

Promotion and Support of Technology Enhanced Learning

Strengths and Weaknesses of a Bottom-up Strategy

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Overview

Topics of this Presentation

1. Technology enhanced teaching @ VUT
2. Didactic support for TET @ VUT
3. Experiences since 2006
4. Analysis of activities and needs
5. Information and mobilization
6. summary

- Quotation of Ilonas presentation:
- Some teachers are learning auto-didactically – others are coming to us and asking us.

Didactic Support of TET @ VUT

- Well elaborated & established support structures
- reached the early adopters – but not the average teachers
- Need to change strategies
 - Either on management level: top-down approach (= not yet realistic)
 - Or on level of support center: individual communication – we have to learn more about our target groups

Topic 1

Technology Enhanced Teaching @ VUT

TET@VUT: Policy

Basic Courses: slight obligation for TET

- have to have a representation in TUWEL
- BUT: no controle or sanctions
- particularly quality of courses is not controlled

All other courses: individual decision

- it is up to individual teachers if they use TUWEL, any other ICT tools, or none of them
- no benefits for quality – except E-Learning Award

TET@VUT: Statistics (after 2 years)

- **About 170 courses in TUWEL/Moodle** – the central supported LMS
- **Unknown number of other courses using**
 - Weblogs
 - Wikis
 - Homepages
 - TUWIS++

E-Learning – what for?

Organisation of courses and learning process

- Presentation of content / learning materials
- Offering simulations and games
- Stimulation of learner's activities
- Facilitation of learner's collaboration
- Communication between teachers and learners / learners and learners
- Feedback and answers to learners

Assessment of learner's achievements

Moodle based courses @ VUT

Many electronic supplements of traditional courses: „PDF-repositories“

The screenshot shows a Moodle course page for 'TUWEL 351.025 (VU 3,0) Höhere Elektrodynamik'. The page is divided into several sections:

- Navigation:** TUWEL > 351.025 HohEdyn
- Personen:** Teilnehmer/Innen
- Kursabschnitte:** 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
- Aktivitäten:** Arbeitsmaterialien, Foren
- Suche in Foren:** Search bar with 'Start' button and 'Erweiterte Suche' link.
- TUWEL Toolbox:** TUWEL Tutorials, Neuen Kurs anlegen, Zu TUWIS++, Zur LVA in TUWIS++, Aktivitäten Report, Arbeitsgruppen, Gruppen benoten.
- Themen dieses Kurses:** Nachrichtenforum
- 1 Skriptum HÖHERE ELEKTRODYNAMIK:**
 - Skriptum Höhere Elektrodynamik: Titel und Inhaltsverzeichnis
 - Einführung: Elektromagnetische Größen und Ihre Bilder
 - Mannigfaltigkeiten: Vorstufe zu einem Modell des physikalischen Raumes
 - Tensoren: Lokale Repräsentanten physikalischer Größen
 - Differenzialformen: Die geborenen Integranden
 - Die grundlegende Struktur des Elektromagnetismus im Dreidimensionalen
 - Affine Geometrie: Trägheitsbahnen und gekrümmte Räume
 - Metrische Geometrie: Abstände, Längen und Winkel
 - Das elektromagnetische Feld und die Geometrie des dreidimensionalen Raums
 - Raum und Zeit in der relativistischen Physik
 - Grundlagen der relativistischen Elektrodynamik
 - Kinematik im Raum und in der Raumzeit
 - Elektromagnetische Wechselwirkungen: Energie-Impuls-Komplexe
 - Mengen, Relationen, Abbildungen
 - Topologie
 - Spezielle Karten und Basen im dreidimensionalen euklidischen Raum
 - Lösungen

