ONLINE EDUCATION:

A Catalyst for
Higher Education Reforms

April 2016

Final Report
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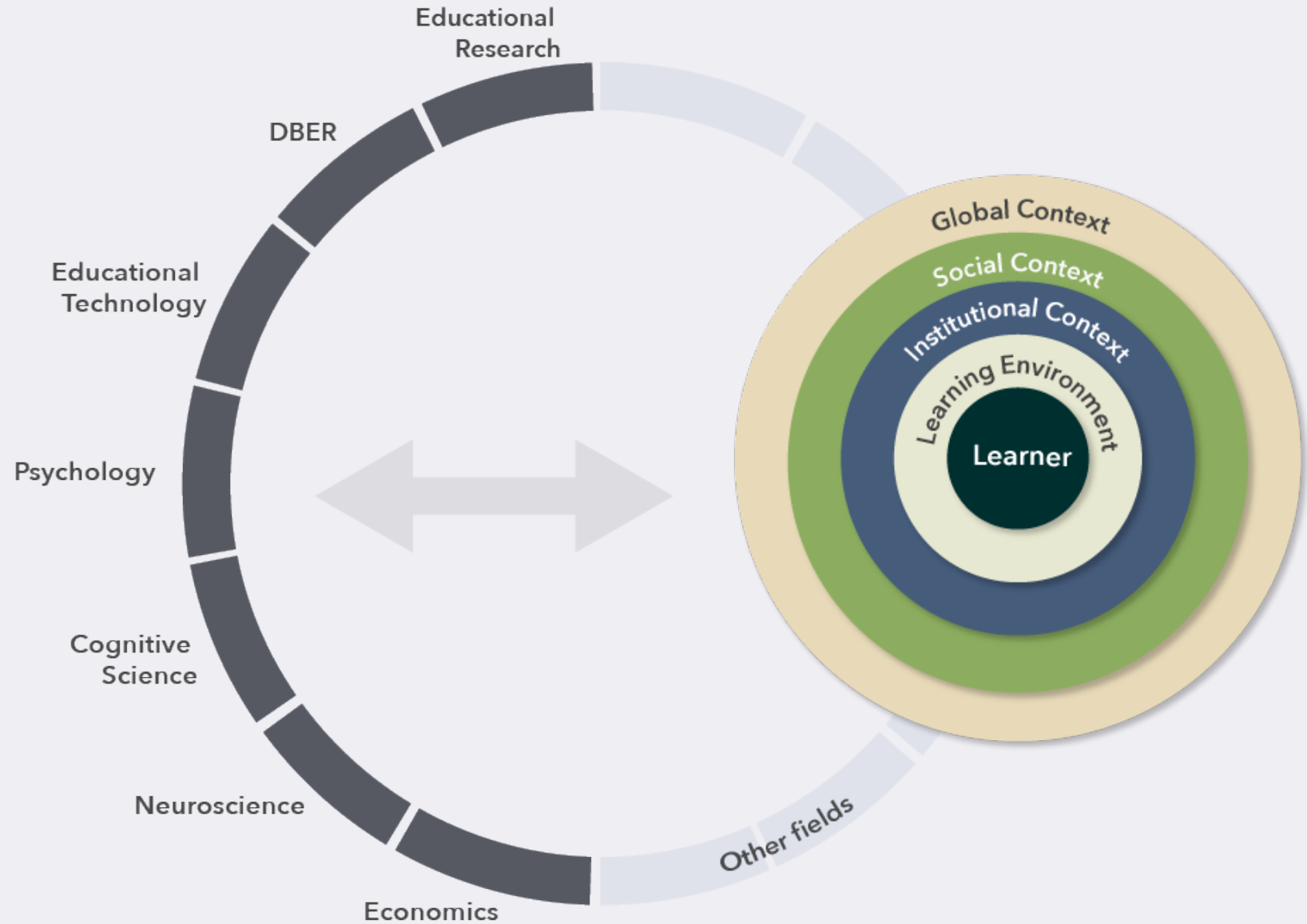
Learning is a complex multi-layered process.

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Impacting and impacted by many different fields

Outside-in and inside-out research approaches

Outside-in approaches: observe a system from the outside and make inferences about more detailed system functions

Outside-In View

Outside-in and inside-out research approaches

Inside-Out View

Inside-out approaches: start with intrinsic explanations and build understanding outward

Outside-in and inside-out research approaches

Outside-in approaches: observe a system from the outside and make inferences about more detailed system functions

