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on eLearning  
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Expected and Actual Student Use of an Online Learning Environment: A Critical Analysis

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AbstractDownload

1. INTRODUCTION

Online learning environments (OLEs) can be an extremely effective way of delivering course content to students and supporting them in their studies. By enabling access to a range of materials, learning tools and communication facilities, OLEs can be ideal constructivist learning environments that allow students to become more actively involved in developing their knowledge and understandings. However, this is still a relatively new field of study, and research increasingly shows that students do not always use online environments in the ways designers and tutors expect or desire.

This paper examines the findings of the Computer-Based Learning in Petroleum Engineering (CBLPET) project, which developed online modules for Masters-level, workplace-based students of Petroleum Engineering and evaluated their usage and effectiveness. The students who participated in the research did not use the environment entirely as anticipated, especially in how they progressed through the course materials and in their use of communication facilities. While some of these findings were not particularly surprising, they are certainly worthy of reflection and discussion.

The evaluation of the CBLPET environment described the ways in which students worked online, and is discussed in Beasley et al. (in press). This paper takes the findings of this research a stage further and reflects on the possible reasons why students used the environment in the ways they did by drawing on the formal evaluation, other recent research, and informal discussion with the student participants. A number of limitations in the design and implementation of the course are identified, and the ways in which the online environment could be improved to encourage or enable students to make fuller use of the various online resources are considered.

2. OVERVIEW OF ONLINE LEARNING ENVIRONMENTS

EJEL  
Electronic Journal  
of eLearning

Suchen

Suche

Lesezeichen

Start

thai

Prof. Dr...

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Microsof...

Acrobat...

AKAD...

Paper 2...

DE

08:54

Deutscher Bildungsserver: E-Learning -Netscape

Datei Bearbeiten Anzeigen Gehe Lesezeichen Extras Fenster Hilfe

http://www.bildungsserver.de/zeigen.html?seite=1560 Suchen

eMail AIM Anfang My Netscape.de Suche Lesezeichen

deutscher bildungs server

Angebote für

- Bildungsmanagement
- Erzieher/innen
- Eltern
- Lehrer/innen
- Schüler/innen
- Auszubildende
- Studierende
- Weiterbildungsinteressenten
- Wissenschaftler/innen
- Behindertenpädagog/innen

Datenbanken

- Online-Ressourcen
- Institutionen
- Personen
- Veranstaltungen
- Glossare
- Wettbewerbe
- Jobbörse
- FIS Bildung
- Zeitungsdokumentation
- ZDF-Medienkatalog
- Bildungsmedien

?

alle Wörter finden Erweiterte Suche Volltextsuche Eintragen

Home → Weiterbildung und Erwachsenenbildung →

[Druckversion]

## E-Learning in der Erwachsenenbildung

- [E-Learning Informationsportale](#)
- [Onlinekursangebote](#)
- [Studien zu E-Learning](#)
- [Hinweise zur Organisation und Gestaltung von Online-Kursen](#)
- [Auswahlkriterien - Checklisten zu E-Learning](#)
- [Lernplattformen](#)
- [Autorentools](#)
- [Lernsoftware \(Erwachsenenbildung\)](#)
- [Glossare zu E-Learning](#)

Fertig

Start thai Pro... De... Mic... Acr... AK... Pap... Glo... Virt...

DE 09:59



## E-learning....and the future?

Open source software

Intelligent tutorial systems

Metadata standards

Inter-operability

European perspective

Blended learning

M(obile) - Learning

New/permanent financial sources?

Management skills (e-learning projects)

Commercial application

Property rights

Sustainability?





## Summary: E-learning....

- ... implies organisational change (i.e. teacher/tutor training)
- ... needs adapted curricula
- ... is improved by participative course design methods
- ... should be object/project oriented
- ... has to consider social and cultural context
- ... has to respect students skills (including digital literacy)
- ... needs to be useful, practical and motivational
- ... should enhance teamworking
- ... needs evaluation and quality control
- ... does neither need less time nor less budget



## Questions to be asked before starting e-learning units

What are the needs, requirements, and preferences of learners?

Can we be sure that the technological infrastructure is reliable and adequate?

... that the pedagogical and graphic design of the content is of high quality?

