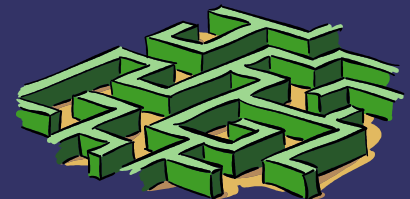# Tempus NMPLIS Study School Tbilisi, Ilia University, July 2011

Teaching Information Literacy

Elena Corradini, MA/MScIS
University of Parma Grant Holder

Outline

1. Learning Styles and Teaching Styles
2. User Information Behaviour Research- how it can influence teaching styles
3. Case studies
4. Best practices
5. Discussion / Activity

Learning Styles & Teaching Styles

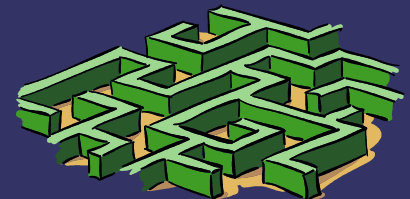Resources on Learning Styles

University of Minnesota
http://www.d.umn.edu/kmc/student/loon/acad/strat/lrnsty.html
Indiana State University
http://www.indstate.edu/cirt/id/pedagogies/styles/learning.html

Resources on Teaching Styles

University of Michigan
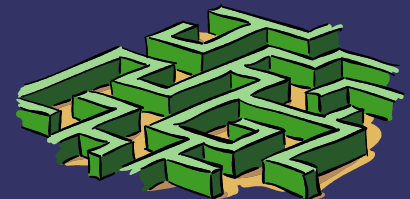http://www.crlt.umich.edu/tstrategies/tsts.php

User Information Behaviour Research- how can it influence teaching styles?

Carol Gordon (CISSL, Rutgers University) (2011)

Strategy and Design for Information Literacy Instruction in Electronic Tutorials
(Paper handed out to the PhD students of the course on Management of Information Systems in Education, University of Zadar, Croatia, April 2011)
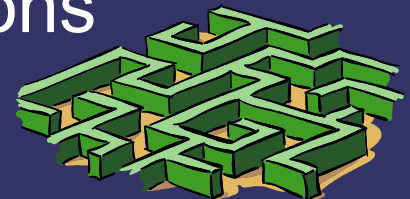
User Information Behaviour Research- how can it influence teaching styles?

Carol Gordon (CISSL, Rutgers University) (2011)

The importance of information seeking theory

• New and emerging technologies;
• User- and learner-centric problem-based pedagogy;
• Growing research interest in the field of information seeking;
• Need for the connection between information seeking and information literacy teaching (Sundin, 2006).
• Our mental models of information seeking will influence our information literacy teaching decisions

User Information Behaviour Research- how can it influence teaching styles? (2)

• Information processing theory defines the place of the user, the context/subject matter, and the source and their relationship to one another.
• Theory helps us to understand how users interact with information
• Theory drives our decisions about how we help and instruct the user
• Theory, although it can not be "proved', is based on research.
• Using theoretical foundations is a form of evidence-based practice
• Teaching is decision-making; we need to know why we do what we do! (C.Gordon, 2011)

User Information Behaviour Research- how can it influence teaching styles? (3)

RUTGERS CISSL

We've come a long way baby!
The SOURCE approach...

READERS' GUIDE
to periodical literature

Stereotypes of Librarians
http://home.earthlink.net/
~cyberresearcher/
bunwoman.jpg

Scope and sequence
curriculum models of
Information Literacy support a
prescriptive, rather than a
reactive information skills

Source Approach
- System-oriented approach
- The "list approach"
- Bibliographic instruction tool or: source centered
- (Pathfinders, treasure hunts, bibliographic exercises
- Skills taught in isolation, not embedded in a learning task
- Information literacy instruction focuses on "finding" information: collecting facts rather than engagement with information to create knowledge
- Librarian as collection
- mediator
- Information literacy provided an authority for the educational role of librarians

User Information Behaviour Research- how can it influence teaching styles? (3)

RUTGERS | CISSL | BEHAVIORAL Approach

- Related to the Source Approach: Centers on bibliographic tools and information sources;

- The focus is how the information tools are used;

- Based on B.F. Skinner's (1965) behaviorism that is not concerned with how people learn, but in providing positive or negative reinforcement to train learners. Processes are not internalized.

