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Elektronikus TávOktatási Rendszer



Differentiated didactic strategies in e-learning environment

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GDF ILIAS

Introduction

- In line with rapid technological development there is a need to improve didactic aspects
 - reforming teaching and learning models
 - methodological innovations
- New technology
 - > new kind of learning environment and opportunities
 - > new didactic challenges, new roles, tasks and competencies
- Current themes: **cooperation**, **motivation** and e-learning
- **Differentiation**: made a breakthrough in traditional education
 - still needs to be elaborated in e-learning

Experiences

- **In the everyday practice of teaching-studying.**
- **More favourable services and technological solutions in several fields:**
 - preparing and publishing learning materials
 - communication
 - Managing learning groups and courses
 - **supporting learning process, measuring and evaluating learning results**
- **The basis of quality and efficiency are:**
 - **User training, methodological trainings**
 - **Application of ILIAS services are didactically prepared and supported**

Differentiation

- **Considering individual differences in teaching and learning processes**

- different ways to **motivate** students
- different **learning sources, tools,** • **levels**
- different **processes** and ways to **organize** learning activities
- different ways to **measure/test** and **evaluate.**

- **Origin of individual differences:**

- **biological** (age, sex), **psychological**
- **sociocultural** (ex. family background, attitude, values)
- **preliminary knowledge, competences, attitude towards learning**
 - field of interest, learning styles, scholastic / professional motivation

Context of differentiation

- **Approach**
 - Constructivist, learner-centered, supporting
- **Learning and teaching models**
 - Open, distance-, constructivist, flexible, resource-based
- **Learning environment:**
 - supporting attitude of teachers
 - appropriate methodology
 - **individual** and **collaborative** learning
 - can be supported in **small learning groups** and also with **great number of students**.
- Learners can be *active, interactive, cooperative, can raise and solve problems.*

E-learning (2.0) environment

- *Does it insure the differentiation by itself?*
- **YES**, because
 - students are allowed
 - to choose the schedule/timing of their learning activities,
 - the use of proposed sources, curricula,
 - the route and way to make progress with the learning contents;
 - to prepare individual contents and to share them.
- **NO**, because it only provides **possibilities**.
 - **students** with different background **must be trained**
 - to **apply** the e-services,
 - to apply and utilize the given **possibilities**,
 - to use the **new** ways of **communication**,
 - to **learn in** the **new environment** /digital literacy/

E-learning environment

- **Students training** (continuous)
 - **E-tutors prepare consciously for their new roles.**
 - **Learning guidance (and support)**
 - Curricula guide and flow chart
 - *during the learning process: continuous testing, monitoring and evaluation* of knowledge -> **suggestions for further improvement** (*software, tutorial*)
 - **Activating in diversified manners** – individuals, groups
 - **Complex learning strategies**
 - team-work, case study, project
- ***Their framework, ways and processes are to be elaborated.***

Teachers in new roles:

supporting learning process, facilitating collaboration

Examples:

- **Moderating forums**
 - Clarity, motivation
- **ICT-based synchronic learning** (eg. skype, videoconf.)
 - preparation
 - coordination
 - *schedule*
 - *"Where from – where to" perspective*
- Supporting team- and project work

Motivation

- The development of the **inclination to learn** and the **persistence in learning process** are based on various
 - **internal** driving forces (come from within the person - goals, values)
 - **external** driving mechanisms (motivated from outside sources).
 - *The internal motivation is more effective*
 - >goal: constructing basis of internal motivation.
- **Different students: different aims & motivations to learn**
 - **interest/curiosity, efficiency, variety**
- **Need to motivate each student in a different way**
 - **Fulfilling their needs**
 - with providing appropriate activities, tasks...
 - **+ developing new needs**

<p>3 types of motivational need (McClelland)</p>	<p>Appropriately supported team-work Activating motivational factors</p>
<p>need for achievement (advancement, attainment of realistic but challenging goals)</p>	<p>Through accomplishment of fitting subtasks students can attain results and contribute to the common work</p>
<p>need for affiliation (member of a group, familiar friendship, interaction with others)</p>	<p>Students are in interaction, work together for common goals</p>
<p>Need for authority and power (being influential, increasing personal status and prestige)</p>	<p>by organising & coordinating common work, by debating and coming up with controversial questions students can experience the influence with its confines and ways in real situations</p>

Learning styles

- **Learning style** = totality of **cognitive features** that are **determinative factors** during the **learning process**.
 - various learning methods and different attitudes
 - *"They involve educating methods, particular to an individual, that are presumed to allow that individual to learn best."*
- **Should be considered – by students and teachers too**
 - **Activity according only to the dominant learning style:**
less useful and sufficient than *complex development*
- **Diverse learning-style models, measuring method, typology**
 - VAK model
 - Honey & Mumford's model
 - Kolb's styles model (learning-style inventory)

