*

D. Enthusiasm /excitement—*My goodness, this is fantastic!*

E. Pride—*I made a good assignment*

Emotion and eLearning

Kerry O'Regan, Learning and Teaching Development Unit, The University of Adelaide. JALN Volume 7, Issue 3 — September 2003

The Two of Us – Perceptions of eLearning from two perspectives

http://edlinked.soe.waikato.ac.nz/upload/media/WCELFest08/The_Two_of_Us-video.m4v

Merilyn Taylor & Angela Painter, University of Waikato, WCEL*fest* 2008.

Informal Learning

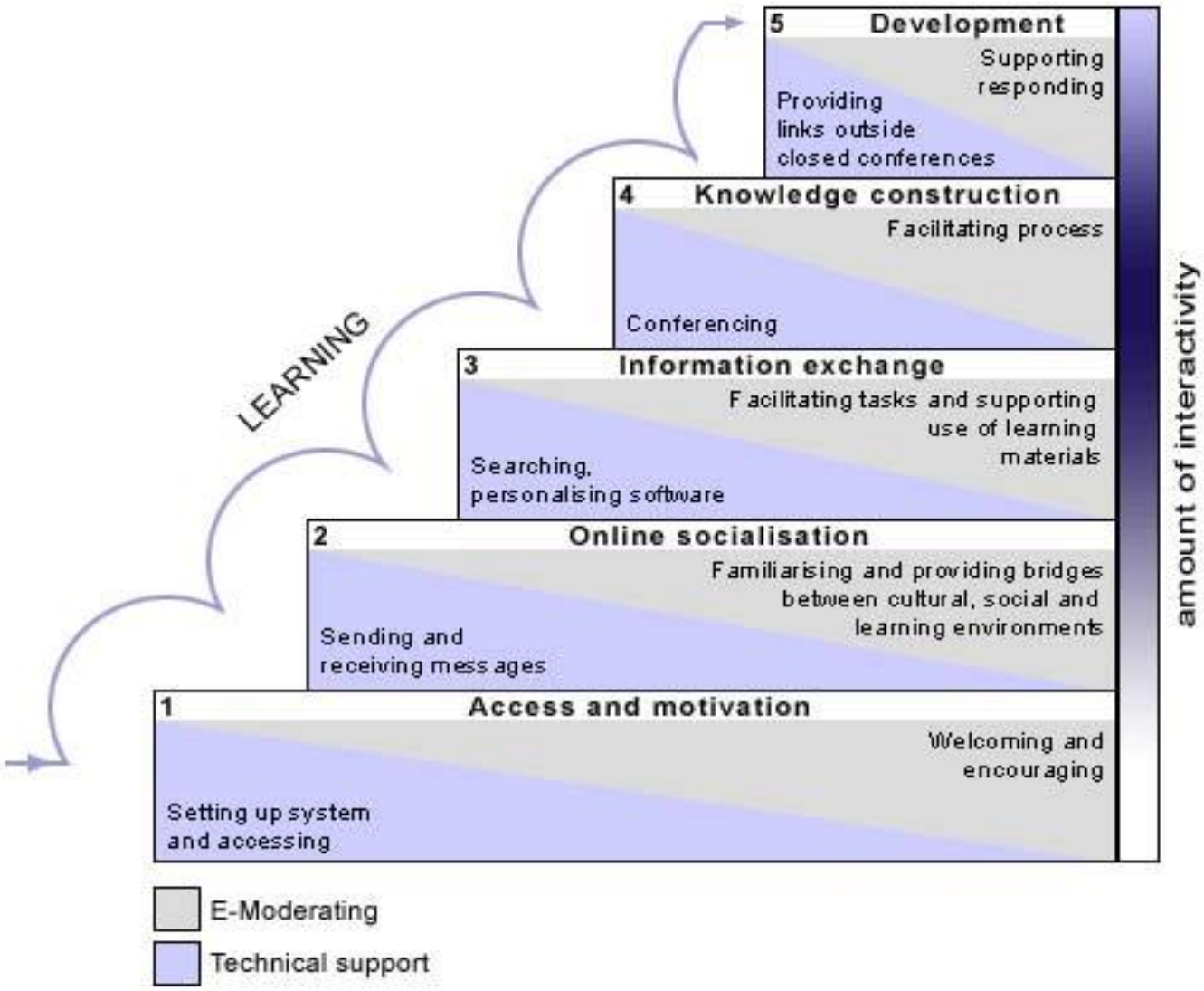
Jay Cross video – 0 – 2 minutes

http://www.youtube.com/watch?v=NlETGJ0mnno

Articles looking at Informal Learning.

http://www.e-learningcentre.co.uk/eclipse/Resources/informal.htm

Theory applied to eLearning



From Salmon, G., 2000. e-Moderating: The key to teaching & learning online

Gilly Salmon developed a five stage model of teaching and learning online. She constructed this model based on action research carried out at the Open University, UK. Although developed through a distance learning environment, practitioners find that it has much relevance to all flavours of eLearning.