- Provides a generalized structure for information seeking which users can use in various situations, practices and contexts.

- The approach takes the behavioral perspective: the primary interest is in how to study people's actual, measurable behavior.

- Both the source and behavioral approach is, according to Kuhlthau (2004), based on the bibliographic paradigm characterized by structure and order.
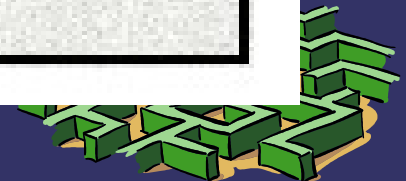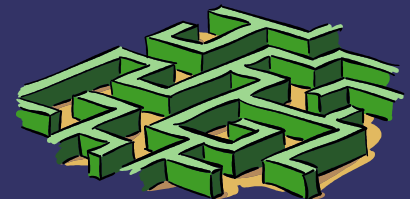
User Information Behaviour Research- how can it influence teaching styles? (4)

Since the 1980s onwards...
• Information literacy was referred to as the "ability to access, evaluate and use information from a variety of sources"
• User focus began to be privileged instead of a sour-ce approach
• Carol Kuhlthau with her findings on how the Rese-care process develops gave a solid basis to turn to-wards the process approach: Information literacy as "A way of learning"
(adapted from C. Gordon, 2011)

RUTGERS **CISSL** How do people process information?

Kuhlthau Model of the Search Process

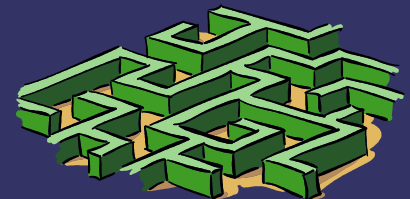| Stages	Feelings	Thoughts	Actions
Task Initiation	uncertainty	ambiguity	seeking relevant information
Topic Selection	optimism		
Exploration	confusion	increased	interest
Focus formulation	clarity		
Information Collection	confidence		
Search closure	relief	specificity	seeking pertinent information
Presentation	satisfaction/dissatisfaction		(Kuhlthau, 1986)

User Information Behaviour Research- how can it influence teaching styles? (6)

