

**A. Can you Make Patterns from Clouds? (Sylvia)**

- \* **Why design a course? The importance of structure in a virtual environment -- or not?**
- \* **Alternative approaches to design (e.g. Systems, Constructivist, Linear, Non-Linear)**
- **Agreeing on a model e.g. ADDIE?**



Figure 4.1 Image Map of the Chapter 4 Content.

## B. What are the Roles of the Design Team?

Quote:

“The project management approach to developing and delivering technology-based teaching and learning ensures that resources are used efficiently and that individual team members contribute appropriate skills and knowledge to the project” (Bates, 2000, p. 68).

Online courses are designed using a variety of design configurations. For quite some time, a very common approach focused on the single instructor acting as both course writer and designer. This approach is what has been popularly called the “Lone Ranger” or “laissez-faire” style (Bates, 2000). “Certainly, there is a time in an organization when the laissez-faire or Lone Ranger approach may be suitable, and that is when a university or college is just beginning to commit to the use of new technologies” (p. 66). A number of factors favoured this approach to design, most notably, cost and workload issues. The 'going it alone' approach is still alive and well in the e-learning landscape, but the disadvantages of this method far outweigh the benefits. “It is too hit and miss. It wastes resources, ignores the experience and many lessons that have been learned outside the higher education sector about how to design and develop creative media products and services, and above all fails to ensure high-quality, technology-based teaching in any consistent or widespread form” (p. 66).

Current instructional design and e-learning research and practice now favour a Project Team approach, where a diverse variety of experts work together to create high quality, pedagogically sound courses and programs. This Project team can be made up of a number of people filling specific team roles, the most common include a content expert, a content writer, a multimedia developer, an editor, and an instructional designer. Often, a concurrent instructional design approach is used, where each member works on their portion of the project simultaneously or at the appropriate “as needed” time, creating a modulated, synergistic milieu for designing the course or program. For instance, once the content expert and writer have determined the desired topics and inherent content, the multimedia and/or graphic designer can begin to work on the supportive visual and multi-sensory content or learning objects to augment the foundational content.

As with anything, there are some drawbacks to using the Project team approach to course design. The biggest hurdle may well be teacher buy-in. Most faculty, especially in higher education are used to functioning autonomously, and may be resistant to sharing the design of a course due to intellectual property considerations. “The project management approach is often seen as a bureaucratic, expensive, and unnecessarily complicated process, and a process that restricts the freedom and autonomy of the teacher” (Bates, 2000, p. 72). Another consideration is the belief that project management can restrict the creativity and/or originality of the course designer. Obviously, there needs to be open communication between administration and the various members of the project team to be able to successfully design a top quality course together. As long as each member of the team is respected for their own expertise and contribution, and the issues of ownership and copyright are amicably decided, most teachers feel some relief that their efforts are supported by creative and knowledgeable team members. Unless an individual course designer is multi-talented, with skills in content writing, editing, multimedia design, and so on, it is unlikely that a truly interactive, original, dynamic course can be created all alone.

## Human Infrastructure

Four levels of human infrastructure support are fundamental to the development of any course or program, especially when done at an across-institutional, regional or national level (Bates, 2001). . These include:

- **Technology infrastructure** support people (design, maintain the learning network)
- **Educational technology infrastructure** support people (design, maintain the learning interface structure)
- **Instructional design infrastructure** support people (coordinate the course online structure)
- **Subject expert infrastructure** support people (design content, provide instruction)

## Instructional Design Team Roles

Often, the human infrastructure needed to design a high quality course is best achieved by appointing a diverse instructional design team. Each member of the instructional design team fulfills specific roles.

