

Teaching and Learning with Technology Conference  
JMU Libraries & Educational Technologies



# Integrate Everything: Making the Pedagogical Sausage

Peter E. Doolittle  
Director, School of Education  
Professor, Educational Psychology  
Virginia Tech • Blacksburg • Virginia

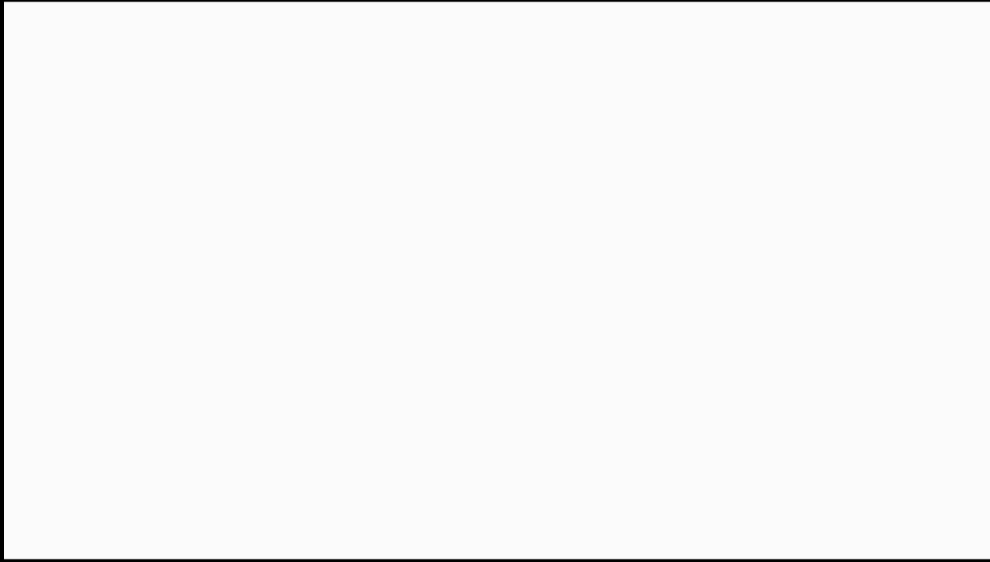
## Anticipation Guide

Directions: Agree or Disagree or Edit.

1. Anyone can teach.
2. Active learning in students is fostered by note taking and discussions with fellow students.
3. Technology allows teachers to teach more powerfully, more efficiently, and with less effort.

Perspective →

Perspective



Active Learning



Words →

Rest Snore Sound  
 Tired Bed Comfort  
 Awake Eat Wake  
 Dream Slumber Night

## Activity Debrief

1. Meaning is **constructed** during experience.
2. Construction results from **processing**.
3. Knowledge is **organized**.
4. When specifics are lost, **meaning remains**.
5. **Strategies** are used to function more effectively.
6. We can **assess** the effectiveness of our thinking.



## 6 Principles for Deep and Flexible Learning

1. Learning through **practice at retrieval**
2. Learning through **varied tasks** and **purposes**
3. Learning at the **principle** level
4. Learning **awareness** and **control** (metacognition)
5. Learning in response to **developmental feedback**
6. Learning embedded in **prior knowledge** and **experience**

(Engle, 2006; Halpern & Hakel, 2003; Mariano, Doolittle, & Hicks, 2009; Wagner, 2006)

Processing



## A Metacognitive Strategy for TLTC

For all presentations and discussions within TLTC, ask yourself these three questions:

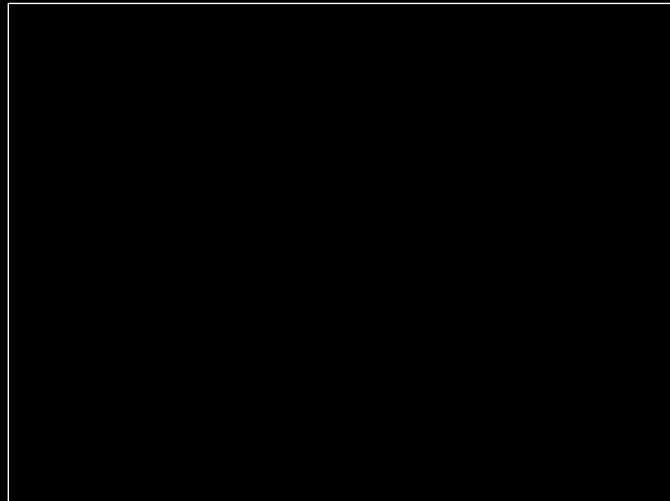
1. Where's the **Processing**?
2. .
3. .

