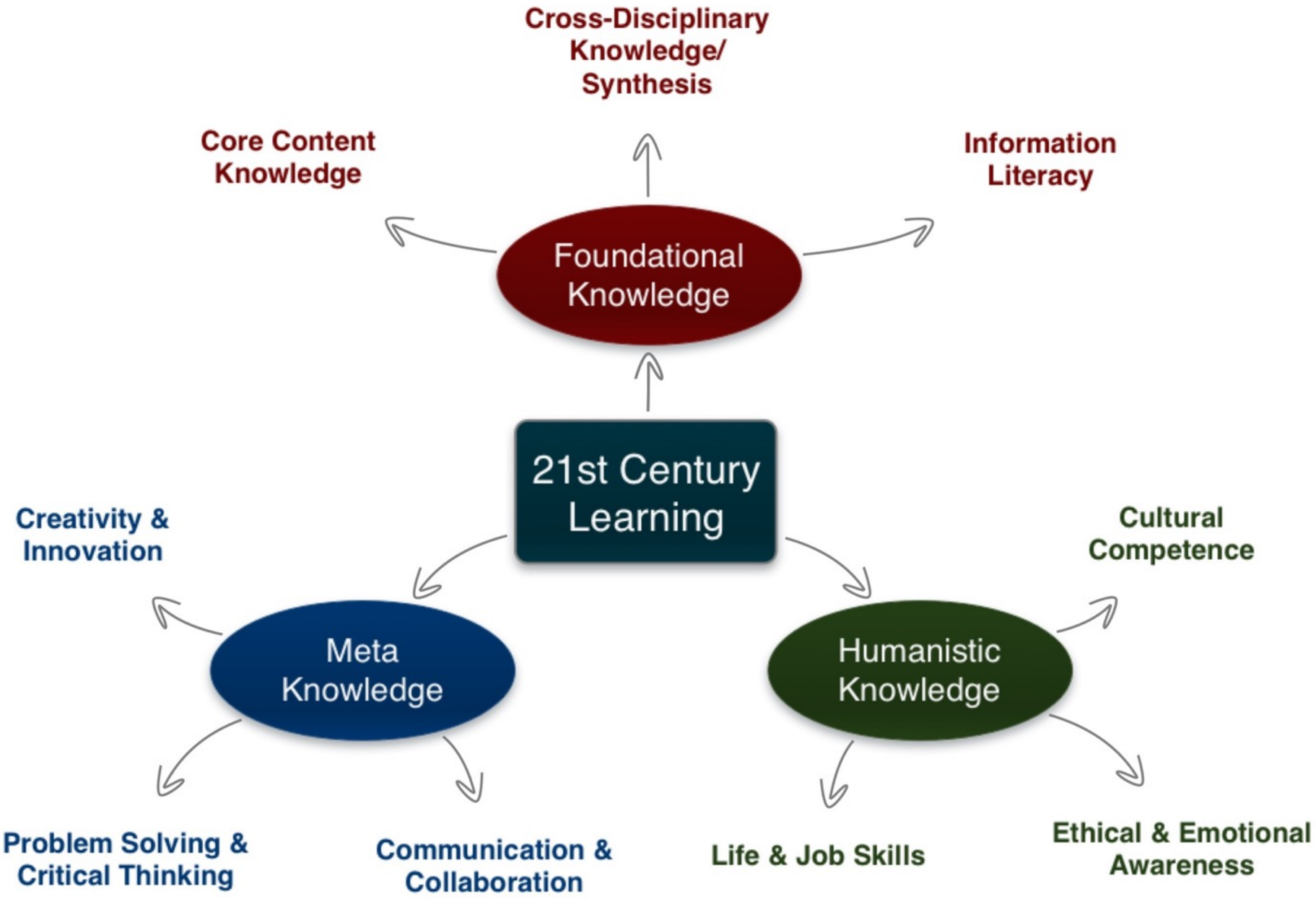
# Education Leadership and the 21st Century Context

Ruben R. Puentedura, Ph.D.




