

THE ECOSYSTEM OF EVIDENCE

Navigating the future
of the ecosystem of evidence

Artificial intelligence and digital transformation
in research and healthcare

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How to think critically?

A user-centered design approach to developing a bank of open access educational resources for students preparing for work in societally critical professions

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30th GIMBE 1996-2026 EVIDENCE FOR HEALTH

Background

"Behind the Headlines"- a strategic project in higher education

- Critical thinking about "what works" is essential
- Students struggle to learn, apply (and retain) EBP-skills
- A continuation of an initiative implemented at Faculty of Health for all 2nd grade students (>1600 students per year)- to three faculties with a broader mandate
- Students preparing for work in societally critical professions: teachers, health professionals, social workers, engineers



Contents lists available at ScienceDirect

Joint Bone Spine

journal homepage: www.elsevier.com

Review

Fake news: Why do we believe it?

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Service de rhumatologie, hôpital Saint-Antoine. AP–

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OPEN ACCE

Who Trusts AI for Health Information? A Cross-National Survey on Trust Determinants in Four European Countries

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[e]Department of Public Health, Aarhus University; [f]LIRAES, Université Paris Cité



THE LANCET

This journal Journals Publish Clinical Global health Multimedia Events About

REVIEW · Volume 390, Issue 10092, P415-423, July 22, 2017 Download Full Issue

Progress in evidence-based medicine: a quarter century on

Prof Benjamin Djulbegovic, MD [a,b,c] · Prof Gordon H Guyatt, MD [d]

Affiliations & Notes Article Info Linked Articles (4)

Aims

- In response to these issues, we **developed a suite of openly accessible teaching resources** aimed at improving students' ability to evaluate such claims and to apply evidence when making choices.

(the project also included: broad communication strategies, inter-disciplinary network building and process evaluations)

Methods

- Interdisciplinary project team (methodologists, journalist, librarians and student assistants)
- Advisory group with members from the Faculty of Health, Faculty of Education and International Studies, Faculty of Technology, Art and Design and Faculty of Social Sciences
- User-centered design approach (iterative and flexible design circle with end-users)
- Curricula based on the Informed Health Choices key concepts: prioritized by advisory team + additional topics inspiring the students (informedhealthchoices.org)
- Requirements: digital open access resources relevant for students in higher education

Results

The resulting educational materials comprise:

- Eight complete teaching modules (learning trajectories) (2 in English)
- Ten films, 3 games, 5 interactive problems, 1 podcast, 1 website + and guides for finding summarizing evidence across multiple disciplines

Topics covered:

- designs for evaluation research
- interpretation of precision in results
- systematic reviews
- evidence-based practice
- shared-decision making

Results- I

Stand alone resources: animated films

WHAT IS EVIDENCE-BASED PRACTICE?



Learning outcome: This film provides an introduction to evidence-based practice and describes how healthcare professionals can use this approach to make informed decisions together with the patient.

Target audience: Students in health and social care programs at upper secondary school, as well as students in higher education.

WATCH ON YOUTUBE

CRITICAL THINKING ABOUT SUMMARISED RESEARCH: HOW TO ASSESS THE QUALITY OF SYSTEMATIC REVIEWS



Learning outcome: In this film, you will learn about the quality criteria you should look for when assessing the reliability of evidence summaries on the effects of interventions (systematic reviews).