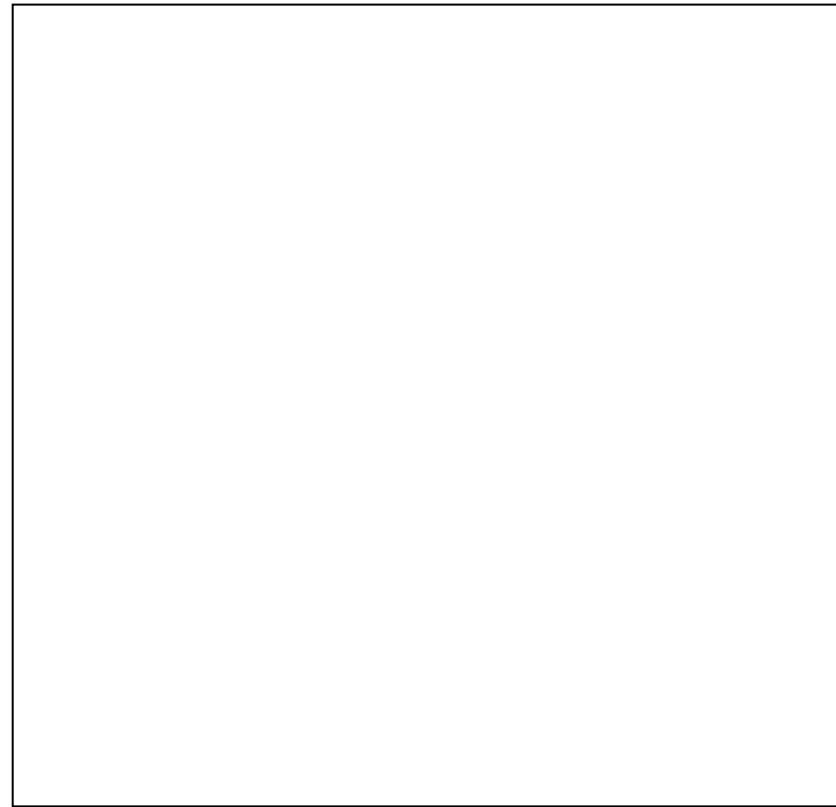
Moodle based courses @ VUT

Some blended learning courses:
face-to-face meetings AND
some self-directed learning

The screenshot displays a Moodle course interface for 'TUWEL ELZ Course'. The main content area is divided into several sections: 'Newstrroom' with news items, 'Online-Sprechstunde' (Online consultation), a survey titled 'Umfrage (Vielen Dank für Ihre Teilnahme)', and 'Aufgaben und Bonuspunkte' (Assignments and Bonus points). On the right side, there is a 'Topic outline' section listing six chapters with their respective activities, and a 'TUWEL Toolbox' section with links to 'TUWEL Tutorials', 'Add a new course', 'To TUWIS++', 'To TUWIS++ LVA', and 'Activity report'. The page also shows a 'People' section with 'Participants' and a 'Section Links' section with a list of links.

Moodle based courses @ VUT

None E-Learning in pure form:
courses without any
face-to-face elements
(as far as we know)



Topic 2

Didactic Support for TET @ VUT

Didactic support for TET

Definiton

- all activities helping teachers
 - to successfully apply information and communication technology
 - for planning, developping, organizing, delievering, and evaluating courses
 - of high quality
- referring to handling of ICT, didactics and organisation

Wide spectrum of support services

- Online FAQs
- Short explanations
- Online articles
- Helpdesk (telephone, e-mail)
- Individual counselling / coaching: LMS and other tools, organisation of online courses, educational design, learning material ...
- Support for generating projects
- Qualification of teaching staff: workshops

Written / Website

Individual

Planned

Support philosophy

- For every question immediately the right answer in terms of
 - length
 - abstraction level
 - details
 - complexity
 - scope
 - time consumption
- So far the theory ;-) (we'll come to that later)



Didactic support @ VUT

Basic questions

- What are the best methods to design a technology enhanced course (according to my LOs) ?
- Which ICT tools are available to realise my didactical ideas?
- How can I create high quality content for TEL?
- How can I apply chosen tools in an effective and efficient way?

