



WIRTSCHAFTS
UNIVERSITÄT
WIEN VIENNA
UNIVERSITY OF
ECONOMICS
AND BUSINESS



Rethinking E-Learning: Continuous Improvement through Technology- Enhanced Learning

Prof. Dr. Gustaf Neumann, WU
Dr. Oliver Vettori, WU

E-Learning: too much emphasis on the „E“?



**“My course lacks interactivity and it has no point.
I assumed the software would take care of that!”**

2002: E-Learning as a Necessity

■ Background

- 2002: Free access to public Universities in Austria
- Fixed Budget, Fixed Resources
- Number of freshmen increased from 2001 to 2002 from 3.000 to 4.000
- University
 - completely overcrowded,
 - renting cinema centers,
 - hiring security personnel to limit access to Audi.Max.
 - Applied in despair for a extra public grant from Ministry



Technology as an Enabler for Rethinking Education

- **Goals in 2002:**

- Streamline education in the first study year to be able to deal with 1000+ freshmen/course
- Move potential dropouts to the first year
- Improve efficiency of learners AND teachers
- Create standardized modules that can be thought in a variable number of parallel courses
- Develop concepts for accelerating study progress supported by the E-Learning platform (0th semester, half-semester)

BUT NOT: distance education

- **Main idea:**

- **Learn@WU as a content project of the entire university**



10 Years later: Learn@WU as Integral Part of Learning Infrastructure

- More than 120.000 learning resources have been developed since 2002
- More than 25.000 users are currently registered
- More than 400.000 forum contributions have been written since 2002
- Students solve up to 600.000 interactive exercises per day online
- Learn@WU regularly ranks as the best-assessed university service and most trusted information channel
- More than 500.000 class-room exams have been prepared/corrected via Learn@WU (via mark-reader)

"How should we learn without Learn@WU ?"
(anonymous student)

"Without Learn@WU, the operations of our university would not be possible" (Christoph Badelt, Rector of WU)

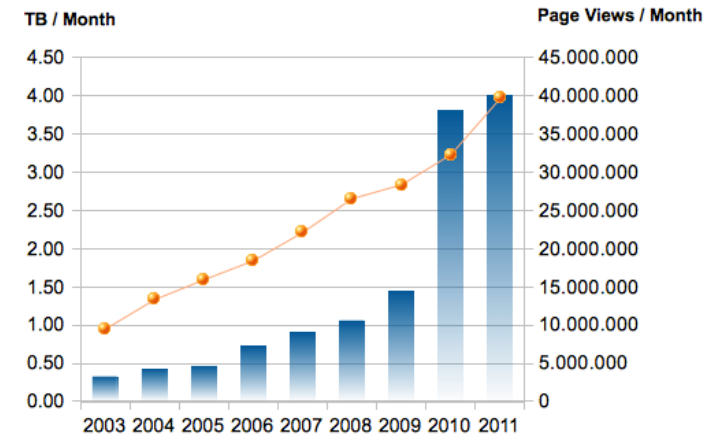


Current Technical Key Figures of Learn@WU

Learn@WU is one of the world's **mostly intensively used** E-learning platforms in higher education:

- Up to 15 Mio hits and 3,3 Mio page impressions per day from registered users
- Up to 2.500 concurrent users, over 250 views/sec
- Up to 235 GB/day of content delivered
- Average response time on views less than 0.05 sec

Current annual growth rate: ~15%



Sample Day: Active Learners (5 Minutes Interaction Span)

Midnight:

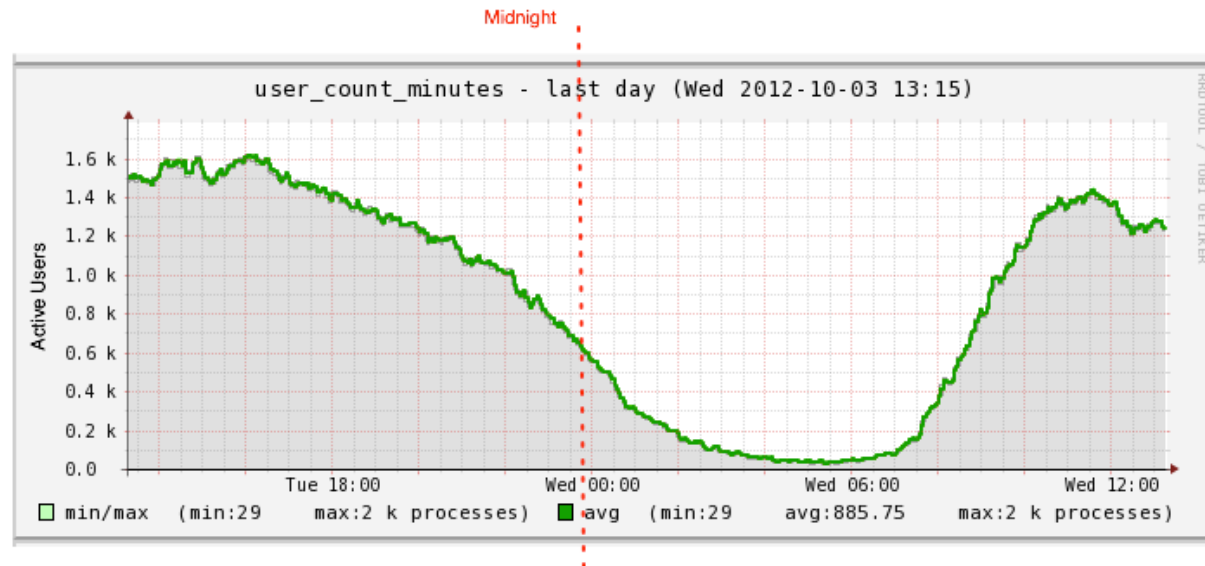
- 600 active users
- larger than Audi.Max

“Active”

- Click within 5 minutes
- Just authenticated users

Max Values:

- Up to 2.500 concurrent active users
- Up to 15.000 users log in per day



Success Factors

- **No single silver bullet**
- **Vision: Use Technology Enhanced Learning to continuously rethink and improve university's knowledge transfer processes**

WILL A SILVER BULLET WORK?



- **People**
- **Organization**
- **Content**
- **Processes**
- **Research**
- **Technology**



Technology as *enabler*
and a *catalyst*

Success Factors: Technology and Research

■ Highly scaleable Platform

- Fully based on **Open Source** software components
- OpenACS (Community Framework),
- DotLRN (Course Management + Collaboration tools)
- PostgreSQL, NaviServer, Next Scripting