# Active Learning & Instructional Design

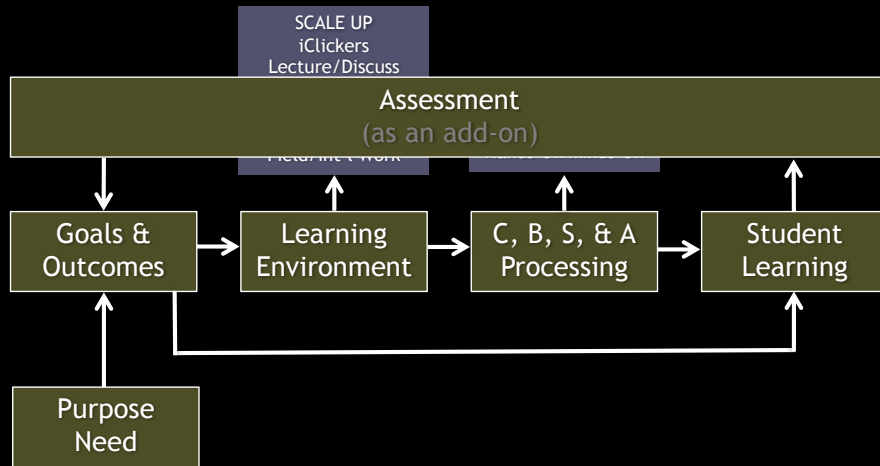


Clarity →

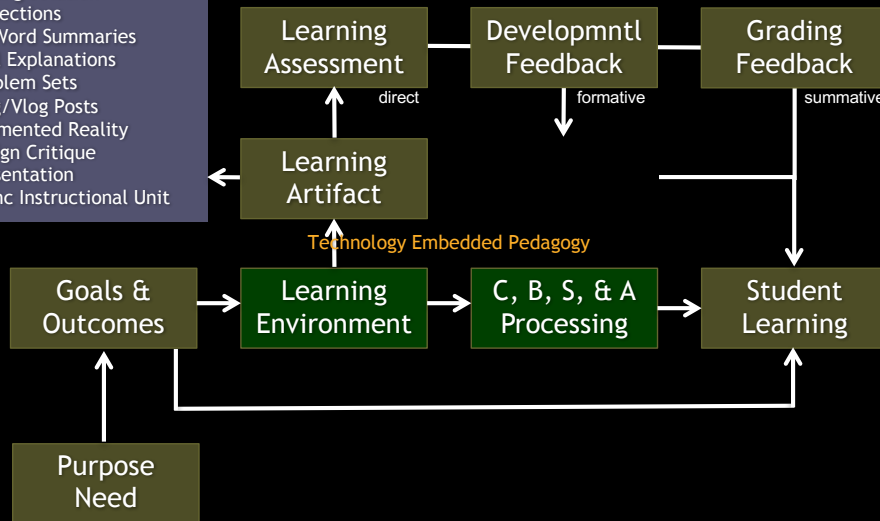
Clarity

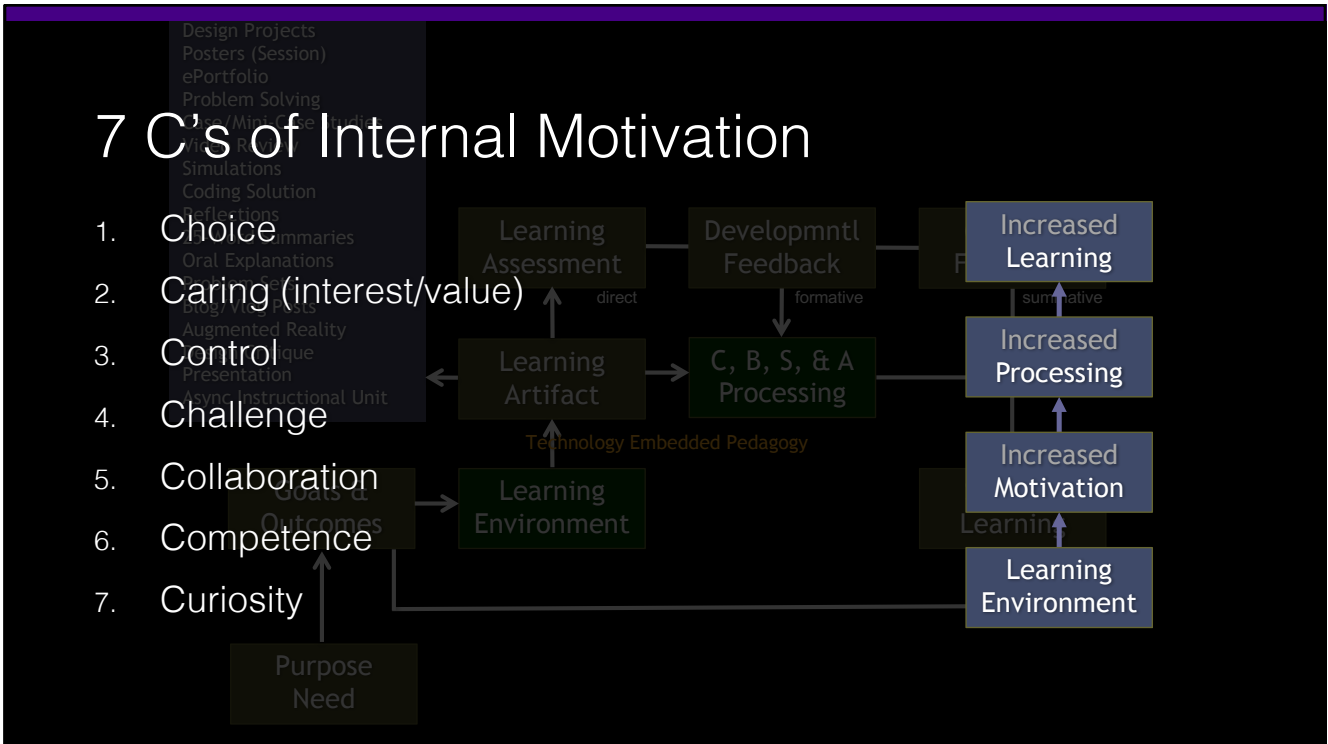


# Active Learning & Instructional Design



- Design Projects
- Posters (Session)
- ePortfolio
- Problem Solving
- Case/Mini-Case Studies
- Video Review
- Simulations
- Coding Solution
- Reflections
- 25-Word Summaries
- Oral Explanations
- Problem Sets
- Blog/Vlog Posts
- Augmented Reality
- Design Critique
- Presentation
- Async Instructional Unit