Theory

• Constructivist learning theory from education
--Learners create their own meaning from information;
--They assimilate new information and accommodate existing mental models of their prior knowledge to add new knowledge;
--Prior knowledge (what learners already know is necessary to create new knowledge)
--The emotional and behavior, as well as cognitive aspects of information searching are addressed
--Learning is social; people learn best in groups;
--Action and reflection are essential for learning and thinking;
--Engagement in learning is critical to learning;
--Authentic learning promotes problem-solving and higher or-der thinking.
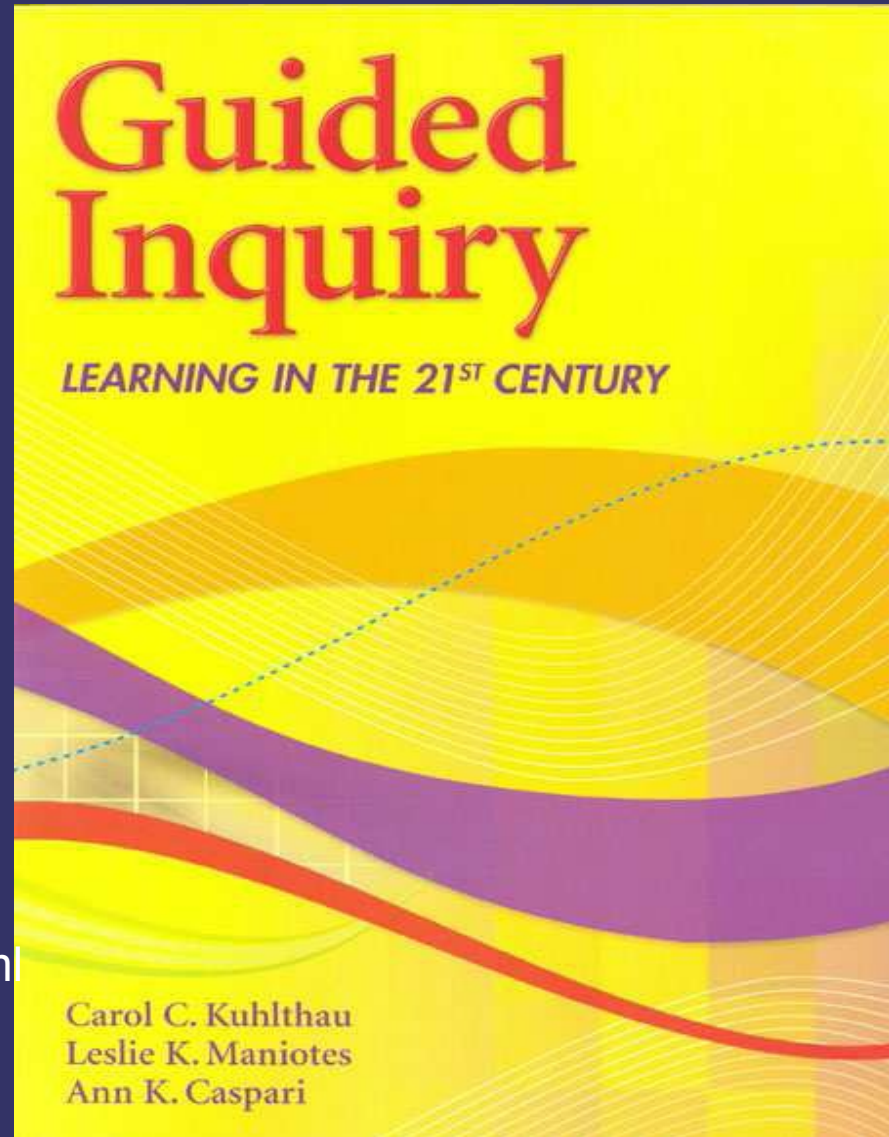*(C. Gordon, 2011)*

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

Author / Viewpoint	Learning is a social experience	Meaning is constructed and created by the learner and built on previous knowledge	Emotional and cognitive aspects of learning (cognitive science)	Learning by problem-solving	Learning is related to accepting help	Meta-cognition is valuable to effective learning
John Dewey	x	x	(x)	(x)	(x)	(x)
Jean Piaget	(x)	x	x	(x)	(x)	(x)
Vygotsky	x	(x)	(x)	(x)	x	x
Jerome Bruner	(x)	x	(x)	x	(x)	(x)
George Kelly	(x)	x	x	(x)	(x)	(x)

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

Carol Kuhlthau's findings about the ISP have been made into a handbook to guide IL teaching

Guided Inquiry

LEARNING IN THE 21ST CENTURY

Carol C. Kuhlthau
Leslie K. Maniotes
Ann K. Caspari

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

RUTGERS | CISSL | **COMMUNICATION/SOCIOCULTURAL Approach**

- Emphasizes social and communicative aspects of information seeking that takes place in an institutional context;

- Information literacy may not only be understood as individual skills, but a collective competence and responsibility in relation to the world. *(Bruce, 1997, Limberg, 1999).*

- Challenges generalizable processes, such as the ISP, which (according to Sundin, 2006) does not have to be adapted to, or is influenced by context of the information searching;

- Takes a subject-specific, rather than generalized approach to information seeking.

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

RUTGERS · CISSL · Phenomenography: A method

- Communication approach can take a phenomenological methodology to information seeking that emphasizes a unique, rather than generalized view of information seeking (Limberg, 1999). This methodology relies on interviews.
- Information literacy varies with the context and situation in which information seeking is taking place; students need to be able to apply information seeking practices in purposeful ways related to various tasks, situations, and contexts.
- The object of learning must be jointly constituted in the interactions between teachers and students in particular learning situations (Pong & Morris, 2002). Students are aware of various dimensions of information seeking, pedagogies;
- Central to the method is concept of experience (or conception). An experience is a relation between the person and a specific phenomenon.

