

Augmented Reality, Conversational Interfaces, AI as a Service, Digital Twins and More

iNACOL 2018

Brandt Redd

<http://BrandtRedd.org>

Session Links:

<https://brandtredd.org/inacol2018>

<https://inacolsymposium2018.zerista.com/event/member/515270>

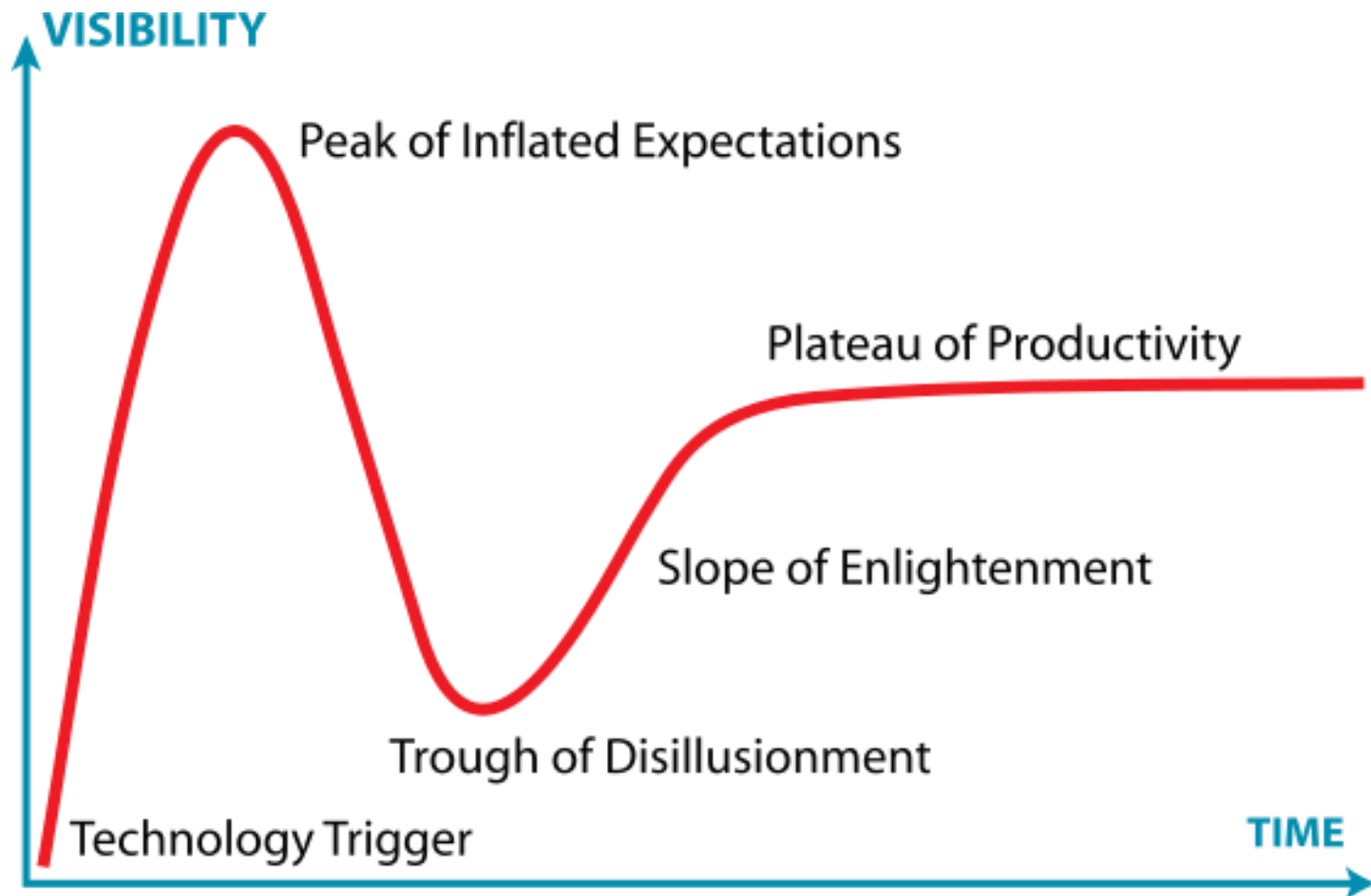
Learning Objectives

- Develop or increase understanding of at least two emerging technologies such as Augmented Reality, Conversational Interfaces, AI as a Service, Digital Twins, and others.
- Understand, through in-session discussion and debate, how one or more of these technologies will impact your own learning or teaching environment.
- Apply a strategy for researching emerging technologies and evaluating them in behalf of your learning institution.