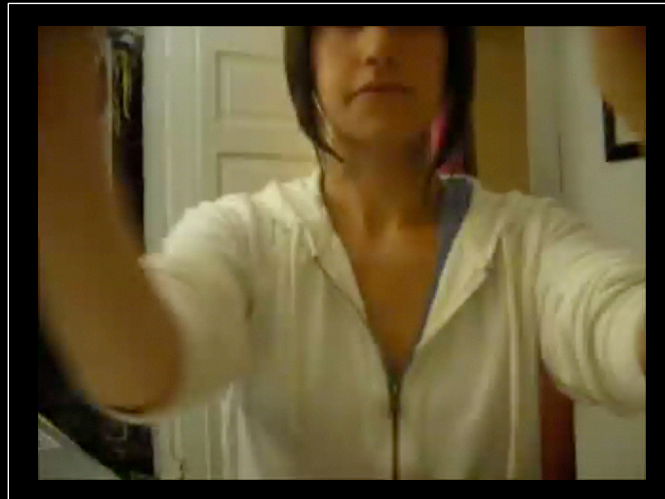
# Oral Explanations

**Learning Environment:** Students create clear and coherently organized 10-15 minute videos that reflect the student's understanding of the current topic under discussion, plus an application to their lives.

**Learning Artifact Processing:** Students analyze and interpret readings, notes, and discussions; organize concepts and ideas; apply to a life issue; create an oral explanation.

**Learning Assessment:** Video are assessed using a scoring guide focused on organization, clarity of thought and expression, essential content explanation and application.

## Explanation



# Oral Explanations

**Grading:** Each Oral Explanation is worth 100 pts and will be graded using the following criteria:

- |   |        |
|---|--------|
| 1. Organization   | 20 pts |
| a. are introductions and conclusions used effectively?                                  |        |
| b. do the expressed ideas follow a logical progression?                                 |        |
| c. are explanations and applications provided?  |        |
| 2. Clarity of Thought and Expression  | 20 pts |
| a. are the ideas expressed well, well thought out, and integrated?                      |        |
| b. are there clear and logical transitions between ideas?                               |        |
| c. are correct grammar and syntax used?   |        |
| 3. Essential Content Explanation  | 30 pts |
| a. does the content of the explanation accurately reflect the addressed constructivism? |        |
| b. does the explanation explain, rather than just list, the main concept components?    |        |
| c. is the content of the explanation free from personal interjections?                  |        |
| 4. Essential Content Application  | 30 pts |
| a. is a problem, issue, or situation explained clearly?                                 |        |
| b. are concepts from the texts and class used to address the cited problem?             |        |
| c. is the application thorough, meaningful, and appropriate?                            |        |

## 6 Principles for Deep and Flexible Learning

1. Learning through **practice at retrieval**
2. Learning through **varied tasks** and **purposes**
3. Learning at the **principle** level
4. Learning **awareness** and **control** (metacognition)
5. Learning in response to **developmental feedback**
6. Learning embedded in **prior knowledge** and **experience**

(Engle, 2006; Halpern & Hakel, 2003; Mariano, Doolittle, & Hicks, 2009; Wagner, 2006)

# A Metacognitive Strategy for TLTC

For all presentations and discussions within TLTC, ask yourself these three questions:

1. Where's the **Processing**?
2. Where's the **Design**?
3. .

## Technology – Research and Rhetoric



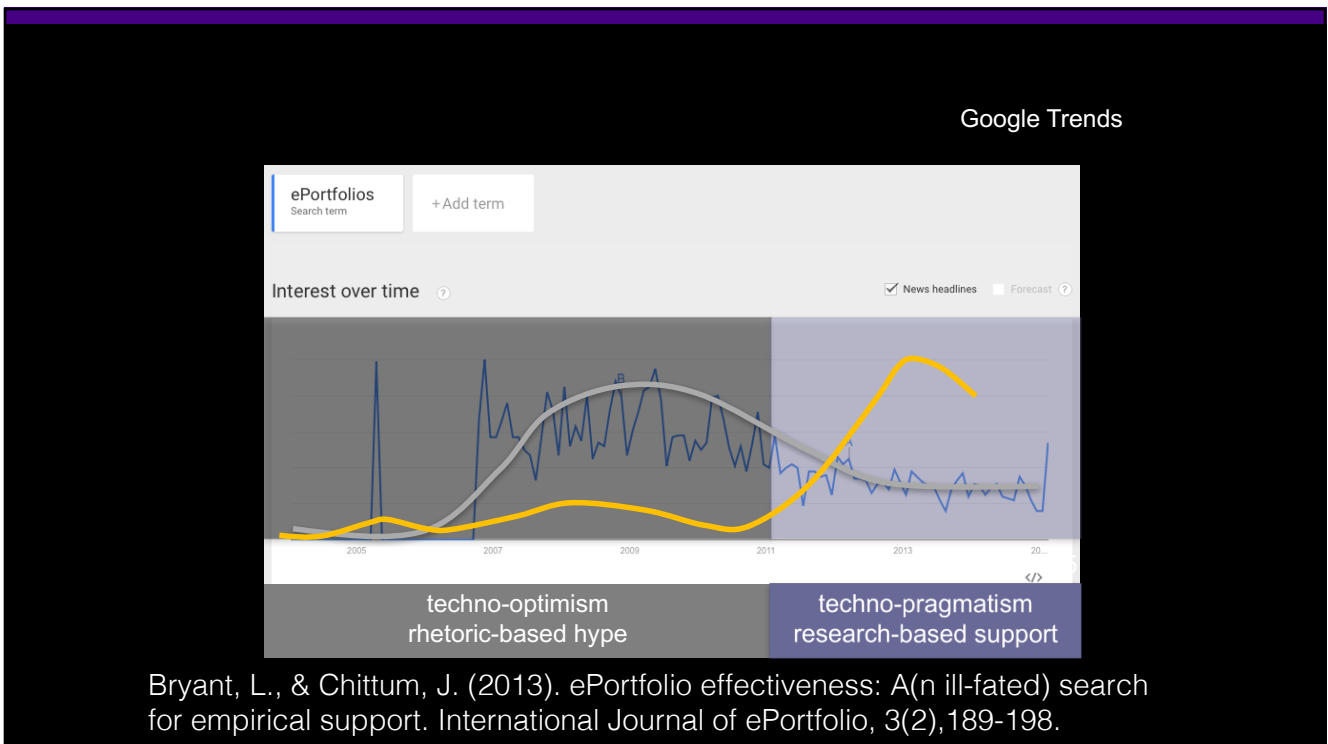
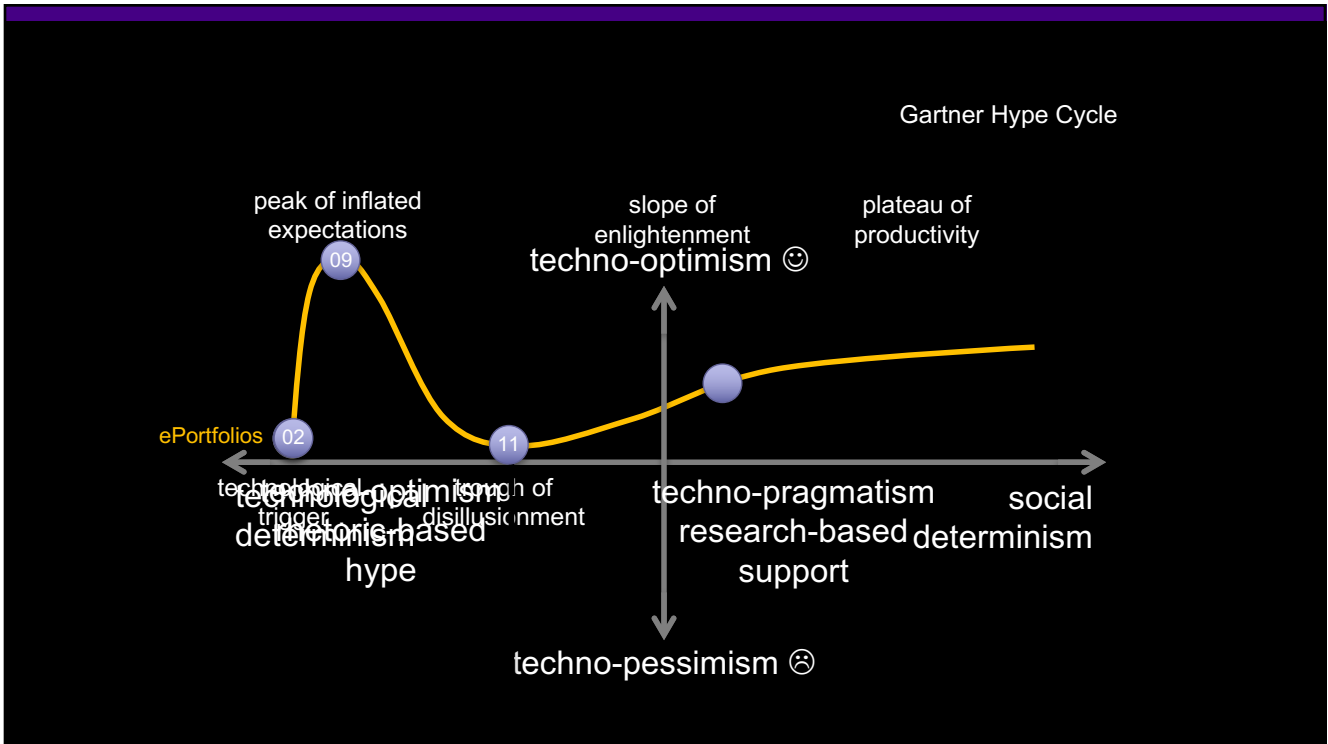
Irish Sea →

