

New Concepts And Tools For Education And Capacity Building To Achieve The MDG's (UNESCO - IHE Session, 17th March)



On-Line Learning in Water Education

*Concepts, Tools, Experiences
and Lessons Learned*



Overview

1. What is e-learning ?
2. Why on-line learning ?
3. Rethinking learning and teaching
4. Online courses – UNESCO-IHE
5. Experiences and Lessons Learned

1. What is e-learning ?

E-learning, sometimes referred to as **computer-based training** or **online distance education**, refers to structured, computer-enabled learning carried out by individuals or groups outside of a physical classroom, over the Internet or an internal network.

E-learning :

- can be an individual, group or class activity
- can be self-paced or instructor-led
- can be partime or fulltime
- can take place in the classroom, at home or at work
- is about accessing information as well as instruction
- is also about communication, collaboration and knowledge sharing between learners and teachers, and between learners themselves

E-Learning in Higher Education

- Gradually integrating the technology into a course - where appropriate - to create a blended approach:
- blending classroom-based approaches with independent and group-learning approaches
- blending face-to-face with online learning
- blending a mix of online learning solutions
- blending the best of the old with the best of the new

Three ways of blending online with face-to-face

1. Using the technology to support a traditional class
2. Integrating technology into a traditional class
 - information and reference material
 - online activities and exercises
 - online discussions
 - collaborative learning activities
3. Delivering a course completely online

Innovation in educational delivery

**Same time
(synchronous)**

**Different time
(Asynchronous)**

Same place

e.g. Classroom
homework

e.g. Student's
+ online learning

Different place

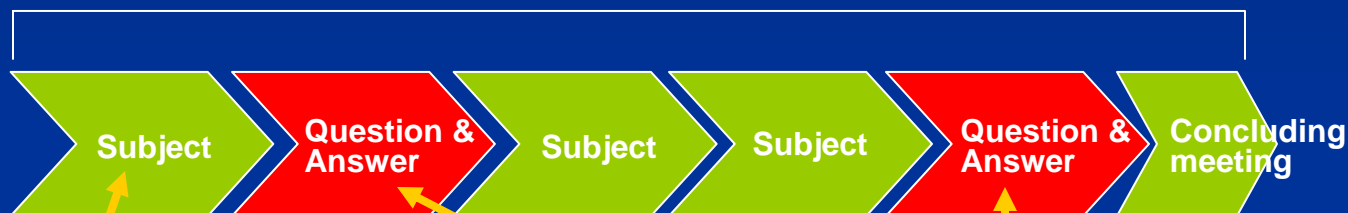
e.g. Video-conferencing
learning

e.g. Online distance

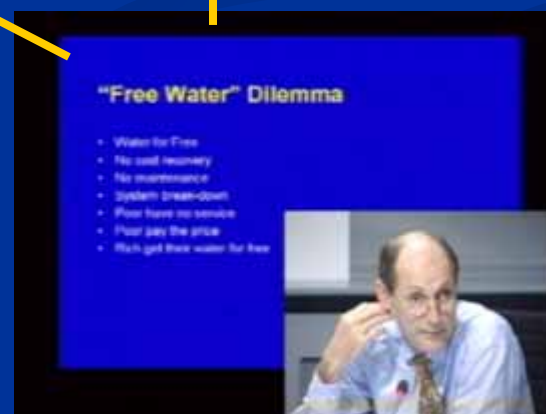
Example 1

Water Policies, Law and Institutions module (Waternet and UNESCO-IHE) (April each year)

Duration 3 weeks (study load 3 weeks)



Local training at
UNESCO-IHE, Dar ES-
Salam and Harare
(same time)