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT
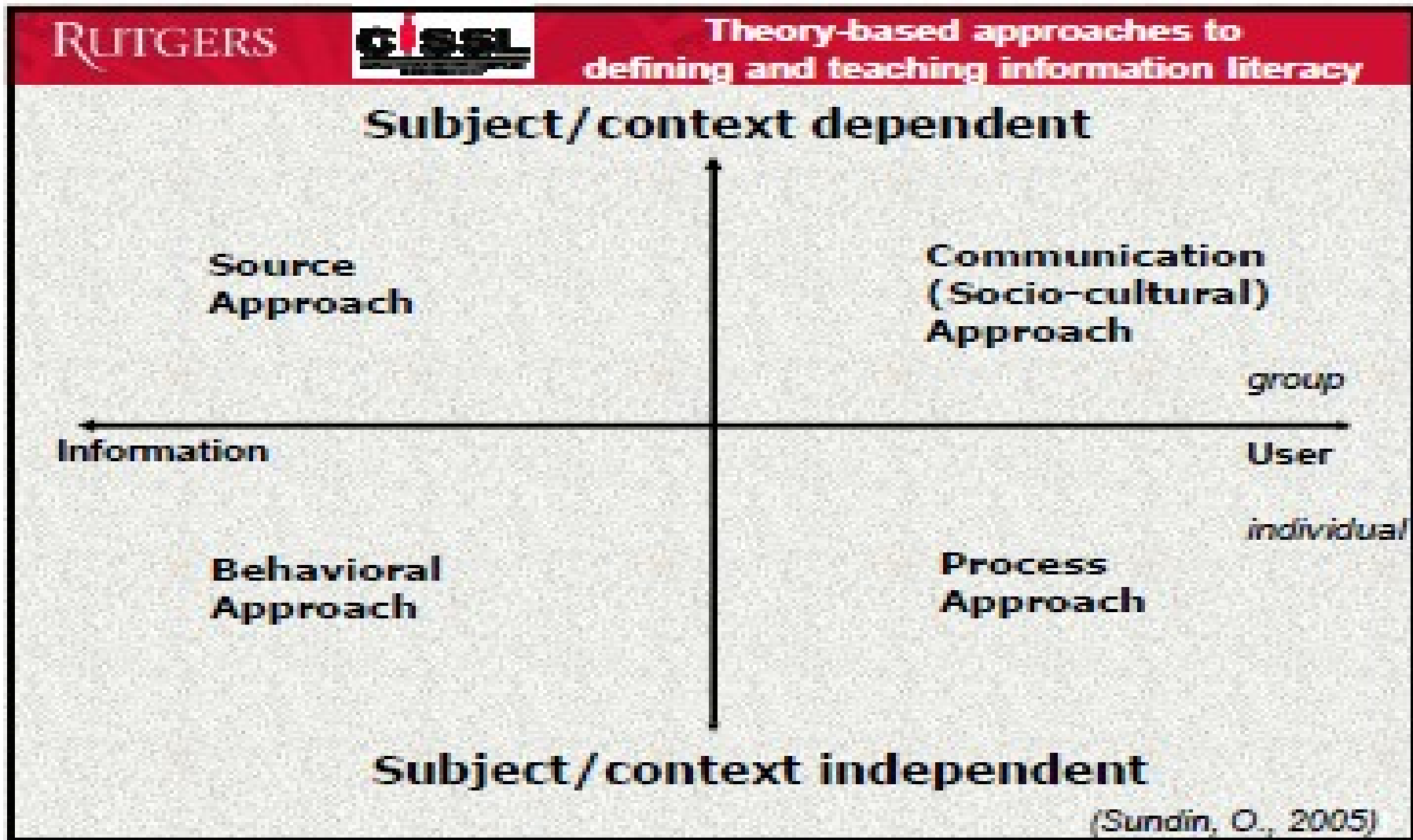
RUTGERS | **CISSL** | **Phenomenography: A method**

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Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

RUTGERS | cissl | Theory-based approaches to defining and teaching information literacy