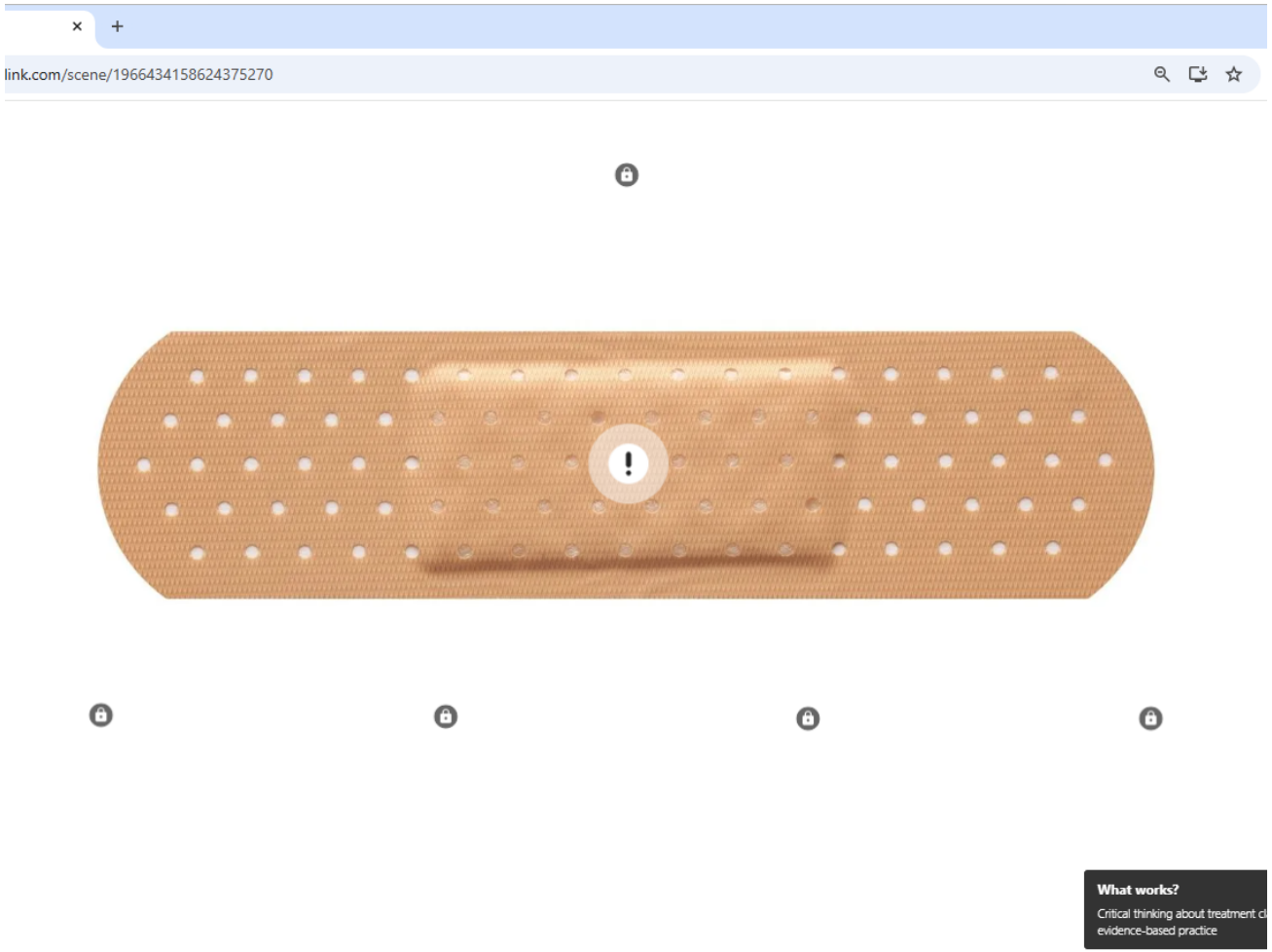
Target audience: The film is based on international guidelines for good practice and is relevant for all students who need to learn how to use summarized research in their studies—from bachelor to Ph.D. level.

WATCH ON YOUTUBE

Results- II

Learning trajectories

"A series of learning activities that address one or more defined learning goals, accompanied by some form of assessment to evaluate the extent to which these goals have been achieved"



Results- III

Guides for finding summarized evidence

By thematic area:

- Education
- Health
- Social work
- Engineering and technology

- Design process leading up to a methodological approach and presentation on a 1-page format

International Database of Education Systematic Reviews (IDESR)

Publisher: Department of Education, University of Oxford	**Link:** https://idesr.org	**Description** • **Systematic reviews,** preliminary on language teaching • Free
Question	What effects does **'flipped learning'** have on **speaking skills**?	
Search element / PICO	**Intervention (I):** flipped learning	**Outcome (O):** speaking skills
Search	• Place search elements on the same line and put parentheses around each element • Put phrases in quotes ("flipped classroom") and truncate with an asterisk * to search for multiple endings of a word (speak* will search for speak, but also speaking) • Search for any synonyms/word variants for each search item • Combine synonyms within the same search element with OR, and different search elements with AND **Search (I) AND (O):** ("flipped learning" OR "flipped classroom") AND ("speaking skill" OR "speaking skills" OR speak*)	
A possible answer	Santhanasamy, C., & Yunus, M. M. (2022). A systematic review of flipped learning approach in improving speaking skills. *European Journal of Educational Research, 11*(1), 127-139. https://doi.org/10.12973/eu-jer.11.1.127	

Limits

Digital learning trajectories are limited in that they do not necessarily include the personal interaction one might find in a classroom

- However- allow for flexibility and use of evidence-based teaching methods

This phase of the project did not include effect evaluations of learning outcomes (compared to teaching-as-usual)

- Qualitative feedback suggest that experts and students judge this resource to be relevant and attractive, and the functionality to be user friendly and engaging

Conclusions

These resources represent a unique contribution to teaching critical thinking and evidence-based practice nationally and internationally to students in disciplines such as education, health, social work and applied technology.

References

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Oxman M, Habib L, Jamtvedt G, et al. Using claims in the media to teach essential concepts for evidence-based healthcare. BMJ Evidence-Based Medicine 2021;26:234-236.

Elvsaas I, Myrhaug H, Garnweidner-Holme L, Kasper J, Dahlgren A, Molin M. Experiences Using Media Health Claims to Teach Evidence-Based Practice to Healthcare Students: A Mixed Methods Study [version 3; peer review: 3 approved, 1 approved with reservations]. F1000Research. 2025;13(224)

Oxman, Andrew David; Chalmers, Iain; Dahlgren, Astrid (2023). Key concepts for informed health choices: Where’s the evidence?. F1000. Vol. 11. https://doi.org/10.12688/f1000research.123051.2