Didactic support @ VUT

Our Policy

- Support whatever is possible
- But: concentrate on *efficient* solutions
- Main teaching strategy: Blended Learning
- Main goals: fostering
 - development of competencies
 - by active and
 - selfdirected learning

Support questions & services

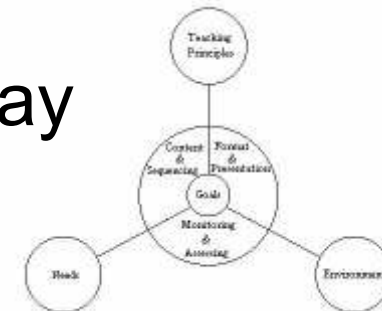
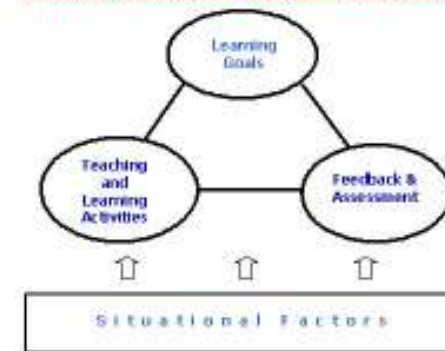
Question

- What are the best ideas for designing a technology enhanced course covering *my particular goals*?

Support services: didactical

- Workshops
- Personal consultation
- E-Learning Impulses / E-Learning Day
- Website / TUWEL courses

THE BASIC ELEMENTS OF INSTRUCTIONAL DESIGN



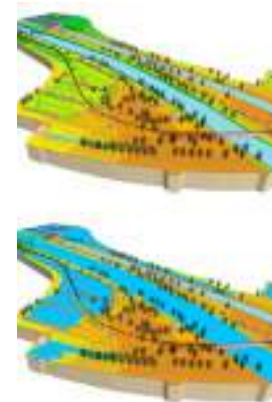
Support questions & services

Question

- How to create high quality content for TEL?

Support services: content creation

- Workshops
- Personal consultation
- TUWEL course



Support questions & services

Question

- Which ICT tools are available to realize my didactical ideas?

Support services: technical

- Workshops
- E-Learning Impulses / E-Learning Day
- Helpdesk
- Personal consultation
- TUWEL features course



Support questions & services

Question

- How can I apply the chosen tools in an effective and efficient way?