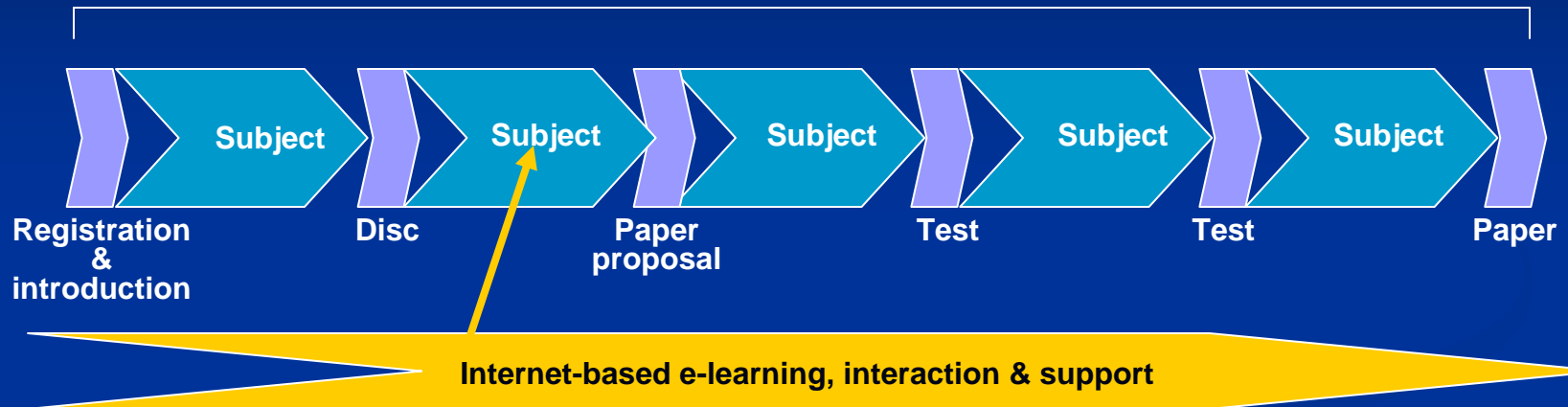


Three VC sessions to connect
sites for lecture / Q&A sessions

Example 2

Online course on IRBM (2 times a year) (UNESCO-IHE Partnership of Water Education and Research)

Duration 4 months (study load 3 weeks)



Download training material
Group discussions
Ask-Teacher
Email
Reflection on each others work

2. Why on-line learning ?

Benefits of E-Learning

- Those for the learner
- Those for the academic and institution as a whole

Student benefits

- **Flexibility**

Support can be made more flexible and different learning styles can be accommodated.

- **Access**

No longer limited by time and location of courses available.

- **Communication**

The importance of the social aspect of learning, the ability to develop learning communities.

- **Access to information**

Internet information, together with the growing collections of e-journals and e-books, can be used to support e-learning.

- **Better link to daily work activities**

- **Enhanced learning ?**

There is a growing body of evidence which suggests that e-learning can have a significant impact on the student learning experience.

Institutional benefits

- **To enhance student learning;**
- **To increase market share, including reaching overseas markets;**
- **To improve access and widening participation;**
- **To support increased flexibility in learning as a key component in collaborative ventures with partner institutions on a regional, national or even international scale;**
- **To better organize training material and make exchange easier;**
- **To help reduce costs.....**

3. Rethinking learning and teaching

How are roles changing?

The most popular use of Virtual Learning Environments (VLEs) is to deliver course handouts / information.