The model recognises that learning progresses in stages with times of growth or assimilation of information and knowledge; and times of consolidation. Many people find that getting stages 1 and 2 right make the other stages easy to manage.

Learning using ICT as a medium requires knowledge in two domains: learning about computers and ICT; and learning about the topic (through ICT and with and through other people). Salmon argues that success in learning online comes from the integration of these domains in the learning design.

Each stage of the model identifies the elements of technical support and teacher support (e-moderating) that learners need while they move through a stage.

Online Course Design Maturity Model

Neuhauser, C. 2004. A Maturity Model. *The Journal of Interactive Online Learning 3, (1*)

	Key Process Areas				
	Components and Appearance	Individualized and Personal	Use of Technology	Socialization and Interactivity	Assessment
Level 5 Integrating Best Practices	•Develops learning objects •Engaging •Effortless navigation •Intuitive •Processes integrated and linked •Multiple sensory input	•Resources supporting learning preferences •Interactive learning aids •Electronic mentors •Sensitive to cultural differences •Self-regulated learning •Learning objects matched to student needs& interests •Learning preference awareness	•Extensive generation and use of Web links and resources •Choices on path, practice, community •Provides integration of processes •Blogs	•Community of learners •Collaborative problem solving & critical thinking •Social presence •Alignment of learning preferences to practices	•Multiple assessments for student performance and course improvement •Feedback for effective self-learning •Multiple options for expressing knowledge •Learning preference
Level 4 Strategizing	•Learning objects to meet course goals •Well-structured content •Audio, video and/or animation •Multimedia •Attention getting	•Learner instructor partnership •Learner controlled links •Private e-mail faculty-student contact	•Students filter, integrate, and disseminate knowledge from Web resources	•Student generated discussion •Student facilitation of task & maintenance of groups •Collaborative tools used •Sensitive to student needs	•Versatility of projects •Peer review of work •Student instructor readiness for online work
Level 3 Awakening	•Lectures integrated with links and discussion •PowerPoint & HTML	•Primarily instructor controlled •Private e-mail with students	•Discovery of Web resources •Faculty and students comfortable with use of technology	•Instructor controlled discussions	•Sensitive to student participation •Frequent contact •Test pools •Papers from student to instructor •Student access to CMS
Level 2 Exploring	•Notes online •Blended course •Colours & fonts	•Instructor controlled	•Search engines, library databases •E-mail	•If used, discussions are instructor-led	•Papers through e-mail
Level 1 Initial	•Syllabus •Course information •All text	•Limited access, instructor controlled	•E-mail; minimal use of CMS	•E-mail	•None online

Example

Faculty Implementation Checklist for Web-based Courses

Checklist Item	Notes

Instructional Module 1

- ❑ Create welcome letter and email to students during the first week of class to introduce class and inform them of basic course goal(s) and requirements
- ❑ Post Online Orientation file that provides precise directions to students about class meeting structure, assignment expectations, interaction parameters and online office hours. Include technical support procedures, required course material including browser plugins and instructor contact information
- ❑ Post Course Schedule of topics, major assignments and due dates
- ❑ Post completed SACS syllabus
- ❑ Review all course material for accuracy and functionality
- ❑ Convey course communication routine to students to establish their expectations of interaction between instructor and student
- ❑ Conduct interactive community building activity to facilitate student to student interaction and familiarize students with eLearning communication tools

Remaining Instructional Modules

- ❑ Provide current and ongoing dialog to students using eLearning “News” or via email at the beginning of each new instructional module
- ❑ Personalize the course through email, discussions, chats, etc. that allow students to interact with content, instructor and each other
- ❑ Provide timely responses and feedback to student questions and assignments (Normally with 24 hours for email and one week for graded assignments)
- ❑ Direct students with technical or eLearning difficulties to UWF Help Desk
- ❑ Soliciting student feedback at various points during the course
- ❑ Use varied and frequent practice or testing activities to guide the learner to an increased understanding of the course materials
- ❑ Administer SUSSAI end of course evaluations

Example

Evaluation of Online Course (based on Principles of Online Design, http://www.fgcu.edu/onlinedesign)

Faculty Name:_____

Course:_____ Semester:_____

Reviewer:_____ Date:_____

Instructions: Use the following criteria as a basis for evaluating an online course. Each section has an area following it for the reviewer to comment, with an overall comment section at the end of the form.