Kristen Kereluik, Punya Mishra, Chris Fahnoe, and Laura Terry, “What Knowledge Is of Most Worth: Teacher Knowledge for 21st Century Learning”. *Journal of Digital Learning in Teacher Education (29)* 4 (2013)

**Redefinition**

*Tech allows for the creation of new tasks, previously inconceivable*

**Modification**

*Tech allows for significant task redesign*

*Transformation*

**Augmentation**

*Tech acts as a direct tool substitute, with functional improvement*

**Substitution**

*Tech acts as a direct tool substitute, with no functional change*

*Enhancement*

Ruben R. Puentedura, *As We May Teach: Educational Technology, From Theory Into Practice*. (2009)

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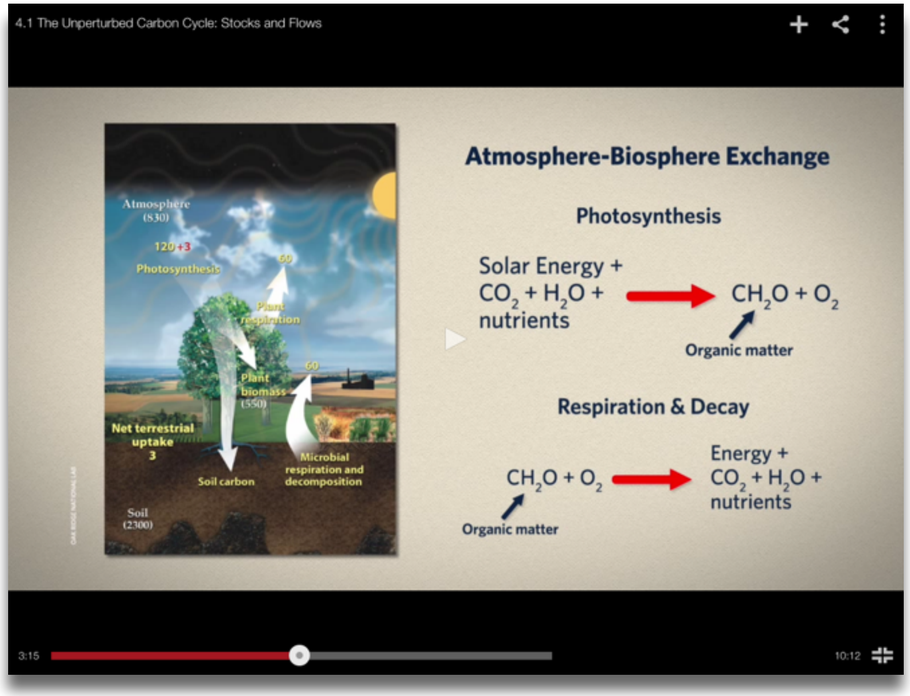

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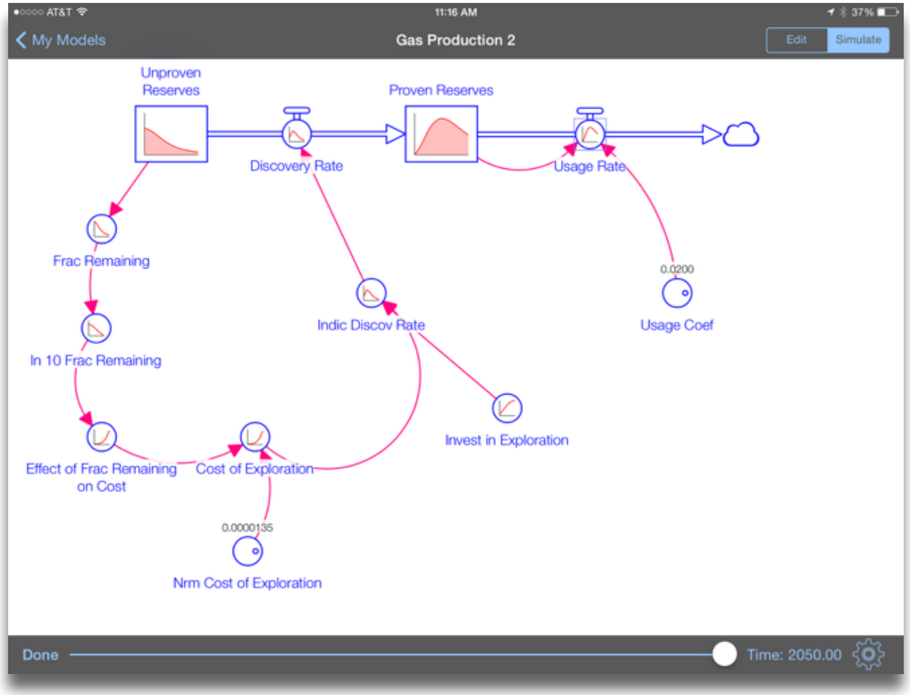