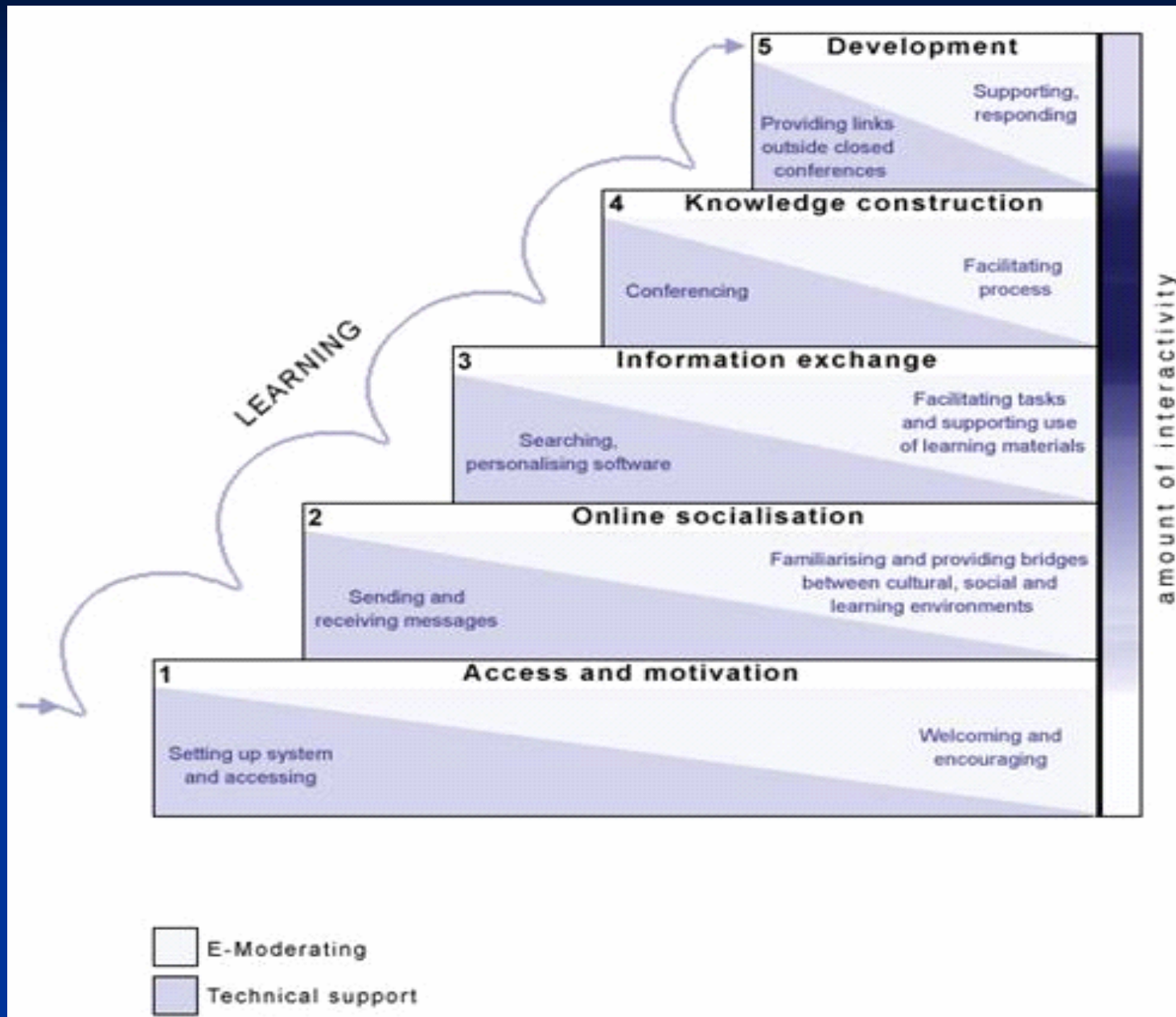
-> no change in traditional roles of teacher and learner and the information transmission approach to teaching

Those involved in teaching using networked learning environments often share a common educational approach:

The importance of :

- collaborative learning,
- linking experience / practice and ideas from literature,
- engaging with the activity / task; and
- experiencing different tutoring and learning styles.

The roles of teachers in e-learning (Salmon, 2001)



Changing roles of students

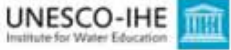
- From passive receptors of hand-me-down knowledge to constructors of their own knowledge
- Students become complex problem-solvers rather than just memorizing of facts
- Students see topics from multiple perspectives
- Students refine their own questions and search for their own answers
- Students work as group members on more collaborative / cooperative assignments; group interaction significantly increased
- Increased multi-cultural awareness
- Emphasis on knowledge use rather than only observation of the teacher's expert performance or just learning to pass the test.

4. Online Courses – UNESCO-IHE


UNESCO-IHE has made concerted efforts in the development of a distance learning approach to its educational programmes, conscious of its importance in maintaining the cutting-edge delivery modes for the 21st century.

Therefore, UNESCO-IHE has designed 8 high-quality online courses, which started from 2005 onwards.

- **Wetlands Management**
- **Flood Modelling for Management**
- **Cleaner Production and the Water Cycle**
- **Water Transport and Distribution**
- **Public and Private Partnerships**
- **Water and Environmental Law and Policy**
- **Integrated Coastal Zone Management**
- **Integrated River Basin Management**



i-Learning Environment



- Orientation
- Module list
- Personal data
- FAQ
- Inquiry
- Questionnaire
- Logout