... that the level of interactivity is appropriate?

... that students can reliably access the relevant portal on a regular, reliable and convenient basis?



## Experiences with pure e-learning

1. High drop out rates.
2. Students request printed versions of the materials in addition to study anywhere, and have the ability to annotate the printed materials.
3. Students tend to study the materials linearly.
4. Strong desire for online communication mechanisms, however, the discussion boards provided were little used by any of the students.
5. Proposal for timed units.



## Important aspects

### **Problems to be solved:**

#### **Technical**

- About 200 LMS
- Open source software
- Metadata-standardization

#### **Institutional**

- Co-operation
- European perspective
- Quality assurance
- User/authoring rights

#### **Paedagogical/didactical**

- Media design/didactics
- Paedagogics vs. technical protocols
- User vs. technological orientation
- Demand vs. supply orientation



## Important aspects

### **Problems to be solved:**

#### **Technical**

About 200 LMS

Open source software

Metadata standardization

#### **Institutional**

Co-operation

European perspective

Quality assurance

User/authoring rights





## Important aspects

### **Problems to be solved:**

#### **Technical**

About 200 LMS

Open source software

Metadata standardization



## Important aspects

### **Introduction of e-learning is impeded by:**

1. a combination of the absence of a coherent and comprehensive management approach to ICT integration with a degree of resistance to change in the university culture,
2. lack of knowledge of academic staff concerning the potential and new ways to use it,
3. a shortage of high-quality teaching material,
4. a lack of budget and incentives,
5. Missing adapted regulations concerning intellectual property rights and payment systems aimed at increasing the sharing and re-use of learning resources.



## Important aspects

### **Pre-requisites:**

#### Institutional

University development plan

Budget

Computer service unit

Curriculum change

Incentives

#### Technical

University intranet

Student access to computers

Software (LMS, CMS, authoring tools)

#### **Personal**

Educated staff (CSU, teachers, tutors)

Software

Media didactics



## Important aspects

### **Pre-requisites:**

#### Institutional

University development plan

Budget

Computer service unit

Curriculum change

Incentives

#### **Technical**

University intranet

Student access to computers

Software (LMS, CMS, authoring tools)





## Important aspects

### **Pre-requisites:**

#### **Institutional**

University development plan

Budget

Computer service unit

Curriculum change

Incentives

# E-Learning - in Soil Science - Why?

Soil processes can be interactively modeled.

The screenshot shows a Netscape browser window displaying the GIMOLUS website. The browser's address bar shows the URL <http://www.gimolus.de/>. The website has a header with the text "GIS- und Modellgestützte Lernmodule für umweltorientierte Studiengänge" and the GIMOLUS logo. The main content area is divided into three columns. The left column contains a navigation menu with links: Projektziel, Projektdetails, Teilprojekte, beteiligte Institute, beteiligte Personen, Kontakt, a link to view the page in English, Testzugang für Studierende, Modulserver (Projektintern), and BSCW (Projektintern). The middle column features a welcome message in German, a paragraph about the project's goals and timeline, and the GIMOLUS logo. The right column is titled "NEWS\*\*\*" and contains a section "+++ gimolus auf der AGIT 2003 +++" followed by a paragraph about the symposium and a list of presentations. The bottom of the browser window shows the Windows taskbar with the Start button and several open applications: Explorer, Microsoft PowerPoint, GIMOLUS - Netsc..., and a search utility. The system clock indicates the time is 08:31.

**GIMOLUS - Netscape**  
File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Bookmarks Location: <http://www.gimolus.de/>

Members WebMail Connections BizJournal SmartUpdate Marketplace

GIS- und Modellgestützte Lernmodule für umweltorientierte Studiengänge **gimolus**

**Projektziel**  
Projektdetails  
Teilprojekte  
beteiligte Institute  
beteiligte Personen  
Kontakt  
[this page in english](#)

**Testzugang für Studierende**

**Modulserver (Projektintern)**  
**BSCW (Projektintern)**

letztes Update am  
04.11.2002  
Mail an den Webmaster

gimolus Startseite

**# Herzlich Willkommen bei gimolus.**

Hier entsteht das Projekt **gimolus**. Sie finden hier derzeit detaillierte Angaben zum Projekt selbst. Tests mit dem entstehenden System finden ab dem WS 02/03 statt. Ab Dezember 2002 ist die Einrichtung von Gastzugriffen auf einzelne Module auf Anfrage möglich. Der Einsatz des kompletten Systems im Rahmen der Lehrveranstaltungen der beteiligten Institute ist ab dem WS 03/04 vorgesehen.

