

Document Preview

Technology Enhanced Learning: Best Practices and Data Sharing in Higher Education

Select Case Studies

The best practices document on the GLC website includes selected case studies illustrating how research is being applied to TEL. Below are a few examples. The Council encourages you to comment on the document and to submit your own case study.

iAMSTEM: A comparative study of active instruction for STEM Courses:

Students using active learning tools were 90% more likely to pass a class.

Accelerating learning in Carnegie Mellon's OLI-Statistics course:

Better learning in half the time using research based instructional technologies.

Kaplan: Training instructional designers:

"The Kaplan Way Checklist" as a tool for learning-science informed instructional design

The NUS Learning Innovation Fund:

Seed funding from the highest offices to spark and support innovation in teaching and learning at the National University of Singapore.

Early Warning Systems for Attrition:

Using technology to measure student engagement and identify students likely to drop out of degree programs.

Wheel Spinning:

Strategies to resolve the problem of students using TEL systems who persistently fail to achieve mastery.

Gaming the System:

Using adaptive software to improve persistence by identifying unmotivated students and intervening with alternative approaches.

Advocating for Faculty Innovation:

Showing how departmental and college leadership have critical roles in coordinating and advocating for evidence-based TEL.



Submit a Case Study form with fields for Name, Email, Title, Institution, and Comments.

Have a relevant project? Submit a brief description on the Council website (www.globallearningcouncil.org) to be considered for a case study.

Site Contributors

This best practices document was developed by GLC members and a working group of leaders in academia, industry and the non-profit communities. For a complete list, see the full site at www.globallearningcouncil.org.

The Global Learning Council

is a virtual organization committed to advancing the use of science and technology to improve outcomes for learners around the world. The Council convenes leaders from the global academic, industry and for-profit sectors to develop standards, ethics, and protocols that promote collaboration and scale-up best practices for deploying technology-enhanced learning. This is a preview of a best practices document available on the Council's website, www.globallearningcouncil.org.

Bringing Evidence-Based TEL to a Wider World

The Need for Change

It's well established that applying learning science to the design of technology-enhanced learning (TEL) consistently leads to improved learning outcomes. Yet many twenty-first-century students, using the most modern of learning technologies, receive instruction no more informed by learning research than it would have been in the 1800s. This is something the Council has committed to change—by helping universities around the world discover and apply best practices for applying learning research to TEL.

A Collaborative Effort

Beginning at its inaugural meeting, the Council has worked to define an infrastructure that can support and enable evidence-based TEL at institutions of higher education.

The effort has engaged member experts from multiple sectors who have drafted recommendations, presented them for peer review to influential higher education organizations such as the Association of American Universities (AAU) and the Association of Public Land Grant Universities (APLU), and refined them based on the feedback received.

Recommendations Available

Now the Council's recommendations are live on the GLC website. *Technology-Enhanced Learning: Best Practices and Data Sharing in Higher Education* is a best practices document aimed at helping universities apply learning science to technology-enhanced learning. It describes the social-technical infrastructure that university leaders need to build in order to realize the true potential of

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learning technologies. To get the whole story, visit the documents section of the GLC website, where you'll find the full text of the document together with a collection of case studies showing how leading researchers and educators are applying research to improve outcomes for technology-enhanced learning.

Your Comments Welcome

This document is considered a first release, open for review and refinement by practitioners in academia and industry. The Council welcomes your comments. If you have research or projects that illustrate the use of learning research to enhance TEL, consider submitting a supporting case study.



On the Global Learning Council website, you'll find the best practices document along with information about GLC members, news and events.

Opportunities and Challenges

The Council’s Best Practices Working Group identified three key needs in applying research to TEL, along with related challenges and opportunities that should guide the development of any strategy.

Helping practitioners adopt successful methods

OPPORTUNITY

Research is ready to be applied.

A large body of research can be directly applied to improve the design, implementation and use of educational technologies.

CHALLENGES

Faculty lack specific expertise.

Practitioners are trained to be experts in their discipline—not in learning science, research-based pedagogies or educational technologies.

Early failure is common.

Any design of new instruction or TEL requires adapting or extending past research results to the current context, and these adaptations can be effectively refined based on learning data collected from the given context.

Defining common data frameworks

OPPORTUNITIES

Shared data enables basic research at scale. Enormous quantities of educational data have been and continue to be created every day as the natural byproducts of student use of online courses, intelligent tutors, educational games, science simulations, as well as learning management systems and written (scanned) data.

Shared data supports adaptations for local contexts.

For the first time in history, the collection and analysis of data from educational technologies allows us to widely employ evidence-based education.

CHALLENGE

Shared data poses privacy risks.

Educational data often contains sensitive information.

Considering global perspectives

OPPORTUNITY

Combined perspectives may strengthen outcomes. There is interesting new scientific evidence that discussion groups on MOOCs with members from many different countries (Kulkarni et. al. 2015) learn more than groups with members from one or just a few countries.

CHALLENGE

Effective instruction requires cultural awareness. Practitioners do not always have the benefit of international experience and broad cultural knowledge, yet a science-driven approach to TEL design should be informed by global perspectives and considerate of the cultural differences among learners.

Strategies for Building a Social-Technical Infrastructure for TEL Design and Teaching

To enable universities to address these challenges and opportunities and realize the potential of research-informed TEL, the Council recommends that university leaders build a supporting infrastructure.

