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FAKULTÄT I
ARBEITSBEREICH WEITERBILDUNG UND BILDUNGSMANAGEMENT (we.b)

Relevance and rigour – towards evidence-based practice in education

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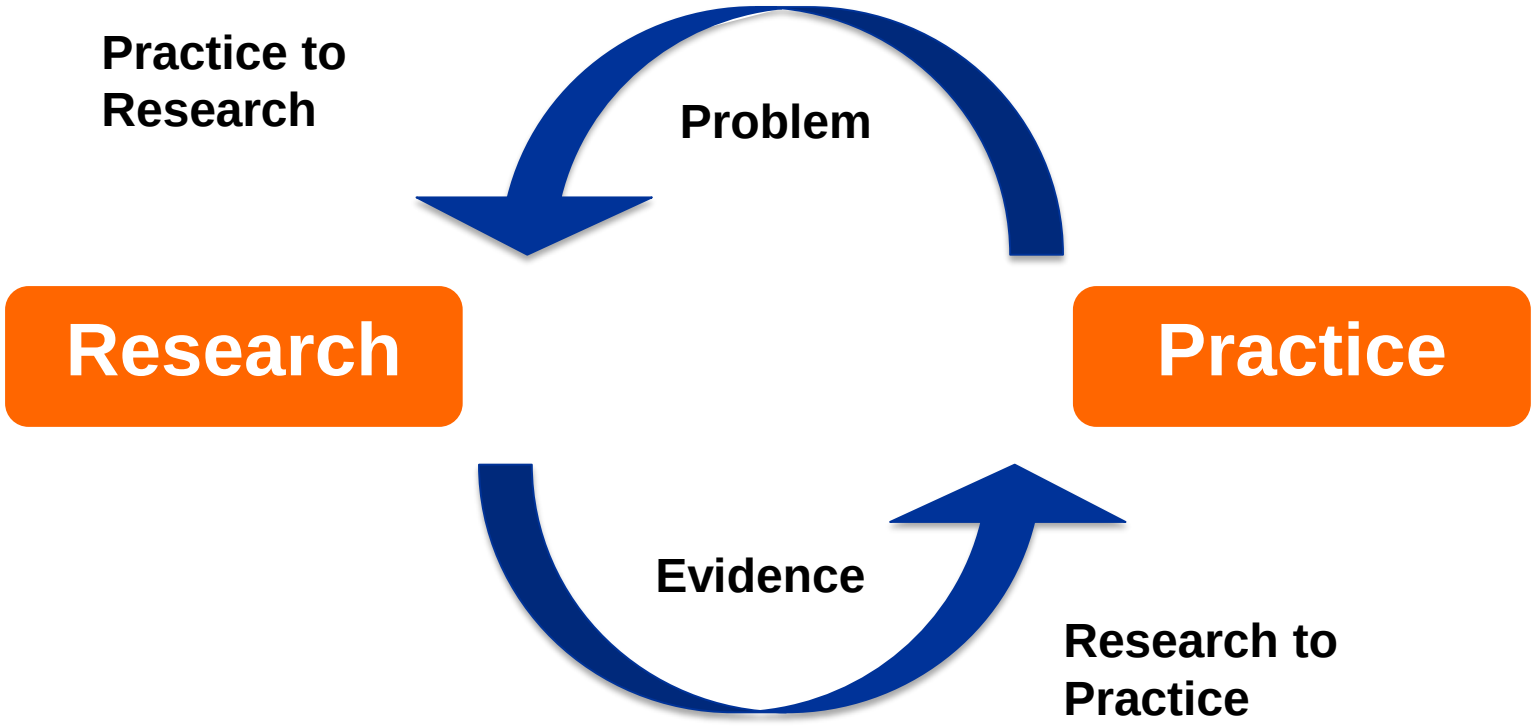
Topics

- What constitutes rigorous scientific research?
- What is relevance of educational research?
- How to provide objective evidence to inform practice?

Why research is important – Mobilizing Knowledge



Why research is important…

Can you name one important research result that has affected your online teaching practice?