Visual-Auditive-Kinaesthetic model

Learning-style type	Preferred activities <i>(allowing the best learning)</i>
Visual	figures, tables, simulations, media substances
Auditive	sounding substances, ICT-based communication
Kinaesthetic	practical tasks, content production and sharing, activating in the interactive environment of the framework system

Honey & Mumford's model

Learning-style type	Preferred activities
Activist (do) <i>likes doing, accomplishing things</i>	interactivity, tasks, practices
Pragmatist (plan) <i>interested in results</i>	applications, processes ending in products, problems to be solved
Theorist (conclude) likes what takes him/her closer to the contexts	conceptual constructions, structural figures, flowcharts, discussion groups
Reflector (review) concludes after observing	overviewing details, practical activity at the beginning of learning; self-esteem tests, case study, observation at situational games

Kolb's experiential learning theory

Stage of cycle of learning	Preferred activities
Concrete experience	readings, examples, observation, simulation, practice, project
Reflective observation	interactions, press discourses, conversations, thought-provoking questions, debates -> ICT, forum
Abstract conceptualization	lecture, study writing, searching for analogies, contexts, observing and analysing models
Active experimentation	applications, participation-based learning forms (practice, team-work)

Kolb's learning-style inventory

Learning-style type	Preferred cycle styles
Diverger feel + watch	Concrete experience (<i>feeling</i>) + reflective observation (<i>watching</i>)
Assimilator watch + think	Reflective observation (<i>watching</i>) + abstract conceptualization (<i>thinking</i>)
Converger think + do	Abstract conceptualization (<i>thinking</i>) + active experimentation (<i>doing</i>)
Accommodator do + feel	Active experimentation (<i>doing</i>) + concrete experiences (<i>feeling</i>)

Problem: huge number of students

How to organise **individual-based**, continuous support?

(Technology, capacity)

Solutions:

- **Capacity**
 - > rethinking the old attitude and scale of teachers' activities
- **Acquiring new attitude and methods** (theory, routine)
- Sharing and utilizing the **best practices**
 - „Typical” problems and needs;
 - > • practical examples • FAQ
- **Appropriate learning contents and auxiliary materials**
 - **Different** and **non-linear ways** of learning
 - Proposals for **schedule** (learning guidance, prerequisite proceeding)
 - **Different sources**, exercises, on-line **tests** etc.

Knowledge codification and personalization



- **Formal:**
 - educational institution
 - required knowledge
 - intended timeframe (e.g. semester, curricula)
- **Non-formal, personal**
 - non-formal activities (e.g. interaction, team-work)
 - personalized learning (e.g. ways, methods, sources)
- **Harmonising and synthesising** them:
 - **to find position (+ coordinating and measuring possibilities) for the non-formal and differentiated learning activities within the educational system**
 - **Pluralist learning environment**
 - knowledge transfer and individual construction of knowledge

Exercises

Possible ways to differentiate:

- **Various theme and/or difficulty level**
 - students could choose **according to**
 - their **fields of interest**
 - their alleged or actual **level of knowledge**
 - **Test results --> recommendation - -> decision**
- **Evaluation** of students' work
 - Summative, formative
 - Motivation, guidance / instruction

Tutor interface

Tagok			
Név	Bejelentkezés	Elküldés	Osztályozás
<input type="checkbox"/>  Éva	[.GDF]	Utolsó megoldás: 24. Szept. 2008, 14:51 Beküldött fájlok: 2 Fájlok letöltése Jegyzet: <input type="text"/> Megjegyzés a hallgatónak: Nagyon jó. Egy valamit javítson még ki: hisztogramnál az oszlopok magassága nem a gyakorisággal egyenlő, <u>ui.</u> az oszlopok területe	<input checked="" type="checkbox"/> Elfogadva Jegy: 12p Utolsó változtatás: 24. Szept. 2008, 15:31
<input type="checkbox"/>  András,	[.GDF]	Utolsó megoldás: 20. Szept. 2008, 14:47 Beküldött fájlok: 1 Fájlok letöltése Jegyzet: <input type="text"/> Megjegyzés a hallgatónak: Ami hiányzik: az osztályközös gyakorisági táblázat a kért adatokkal.	<input checked="" type="checkbox"/> Elfogadva Jegy: 10pont Utolsó változtatás: 23. Szept. 2008, 03:56

New services

- On-line consultation
 - ILIAS chat
 - Instant messengers
 - Videoconference
- Web 2.0 tools
 - Google Maps
 - RSS
 - del.icio.us
 - Tagging
 - Personal notes
 - Public comments
 - Wiki
- Supporting team-work and project-work
 - Inner objects, calendar, e-mail list, chat...