**NEWS\*\*\***

**+++ gimolus auf der AGIT 2003 +++**

Vom 02.07.03 bis 04.07.03 findet in Salzburg das 15. Symposium für angewandte Geoinformationsverarbeitung statt. Gimolus wird mit 4 Beiträgen aus unterschiedlichen Teilprojekten auf der Agit vertreten sein.:

- 02.07.03 16:00 Uhr: Rudner - AG LÖK: Habitatmodellierung in GIMOLUS webGIS-basierte e-learning Module zur Modellierung der Art-Habitat-Beziehungen mit logistischer Regression
- 03.07.03 14:00 Uhr: Schmidt, IWS HBV-IWS-02 und ArcGIS: Entwicklung eines GIS-gekoppelten hydrologischen Modells
- 03.07.03 16:00 Uhr: Müller, ILPÖ: Aufbau der technischen Infrastruktur einer Internetplattform für GIS- und modellgestützte Lernmodule im Projekt GIMOLUS
- 03.07.03 16:30 Uhr: Makala, ILPÖ: GIS und Modellgestütztes Lernen am Beispiel von Bewertungsaufgaben im Rahmen der Flächennutzungs- und Landschaftsplanung

Document Done

Start Explorer - D:\judger\... Microsoft PowerPoint GIMOLUS - Netsc... Suchen nach: Datei...