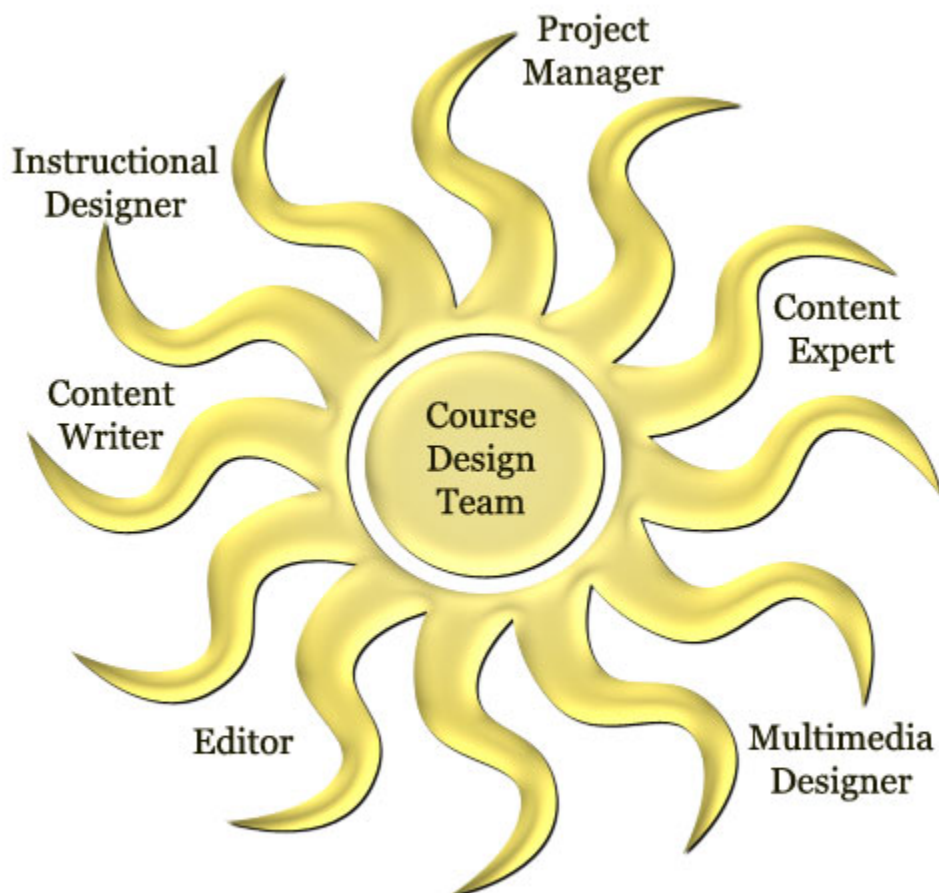


Figure 4.2 The ideal Instructional Design team work together in synergy.

## **PROJECT MANAGER**

The project manager or leader often applies Project Management methodology to organize the project plan in conjunction with the rest of the Project team. Often, the project manager liaisons with the instructional designer to set project start and end dates, what resources are needed to fulfill each project task, and the project goals, challenges, milestones, and needs. The project manager is also responsible for ensuring that all team members are able to fulfill their tasks on time, and problem solves challenges as they occur across the project time framework.

## **INSTRUCTIONAL DESIGNER**

The instructional designer is basically responsible for the course layout, branching and ultimate organization and positioning the written content within the online environment. Often the designer is involved with determining the course module or lesson objectives, the evaluative components, and may help the content writer and/or expert to develop the ultimate course content. The instructional designer also works with the multimedia/graphics designer to determine the specific graphics, audio, video, movie and other multi-sensory, interactive components to augment the content. The role of coordination is often shared between the instructional designer and the project manager, to ensure consistency across team member work, and to help identify problems and obstacles that emerge as the design process progresses.

## **CONTENT OR SUBJECT EXPERT**

The content expert is the team member who has well developed knowledge about the subject content. The content expert usually works very closely with the content writer to ensure that the core essentials of the determined content is current, accurate, and meets the learning objectives of the course or program. The content expert also assesses the written content to verify if it is written to address the intended audience, and helps to decide what multimedia and graphical objects are required to make the learning experience rich and meaningful for the learners.

## **CONTENT WRITER**

The content writer is the member who brings expertise in writing content for the course. Their role entails researching the content, developing the written component of the course (or sometimes, rewriting and editing existing content), and fashioning the content so that it suits the online course environment. The content writer works with the rest of the team to determine course and individual lesson objectives and other components, and selects the supportive materials such as text books and readings, usually with the content expert, instructional designer, and project manager.

## **MULTIMEDIA/GRAPHICS DESIGNER OR TECHNOLOGIST**

The Multimedia designer is responsible for designing the animations, visual graphics, audio segments, and other multi-sensory objects that will support the instructional requirements of the course. Working with all

members of the team, especially the course writer, expert, and instructional designer, the multimedia designer helps to bring the course 'to life', providing a robustness and aesthetic appeal to the course design.

## **EDITOR OR TECHNICAL WRITER**

The editor is responsible for ensuring that the written content is well written and meets quality standards. The editor edits the course content for spelling, grammar, tone, and general usability. The editor usually works closely with the content writer and the instructional designer.

### **C. Who's the Audience?**

Quote:

"A typical life-long learner is someone working mainly full-time, in a high-tech or service industry, with a family and a rich social and personal life. Such a learner requires "just in time" and personally relevant content delivered conveniently and flexibly. If they are professionals, they need access to the latest research and developments in their field" (Bates, 2001, p. 25).

One of the key tenets of sound on-line course design (and implementation) is that courses should be learner-centred. This can be a challenge, since online learners can come from a variety of age groups, sociocultural backgrounds, and lifestyles. As far as age groups go, adult learners can belong to any one of four recognized generational cohort groups: Silent Generation, Baby Boomers, Generation X, or the Millennials. If teaching children, you may also be working with the group currently called the Neo-Millennials.