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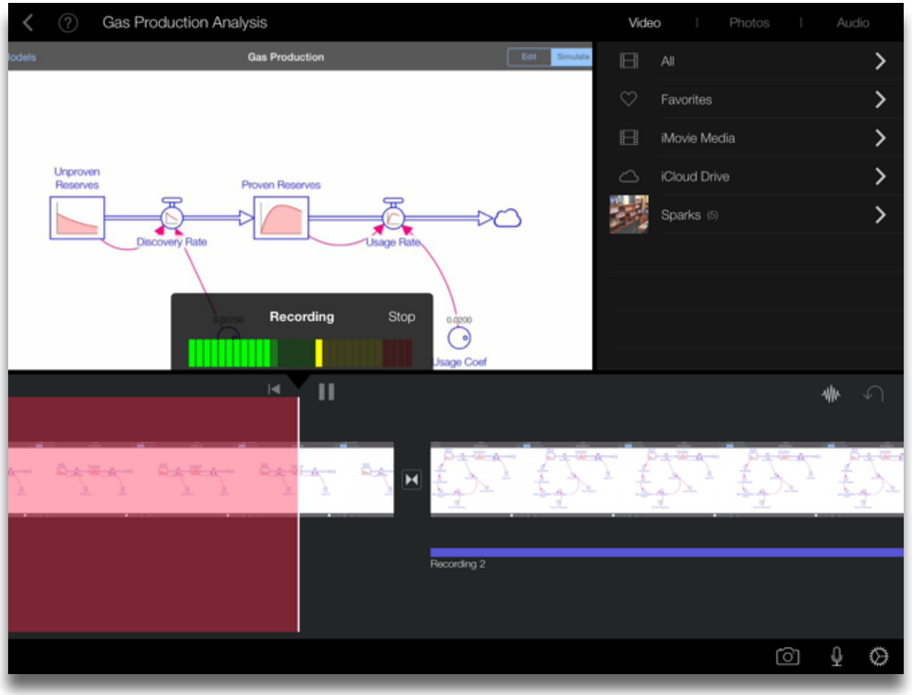