Subject/context dependent

Source Approach

Communication (Socio-cultural) Approach

group

Information — — — User

individual

Behavioral Approach

Process Approach
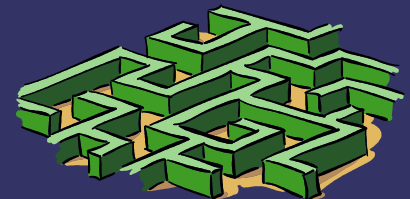
Subject/context independent

(Sundin, O., 2005)

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

THE SEVEN FACES OF
INFORMATION LITERACY:
1. Information technology experience
2. Information sources experience
3. Process experience
4. Managing information
5. Knowledge construction
6. Personal knowledge
7. Wisdom experience
(Christine Bruce, 1997)

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

CONNECTING INFORMATION LITERACY INSTRUCTION WITH RESEARCH-FINDINGS

• There is a close interaction between the quality of a students' information seeking and the quality of their learning outcomes (Alexandersson & Limberg, 2003; 2005); Limberg, 1999).

• Teachers have vague notions of how to teach information seeking related to students' to students' research-based learning (Moore, 2000).

• Librarians involved in a project of curricular development changed their views of student learning in the library (Kuhlthau and McNally, 2001).
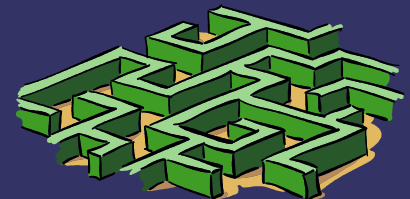
(C. Gordon, 2011)
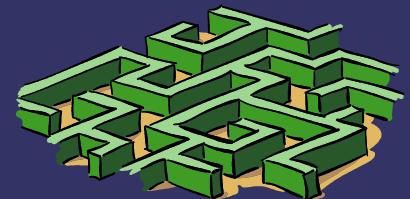
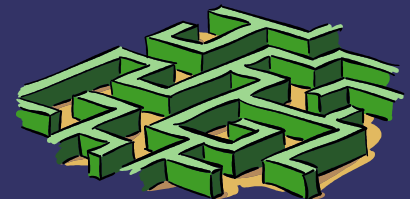# *Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT*

• Benchmarks for good instruction in electronic tutorials include: course- or assignment-related, active learning that is collaborative learning, critical thinking, multiple media formats, clear objectives, concepts as well as mechanics, and help options. (Dewald, 1999)

• Dewald, et al. (2000) identified "active learning" in online tutorials to include: multiple choice quizzes with instant feedback; text-box forms to accommodate written answers that can be sent or given to instructors; exercise with two frames that display instruction and the student's response; two separate browser windows instead of parallel frames; and exercises or open-ended questions that can be printed and given to the instructor.

(C. Gordon, 2011)

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

• Hrycaj (2005) found evidence of active learning in:
 1) quizzes at the end of a tutorial module;
 2) questions integrated within the tutorial modules;
 3) exercises used within the modules;
 4) quizzes that require use of a separate browser window;
 5) option to send quizzes to an instructor.
• These studies present seminal issues in establishing criteria for good instruction.

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

RUTGERS · CISSL

Constructivist ideas for analytical contructs

- Information skills are thinking skills: higher order thinking is critical to the information to knowledge connection
- Clear learning objectives
- Librarians and teachers should collaborate
- Information skills are taught in the context of curriculum, courses, assignments (integrated, not isolated)
- Active learning is hands-on, performance-based
- Intervention is administered with the information search process
- Learning should be engaging

- User/Learner-centric
- Authentic learning tasks promote higher order thinking
- Students need intervention
- Research-based
- Intervention should be differentiated
- Learning is a process of constructing meaning
- Prior knowledge determines what is learned and should be assessed
- Learning is social
- Information skills taught with integrated approach

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

RUTGERS · **CISSL** · **Constructs for the Model**

User-centric instruction
1. Using basic information skills: Searching, retrieving, evaluating information
2. Using information to build on prior knowledge, construct new knowledge.
3. Promoting metacognition through user awareness of ISP stages.