It is helpful to identify which generational groups will be taking the course you design in order to meet their individual and collective learning needs and preferences. The heart of this notion is that a generational cohort is a group of individuals born within the same range of years or era, who experienced common historical events and socio-economic (including technological and educational) developments as they grew from infancy through adulthood. This understandably leads to the development of a similar overall world-view, and experience of the social environment around them. This concept was first introduced by Karl Mannheim in the early 1920s and has been expanded by numerous scholars and analysts. Please note, that the notion of generational cohorts is not an exact science. The range of years for each generational cohort is quite varied, depending on the source consulted. Table 4. 1 below gives a tentative summary of the five generational cohorts who participate in the current educational landscape in one form or another.

Common lifestyle expectations go hand in hand with these generational groups, which can range from single, young, still-living-with-parents learners through to Sandwich Generation learners who are raising a family of their own, caring for their parents or other members of the older generation, as well as tending their own career and education. On top of this, several demographic and socio-economic factors can distinguish the level of access to technology and educational/media resources, including economic status, gender, level of education, and geographic location. Thus, it is important to study your projected learners' characteristics in order to optimally meet their learning needs.

<b>LEARNING GENERATIONAL COHORT</b>		
<b>GENERATION</b>	<b>YEAR RANGE</b>	<b>LEARNING NEEDS</b>
<b>NEO-MILLENNIALS</b>	2000 to Present	Non-linear learners Even more social, interactive Seamlessly connected, networked “Naturally” technology-savvy Will grow up with hi-definition network TV, mobile PCs, 3D interactive games, wireless, networks, initial agent technology, initial virtual reality Relate to rich multi-media, multi-sensory learning
<b>MILLENNIALS or GENERATION Y or NET GENERATION</b>	1982 – 1999	Consumers of Knowledge Multi-taskers yet task-oriented High achievers, like personalization Prefer interactive, attentive instructors Highly social, interactive Highly connected, networked Have high technology-savvy Grew up with colour, cable TV, PCs, 3D video games, initial wireless, primitive virtual reality Expect some multi-media learning/enrichment Enjoy Group Work, Experiential Activities
<b>GENERATION X</b>	1965 – 1981	Self reliant and directed, individualistic Prefer flexibility and choice in learning Reject rigidity and authoritative approaches Expect expert, focused instructor Learning should be enjoyable, even fun Learning should increase their marketability Good to High technology-savvy Grew up with colour TV, PCs, 2D video games
<b>BABY BOOMERS or SANDWICH GENERATION</b>	1946 – 1964	Multiple responsibilities, high commuters High work ethic, dedicated achievers Prefer structured group work, crave feedback Use relationship-building activities Value creative and personal fulfillment activities Learning should be personally meaningful Fair to High technology-savvy Grew up with B&W, later colour TV and Radio
<b>SILENT GENERATION or VETERANS or TRADITIONALS</b>	1925 - 1945	Most are retired now Prefer traditional learning environment Need risk-free learning Non-existent to good technology-savvy Grew up with Radio and initial B&W TV (later years)

**Table 1 Generational Cohort Characteristics**

An audience or learner analysis is an important part of designing online courses. Particulars that are important include the learner's motivation for taking the course. Is the course part of initial career preparation? Is it an enrichment course that helps to keep professionals current in their field or perhaps a self-development course meant for personal enjoyment? Do the learners need to engage in cognitive, affective, and psychomotor activities in order to master the content? All of these considerations are important to consider and should guide team decisions related to e-learning and teaching styles, the presentation of the course, and exactly what

content to include and to embellish with supportive graphics and multimedia objects. All of these considerations are easier to reflect on and address if the course components, audience, and other details are mapped visually in some way.

#### **D. How do we move from Concepts to Mapping?**

A common organizational and orientating technique used by individual course designers as well as instructional design teams is the use of visual models that serve to clearly outline the details, concepts, and content of the course being planned. Designers use various visual approaches, ranging from simple matrix tables to complex concept maps and storyboards.

##### Concept Mapping

The practice of concept mapping was first originated in the 1960s by Joseph Novak, while he was a professor at Cornell University. Many instructors are familiar with the use of concept maps for student learning, especially to help students investigate and brainstorm conceptual ideas. Concept maps consist of nodes (often drawn as ovals, circles or squares) that represent concepts, and connector links drawn as arcs, lines or arrows to represent the relationships between the nodes. The concept nodes are labeled, one for each idea or concept. Sometimes, the connector lines are also labeled.

Concept maps can also be used to plan educational experiences such as online courses. Concept maps can be created to provide a visual representation of the planned courses objectives, outcomes, activities, resources, and evaluation. They are also useful to help the design team to visually view how the content should be linked and sequenced. As a team activity, concept mapping can help all members to brainstorm ways to create a dynamic learning environment for learning the course specific content. This mapping process produces a formal, step-by-step visual representation of the key components, and the connections and leveling between the components.