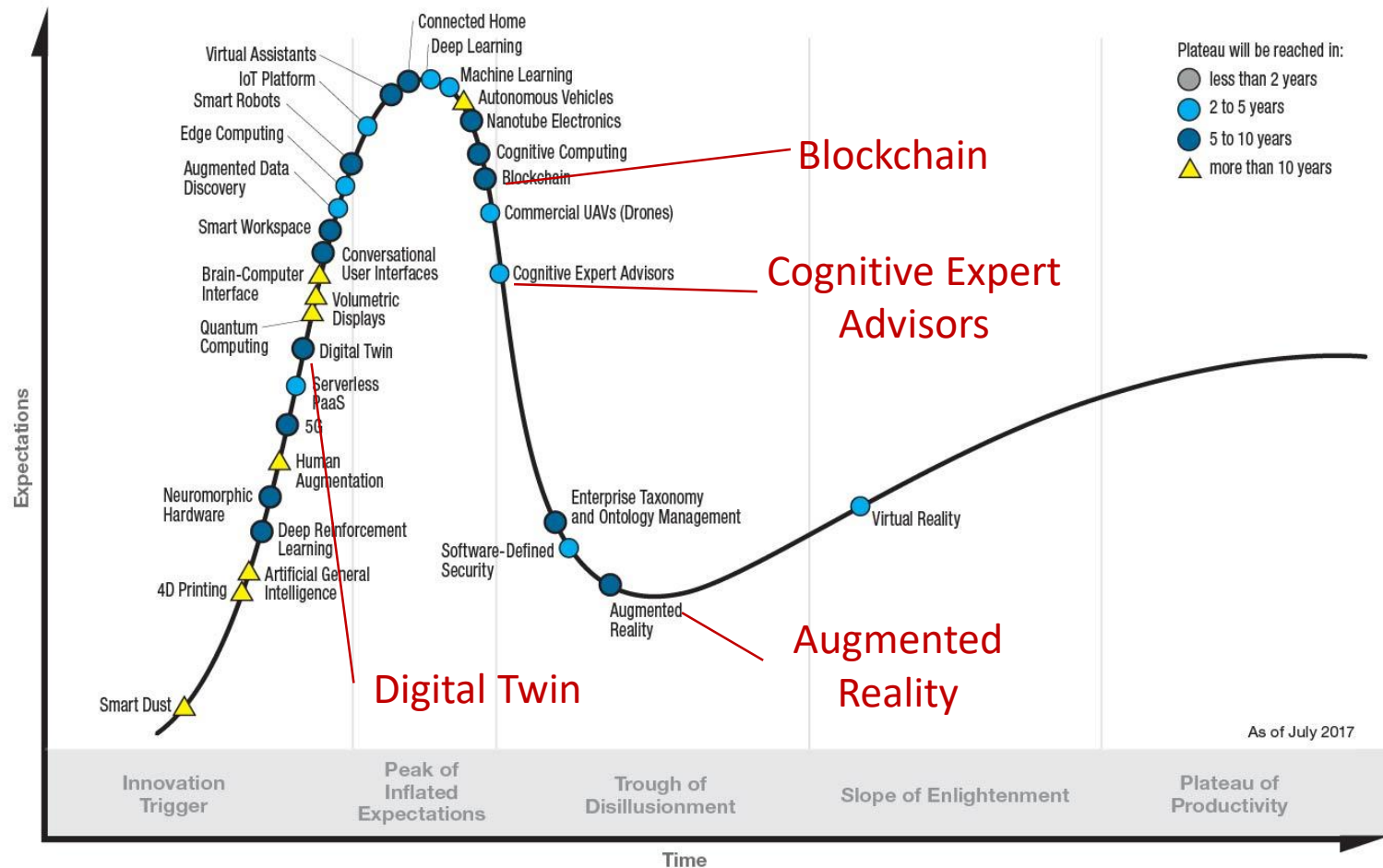
Sources

- Horizon Report (Formerly New Media Foundation, Now Educause)
<https://library.educause.edu/resources/2018/8/2018-nmc-horizon-report>
- Gartner Top 10 Strategic Technology Trends for 2018
<https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018>
- Forbes 7 Technology Trends That Will Dominate 2018
<https://www.forbes.com/sites/jaysondemers/2017/12/30/7-technology-trends-that-will-dominate-2018/#51c38b6d57d7>

Technology Hype Cycle



Gartner **Hype Cycle** for Emerging Technologies, 2017



gartner.com/SmarterWithGartner

Source: Gartner (July 2017)
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Gartner

Evaluating Technology

- Impact – must result in improved student learning.
 - Relevant
 - Realistic
 - Ready
- Carlos Moreno: “Unapologetically, Relentlessly, Student-Centered”

Agenda

- AI as a Service
- Conversational Interfaces
- Augmented Reality
- Digital Twins

AI As a Service

- Machine Learning
 - Voice Recognition
 - Assessment Scoring
 - Predictive Analytics
- Cognitive Computing
 - Image Recognition / Computer Vision
 - Natural Language Interpretation
 - Feature Recognition
 - Grammar and Content Analysis and Feedback
 - Assessment Composition
- Optimization Systems
 - Analyze large data sets
 - Detect sensitive features
 - Optimize for outcome
- Digital Assistants

Feature Detection (computer vision)

From [Wikipedia](#), the free encyclopedia

In [computer vision](#) and [image processing](#) **feature detection** includes methods for [computing abstractions of image information](#) and [making local decisions](#) at every [image point](#) whether there is an [image feature](#) of a given type at that point or not. The resulting [features](#) will be subsets of the [image domain](#), often in the form of [isolated points](#), [continuous curves](#) or [connected regions](#).

Conversational Interfaces

- Examples

- Amazon Alexa
- Apple Siri