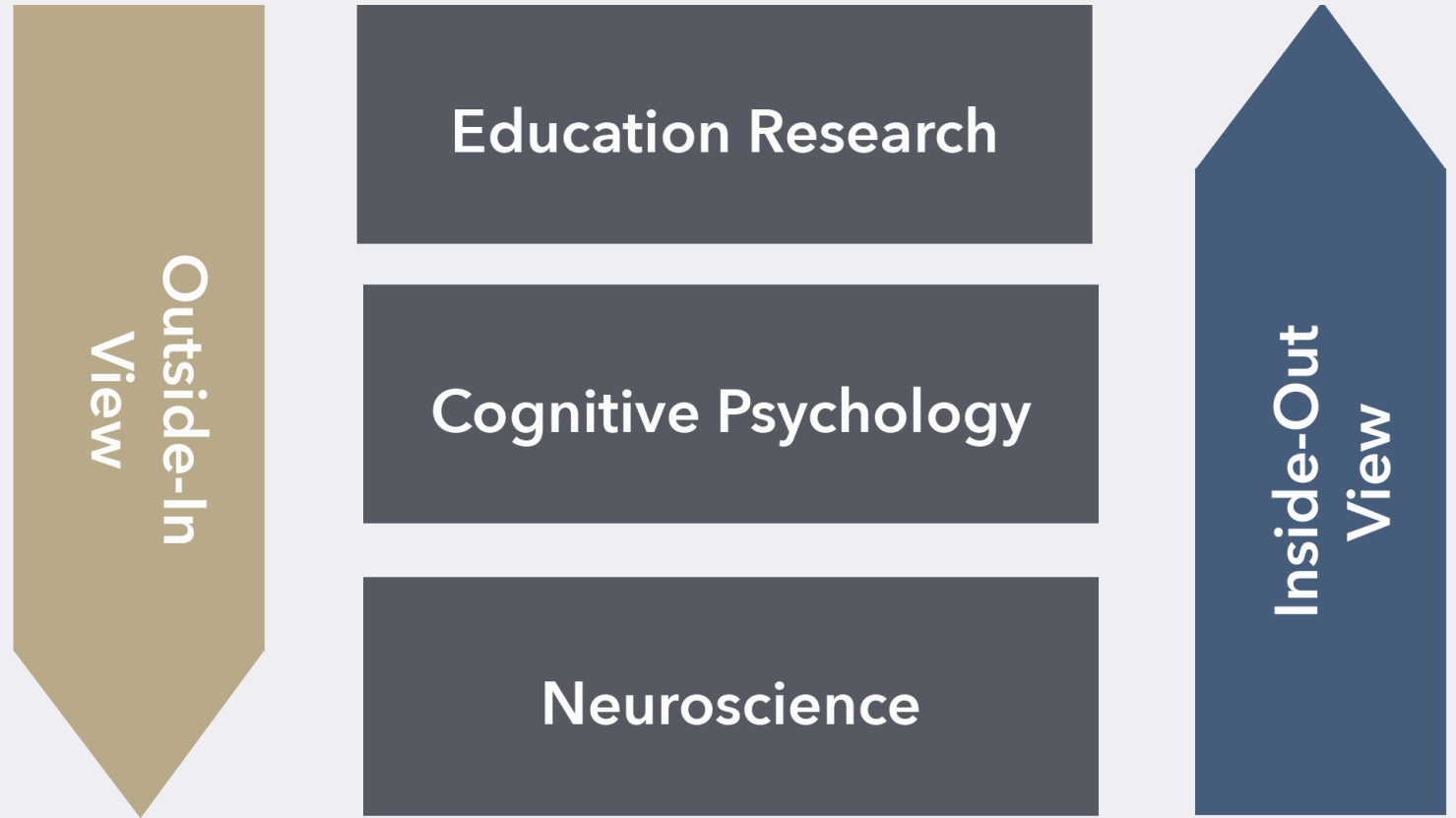Outside-In View

Inside-Out View

Inside-out approaches: start with intrinsic explanations and build understanding outward

Convergence of outside-in and inside-out research approaches has *revolutionized fields* such as biology and mechanics