One example…

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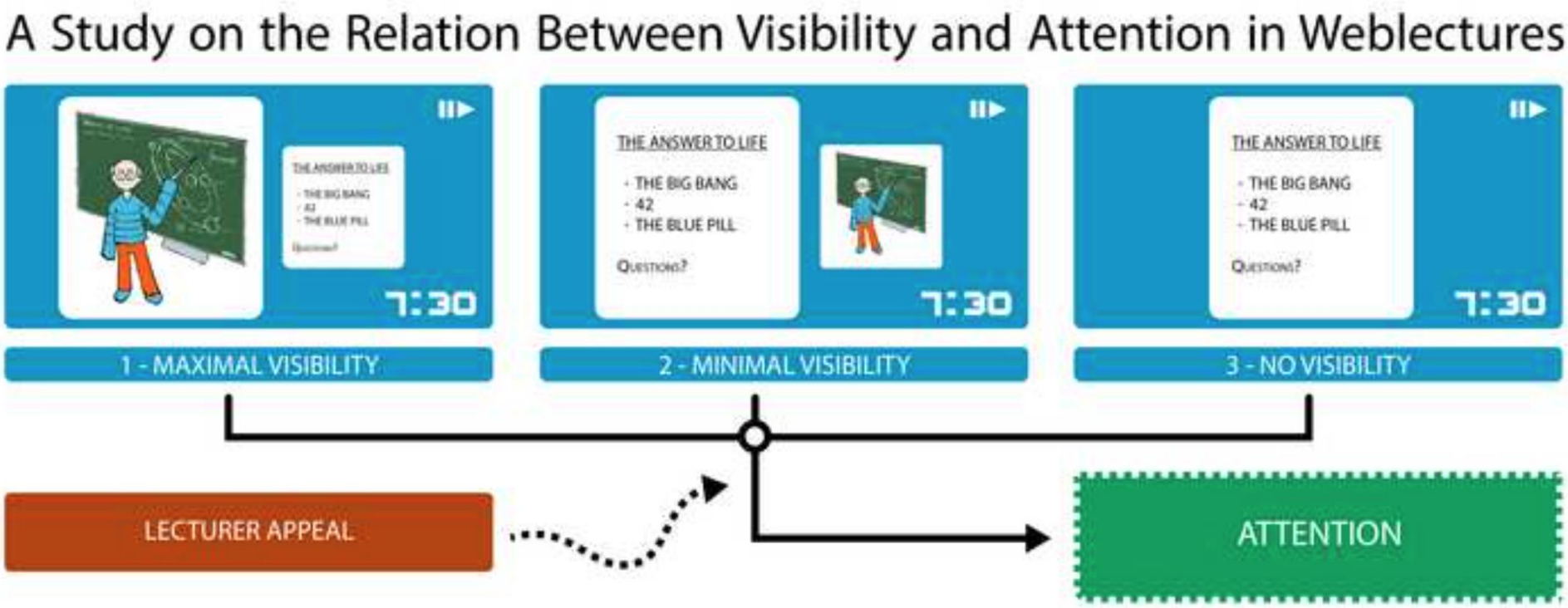
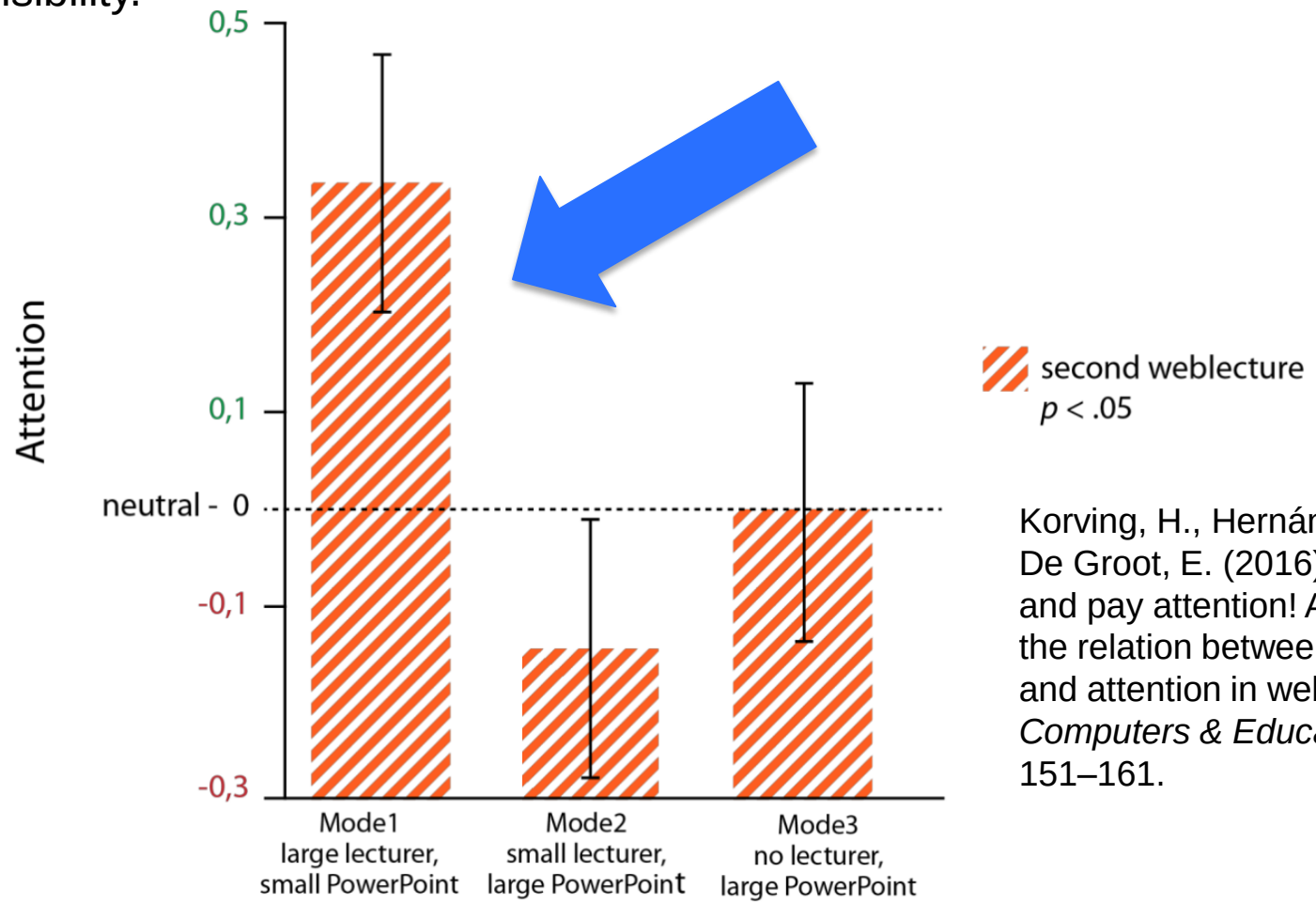