Support services: technical

- Helpdesk
- Personal consultation
- Workshops



Topic 3

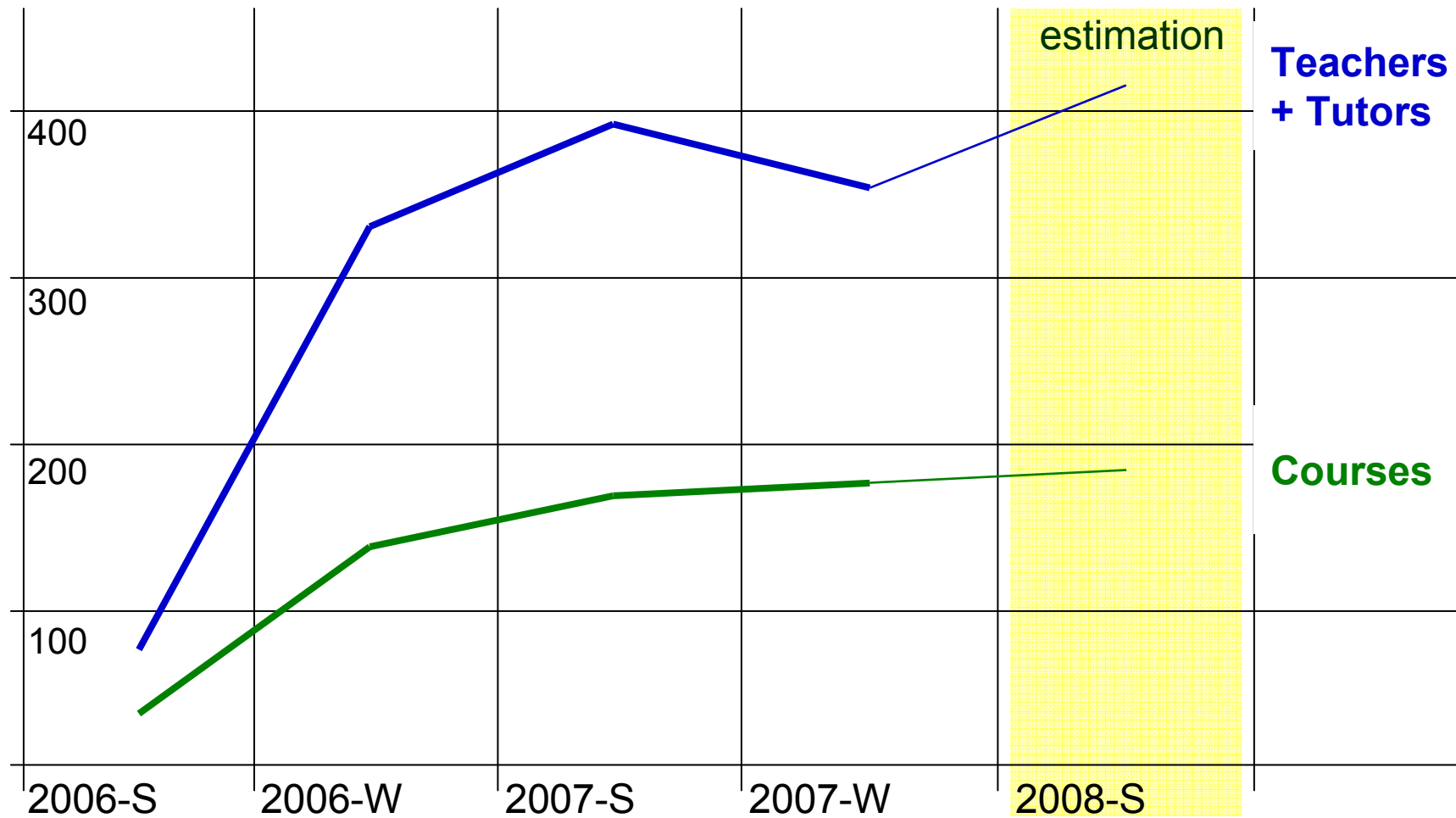
Experiences since 2006

TUWEL statistics – a repetition