1. **Instructional Design Elements**:
    a. Audience Analysis
        i. Indicators:
            1. Prerequisites, if any, are clearly stated.
            2. Any skills needed are addressed. Students are asked about current proficiencies, especially in regards to computer skill level.
            3. Current knowledge level of students is assessed as appropriate for course

    b. Course Goals/Objectives
        i. Indicators:
            1. Course goals are clear and appropriate
            2. Objectives are clear, behavioural and measurable and are appropriate to course goals

    c. Instructional activities
        i. Indicators:
            1. Utilizes active learning strategies that engage the student and appeal to differing learning styles
            2. Learning activities are linked to course objectives
            3. Content is organized by modules, units, lessons, or other meaningful architecture
            4. Course strives to create a “Community of Learners” through interaction
            5. All content adheres to current copyright law.

    d. Student and Course evaluation
        i. Indicators:
            1. Formative evaluation is provided to students through ongoing feedback (emails, Gradebook, announcements, discussion board postings)
            2. Summative evaluation is clearly described
            3. Evaluations are linked to objectives
            4. Rubrics are used for assignments

    e. Teaching Strategies
        i. Indicators:
            1. Instructor assumes a facilitative role
            2. Instructions for assignments are clear
            3. Syllabus is online and complete, including course expectations, goals & objectives, grading criteria, course policies
            4. Support for student questions is provided (Examples: instructor contact information , FAQ’s, Discussion board for questions)

2. **Interaction and Feedback**
    a. Interaction among Learners
        i. Indicators:
            1. Discussion Boards and/or chat available
            2. Group activities
            3. Email
            4. Orientation to technology is provided

    b. Interaction between Learners and Instructor
        i. Indicators:
            1. Instructor conveys policy on answering emails (i.e. how soon students can expect response, etc
            2. Instructor communicates how will give feedback, including frequency of feedback on discussion forums, assignments, etc
            3. Instructor publishes office hours (virtual or "physical") and contact information
            4. Feedback is evident through announcements, emails, discussion postings, or other means
            5. Instructor allows own personality to emerge through postings, notes, and other means
            6. Instructor "personalizes" course for students (emails, using name, friendly tone)

    c. Interaction between Learners and Instructional Materials
        i. Indicators:
            1. Students receive orientation to practice posting in Discussion forum, submitting to dropbox, taking online exam, and using any other type of technology that will be utilized during the course
            2. Resources for completing course activities are provided
            3. Guidelines for posting to discussion board and/or participating in Chat are provided

    d. Collaboration
        i. Indicators:
            1. Students are provided the opportunity to collaborate with other students through group work or other means

    e. Pace and Procrastination
        i. Indicators:
            1. All due dates are published with timely reminders
            2. Progress through the course is documented

3. **Course Management**
    a. Time Requirements
        i. Indicators
            1. Course is developed before first class meeting. If this was not possible, should be several weeks ahead of class schedule.
            2. Indicate to students general time requirements of course

    b. Progression through course
        i. Indicators
            1. Units of instruction are organized in a logical, consistent sequence
            2. Online Gradebook is used
            3. If online testing is used, has detailed instructions as to how it will be administered and the settings that will be in place. If possible, a practice test with the same settings should be given first.

    c. Evaluating student progress
        i. Indicators

1. If online testing is used, should not comprise the greater portion of final grade. (Best: treated as “open book”)
2. Evaluation of online participation is described

d. Providing adequate feedback
    i. Indicators:
        1. Instructor feedback is evident, following the guidelines set by the Instructor
        2. Student emails are answered in a timely manner

4. Technical Support

i. Indicators:
    1. Students are provided information as to where to get technical help

Tools & technologies

Since eLearning is mediated through technology, it is useful to have an idea of what different technologies or tools are available for us to use.

Create a list of tools (e.g. Flickr) or tool types (e.g. photo sharing) that could be used to support eLearning. We'll then think of some ways that these tools could be used.

Strategies for application

In groups of 2 or 3, take a learning objective that you use in one of your courses and create an activity using 1 or 2 tools to support this LO. If it is easier, you can create 2 or 3 linked activities. Some of you may not teach directly so it is best to work in mixed groups. Consider the principles that we talked about earlier and also how you might assess whether the LO has been achieved.