Convergence of outside-in and inside-out models has revolutionized fields.
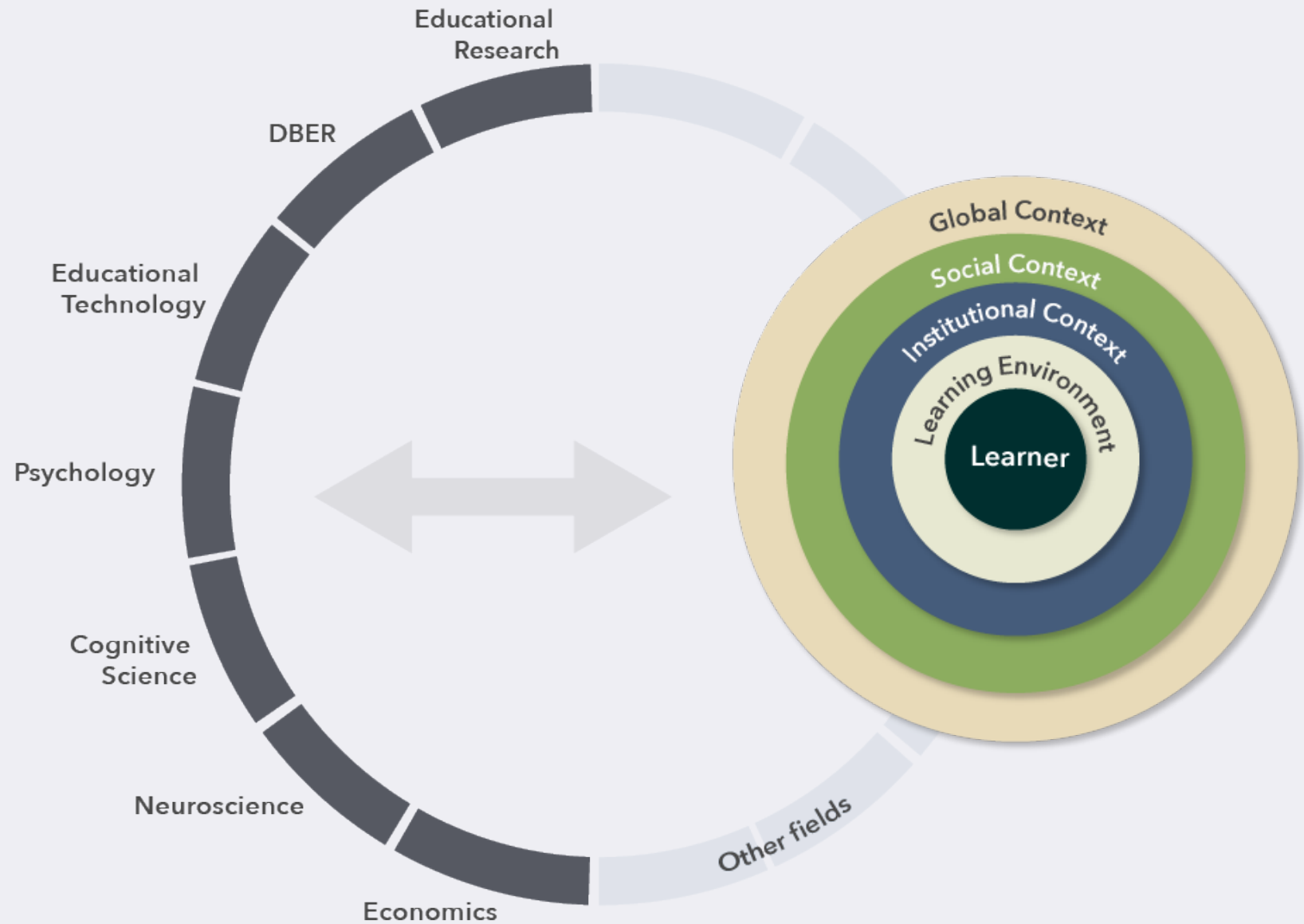
Education is on the brink of a similar revolution.

Outside-In View

Education Research

Cognitive Psychology

Neuroscience

Inside-Out View

Increase interdisciplinary collaboration across fields of research in higher education, using an integrated research agenda.

Take advantage of emerging convergence between outside-in and inside-out approaches.

Diverse Fields, Theories and Practices

There is a rich history to draw upon, and values that come along with them

Constructivism
Active Learning
Project/Problem Based Learning
Constructionism
Flipped Classes
Student Centered Education
Social and Contextual Aspects of Learning
Interdisciplinary Education
Discipline Based Education Research
Social Science
Ed Tech/CSCL

A call to action

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RESEARCH COMMUNITY

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- recognize, encourage and reward **interdisciplinary collaborations** seeking to advance both the **science** and the **practice of learning**

- create a welcoming environment for **interdisciplinary research** and for collaborative efforts to translate research into practice

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- guide the selection and development of best practices, to help **bridge the gap between research and practice**

- work together to ensure that scholarly gains are translated into **real improvements for students**

- **move beyond silos** to agree on terminology and ontology, map out overlaps and gaps, and recognize areas of discord

Promote online as an important facilitator in higher education.

Digital technologies can play a significant role as an education enabler by providing a dynamic digital scaffold.

Online as an Enabler

Online activities should be diverse and contextual. They should be appropriate for the learner, instructor, and learning goals.

- Design for the unique affordances of online learning

- Utilize the affordances of digital for design based research that allows for iterative improvement and understanding

- Reposition the roles of teachers within the learning context

Online as an Enabler

Online activities should be diverse and contextual. They should be appropriate for the learner, instructor, and learning goals.

- Create opportunities for innovative learning experiences

  - Project based learning

  - Just in time learning

  - Situated learning in the field

- Combine knowledge of learning "optimization" with "deep learning"

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- contribute experience in areas such as **curricular design** and **delivery at scale**

- accelerate the **adoption** of science-based learning practices

- identify **paths forward** to a more equitable, more available, and more effective system of higher education drawing on best available tools and best available science

Promote online as an important facilitator in higher education.

Digital technologies can play a significant role as an education enabler by providing a dynamic digital scaffold.

RECOMMENDATION 3

Support the expanding profession of the "Learning Engineer."

A creative professional who helps build bridges between fields of education and who translates scholarly research findings into effective practice.

Foster institutional and organizational change in higher education to implement these reforms.

Learn from the experiences in other legacy sectors.