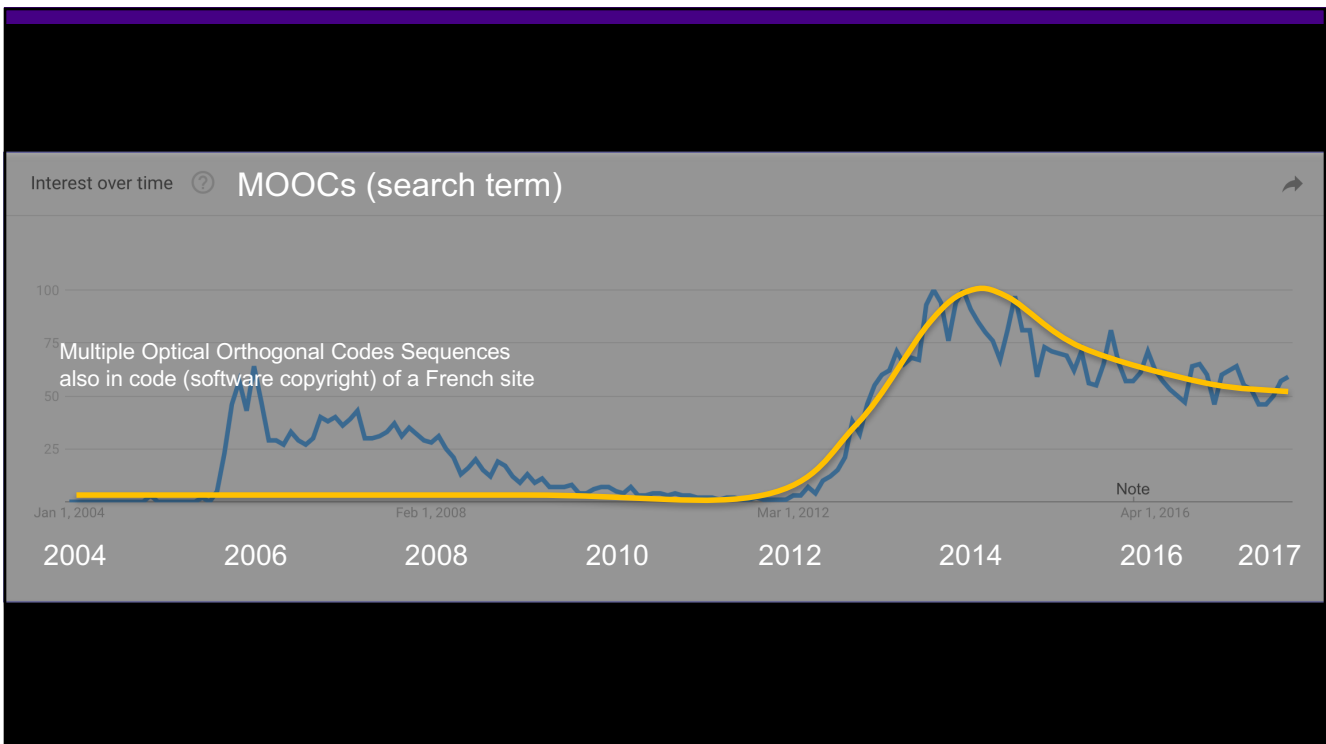
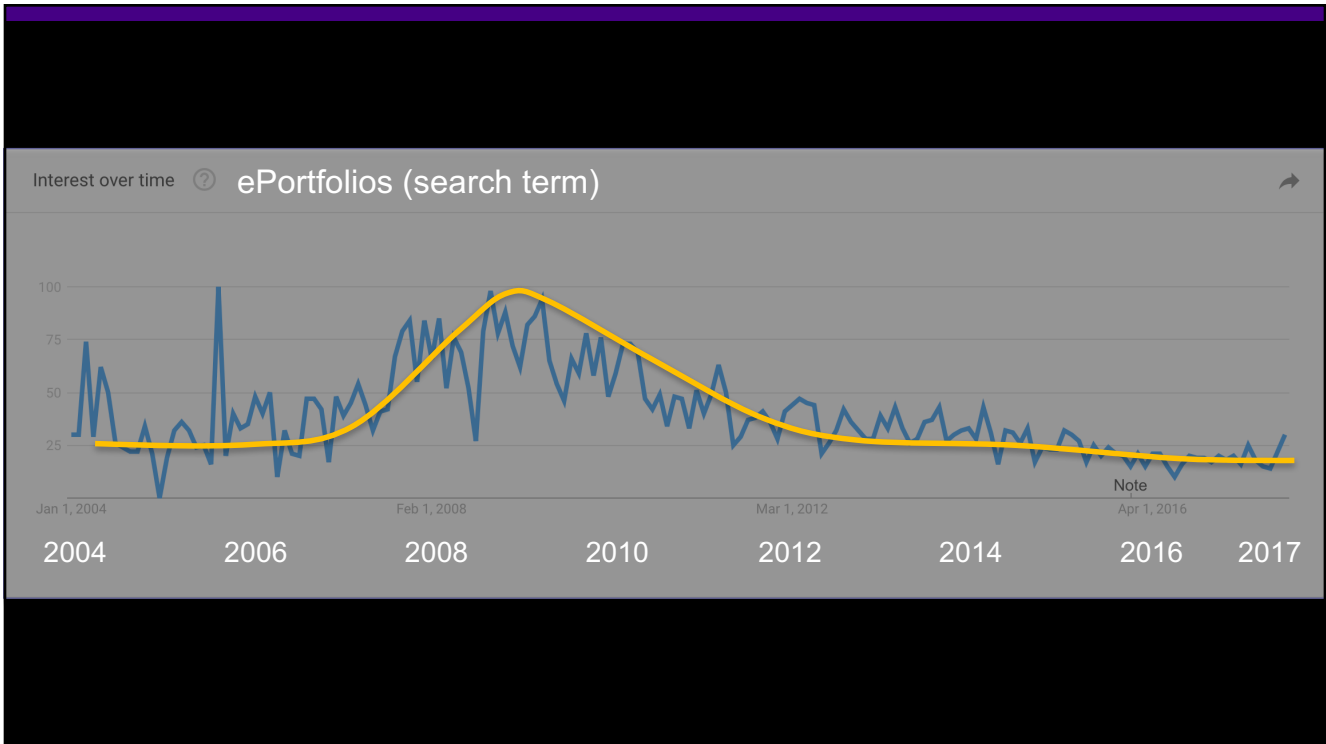
# Appropriateness