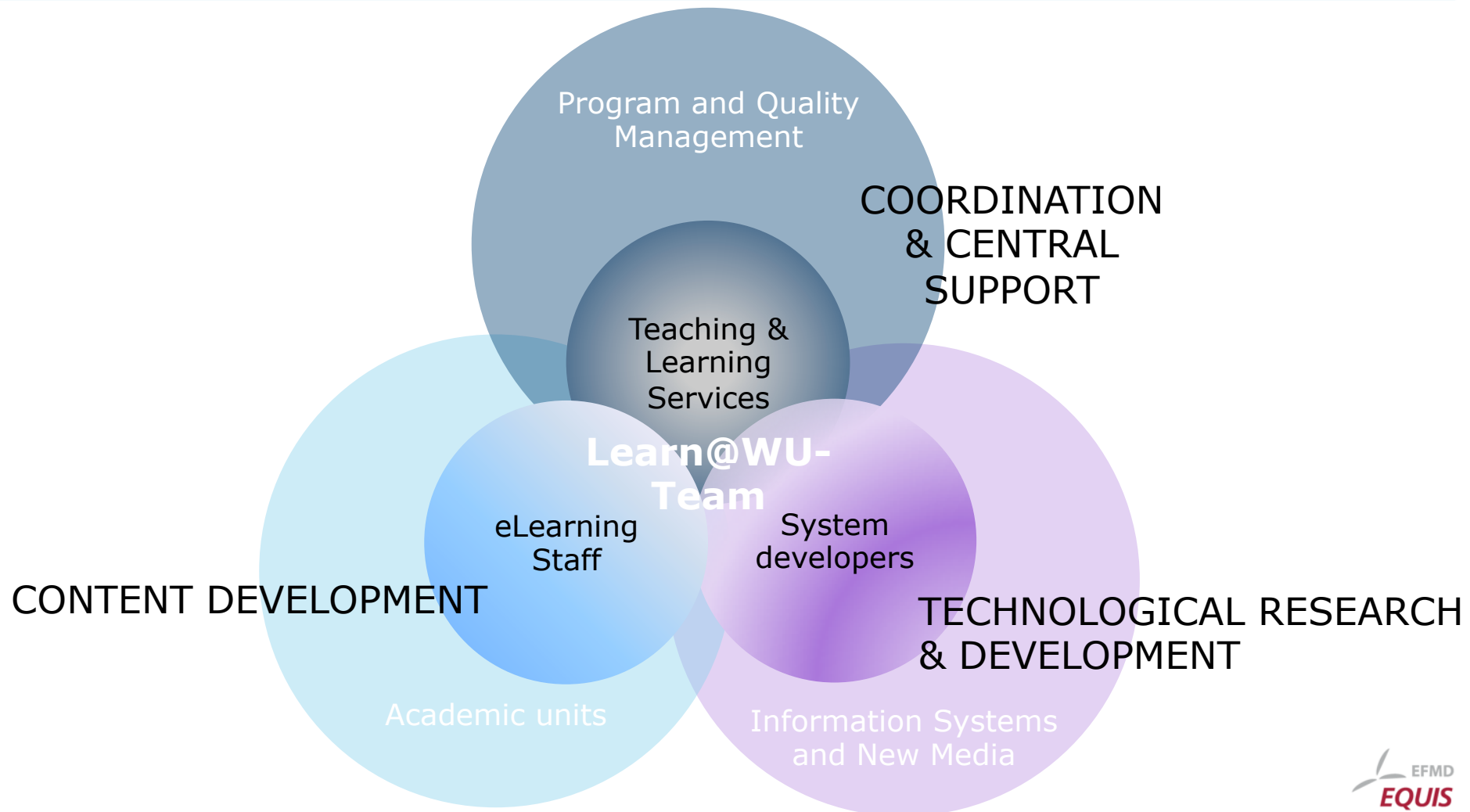


■ Integration with e-learning Research

- Technical Lead at the *Institute of Information Systems and New Media*
- Actively participating in **10 EU Research Projects** (e.g. Network of Excellence)
- Technology Transfer through **University Spin-off**
Knowledge Markets (K12)