Constructivist Learner-centric instruction
4. Using an integrated, or subject-dependent approach to information skills.
5. Implementing Guided Inquiry, including intervention, differentiation for individual differences, collaboration among faculty, and group learning.
6. Setting authentic learning tasks embedded in real world problems that promote higher order thinking skills (i.e., understanding, applying, analyzing, evaluating, and synthesizing or creating knowledge. (Anderson, et al, 2001).
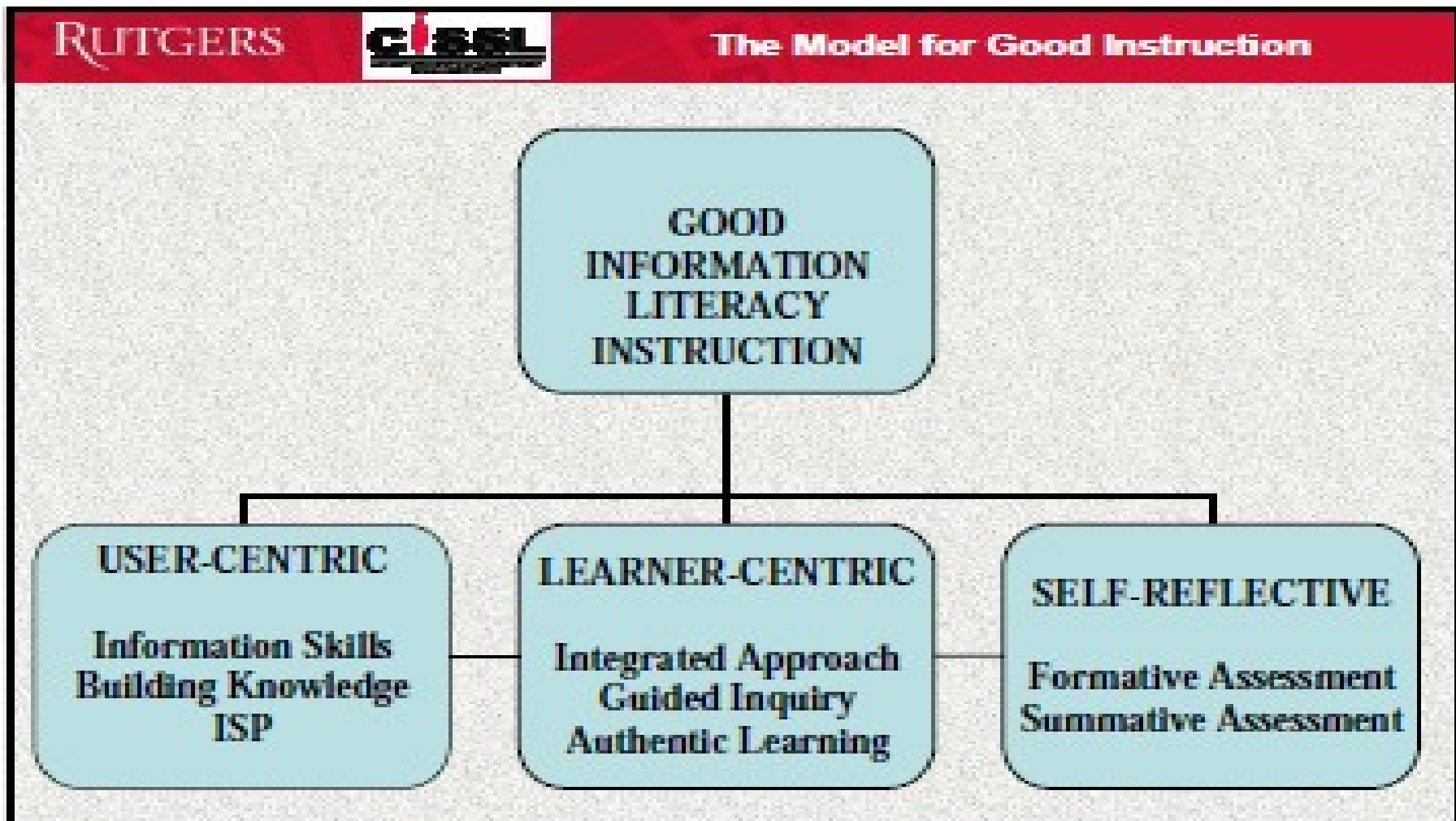
Self-reflective instruction and assessment
8. Embedding self and peer assessment in learning activities.
9. Embedding formative assessments that give learners opportunities to evaluate and revise their work.
10. Using summative assessment that grows from formative work.