Korving, Hernández & De Groot (2016)

- Three presentation modes
  - Large lecturer, small PPT (max. visibility)
  - Small lecturer, large PPT (min. visibility)
  - No lecturer, large PPT (no visibility)

- Participants reported most attention for weblectures (>15 min) with a large lecturer image, $F(2,75)=3.320$, $p=.042$, $\eta^2=.081$
- However, only 8 % of the variance of attention is explained by lecturer visibility.



Korving, H., Hernández, M., & De Groot, E. (2016). Look at me and pay attention! A study on the relation between visibility and attention in weblectures. *Computers & Education*, *94*, 151–161.

Evidence-based practice…

Open Learning

- ODL = Open and Distance Learning
- Open learning and distance learning are often used as synonyms, but they are different!
- Moore & Kearsley (1996):
- *... the concept of open learning is different from distance education since it embraces the idea of students being able to take courses or programs without prerequisites and being able to choose to study any subject they wish. Indeed most of the 'Open Universities' were founded upon this basic premise. While some distance education programs may involve open learning, most do not (p. 2).*
- FernUniversität in Hagen is NOT an Open University

Moore, M. G., & Kearsley, G. (1996). Distance education: A systems view. Wadsworth: Belmont

15.10.2015 Entwicklung der Bildungstechnologie 12

AM2d: Bildungsprozesse gestalten, organisieren und managen
Mikro-Ebene: Entwicklung von Lehr-/Lernprozessen mit digitalen Medien

Prof. Dr. Olaf Zawacki-Richter
Universität Oldenburg

Entwicklung der Bildungstechnologie

What constitutes rigorous scientific research?

- Pose significant questions that can be investigated empirically
- Link research to relevant theory
- Use methods that permit direct investigation of the question
- Provide coherent, explicit chain of reasoning
- Replicate and generalise across studies
- Disclose research to encourage professional scrutiny and critique

Shavelson, R. J. (2010). Issues in conducting rigorous and relevant research in education. In The Research Council of Norway (Ed.), Rigour and Relevance in Educational Research (pp. 7–13). St. Hanshaugen, Norway: The Research Council of Norway.

What is relevance of educational research?

- Does educational research need to be relevant?
- If yes, what constitutes relevant research?
- And what is relevant?
- Ground-breaking research is a consequence of two interacting factors:
  - the quest for fundamental understanding (theory building)
  - *and* consideration of use (practice)
- Relevance falls at the intersection of theory building and application in practice

Shavelson, R. J. (2010). Issues in conducting rigorous and relevant research in education. In The Research Council of Norway (Ed.), Rigour and Relevance in Educational Research (pp. 7–13). St. Hanshaugen, Norway: The Research Council of Norway.

How to provide objective evidence to inform practice?

- Towards evidence-based practice and policy
- “Rather than looking at any study in isolation, we need to look at the body of evidence” (Nordenbo, 2009, p. 22)
  - primary empirical research
  - secondary research
- Meta-research, second-order research, systematic review...
- The aim is to show *systematically* that existing primary research results contain arguments to shape and inform practice and policies.