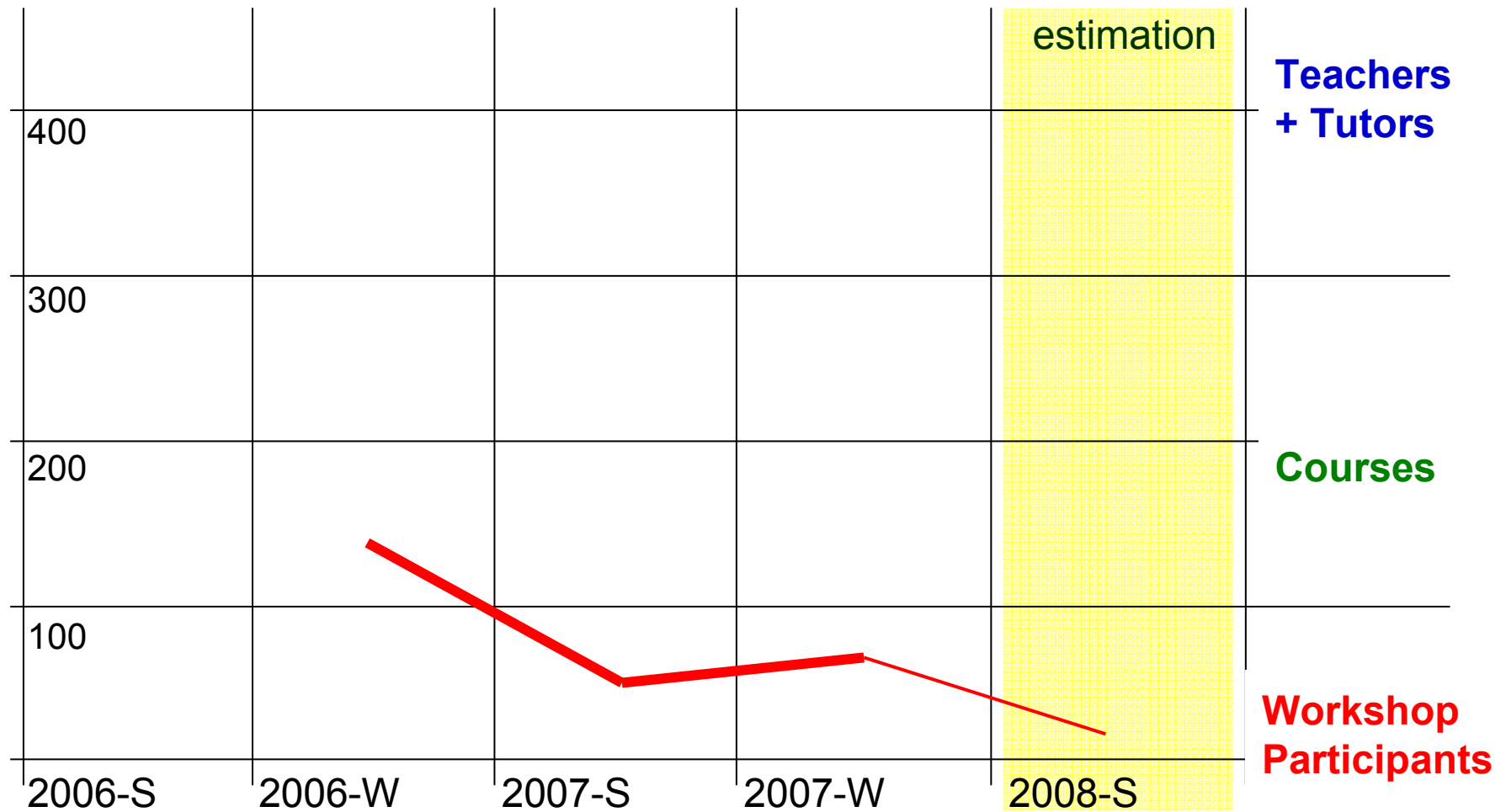
	Courses	Teachers (incl. Tutors)	Students
2006-S	45	86	1.828
2006-W	141	334	3.478
2007-S	166	392	5.219
2007-W	169	347	6.993