Exercise



[View Content](#) [Info](#)

Tags

All Users

My Tags

[Save](#)

Additional Information

Permanent Link

<http://illias-jovo.gdf.hu/goto.php?target=>

Created on

09. Sep 2008, 14:47

Owner

Kállai Miklós (admin2)

 Private Notes

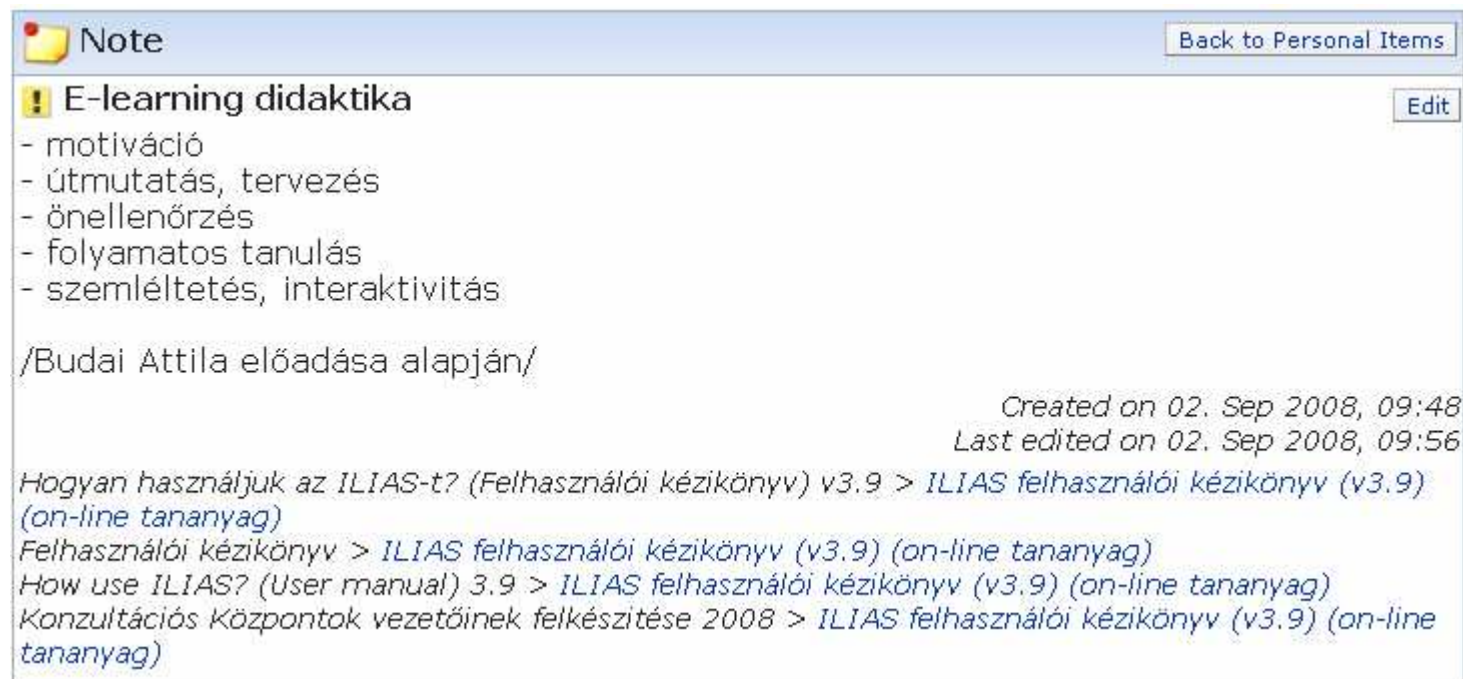
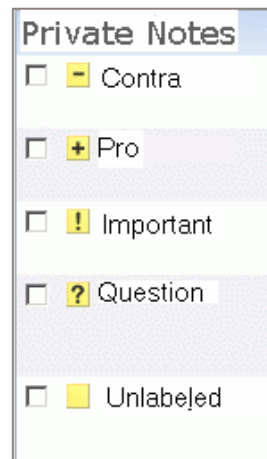
[Add Note](#)

Tagging

- Flexible
- **Arranging** coherent **data** -> searching
- Tag clouds (on *Personal desktop*)



Private notes




Wiki

web2.0 encyclopaedia

- **Sharing** collected information and experiences in a **structured** form.
- **Integrating wiki** into learning and teaching process:
 - methodological and vocational **preparation**
 - **clear framework** (requirements, tasks, evaluation)
- ***ILIAS wiki*** has **pedagogic extra**:
 - Useful functions help following and evaluating the progress of the students.
- Cooperative, creative, **multi-faceted learning activity**
- Excellent for accomplishing **team-** and **project work**

Wiki editor

 Statisztikai adatok gyűjtése, feldolgozása

Kutatóintézetek rendszerezett bemutatása.