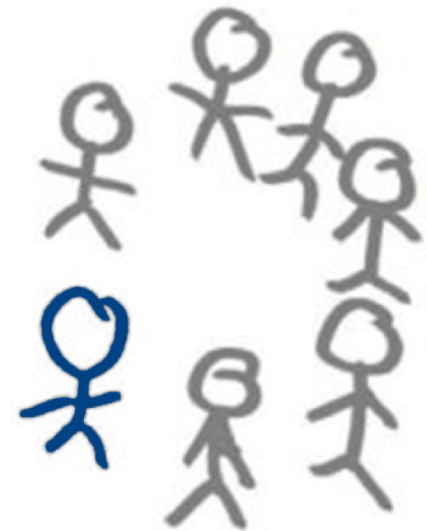


Networked Organization

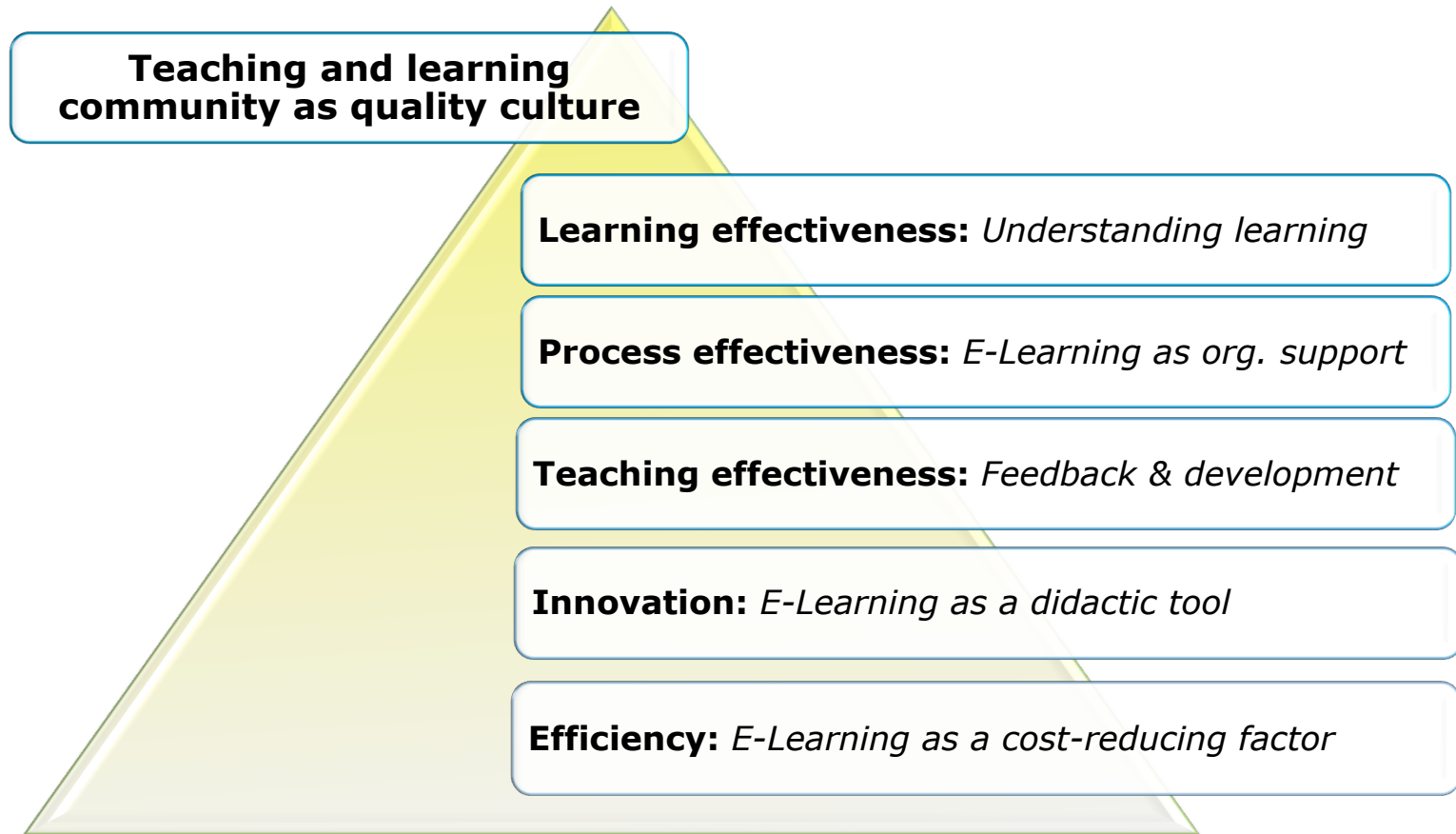


Success Factors: Content and Development

- **E-Learning integrated with curriculum**
 - Study programs in first year built around E-Learning
 - E-Learning more than an optional add-on
- **Institutional Development at the University**
 - Annual budgets for content improvement
 - Various kinds of E-assistants/e-tutors
 - Integrated with staff-development (e.g. trainee-programs)
 - Integrated with Campus IT System
- **Actor-Centred Platform-Design**
 - University as a „community of communities“
 - Communities composed of
 - Groups of students, classes, courses, programs, alumni, ...
 - Members and administrators (decentralized management)
 - Shared Design and Responsibility
 - High degree of flexibility within a shared framework



E-Learning and Quality @ WU: a Multilevel Relationship



Supporting Program Management

The image shows a screenshot of the Learn@WU MyLearn interface. The top navigation bar includes 'Learn@WU', 'MyLearn' (highlighted with a red box), and 'Lehrveranstaltungen'. Below this, the 'Mitgliedschaften' (Memberships) section is visible, featuring a dropdown menu for 'LMS-Quicklinks' and a list of links including 'Lehrmaterialsammlung', 'Lehrveranstaltung', 'Problematisches Lernen', 'Akademische Einheit', 'Club', and 'Programme'. The 'Programme' link is highlighted with a red box. A blue arrow points from this box to a second screenshot of the 'Program-Cockpit' page, where the 'Reports' link is highlighted with a red box.

Learn@WU Future Learning Now!

Learn@WU MyLearn Lehrveranstaltungen

Learn@WU : MyLearn

931 8169

Home

- > Mein Kalender
- > Meine Dateien

Meine Anwendungen

- > Prüfungseinsicht
- > Abschlussarbeiten

Meine Einstellungen

- > Kennung
- > Layout der Portalseite
- > Sprache
- > Benachrichtigungsoptionen
- > Nutzungsbedingungen

Mitgliedschaften

LMS-Quicklinks Bitte wählen...