Unfortunately no quantitative information about other forms of technology enhanced teaching

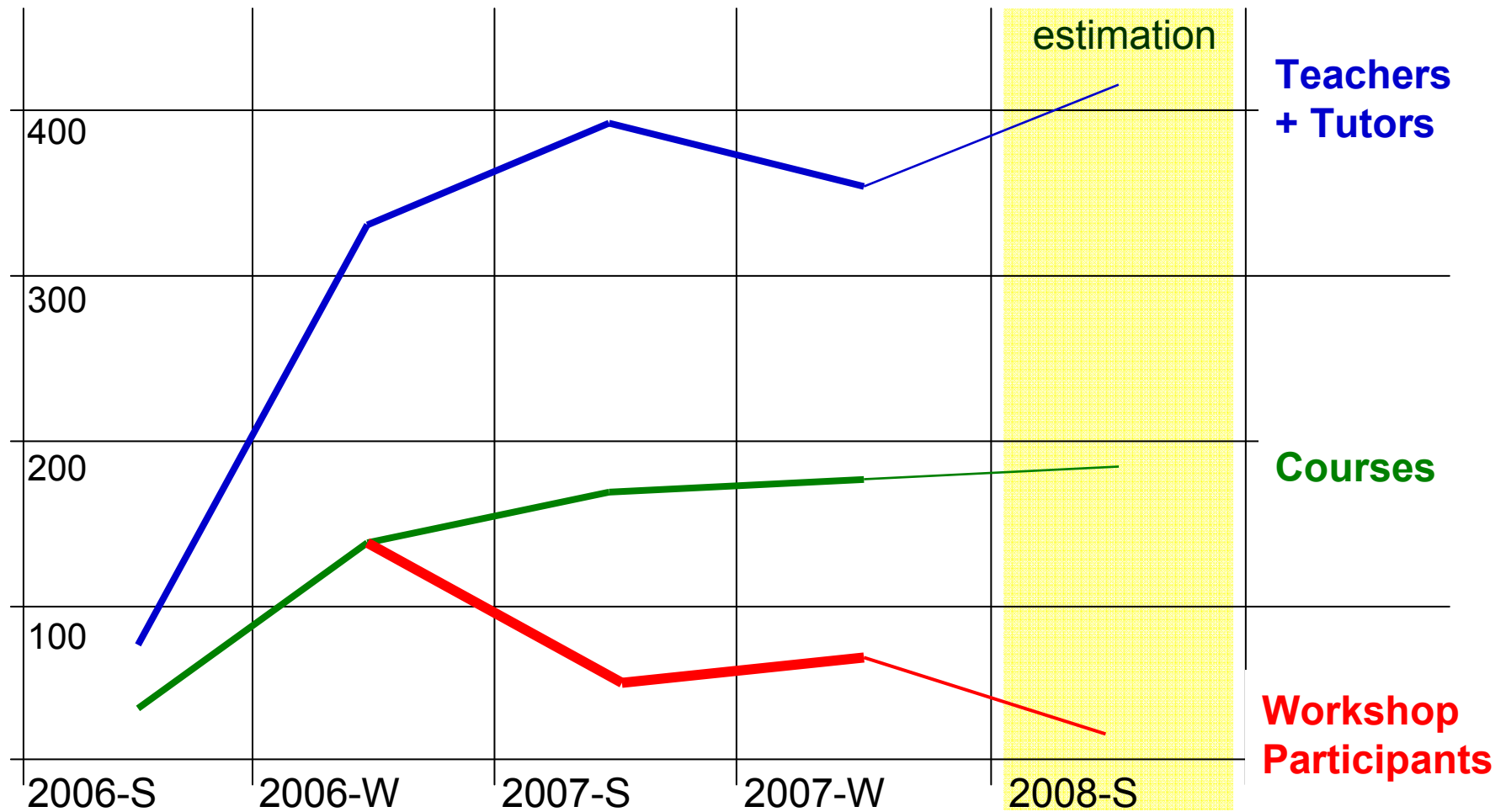
TUWEL statistics – a repetition



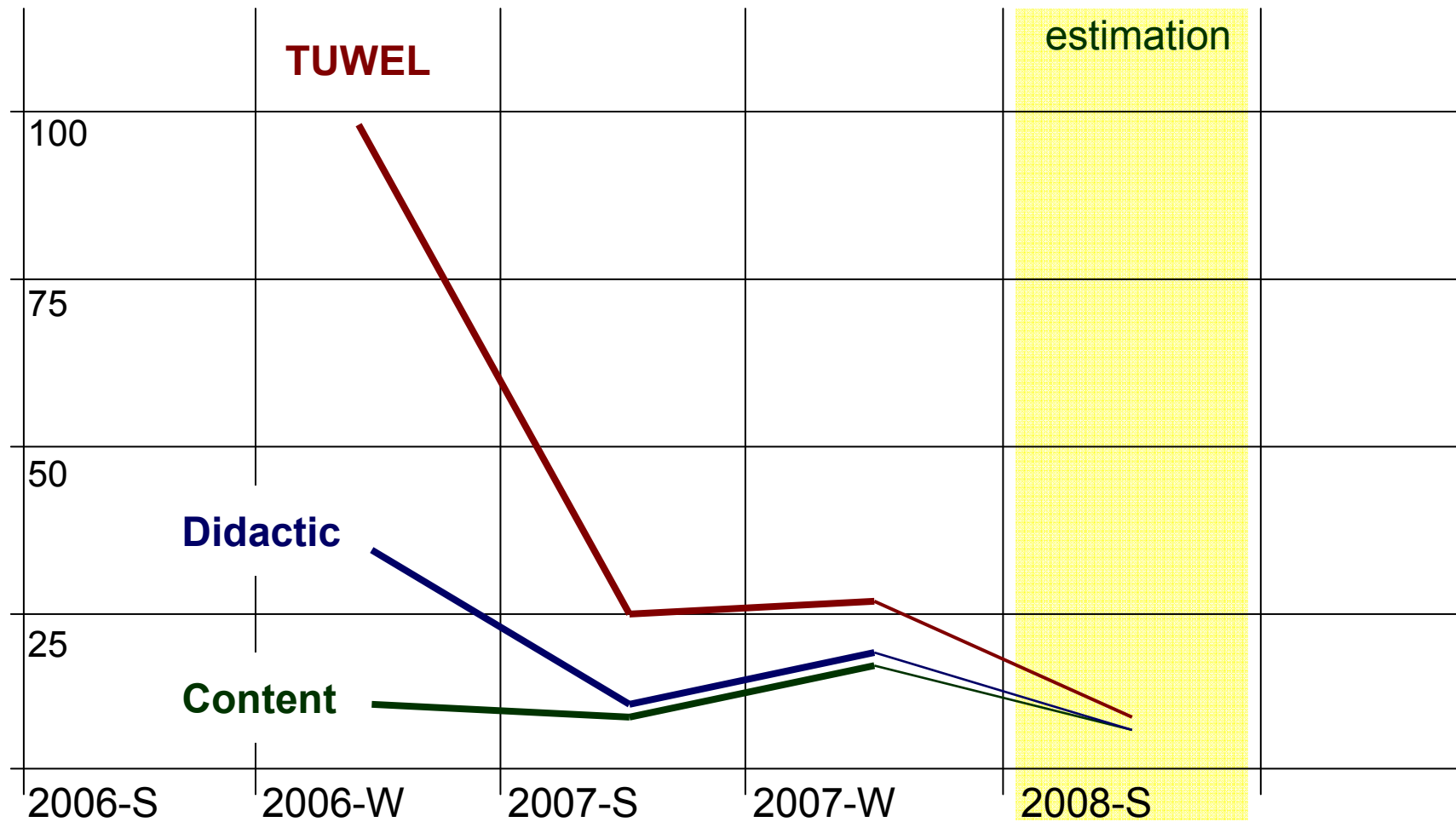
Workshop statistics



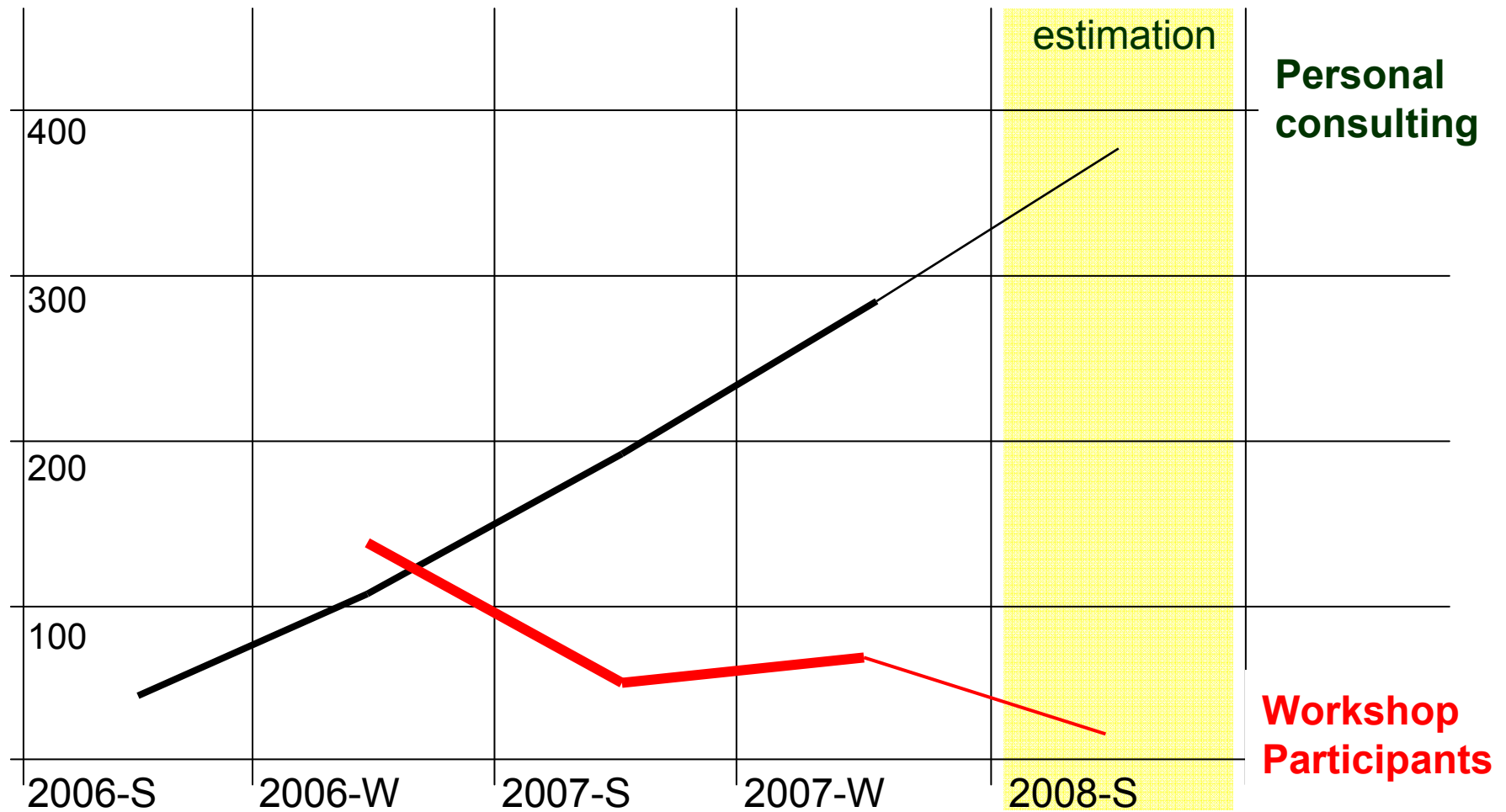
TUWEL statistics vs. workshops



Workshop-Participants: Details



Workshop participants vs. consulting



Summary: Experiences

- Helpdesk and personal consultation are more frequented over the time
- Workshops and information events (E-Learning Impulses / E-Learning Days) are less frequented now than two years ago

Summary: Hypotheses

- Teachers (= customers) want and need answers and solutions **HERE & NOW**
- Teaching is a completely private sphere:
Tooth Brush Syndrom: Teachers would rather share their tooth brush than information about their courses!
- The majority of teachers wants to find out by themselves, how „E-Learning“ works
- Early adopters are different from average teachers

Digression: Early adopters

Are

- predominantly very engaged in the personal development of their students (an assumption)
- performing high quality teaching – with or without „E-Learning“ (an experience)
- often accepting or even asking for professional help (e.g. from support centers)
- Mostly conscious of their problems with teaching

Digression: average teachers

Are

- predominantly interested in their own personal development / academic career (an assumption)
- seldomly accepting or asking for professional advice and support (see the tooth-brush syndrom)