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

Theoretical Frameworks & Concepts
Helping in Taking Decisions about ILT

RUTGERS   CISSL   **Methods of Instruction**

What are the methods used in online tutorials to teach information literacy? Are these methods supported by appropriate theories of information behavior and learning and validated research in from information science and education?

Distillation of 10 criteria:

Integrated Approach and Collaboration

Intervention and Differentiation

Authentic Learning and Engagement.

Theoretical Frameworks & Concepts
Helping in Taking Decisions about ILT

RUTGERS | CISSL | **Integration & Collaboration**

- Integrated teaching of information skills, by definition, requires collaboration between the librarian and course instructor that involves planning, teaching, and evaluation of a lesson or unit. Without collaboration, it is difficult for the librarian to teach information skills in the context of a subject-specific information task. This study distinguishes among three degrees of collaboration:

- Collaboration occurs when librarian(s) and instructor(s) jointly set goals, design learning experiences, teach, and evaluate a lesson, tutorial, or unit of study resulting in integrated teaching of information skills through academic disciplines.

- Coordination occurs when the librarian(s) and instructor(s) or other members of the university plan and implement the isolated teaching of information skills through the library program.

- Cooperation occurs when the librarian(s) and instructor(s) or other members of the university teach information skills through university-wide required courses that are not part of the library program. There is variation in the type and frequency of collaboration.

Theoretical Frameworks & Concepts
Helping in Taking Decisions about ILT

SAVING STUDENT BRIAN

http://www.youtube.com/watch?v=xoqJ4jOgG0M

TE PUNGA

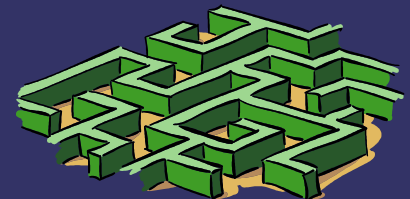http://www.library.auckland.ac.nz/instruct/tutorials/voyager/intro/index.html

To capture the attention of the intended audience, do these examples use...

…appropriate technologies and tools?

...appropriate language?

...appropriate examples, motifs, references?

...interesting simulations?

Theoretical Frameworks & Concepts Helping in Taking Decisions about ILT

TEACHING INFORMATION LITERACY – STEPS

1. IDENTIFY AUDIENCE
2. GET TO KNOW YOUR AUDIENCE
3. DESIGN ILT CONTENT AND TOOL(S)
4. PLAN DELIVERY
5. DELIVER THE ILT SESSION(S)
6. ASSESS RESULTS
7. ANALYSE RESULTS
8. DISSEMINATE RESULTS
9. ARE ANY CHANGES NECESSARY?
10. MAKE CHANGES
11. START AGAIN
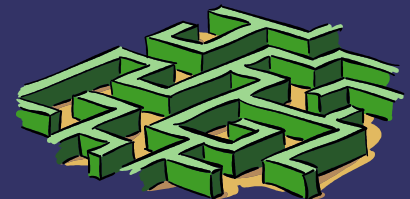
What can librarians do?

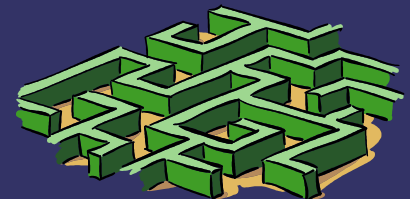Brabazon, Tara. The invisible support network. Times Higher Education Supplement, available at:
http://www.timeshighereducation.co.uk/story.asp?storycode=414491

What can librarians do?