Announcement

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Topic	Start Date	End Date
Welcome to UNESCO-IHE I-Learning System	2003/12/1	2009/9/9
Welcome to the on-line IRBM course	2005/3/3	2005/8/30
'Module' or 'Course' ?	2005/3/3	2005/8/30
End of Course 1	2005/3/14	2005/8/30
Start of Course 2 'The River System and Human Interferences'	2005/3/14	2005/8/30
Tutor assignment Course 2	2005/3/17	2005/8/30
Start of Course 3 'IRBM Concepts and Issues'	2005/3/29	2005/8/30
Start of Course 4 'Planning for Sustainable River Basin Development'	2005/4/11	2005/8/30
Start of Paper Assignment	2005/4/26	2005/8/30
Start of Course 5 'Operational Management'	2005/5/9	2005/8/30
Start of Course 6 'Analytical support for IRBM'	2005/5/23	2005/8/30
Start of Course 7 'Organisational and institutional framework'	2005/6/7	2005/8/30
Start Discussion Assignment Course 7 - How to bridge the gap between actual and ideal?	2005/6/14	2005/8/30
Online IRBM - The last 2 weeks !!	2005/6/20	2005/8/30

Course List

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No.	Course Name	Start Date	End Date	Intro.	Enter
1	Introduction to the Online IRBM Training Course	2005/3/1	2005/8/30	↪	↪
2	The River System and Human Interferences	2005/3/14	2005/8/30	↪	↪
3	IRBM Concepts and Issues	2005/3/28	2005/8/30	↪	↪
4	Planning for Sustainable River Basin Development	2005/4/11	2005/8/30	↪	↪
5	Operational Management of River Basins	2005/5/9	2005/8/30	↪	↪
6	Analytical Support for IRBM	2005/5/23	2005/8/30	↪	↪
7	Organisational and Institutional Framework	2005/6/6	2005/8/30	↪	↪
8	IRBM Case Study: Upper-Citarum Indonesia	2005/6/20	2005/8/30	↪	↪
9	IRBM Case Studies: Video Library	2005/4/25	2005/8/30	↪	↪
10	IRBM paper assignment			↪	↪

5. Experiences and Lessons Learned

First results of IRBM online-course, March 2005 run

- 12 participants (full-distance learning)
- China, Indonesia, Vietnam, Ethiopia, Egypt and Tanzania

Evaluation by participants

- Very good and positive evaluation
- Material / assignments clear
- No (serious) problems with downloading
- Linking theory to daily work is very interesting
- Contacts with many different people
- More interesting than traditional learning
- **But**, sometimes problem finding time to work on module

Training Of Trainers: On-line Learning In Water Management, Nov. 2005

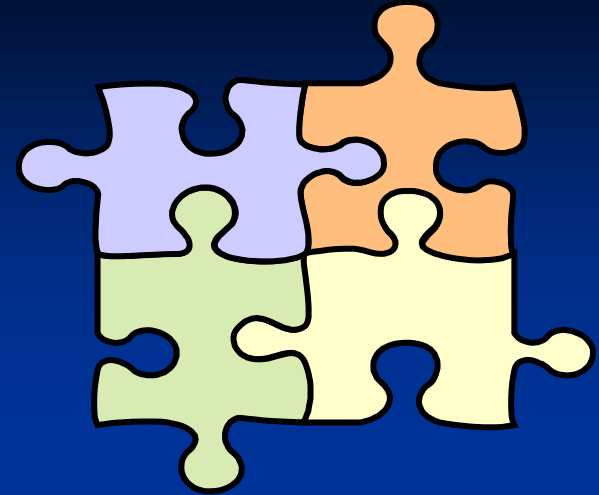


Outcomes

- **Transferring knowledge and experience on developing and managing on-line modules on different levels (short courses, MSc. Courses,...)**
- **Building a group of 21 online trainers and facilitators from different UNESCO-IHE partner institutes.**
- **Developing proposals for online courses in different disciplines:**
 - **Water quality management planning at the Water Resources University – Ha Noi-Vietnam**
 - **E-course on water supply and sanitation**
 - **Online Master Programme on IWRM**
 - **Online course on information systems for water management-HRI-Egypt**

To organize an on-line course:

- Levels and scope of course
- Scope of e-learning process
- Levels of course organization
- Target group perspectives
- Levels of using ICT
- Levels of trainer-learners interaction
- Levels of using distance learning technology
- Ways of cooperation
- Using partnerships and networks
- Ways of funding
- Marketing strategy
- Top management support





**Don't Wait, Start developing your
Own On-Line Courses!**

Thanks For Your Attention