Concept mapping also has a particularly suitable format for planning online courses. The ultimate structure and linking arrangement is very similar to the way a web site is planned by designers. It is very helpful to the entire team to be able to see how the various course components should be arranged for effective learning and ease of use. Since Novak first introduced concept mapping, a variety of styles of emerged. The most common is called a spider concept map where a key overall concept is placed in a large oval or square that then branches out to smaller ovals. The links that connect these ovals create an image that does look like a spider's web. Other configurations include hierarchical maps, landscape maps (an example is the image map at the beginning of this chapter), and systems maps.

Quote:

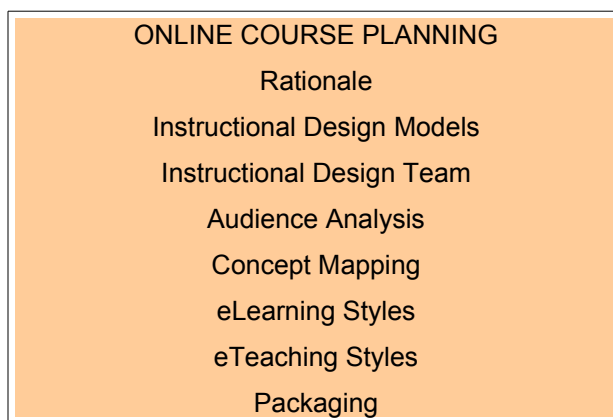
“Concept mapping is useful for knowledge management as a vehicle for externalizing “internal” expert knowledge, to allow that knowledge to be examined, refined, and reused (Canas, Leake & Wilson, 1999, p. 14).

## Concept Map Creation

Every concept map possesses four core elements:

- a) **Patterns** – the overall structure of the map, e.g a circular, central hub structure; a top-down hierarchical structure, a mandala, a flow chart pattern, and so on.
- b) **Nodes** – the geometric shapes such as ovals or rectangles used to represent the individual concepts. Often these nodes are colour coded to signify importance of or relationships between the various concepts
- c) **Connector Links** – the lines, arrows, curves used to indicate the relationships between concept nodes. Often a solid line is used to show a distinct relationship; an arrow refers to a causal relationship; while a dotted line shows a weaker, secondary relationship. An arc often represents a circular flow between concepts.
- d) **Connector words** – help to clarify the relationships between concept nodes. Common connector words include: based on, controlled by, including, may lead to, recognizes, part of, next step, recognizes, validates, stored in.

The first step in using concept mapping for course design is to create a textual structure of the course concepts, both major and supportive concepts. Usually, these concepts are arranged in a list that shows the basic foundational order and relationships of the concepts to be covered in the content. Once this is done, the concept map can be initiated. For instance, if a design team were planning to design a course on how to plan an online course, the main concepts might include:



**Table 2 Concepts Used for Spider Concept Map**

The above concepts are already mapped using a landscape map approach at the beginning of this chapter. If a spider map pattern was used to map these same concepts, the map might look like Figure 4.3 below. This sort of map is useful when first brainstorming the initial concepts of a course or design process. It will also appeal to design team members who like to plan and brainstorm in flexible, circular ways. In order to incorporate a



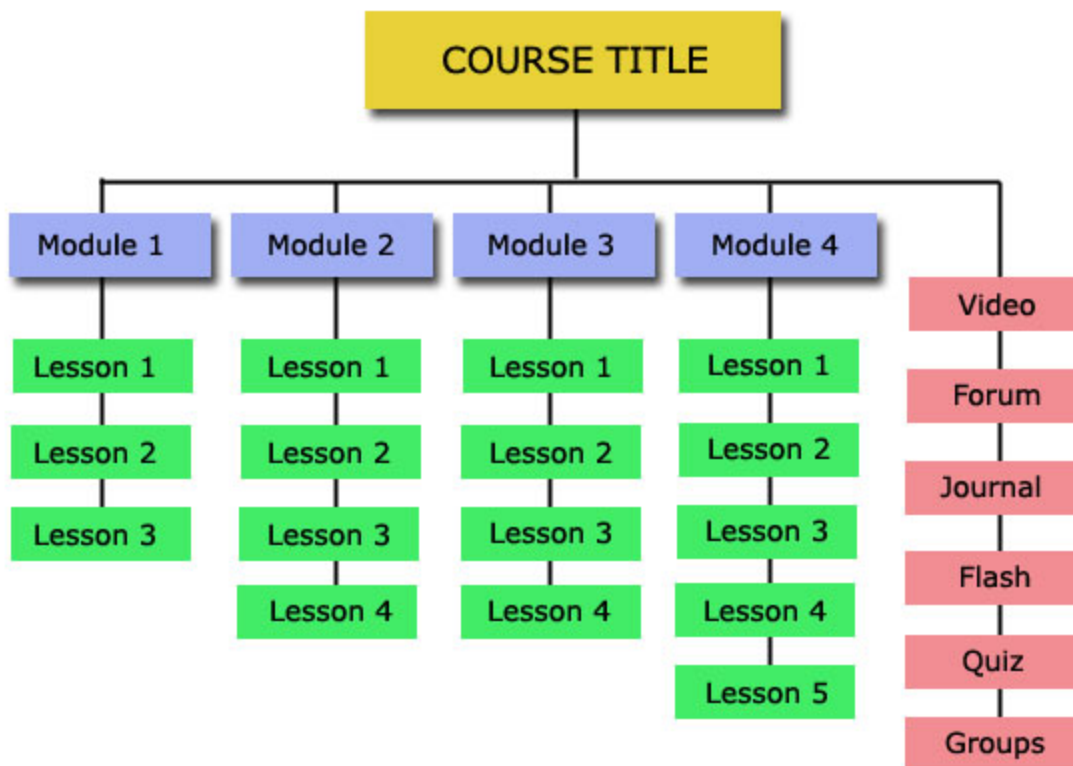
complete curricular plan for a course, a more complex spider concept map would be needed. This could result in a very meaningful, intricate map or it might be construed as too complex and confusing to people who prefer a more linear approach.