Nordenbo, S. E. (2010). Evidence and synthesis: a new paradigm in educational research. In The Research Council of Norway (Ed.), *Rigour and relevance in educational research* (pp. 21–27). St. Hanshaugen, Norway: The Research Council of Norway.

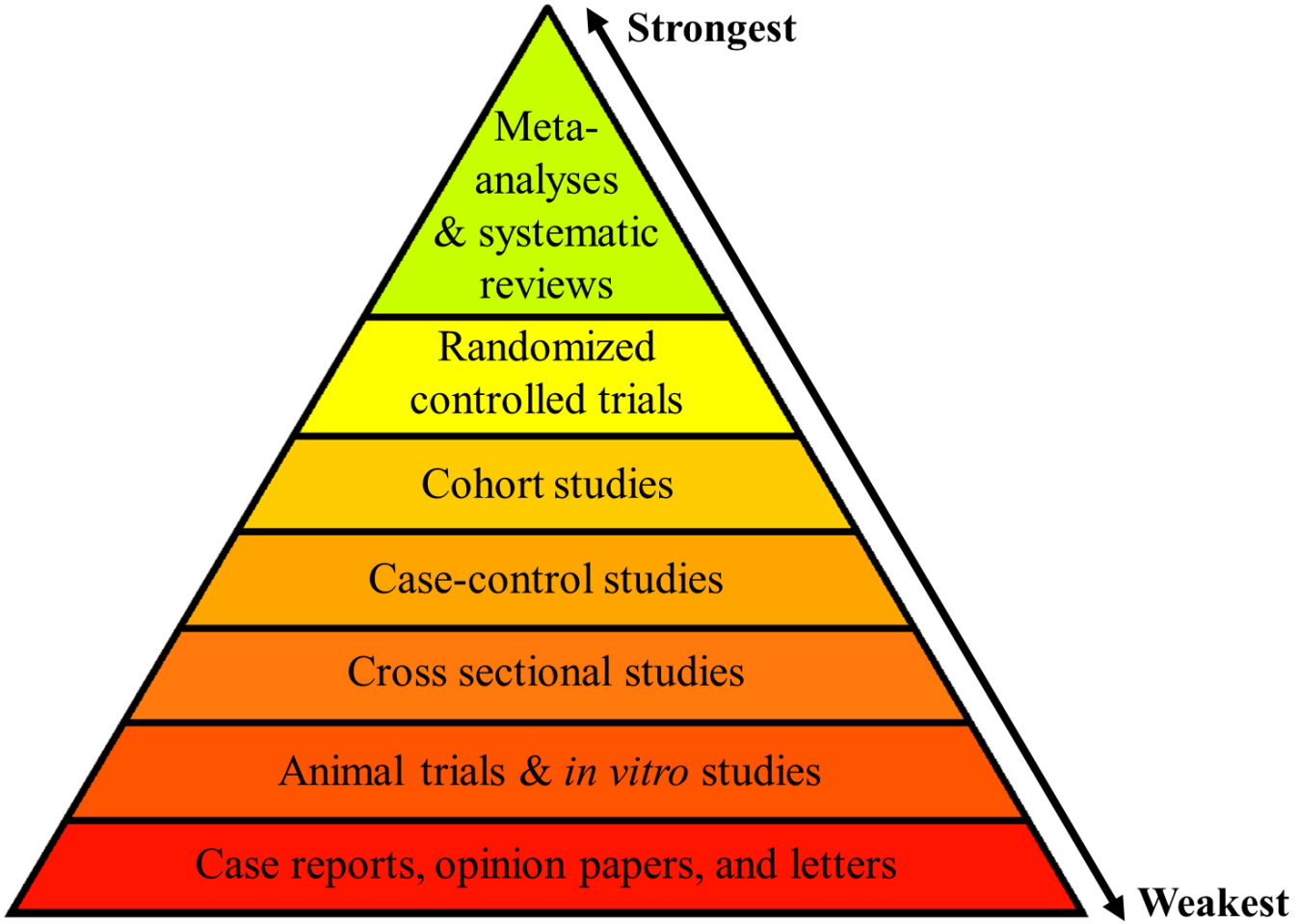
Example: Systematic Review

- Systematic review: “a review of research literature using systematic and explicit, accountable methods" (Gough, Oliver & Thomas, 2012, p. 2)
- Review question: Under which conditions does educational technology support student engagement in higher education?
- Evaluation of documents re: their relevance and quality for the review question
- Synthesis of the evidence that the documents report

Gough, D., Oliver, S., & Thomas, J. (Eds.). (2012). *An introduction to systematic reviews*. London ; Thousand Oaks, Calif: SAGE.

https://www.researchgate.net/project/Facilitating-student-engagement-with-digital-media-in-higher-education-ActiveLeaRn

Hierarchy of Scientific Evidence



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Thanks for your attention!

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