08:31

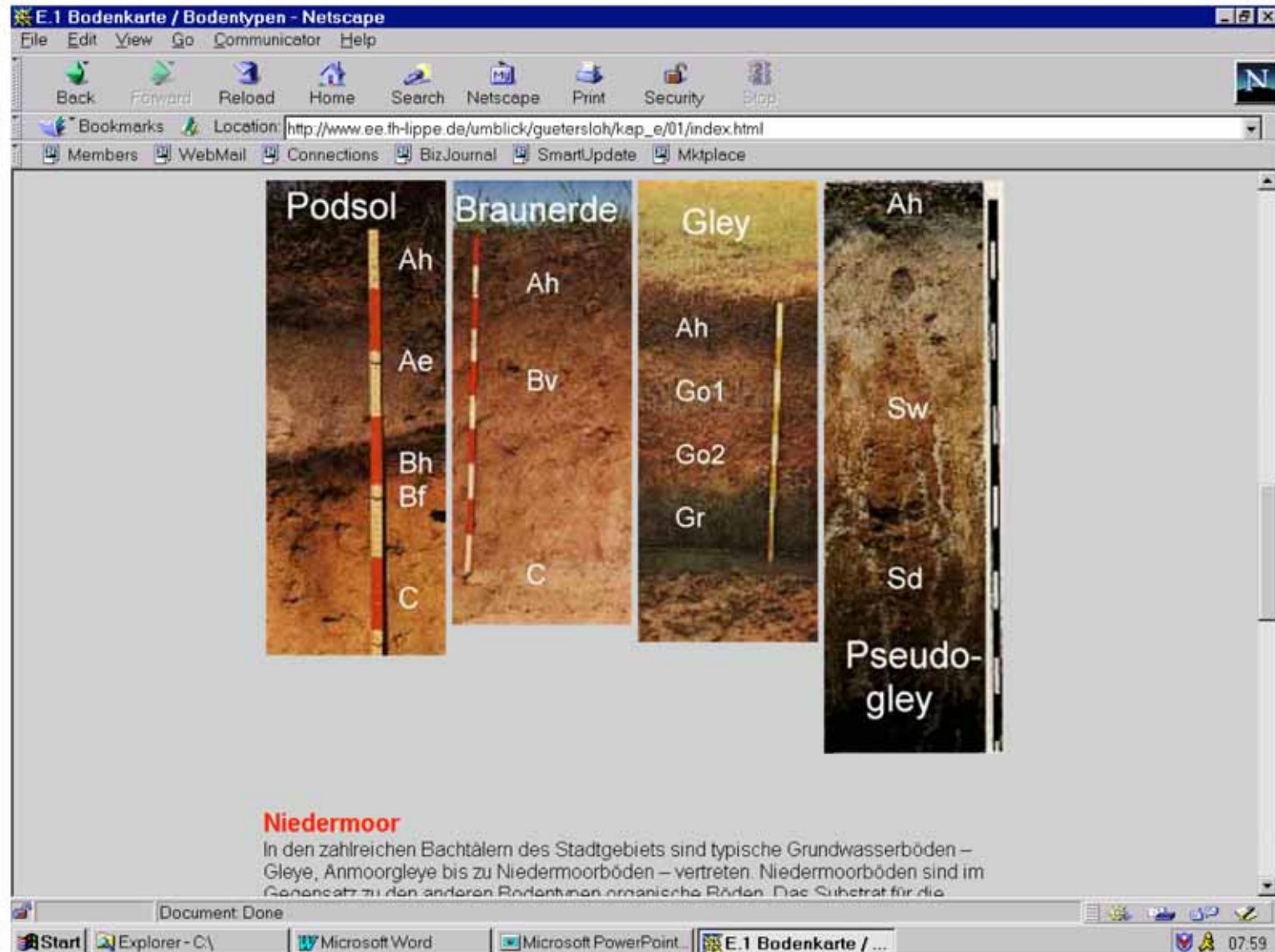


## E-Learning - in Soil Science - Why?

Soil processes can be animated.

## E-Learning - in Soil Science - Why?

Presentation of soil variability is facilitated (virtual excursion).





## E-Learning - in Soil Science - Why?

Multimedia allows a first approach to soils, where no direct sensual contact is possible.





## E-Learning-Why?

### **Political reasons**

- new paradigm in European and national education

### **Paedagogical/didactical reasons**

- integration of media
- individual learning
- group learning

### **Personal reasons**

- reduction of classroom lectures
- interest in new media technology

### **Strategical reasons**

- development plan of university
- co-operation between international institutions
- curriculum standardization



## E-Learning-Why?

### Political reasons

- new paradigm in European and national education

### Paedagogical/didactical reasons

- integration of media, modular
- individual learning/ group learning
- interactivity

