Project QUAIME

Computer based or traditional CME ?

A comparison of knowledge gain and learning efficiency

Peter A. Henning

Institute for Computers in Education I.C.E
Hochschule Karlsruhe

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eLearning in Continuous Education

eLearning = de-facto standard for continuous education in the corporate regime

- **SAP University 2003:**
  - eLearning saves 25 –35 % of time resources
  - eLearning saves 30 – 45 % of financial resources
- **Robert Bosch GmbH 2002**: Introduction of a new management software tool . Employee training by WBT (Web Based Training) or traditional seminar.
  - Subjective evaluation of training results:
    - Traditional learners felt themselves to be better prepared for using the new system than eLearner
  - Objective evaluation of training results through automated monitoring of a test system.
    - Average fault quote 61% for participants of traditional courses
    - Average fault quote 24% for eLearners

Can one use eLearning in continuous *medical* education with similar gains in efficiency and/or quality ???

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Project QUAIME - Description

- Target groups: **general physicians** and **neurologists**
- eLearning platform and didactical course quality assessed separately to be state of the art

- ***Quality:*** Divide each group at random into eLearners and printLearners
  - Test the entry knowledge in each group with questions very similar to the final CME questions, but orthogonal to them
  - Provide each group with at least two learning modules
    - As online eLearning module for eLearners
    - As printed material for printLearners
  - Test the final knowledge by asking CME questions
  - Results – individual results, but anonymously so:
    - Individual knowledge gain as fraction of the maximal result
    - Fraction of participants that have not passed the CME test

- ***Efficiency:*** Ask participants for individual assessment of time savings and motivation.

- Project partner: **QUAIME AG,** September 1, 2007 – June 30, 2008. See poster.

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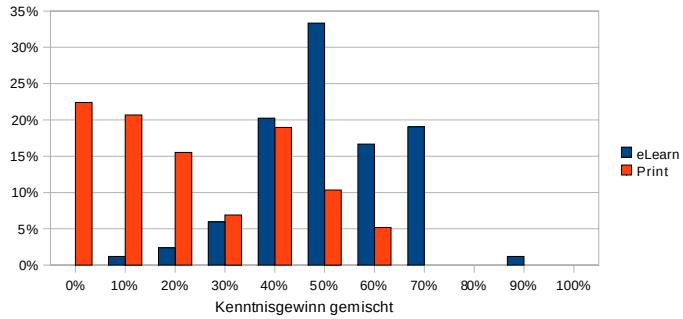
Quality in CME

Ensure significance for each target group and module separately
Mixing of results to obtain overall estimates



25 % average individual knowledge gain for printLearners
50% average individual knowledge gain for eLearners

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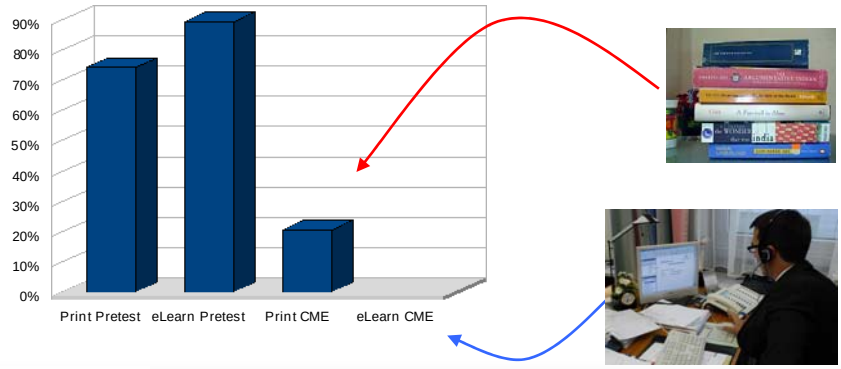
Failure quote

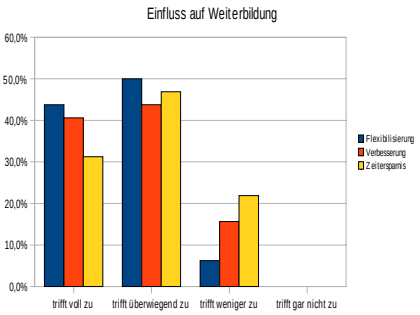
- High fraction of entry test failures: 70% - 85% of participants
- ***Learning*** reduces test failures
  - From 70 to 20% in case of printed material
  - From 85 to 0% in case of electronic Learning module



Efficiency in eCME

Questions asked:

- eLearning gives me more flexibility in CME => 93.8% positive
- eLearning leads to an improvemenmt of CME => 84.4% positive
- eLearning – the internet based educational format of QUAIME – has saved me time => 78.1%
- eLearning was fun => 100% positive
- eLearning has made learning easier => 78.1% positive



- Computer usage to gather new information => 68.7% often or very often

Summary

- eLearning results in higher individual knowledge gain than the study of printed material
- eLearning reduces the failure quote for CME tests to ***ZERO*** as compared to 20% when using printed material
  - higher average quality – objective measurement
- eLearning results in higher flexibility of the educational process – even if technological obstacles have to be taken into account
- eLearning results in time savings for the educational process
  - higher efficiency – subjective assessment

Yes, eLearning in continuous ***medical*** education produces similar gains in efficiency and/or quality as in other areas of adult learning.

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