**Figure 4.3 Spider Concept Map of Online Course Planning**

The spider map above has only one layer of surrounding concepts. It could be made much larger both vertically and horizontally by adding other layers of relevant concepts, connectors, and connecting words around the periphery of the existing map.

For teams that prefer a more linear visual organizer for course content planning, a hierarchical or a flow-chart concept map would be more appropriate since both are organized to allow more layers and the connections and sections are more easily visualized. These types of concept maps are more linear, which may appear less creative to some team members. However, they afford a straightforward visual organizer to incorporate all of the processes of the course plan within the concept map, Figure 4.4 below illustrates a simple hierarchical concept map of a short course with four modules consisting of three to five lessons each. The right column includes various multimedia and graphic objects that can be interwoven into the lessons and modules.



**Figure 4.4 Hierarchical Concept Map of Short Course Plan**

### Storyboarding Your Course Plan

Storyboards are visual organizers that have been used by developers of films, videos, television shows, and multimedia for years. Most likely, your team's multimedia or graphic developer will use some version of storyboarding to plan the designated multimedia and video components of your course. This method can also be used by the entire design team to visually plan the actual course. There are various versions of storyboards. Professional audio-visual production teams often use ones that feature a rectangle for the actual drawing of a particular frame or scene, with lines to one side or below for data, ideas, and other textual reminders related to the appropriate scene. Figure 4.5 illustrates one row of a multimedia storyboard.

Some design teams prefer to use this same sort of layout for their storyboards, usually with more appropriate text headings in the lined area for writing notes. Figure 4.6 gives an example of this method. There are a number of different ways that storyboards can be incorporated into your design process. One popular method is the use of a flow-chart sort of storyboard, consisting of a connected geometric shape (often a rectangle) connected with arrows to detail the course design process. Figure 4.7 illustrates this particular type of storyboard graphic.