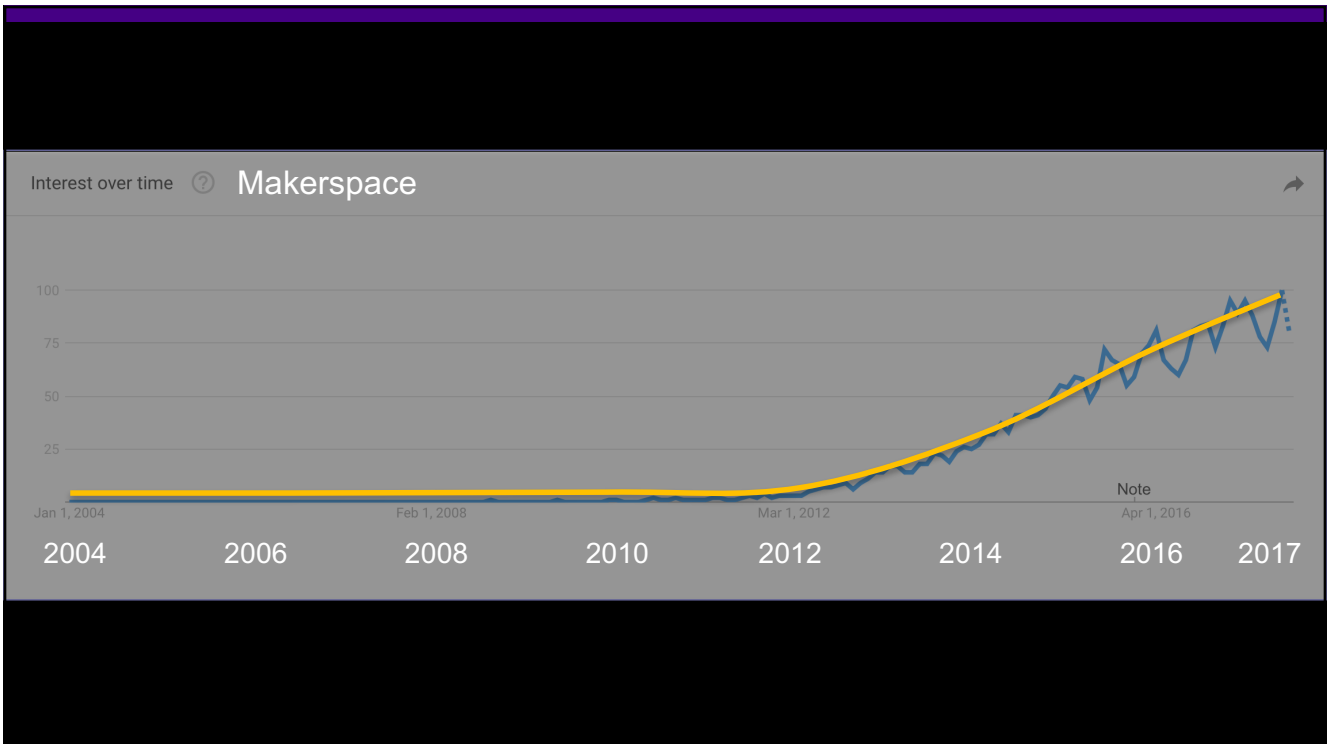
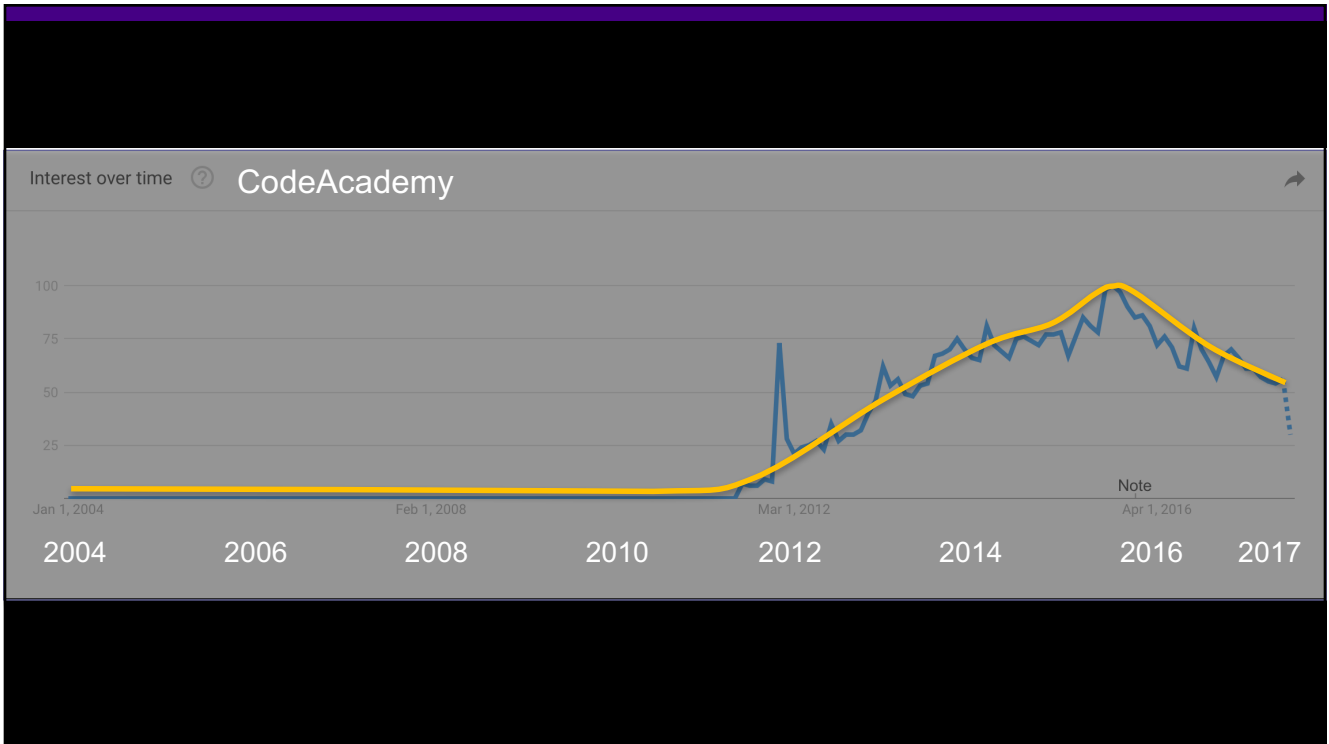