Meeting the Needs of Generation Y Students - Northumbria University
available at:
http://www.northumbria.ac.uk/static/.../Guy_Brown_and_Tony_Blackwood.pdf
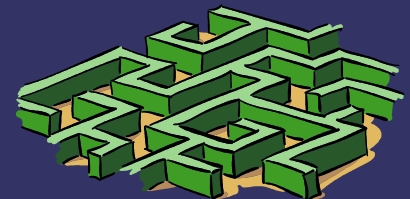
Teaching Information Literacy
Case studies (1)

http://www.informationliteracy.org.uk/develop-professional-practice/teaching-resour

A website where you can find some research-related material on ILT

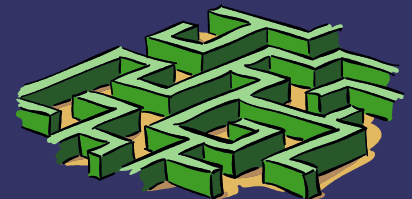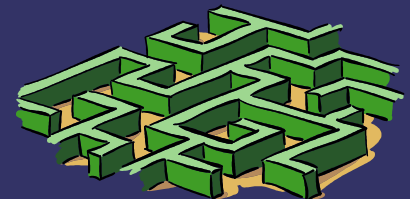# *Teaching Information Literacy Case studies (2)*

http://www.inspiringlearningforall.gov.uk/

MLA website

Teaching Information Literacy Case studies (3)

http://www.open.ac.uk/inclusiveteaching/

Making your teaching inclusive

Teaching Information Literacy Case studies (4)

Teaching Information Literacy through Learning Styles: The Application of Gardner's Multiple Intelligences
by Intan Azura Mokhtar, Shaheen Majid, Schubert Foo

Excerpt from the abstract:
"This research hypothesizes that students grasp IL skills more effectively when their innate interests, such as that determined by their respective dominant intelligences, are stimulated and applied to their work. Consequently, they would produce work of better quality. To verify these postulations, an IL course was designed for students undertaking project work to equip them with the necessary IL skills, by using an established pedagogical approach-Gardner's theory of multiple intelligences. Subsequently the quality of students' project work between the experimental and control groups were compared. It was found that the performance of students who had undergone IL training through the application of learning styles was superior in their project work."
Journal of Librarianship and Information Science (2008), Vol. 40 (2), 93-
Available from vikingvoyage.gvc.edu
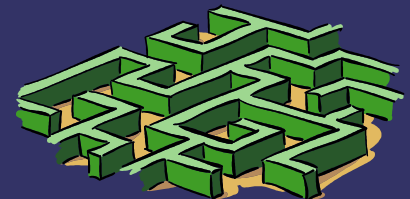
Teaching Information Literacy
Best practices (1)

http://scips.worc.ac.uk/
Strategies for Creating Inclusive Programmes of Study

http://www.caul.edu.au/caul-programs/information-literacy/information
Council of Australian University Libraries

http://apps.medialab.uwindsor.ca/crlil/wiki/FrontPage/
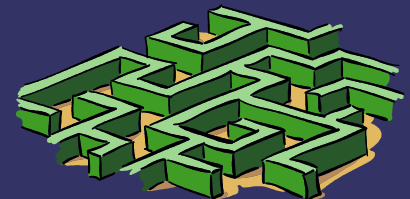Canadian Research Libraries Information Literacy Portal

Teaching Information Literacy Best practices (2)

http://www.libsuccess.org/index.php?title=Information_Literacy

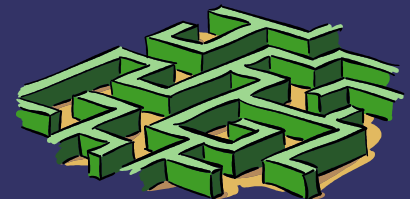LIBRARY SUCCESS: A BEST PRACTICES WIKI
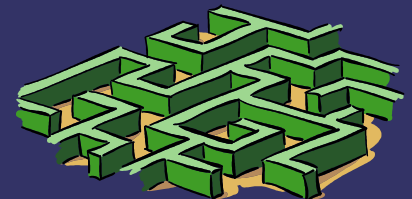By Meredith Farkas (ALA, USA)

Teaching Information Literacy Best practices (3)

http://www.ala.org/ala/mgrps/divs/acrl/standards/characteristics.cfm

Characteristics of Programs of Information Literacy
 that Illustrate Best Practices: A Guideline
Best Practices Initiative
Institute for Information Literacy

New ways of teaching needed?
Share views!

Thanks a lot for your attention!

Elena Corradini, MA/MScIS
ecorradini67@gmail.com