1.	2.
SCENE _____	SCENE _____
AUDIO _____	AUDIO _____
SCRIPT _____	SCRIPT _____
NOTES _____	NOTES _____

Figure 4.5 Multimedia Planning Storyboard Section

1.	2.
MODULE _____	MODULE _____
GOALS _____	GOALS _____
ACTIVITY _____	ACTIVITY _____
MEDIA _____	MEDIA _____

Figure 4.6 Course Planning Storyboard Section

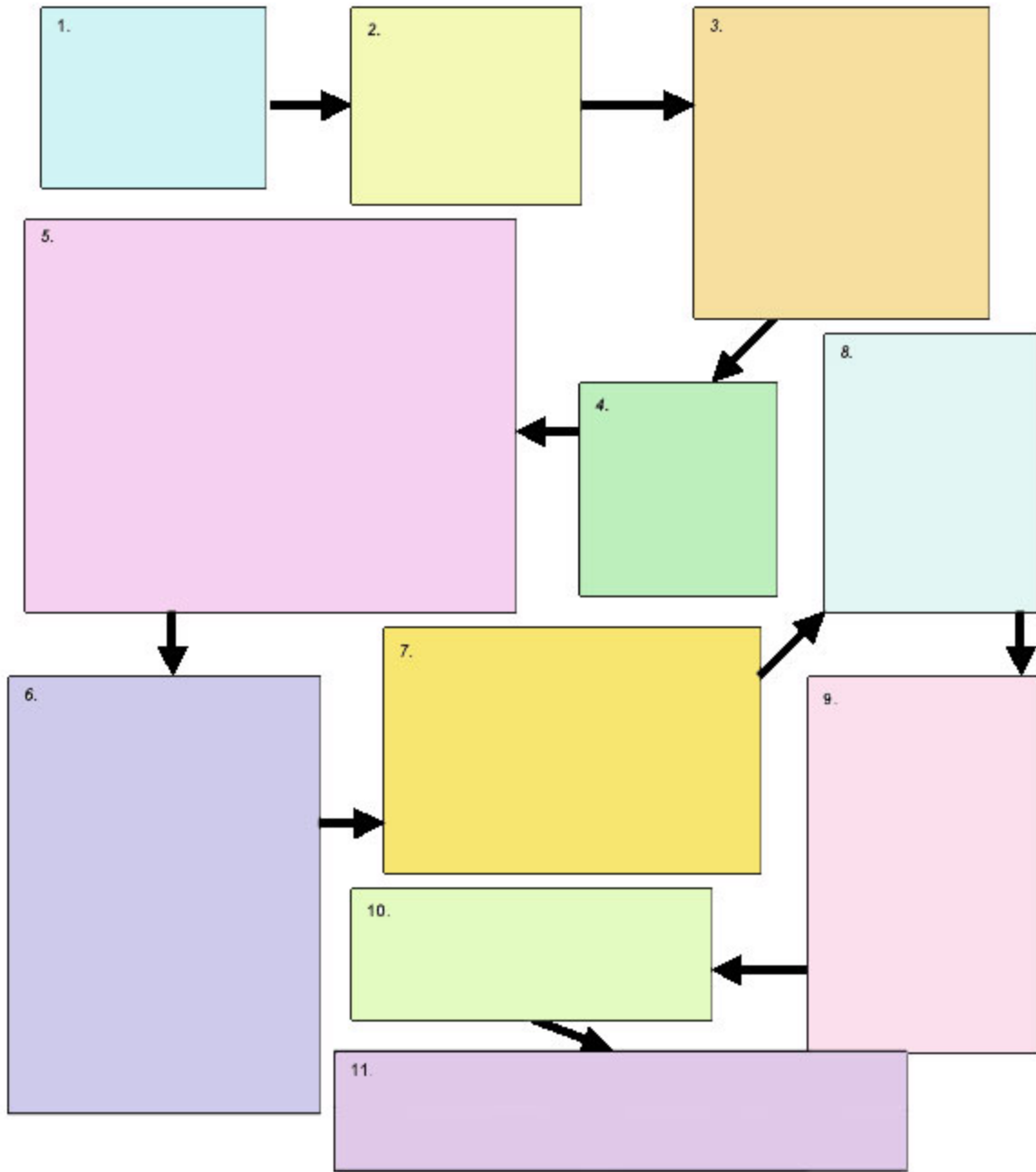


Figure 4.7 Flow Chart style Storyboard

## E. Why should we consider eLearning Styles?

Over the past three decades, a dozen or so learning style taxonomies have been created by various educational researchers. The models used to devise these taxonomies are interestingly, quite similar with several newer models based on the traditional ones developed by Katherine Myers and her daughter, Isabel Myers-Briggs (Myers Briggs Type Indicator) based on Carl Jung's personality theories; Howard Gardner of Harvard University (Multiple Intelligences) based on mind psychology, and David Kolb (1984) of Yale University and the Bates Institute (LSI – Learning Styles Inventory) based on experiential learning. The latter two and their derivative learning style inventories such as the Honey and Mumford Learning Styles model based on Kolb's work; and Neil Fleming's VARK (Visual, Auditory, Reading/Writing and Kinesthetic) of Lincoln University in New Zealand, and the Memlectics Accelerated Learning Styles (2003) models, both similar to Gardner's Multiple Intelligences taxonomy are particularly suited to online course delivery. All of these learning style models have relevance to e-learning, since they highlight student preferences and natural tendencies for processing information and understanding content. E-learning offers a rich medium for appealing to the diversity of learning styles if used in inventive, adaptive, and creative ways. The time to consider this is right at the beginning, as the design team begins to choose the components and activities during the course planning stage of the development process.

### Multiple Intelligences

Quote:

"We are all able to know the world through language, logical mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, and an understanding of ourselves and of others. Where individuals differ is in the strength of these intelligences: the so-called profile of intelligences - and in the way such intelligences are invoked and combined to carry out different tasks, solve diverse problems, and progress in various domains." - Howard Gardner, 1991

Howard Gardner, a professor at Harvard University, hypothesized that people are capable of eight unique ways of information processing. Information processing is the person's preferred intellectual approach to assimilating facts, information, and knowledge. Gardner suggests that individuals should be encouraged to apply their preferred intelligences in learning. Learners who have an understanding of their own particular learning styles can reflect on how to utilize their learning strengths and cultivate their less dominant ones. A key point in multiple intelligence theory is that most people can develop all eight of the intelligences to a relatively competent level of mastery. Gardner postulates that all learners possess some degree of eight unique intelligences, namely:

<ul style="list-style-type: none"><li>• Linguistic – Verbal</li><li>• Visual – Spatial</li><li>• Logical-Mathematical</li><li>• Bodily - Kinesthetic</li></ul>	<ul style="list-style-type: none"><li>• Musical</li><li>• Interpersonal</li><li>• Intrapersonal</li><li>• Naturalistic</li></ul>
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**Table 4.3 Multiple Intelligences Learning Style Categories**

As online courses become more prevalent, more research is being done on how the Multiple Intelligences can be cultivated and appealed to through the use of technology and multimedia in education (Veenema & Gardner, 1996). Since it is unrealistic to expect that the design team will know the learners' preferred learning styles beforehand, it makes sense to design activities and resources that can tap the strengths and meet the needs of all eight intelligences. Table 4.4 below provides some suggestions to guide this process.