(i) Die Inhalte von Lehrmaterialsammlungen sind in der Regel frei zugänglich und auch ohne Anmeldung zugänglich. [Informationen.](#)

[Alles aufklappen](#) | [Alles zuklappen](#)

- Lehrmaterialsammlung
- Lehrveranstaltung
- Problematisches Lernen
- Akademische Einheit
- Club
- Programme**
 - Master # # # # # # # #

Mitgliedschaften verwalten Admin

Learn@WU Future Learning Now!

Learn@WU MyLearn Lehrveranstaltung

Learn@WU : Programme : Master

909 8480

Home

Info

- Kalender

Program-Cockpit

- > Lehrveranstaltungen
- > Programmverantwortliche
- > Planpunkte
- > Lernergebnisse
- Reports**

Materialien

- Dateiablage

Kommunikation

- E-Mail

Administration

Master

Programmveran

- > Zeichnung
- > Zeichnung
- > Programm

Lehrang

- > Übersicht
- > Übersicht
- > Übersicht
- > Übersicht

Supporting Program Development

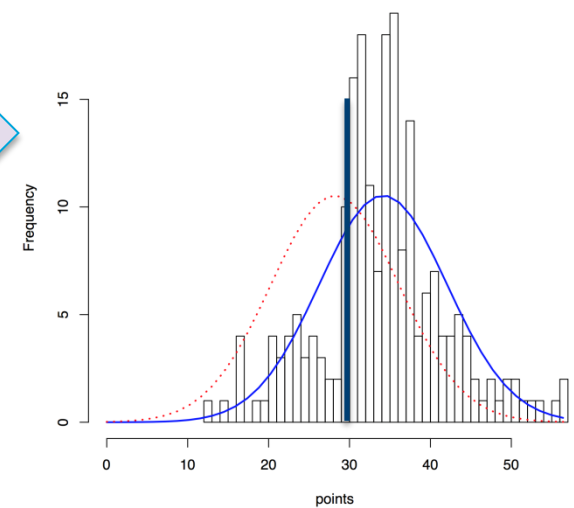
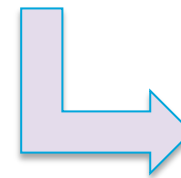
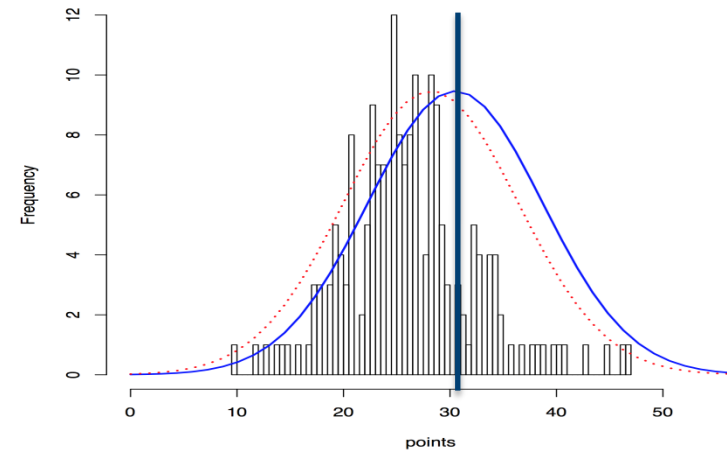
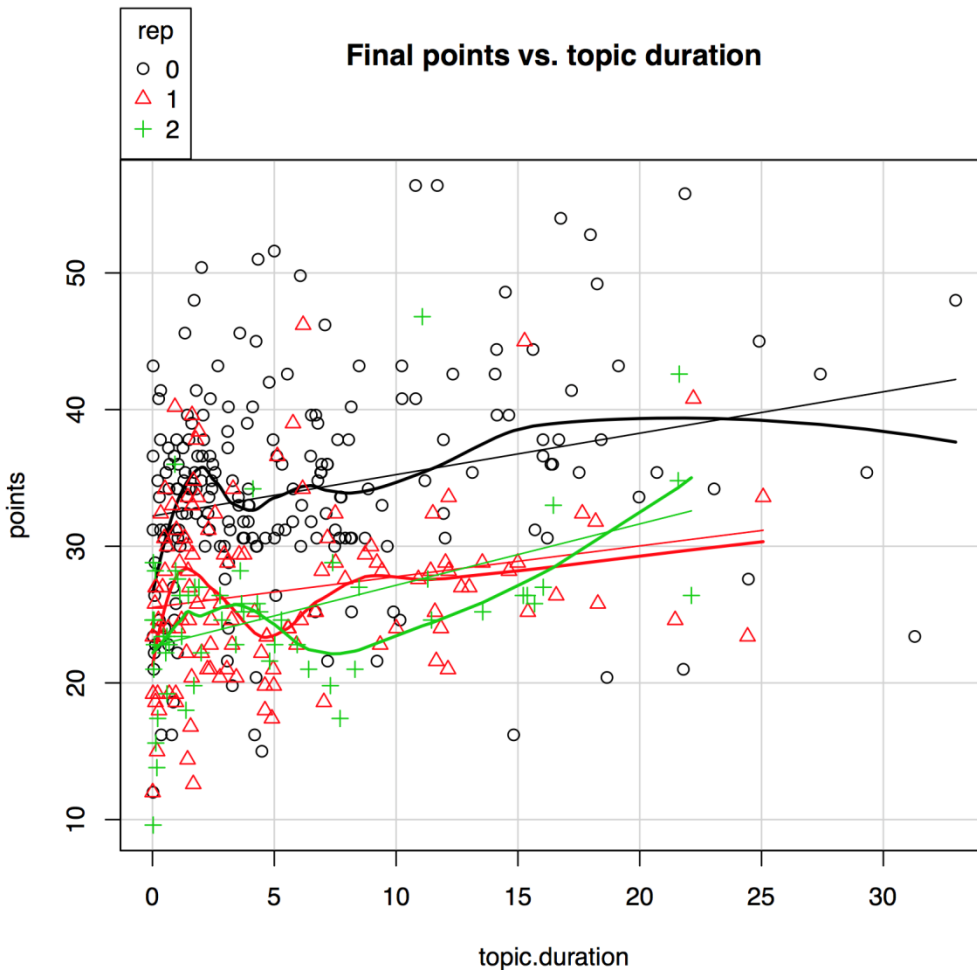
Every Course is embedded in a program and every teaching and learning activity is part of a more complex process.