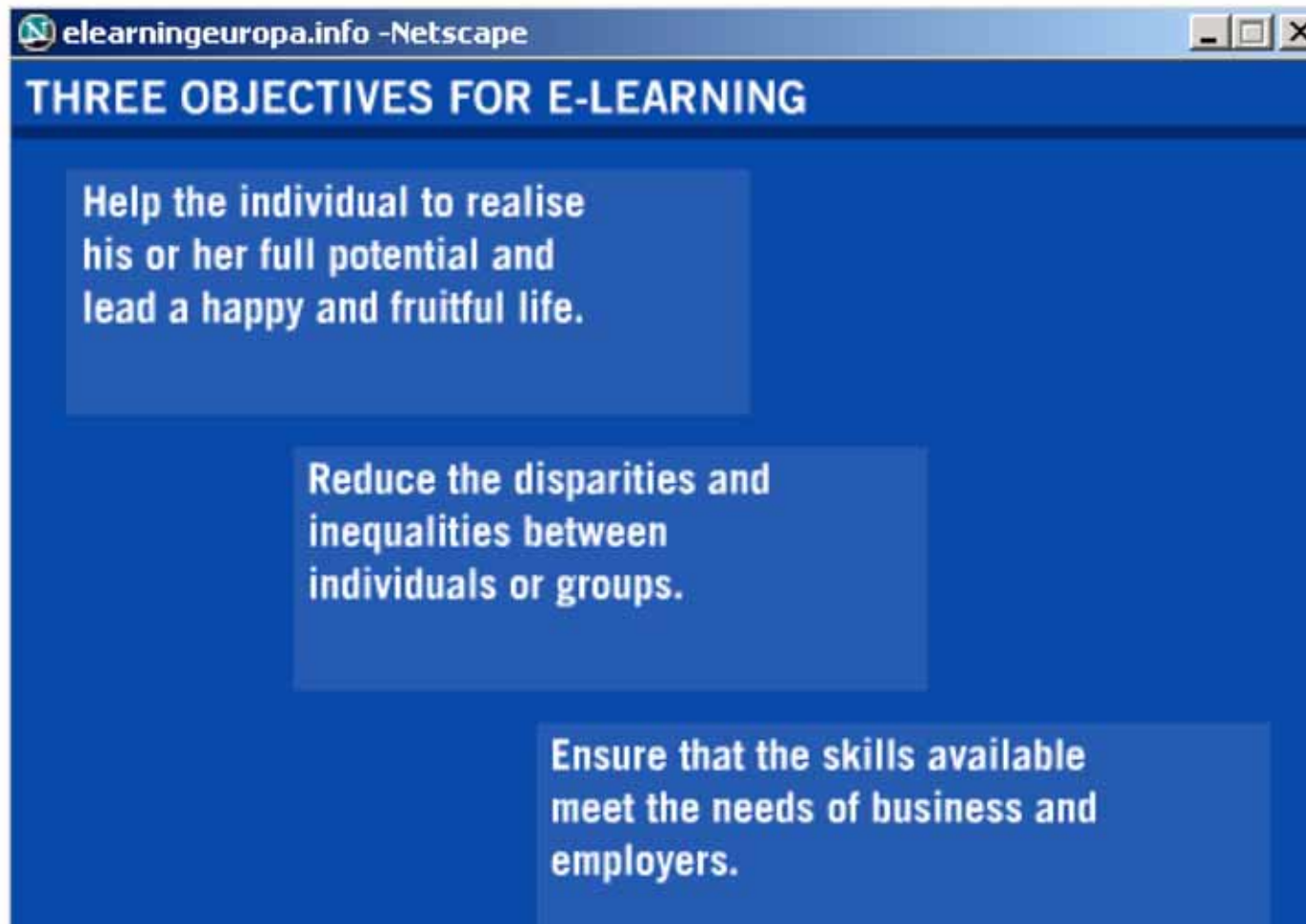


e-Learning stimulates remote exchanges and  
collaboration ?

## E-Learning-Why?

Political reasons

- social and economical aspects





# E-Learning-Why?

## Political reasons

- new paradigm in European and national education

The screenshot shows the elearningeuropa.info website in a Netscape browser window. The browser's address bar displays the URL <http://www.elearningeuropa.info/index.php?lng=1>. The website's header features the logo and navigation links: HOME, ABOUT E-LEARNING, GOOD PRACTICE, EUROPEAN COMMISSION, EVENTS, FORUMS, NEWSLETTER, and E-LEARNING DIRECTORY. A language selector is set to English.

The main content area is divided into several sections:

- LOGIN/SIGN UP:** Includes fields for User and Password, a Login button, and links for "Forgot your password?" and "Are you a new user? Click here to sign up now."
- WHAT IS E-LEARNING?:** Includes links for "Discover e-Learning", "Discover the eLearning Initiative", and "Glossary".
- ABOUT E-LEARNING:** Features the article "e-Inclusion: The Future Paradigm: Social e-learning" with a description of its objective and a small image of a laptop.
- GOOD PRACTICE:** Features the article "e-Learning at Higher Education: Virtual Models of European Universities" with a description of a recent study and a small image of a building.
- FORUMS:** Includes the link "Enter the Forum Chance or Necessity? Universities Towards e-Learning".
- THEMATIC DOSSIERS:** Includes links for "What's e-learning: a new paradigm or a new toy?" and "Media Literacy".

At the bottom right, there is a section for "Online survey on quality in European e-learning" with a small image of a person's face.



## E-learning what for?

1. Enrichment of traditional classes with additional materials, exercises and interactive tests.
2. Conducting whole classes online.
3. Organizing online commercial courses



Is there a difference between e-learning and learning?

**No**

...both have to consider the same cognitive aspects.

**Yes**

...mixture of media and learning without teacher's presence  
ask for new approaches.

Keywords: auto-motivation, individual vs. group learning,  
isolation, e-consultation



## E-Learning-Definition

# e-learning

e-Learning means using new multimedia technologies and the Internet to improve the quality of learning.



# E-Learning in Soil Science – What are the Perspectives?

Ludger Herrmann  
University of Hohenheim