<b>INTELLIGENCE</b>	<b>PREFERENCES</b>	<b>APPEALING ONLINE ACTIVITIES</b>
Linguistic - Verbal	Written and Spoken word, language, Literary activities, Reading	Text, Journals, Forums, Chats, Wiki, Blogs, Written assignments, Audio, Dialogue, Stories, Debates
Visual - Spatial	Visual and spatial thinkers, sensitive to colour, line, shape, form, space and the relationships between these	Graphics, Movies, Flash, Photos, Multimedia, 3D Modeling, Design, Charts, Concept Maps, Diagrams
Logical - Mathematical	Detects patterns, Scientific Reasoning, Deduction, Mathematical Calculations, Cause and Effect Relationships	Socratic Questioning, Problem based, Pattern Games, Puzzles, Experiments, Statistics, Matrices
Bodily - Kinesthetic	Fine and gross motor movements, sense of timing, and direction. It is also our physical coordination, balance, dexterity, strength, speed, flexibility, and proprioceptive, tactile, and haptic capacities.	Role playing, Psychomotor Skills, Demonstration, Simulations, Virtual Reality, Cooperative Games, Video Games, Ergonomic Awareness
Musical	Musical ability and appreciation, Recognizes rhythmic patterns, pitch, melody, timbre, and tone colour.	Audio, Sound and music recording, Rhymes, Background music, Chants, Raps, Create music
Interpersonal	The capacity to interact with others, to understand them, and to interpret their behaviour accurately. The ability to notice distinctions among other people, and to recognize their moods, temperaments, motivations, and intentions. A sensitivity to other's facial expressions, voices, and gestures, and the ability to respond effectively to these cues.	Group Projects, Forums, Chats, Email, Cooperative work, Teams, Interviews, Coaching, Counseling, Listening, Clubs, Drills, Community involvement
Intrapersonal	The ability to sense one's inner being - to discover who we are, what feelings we have, and why we are the way the way we are. It represents our self - knowledge and our ability to act adaptively on the basis of this knowledge. It is our reflective self. Enables an accurate picture of the inner self, strengths and weaknesses, inner moods, goals, intentions, motivations, temperament, beliefs, and desires.	Journals, Reflective Activities, Independent Study, Autobiography, Portfolio, Concentration work, Metacognition techniques, Personal Growth activities, Narratives
Naturalistic	Awareness of the forces, principles, and laws of nature. Recognize relationships among species, enjoy nature related classification systems. Promotes ecological awareness and stewardship.	Ecological study, biology, natural sciences, charts, diagrams, taxonomies, genetic models, virtual field trips, systems, pattern recognition, nature analogies

**Table 4.4. Multiple Intelligences in Online Course Planning**

## Kolb's Learning Styles Model

David Kolb's Learning Style Model is also quite amenable to course design planning. It also provides a sort of developmental map for the development of experiential learning throughout the human life course. Kolb described experiential learning as consisting of four stages, experiencing, reflecting, thinking and acting.

Kolb's experiential learning taxonomy is comprised of four distinct activities

1. Concrete Experience - (CE)
2. Reflective Observation - (RO)
3. Abstract Conceptualization - (AC)
4. Active Experimentation - (AE)

and a four-type definition of learning styles, (each representing the combination of two preferred styles, rather like a two-by-two matrix of the four-stage cycle styles, as illustrated in Table 4.5 below), for which Kolb used the terms:

1. Diverging (CE/RO)
2. Assimilating (AC/RO)
3. Converging (AC/AE)
4. Accommodating (CE/AE)

	<b>Active Experimentation - AE</b> DOING	<b>Reflective Observation - RO</b> WATCHING
<b>Concrete Experience - CE</b> FEELING	<b>Accommodating (CE/AE)</b>	<b>Diverging (CE/RO)</b>
<b>Abstract Conceptualization - AC</b> THINKING	<b>Converging (AC/AE)</b>	<b>Assimilating (AC/RO)</b>

**Table 4.5 Kolb's Learning Styles Model**

**Diverging** (concrete, reflective). A characteristic question of this learning type is "Why?" These learners respond well to explanations of how course material relates to their experience, their interests, and their future careers. These learners prefer an instructor that functions as a motivator.

**Assimilating** (abstract, reflective). A characteristic question of this learning type is "What?" These learners respond to information presented in an organized, logical fashion and benefit if they have time for reflection. To be effective, the instructor should function as an expert.

**Converging** (abstract, active). A characteristic question of this learning type is "How?" These learners respond

to having opportunities to work actively on well-defined tasks and to learn by trial-and-error in an environment that allows them to fail safely. To be effective, the instructor should function as a coach, providing guided practice and feedback.