**Program
Cockpit**

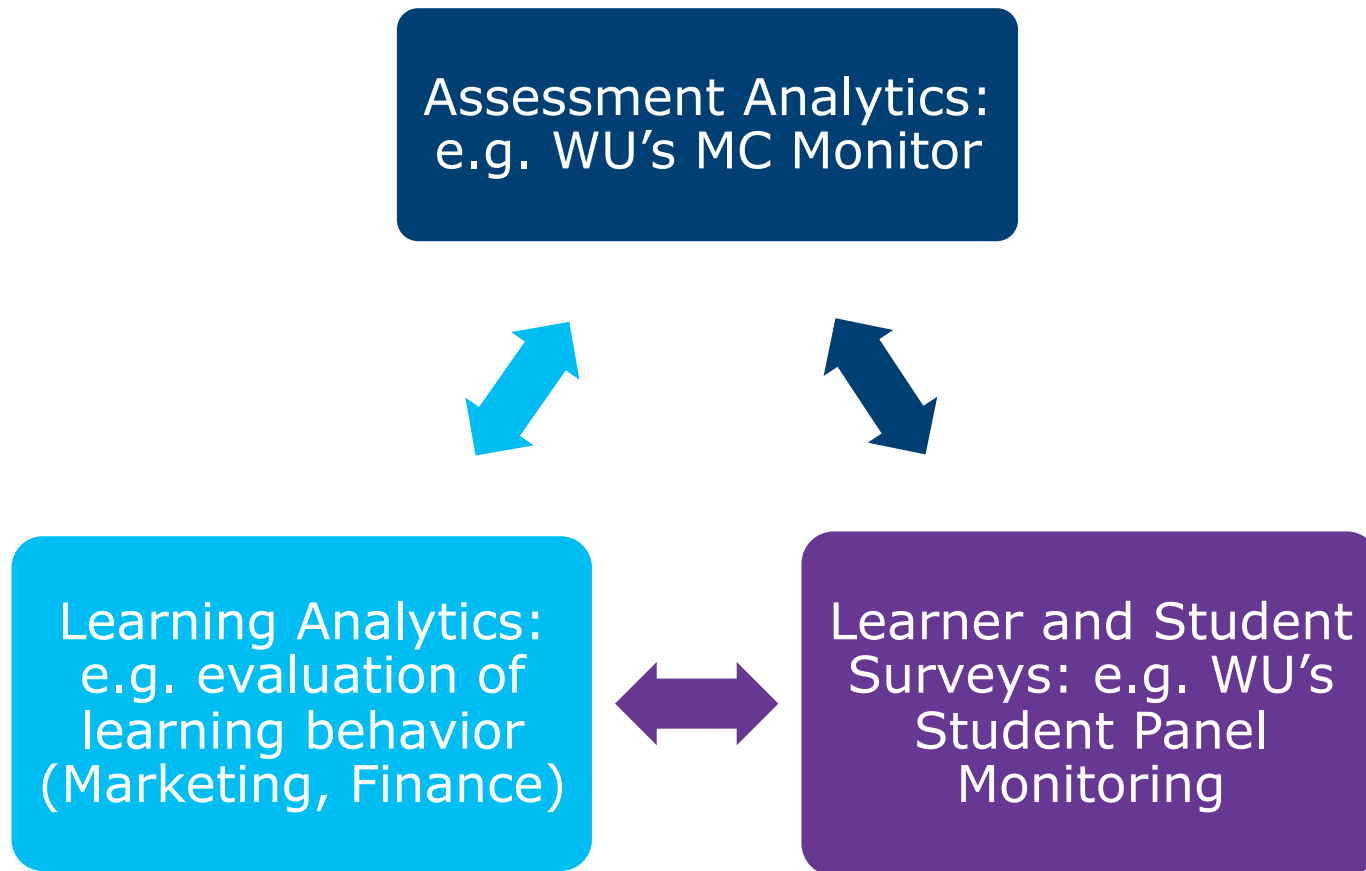
**Learning
Activity
Management**

**Electronic
thesis
process**

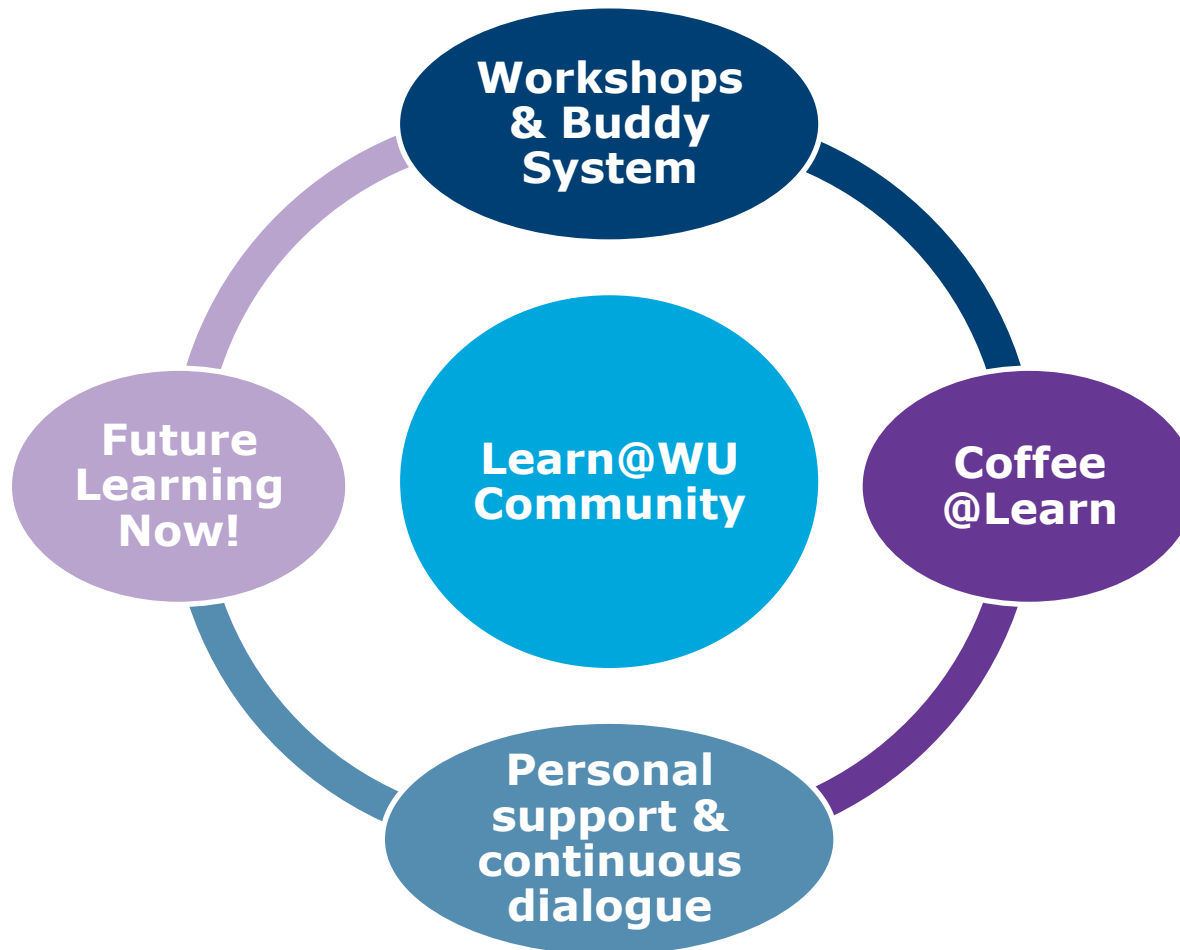
Learning Analytics



Supporting Learning Effectiveness: Assessment Improvement