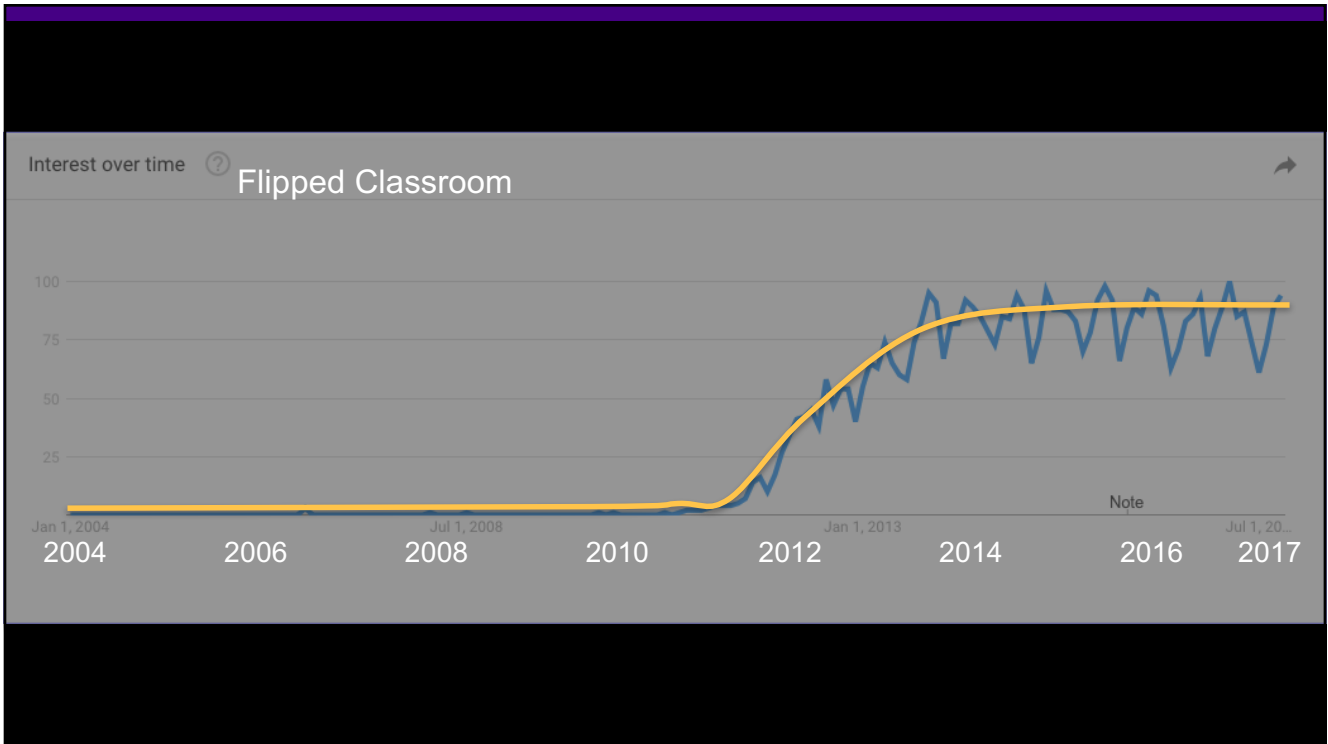
## David Stearns, U of Washington

<p>Foreword by Alice Kessler Holly Clark &amp; Tanya Avrith</p> <p><b>THE GOOGLE INFUSED CLASSROOM</b></p> <p>A GUIDEBOOK TO MAKING THINKING VISIBLE AND AMPLIFYING STUDENT VOICE</p> <p>START HERE FOR <b>PEDAGOGY</b> With a Special Section on Digital Portfolios</p>	<p>"Demonstrates the most changing genre of the 21st century. If you want to understand that genre, read this book." —The Atlantic</p> <p><b>grown up digital</b></p> <p>how the net generation is changing your world</p> <p><b>DON TAPSCOTT</b> bestselling author of <i>growing up digital</i> and <i>wikinomics</i></p>	<p>an Coding Projects!</p> <p><b>Coding FOR KIDS</b></p> <p>the Games Apps Optimize Projects Real ng Skills</p> <p>le McCue, PhD acher and Tech Geek</p> <p><b>DUMMIES</b></p>	<p><b>DISRUPTIVE CLASSROOM TECHNOLOGIES</b></p> <p>A FRAMEWORK FOR INNOVATION IN EDUCATION</p> <p><b>SONNY MAGANA</b> FOREWORD BY ROBERT J. MARZANO</p>	<p>Jennifer Casa-Todd</p> <p><b>Social LEADia</b></p> <p>Moving Students from Digital Citizenship to Digital Leadership</p> <p>Foreword by George Couros</p>	<p><b>Millennials Rising</b></p> <p>The Next Great Generation</p> <p>Neil Howe and William Strauss authors of <i>Generations</i> and <i>The Millennial Generation</i></p>	<p>THE MAN WHO TRANSFORMED THE WAY WE CONNECT, CONSUME, AND COMMUNICATE</p> <p>iLeadership for a New Generation</p> <p><b>The Steve Jobs Way</b></p> <p>JAY ELLIOT Former Senior Vice President of Apple with William L. Simon</p>
<p>"The #1 genre in general... Adam Alter has written a study-aid-like book about the rise of addiction, accessible to a business and non-technical audience and one of the most compelling management books I've read." —MALCOLM GLADWELL</p> <p><b>IRRESISTIBLE</b></p> <p>THE RISE OF ADDICTIVE TECHNOLOGY AND THE BUSINESS OF KEEPING US HOOKED</p> <p><b>ADAM ALTER</b> NEW YORK TIMES bestselling author of <i>DRUNK TANK FISH</i></p>	<p>"Essential, accessible digital-able for our kids." —LARRY GREEN</p> <p><b>WHAT THE INTERNET IS DOING TO OUR BRAINS</b></p> <p><b>THE SHALLOWS</b></p> <p>Nicholas Carr AUTHOR OF <i>THE BIG SLEEP</i></p> <p>THE NEW YORK TIMES BESTSELLER WITH A NEW AFTERWORD</p>	<p><b>WORLD WITHOUT MIND</b></p> <p>THE EXISTENTIAL THREAT OF BIG TECH</p> <p><b>FRANKLIN FOER</b></p>	<p>HOW DIGITAL TECHNOLOGIES ARE LEAVING THEIR MARK ON OUR BRAINS</p> <p><b>MIND CHANGE</b></p> <p>SUSAN GREENFIELD</p>	<p>Neil Postman author of <i>The Disappearance of the Book</i></p> <p><b>TECHNOPOLY</b></p> <p><i>The Surrender of Culture to Technology</i></p> <p>"A gem of a book... a great read... a book you'll want to read again." —Dallas Morning News</p>	<p><b>THE ATTENTION MERCHANTS</b></p> <p>The Epic Scramble to Get Inside Our Heads</p> <p><b>TIM WU</b></p> <p>Author of <i>The Master Switch</i></p> <p>"BZZZZZ!" —FINANCIAL TIMES</p>	<p><b>GLOW KIDS</b></p> <p>HOW SCREEN ADDICTION IS PLACING OUR KIDS—AND HOW TO BREAK THE TRANCE</p> <p>NICHOLAS KARADARAS, PH.D.</p>