Lap Szerkesztés Történet Vágólap Mi linkel ide? Nyomtatási nézet

Média aktív JavaScript aktív Szerkesztési mód beállítása

CAPI - a laptopos kérdezési módszer

A CAPI egy újfajta adatgyűjtési módszer: számítógéppel támogatott személyes megkérdezés. Lehetővé teszi határidők. Már az adatfelvételi munkafázis köztes szintjein készíthetők gyorsjelentések - mivel a kérdezőbiztc érkeznek a központi szerverre.

A Szonda Ipsosál 2005-ben már az éves adatfelvételek 30%-át ezzel a módszerrel készítették. Ez az arár


További információ: <http://www.szondaipos.hu/modszereink/capi>

A módszerről részleteket olvashat a mellékelt dokumentumban:

- Szöveg beszúrása
- Kód beszúrása
- Adattábla beszúrása
- Továbbfejlesztett táblázat beszúrása
- Média beszúrása
- Továbbfejlesztett lista beszúrása.
- Fájllista beszúrása**
- Bekezdés beszúrása
- Térkép beszúrása
- Beszúrás vágólapról




Evaluation

Együttműködők		
Együttműködő	Lapmódosítások	Osztályozás
<input type="checkbox"/>  Antónia, Szász	Központi Statisztikai Hivatal (38) Főlap (15) Magyar Gallup Intézet (8) Medián Közvélemény és Piackutató Intézet (5) Szonda Ipsos (5) Társadalomkutató Intézet (4) Echo Survey Szociológiai Kutatóintézet (3)	<input checked="" type="checkbox"/> <input type="text" value="Átment"/> Osztályzat: <input type="text" value="5"/> Utolsó változtatás: Ma, 11:55

Mentés

 Nyilvános megjegyzések

Átlagértékelés, 2 Felhasználó(k):  (4/5) Az Ön értékelése:  (5/5)

Team-work

Students can

- a) find **activities according to their interests and skills**;
- b) **improve themselves** in other fields as well (team support)
- c) **contribute** to the common work by **accomplishing subtasks**

4 basic principles of cooperative learning (Spencer Kagan)

- **simultaneous interaction**
- **individual accountability** (fulfilling sub-tasks)
- **positive interdependence** (constructive)
- **equal participation**

Project (work)

complex learning experience with planning + executing

- **Students' roles:**

- defining the objects of the project
- planning the schedule and organising the work
- collecting and systemising data
- preparing, presenting and discussing the results
- evaluating the project (collaboration, results / products)

- **Teachers' roles:**

- **Preparing phase: competence development, confines, resources**
(preparing individual and collaborative work)
- **Executing phase: support, feedback, new aspects**
- **Closing phase: evaluation** (groups, individuals)

Project: complex development of competencies

- Independent and critical thinking, problem solving, realistic cooperation, flexible adaptation to changing situations

Group and course management

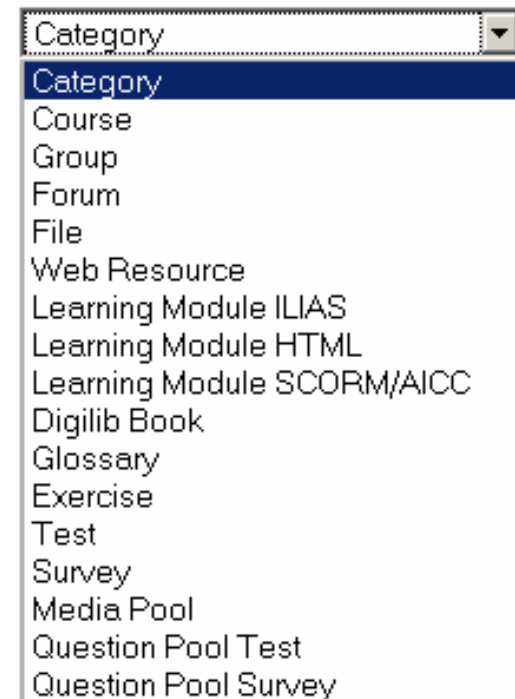
- Also to support team-work and project
- Related services: „*mini ILIAS*”

We can add to the group or course:

- all kind of object
- plug-ins

Work in a course could be - depending on **tasks** and students' **competences**:

- more or less directed,
- more or less coordinated,
- mainly self-directed and self-managed



Examples

- **Course structures**
- **Course settings**
 - **Accessibility** (ex. timing; joining criteria)
 - **Competence-profiling**
 - **User entitlements** (admin, editor, member)
- ***Inner communication***
 - **Forums, RSS, chat, wiki, MSN/skype support...**
- **Course management**

Conclusion

- For *differentiating* in e-learning there is a need for
 - **rethinking** and **reforming teaching and learning models**
 - **reconstructing the learning environment complexly**
 - applying **new methods and tools**.
- **L(C)MS with broadening services could support the differentiated teaching and learning processes in various forms.**

**Thank you
for your attention!**

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