- less conscious of their own and their students' problems with teaching / courses

Summary: Conclusions

- Our formal support offers (information events, workshops) do not exactly meet the real needs of all target groups
- We will have to restructure our support offers according to the needs of our target groups
- That means to switch from the interests of early adopters to the needs of average teachers

Summary: Resulting agenda

- Analyze the
 - really existing teaching activities (beyond using TUWEL)
 - and individual needs and interests – particularly of average teachers (instead of early adopters)
- Intensify communication with teachers, students, and managers on an informal level

Topic 4

Analysis of Activities and Needs

Analysis of activities and needs

Research Questions (I)

- Who practices technology enhanced teaching
 - how many teachers,
 - at which faculties and institutes,
 - on which hierarchical level?
- Who would like to practice TET – but feels or is handicapped – and by what?
- What are teachers actually doing when technology enhanced teaching?

Analysis of activities and needs

Research Questions (II)

- Where are teachers satisfied with their results vs. what would they like to improve?
- Where are students satisfied with courses vs. what do they want to be improved?
- Which kind of support do teachers (and students) factually expect from a support center like the ELC

Analysis of activities and needs

Methods

- Informal talks with teachers and students
- Formal interviews (semistructured) with teachers and students
- E-mail survey (open questions)
- Planning for the future (optional)
- Online survey (representative)

Analysis of activities and needs

First Results (Produced by an e-mail survey among appr. 1000 students with open questions)

- Some teachers have good TEL-concepts, but lack technical knowledge and skills to realize them effectively.
- Many of them learn how to teach only by trial and error – they do not ask for support.
- Little input (support) could result in valuable improvements

Analysis of activities and needs

Open questions

- What are the reasons for this situation (compare the assumptions and hypotheses mentioned before)
- How could this dissatisfactory situation be changed?

Topic 5

Information and Mobilization

Information & mobilization

Urgent agenda

- Talks on an informal individual level
- Communication on a formal level
 - Individual (see research activities)
 - Institutional: university management
individual faculties

Information & mobilization

- **Information events**

- E-Learning Impulse (every two months)
- E-Learning Day (once a year)

- **and workshops**

will only be successful on the basis of successful informal communication and confidence building (an other assumption)

Summary

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 - Or on level of support center: individual communication – we have to learn more about our target groups

Thank you for your attention

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