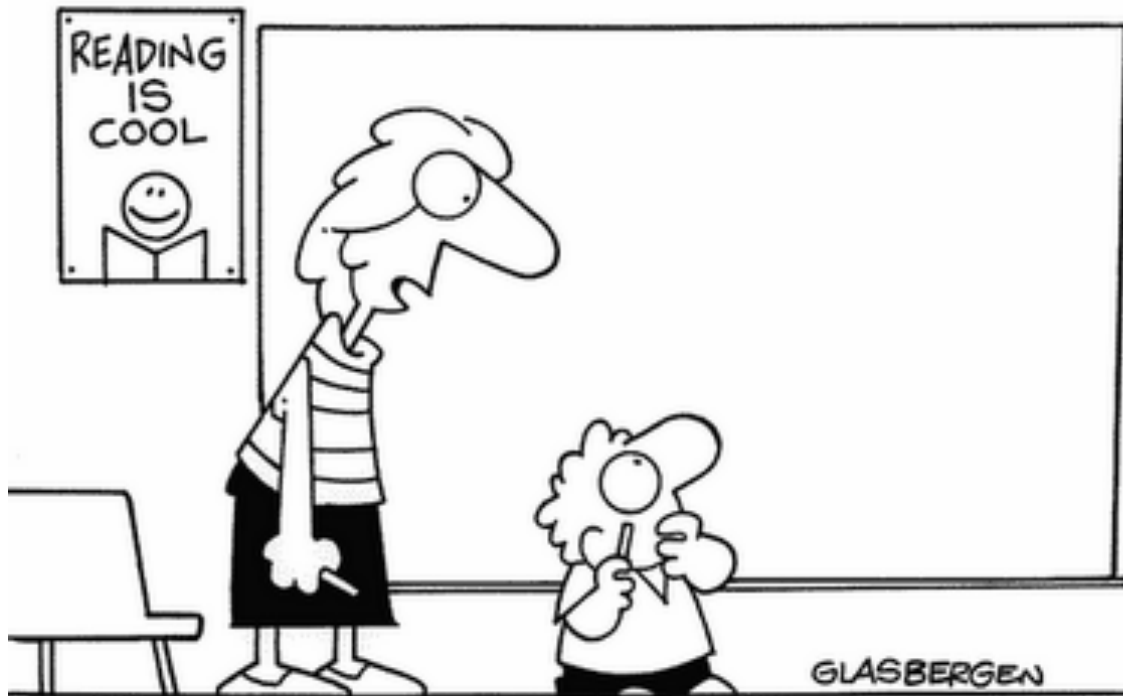


Towards a Shared Quality Culture



E-Learning: The „e“ Changes Learning Nevertheless

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“There aren’t any icons to click. It’s a chalk board.”