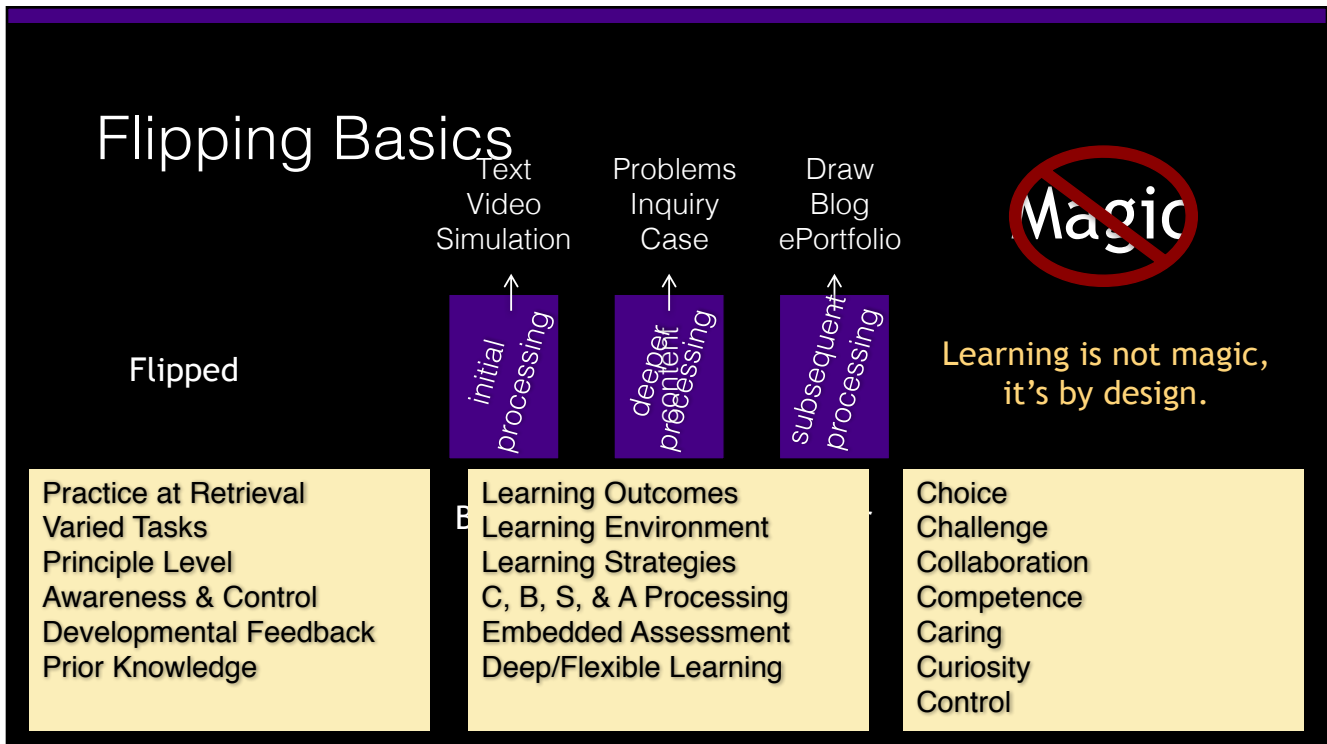
# Flipping Essentials



Clarity →



## Flipping Basics



## A Metacognitive Strategy for TLTC

For all presentations and discussions within TLTC, ask yourself these three questions:

1. Where's the **Processing**?
2. Where's the **Design**?
3. Where's the **Research**?



Teaching and Learning with Technology Conference  
JMU Libraries & Educational Technologies



# Integrate Everything: Making the Pedagogical Sausage

Peter E. Doolittle  
Director, School of Education  
Professor, Educational Psychology  
Virginia Tech • Blacksburg • Virginia