**Accommodating** (concrete, active). A characteristic question of this learning type is "What if?" These learners like applying course material in new situations to solve real problems. To be effective, the instructor should adopt a supportive constructivist role, giving opportunities for the students to discover things for themselves.

## **Learner Interactivity Preferences**

### **Quote:**

"Interactivity is not simply a function of computer-based transactions, but a fundamental success factor for teaching and learning, especially when implemented in an online context. In most cases, regardless of any virtual community that exists, the learner will be working independently and therefore the effectiveness of those communications (interactions) will ultimately determine the effectiveness and efficiency of the learning environment." (Sims, Dobbs & Hand, 2001, p. 514).

The theory of learner interactivity preferences (developed by Rhodes and Azball in 1985) also has meaning to the course design team. Again, it is difficult to predict the actual preferences of future learners, but measures can be taken to promote all three levels within the course design. These three levels are Reactive, Coactive and Proactive Interactivity preferences in structure and presentation, which correspond to each learner's cognitive activity. This theory described interactivity according to three different levels of quality. Later, other researchers added a fourth level, Reciprocal Interactivity (Sims, 1997). The four preferences are described on five functional levels through the following transactions: confirmation, pacing, navigation, inquiry, and elaboration.

### **Reactive Interaction**

A reactive interaction is a behaviouristic response to presented stimuli, for instance, providing an answer to a question. This level of interaction within an online course structure shows very little learner control over content structure with program directed options and feedback, the course components and activities are completed predetermined by the design team and instructor.

### **Co-Active Interaction**

A co-active interaction preference means the learner prefers more opportunities for choice and setting the pace for their own learning. A co-active online course design allows more control, providing learner control for sequence, pace and style of interaction within the online environment.



## **Proactive Interaction**

Proactive interaction is constructivist: the learner prefers to both construct and generate activities to support their learning. A proactive course design enables the learner's actions to go beyond selecting available information and reacting to existing structures, and generate individual constructions and elaborations beyond the rules set up by the design team and instructor. (Sims, 1997, p. 160).

## **Reciprocal Interaction**

Reciprocal interaction preferences means the learner wants a dialogue like, reciprocity based interaction with the online course interface and participants. This sort of interaction is usually found only in designs where artificial intelligence or virtual reality are situated. In these learning environments, both learner and system reciprocally adapt to one other.. This level of interaction is rare in common online courses, but is anticipated to be much more feasible in the not so distant future.

## **Readiness for eLearning**

Design teams can help their prospective learners prepare or at the least assess their own readiness to learn within an online environment. Research supports that this is a critical consideration, since an individual learner's success in an online course often hinges on this foundation of readiness. Readiness entails three dimensions to assess: the learners' computer or technical skill, their learning skills, as well as their time management behaviours.

**Computer/Technical Skills:** The more experience a student has in using basic computer skills (use of networks, wordprocessing and other software applications, ability to upload and download files, use of the world wide web and email, accessing online library and other resource databases, and experience with online forums and other discussion applications, the more ready they are to take an online course. Other foundational requirements include access to a stable internet connection and dependable computer and printer.

**Learning Skills:** Readiness is fortified by the ability to work independently, self-motivation, mature reading and writing skills, a proactive approach to learning, as well as a positive attitude about the learning experience in general.

**Time Management Skills:** Readiness is evident when a learner can safely plan chunks of time for participation and study within their existing lifestyle and commitments. This obviously requires a respectable level of commitment and discipline to manage time over the long term in order to complete the course.

## **Recommended Online Readiness for eLearning Tools**

There are some excellent free online Readiness for eLearning Tools available for students to use (and design teams to examine). Three highly recommended ones include:

Novosel, S. (2000). *Readiness Index for Learning Online (RILO)*. Indiana University School of Nursing  
<http://nursing.iupui.edu/About/default.asp?/About/CTLL/Online/RILO.htm>

Schrum, L. (2001). *SORT: Student Online Readiness Tool*. University of Georgia. <http://www.alt.usg.edu/sort/>

DeSantis, C. (2002). *eLearners Advisor*, University of Guelph <http://www.elearnersadvisor.com>

F. How does eTeaching Style affect design?

- \* Some well-respected models and instruments
- How your teaching style affects your design

Constructivist, Dialogue, Facilitating, Self-directed, Interactive

G. How important is the Packaging?

- \* Deciding on Units of study
- \* Structure
- \* Sequence
- \* Flow
- \* Pacing
- \* Tone
- \* Coherence
- \* Consistency
- \* Navigation
- \* Colour
- \* Fonts

H. Conclusion (Sylvia)

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## GLOSSARY

**Learner Readiness** – the level of willingness and motivation in a learner in regards to selecting e-learning as a mode of education. This includes computer skill level and experiential knowledge i with online learning.

**Module** - An integrated "theme" of content. Typically, one component of a course or a curriculum.