- Microsoft Cortana
- “Hey Google”
- WeChat Chatbots (China)
- Zork

- In Education

- Intelligent Tutoring Systems (ITS)

```
West of House                                     Score: 0      Moves: 3
Copyright (C) 1981, 1982, 1983 Infocom, Inc. All rights reserved.
ZORK is a registered trademark of Infocom, Inc.
Revision 88 / Serial number 840726

West of House
You are standing in an open field west of a white house, with a boarded front
door.
There is a small mailbox here.

>Open Mailbox
Opening the small mailbox reveals a leaflet.

>Take leaflet
Taken.

>Read leaflet
"WELCOME TO ZORK!"

ZORK is a game of adventure, danger, and low cunning. In it you will explore
some of the most amazing territory ever seen by mortals. No computer should be
without one!"

>
```

Augmented Reality

- We can also include virtual reality.
- Adding information or items to our view of the real world.



Digital Twins

- A digital representation of a real-world object.
- In education, a “student model” indicating what we know about a student’s competencies.
- Security and Privacy Implications



A Data View of Personalized Learning

- The intersection between data about students and data about content.
- “Personalized learning occurs at the intersection between data about students and data about content.
- To work, both must be aligned to standards.

Review

- Trend Watchers: Gartner, Forbes, CNet, EdWeek, etc.
- Rubric: Relevant, Realistic, Ready
- Theory of learning enhancement must *precede* theory of technology innovation.

Q&A

- Resources & References

- <https://brandtredd.org>
- <https://brandtredd.org/inacol2018.html>
- <https://inacolsymposium2018.zerista.com/event/member/515270>
- <https://library.educause.edu/resources/2018/8/2018-nmc-horizon-report>
- <https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2018>
- <https://www.forbes.com/sites/jaysondemers/2017/12/30/7-technology-trends-that-will-dominate-2018/#51c38b6d57d7>