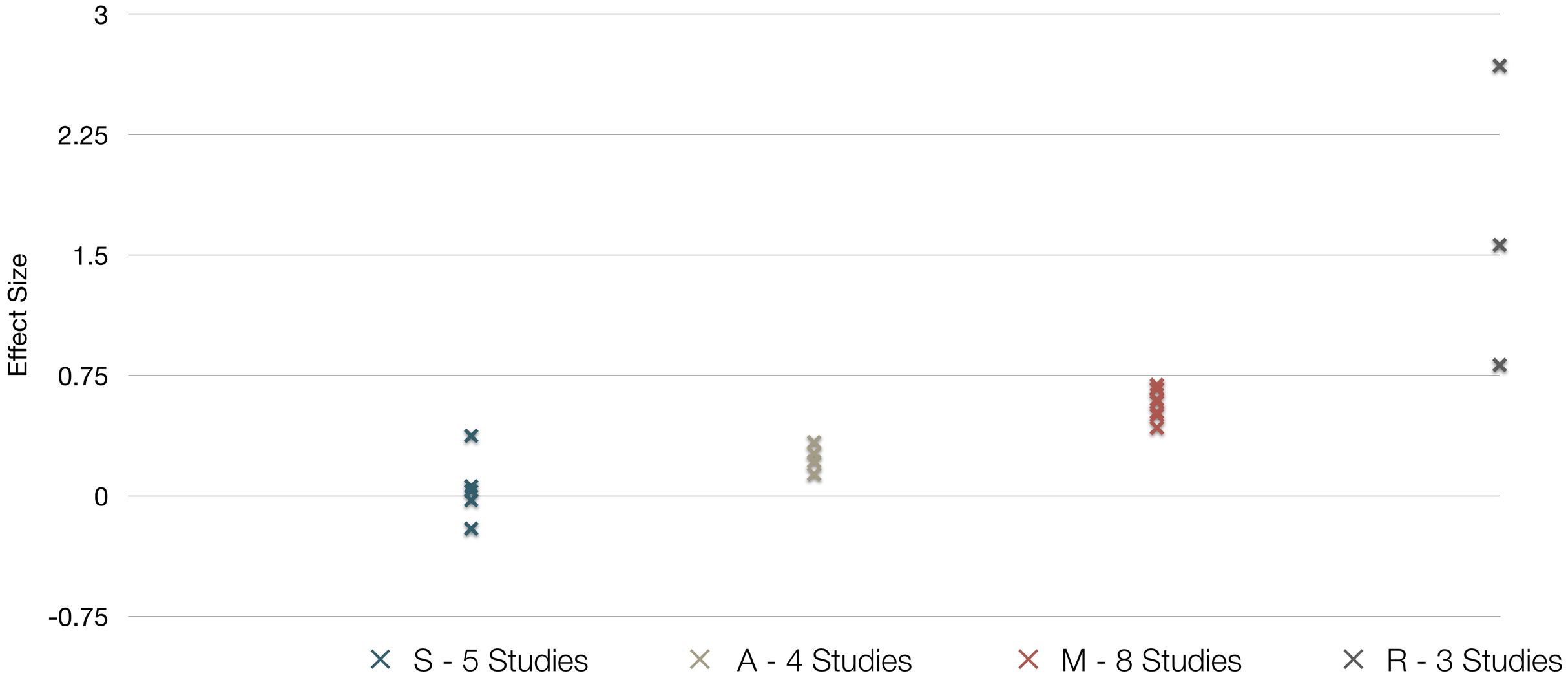
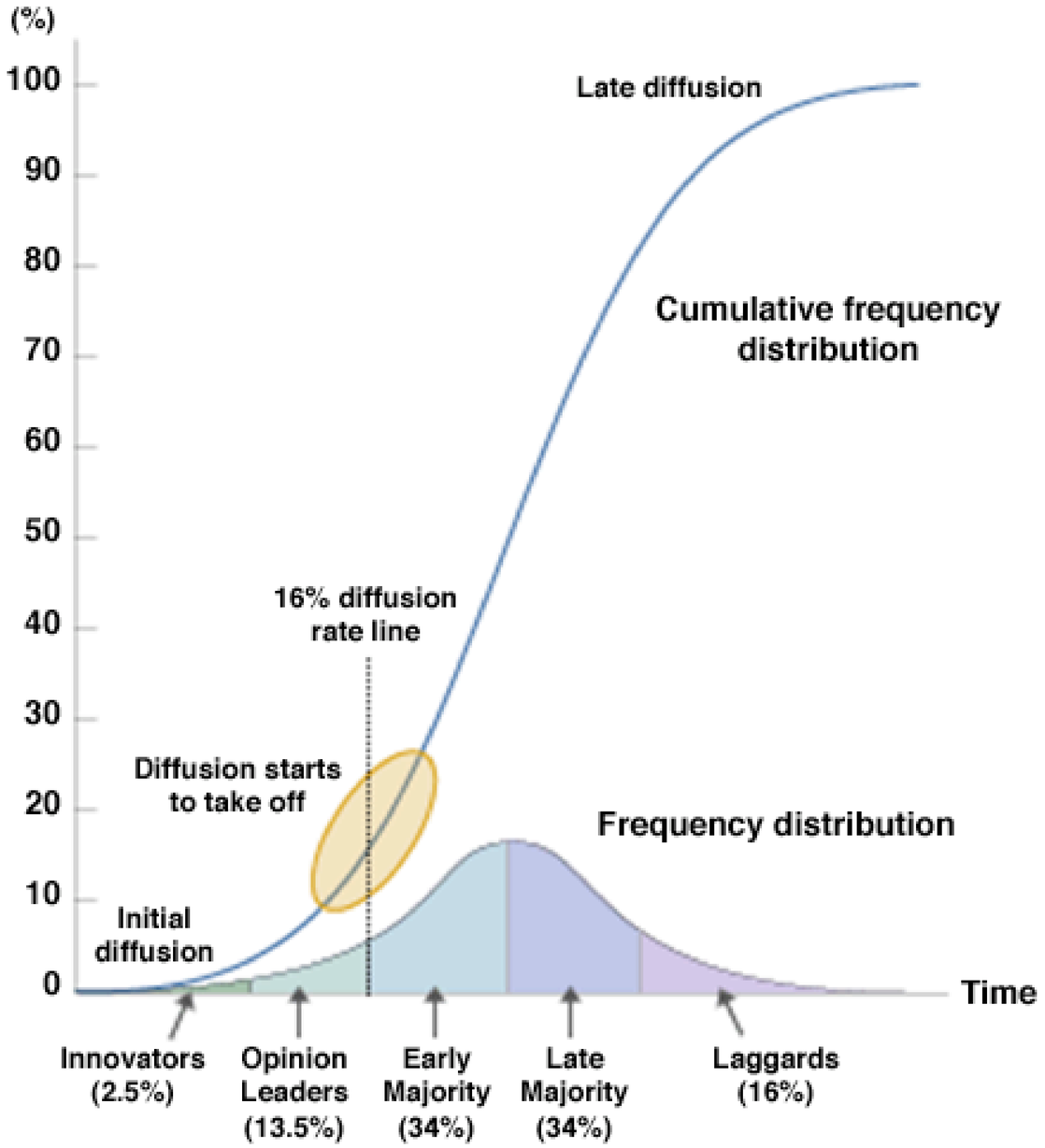





