Neuromyths, Knowledge about the Brain, and Evidence-Based Practices: Global Study from Vision to Launch 2018 & 2021

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October 7, 2021

Research Team
## Research Team

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## History

### Quantitative: 2018

- **2016**: Concept, Opportunity & Team
- **2018**: Launch
- **2020**: Disruption & Reflection

### Explanatory Sequential: 2021

- **2017**: Design & Pilots
- **2019**: Published with OLC
- **2021**: Refine, Pilot & Launch


2016: Concept, Opportunity & Team

Instructors
Instructional Designers
Professional Development Administrators

10 Researchers
2 Reviewers

- Education
- Psychology
- Neuroscience
2017: Design & Pilots

Awareness

• Neuromyths
• General Knowledge about the Brain
• Interest in Brain and Learning

Survey

• Design
• Build upon and expand

• Permission prior neuromyth studies
2017: Design & Pilots

- Likert Scales
  - True, False
  - Correct, Incorrect, I Don’t Know
- First Pilot: 10 participants
  - Less than half completed
- Second Pilot: 15 participants
  - Over three-quarters completed

2018: Launch

- Convenience and snowball sampling
- One Email
- 1,290 surveys were completed
- 929 met the criteria for inclusion
Figure 1. Breakdown of Respondents by Primary Role

Figure 2. Breakdown of Respondents by Institutional Level

Figure 3. Breakdown of Respondents by Institutional Type
88% (n = 788) were from the United States
12% (n = 112) were international

- 45 countries were represented
- United States represented 48 of 50 states

Percent Correct: Awareness

- Neuromyths, General Knowledge, Evidence-Based Practices
- Incorrect and I Don’t Know reference section
2019: Published with OLC

23 Statements
- Neuromyths (NM), General Knowledge about Brain (GKB)
- 11% to 94% *Correct Responses

28 Statements
- Evidence-Based Practices (EBP)
- 26% to 99% *Correct Responses

Majority of Respondents
- Interest in learning more about the brain and its influence on learning
- Found scientific knowledge about the brain and its influence on learning to be interesting and valuable to their teaching practice, course development, and professional development
• **Instructional designers** had *greater awareness* of NM, GKB, and EBP than instructors and administrators.

• **No significant differences** in awareness (NM, GKB, EBP) and demographic categories including: *educational modality, institution level, institution type, instructor role, number of years teaching, number of years as an instructional designer, gender, age, or time since highest degree completed*.

• **Reading journals** related to neuroscience, psychology, and MBE science *increased awareness* of NM, GKB, EBP.

• **Professional development** is a *predictor of awareness* of (a) neuromyths and general knowledge about the brain, and (b) evidence-based practices among higher education instructors, instructional designers, and administrators.
2020: Disruption & Reflection

CORONAVIRUS PANDEMIC

CARES Act
Coronavirus Aid, Relief, and Economic Security Act

2020: Disruption & Reflection

PROFESSIONAL DEVELOPMENT
2021: Refine, Pilot & Launch

- **1990–2000**: Decade of the Brain
- **2002**: Organisation for Economic Cooperation, and Development published *Understanding the Brain: Towards a New Learning Science*
- **2002-2021**:
  - Advancements in technology and science of learning
  - Extensive global studies NM and GKB
  - Disruption & Professional Development

2021: Refine, Pilot & Launch

- Re-Launch Refined OLC Study
- Examine Types of Professional Development (pre/during)
- Compare Findings 2018 and 2021
- Refinements & Pilot:
  - Reorganized questions
  - 27 NM and GKB & 24 EBP
  - All Third Person
  - Likert Scale: Correct, Incorrect, Unsure
2021: Refine, Pilot & Launch

- Types of **professional development** during pandemic and **relationship between using EBP** with instructional design and teaching

- Examine **interest levels** in scientific knowledge about the brain and how they perceive the **higher education landscape** post-pandemic

- Focus groups with all three participant groups
OLC Study Launch

Invitation:

Complete the survey
and share with colleagues

Launch Now:
October 5 – November 8, 2021

OLC: Workshops
Part I: Neuro, Cognitive & Learning sciences
Part II: Neuro, Cognitive & Learning sciences
Instructional Design: Neuro, Cognitive & Learning sciences

Questions

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Evaluate Sessions and Win!

- Navigate to specific session to evaluate
- Select “Evaluate Session” on session details screen
  - Complete session evaluation*

*Each session evaluation completed (limited to one per person per session) = one contest entry. **Five (5) $25 gift cards** will be awarded