Pearson, P.D., Ferdig, R.E., Blomeyer Jr, R.L., & Moran, J. "The Effects of Technology on Reading Performance in the Middle-School Grades: A Meta-Analysis With Recommendations for Policy." *Learning Point Associates/North Central Regional Educational Laboratory (NCREL)* (2005).




Everett M. Rogers. *Diffusion of Innovations, 5th Edition*. New York:Free Press, 2003.

NMC Horizon Report > 2014 K-12 Edition

## Key Trends Driving Ed Tech Adoption

| | |
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| Fast (1-2 yrs.) | Rethinking the Roles of Teachers<br>Shift to Deeper Learning Approaches |
| Mid-Range (3-5 yrs.) | Increasing Focus on OER<br>Increasing Use of Hybrid Learning Designs |
| Long-Range (5+ yrs.) | Rapid Acceleration of Intuitive Technology<br>Rethinking How Schools Work |

## Important Ed Tech Developments

| | |
|---|---|
| Adoption: 1 yr. or less | BYOD<br>Cloud Computing |
| Adoption: 2-3 yrs. | Games and Gamification<br>Learning Analytics |
| Adoption: 4-5 yrs. | The Internet of Things<br>Wearable Technology |

## Significant Challenges Impeding Ed Tech Adoption

| Solvable<br>*understand and know how to solve* | Difficult<br>*understand but solutions are elusive* | Wicked<br>*complex to define, much less address* |
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| Authentic Learning Opportunities<br>Integrating Personalized Learning | Complex Thinking & Communication<br>Safety of Student Data | Competition from New Models of Ed<br>Keeping Formal Education Relevant |

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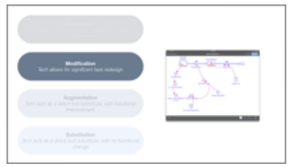


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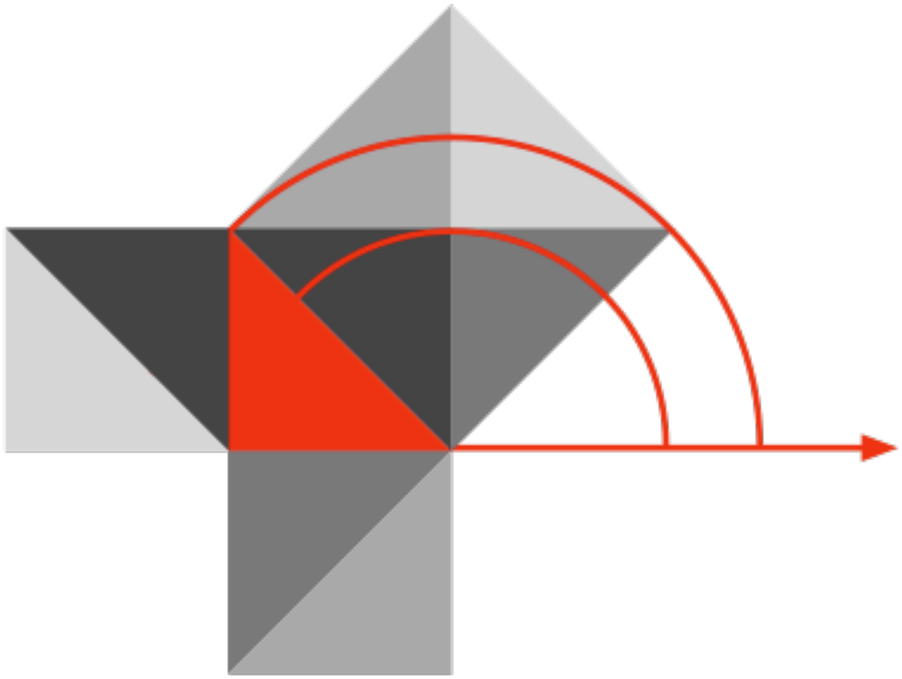
# Hippasus



Blog: http://hippasus.com/blog/
Email: rubenrp@hippasus.com
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