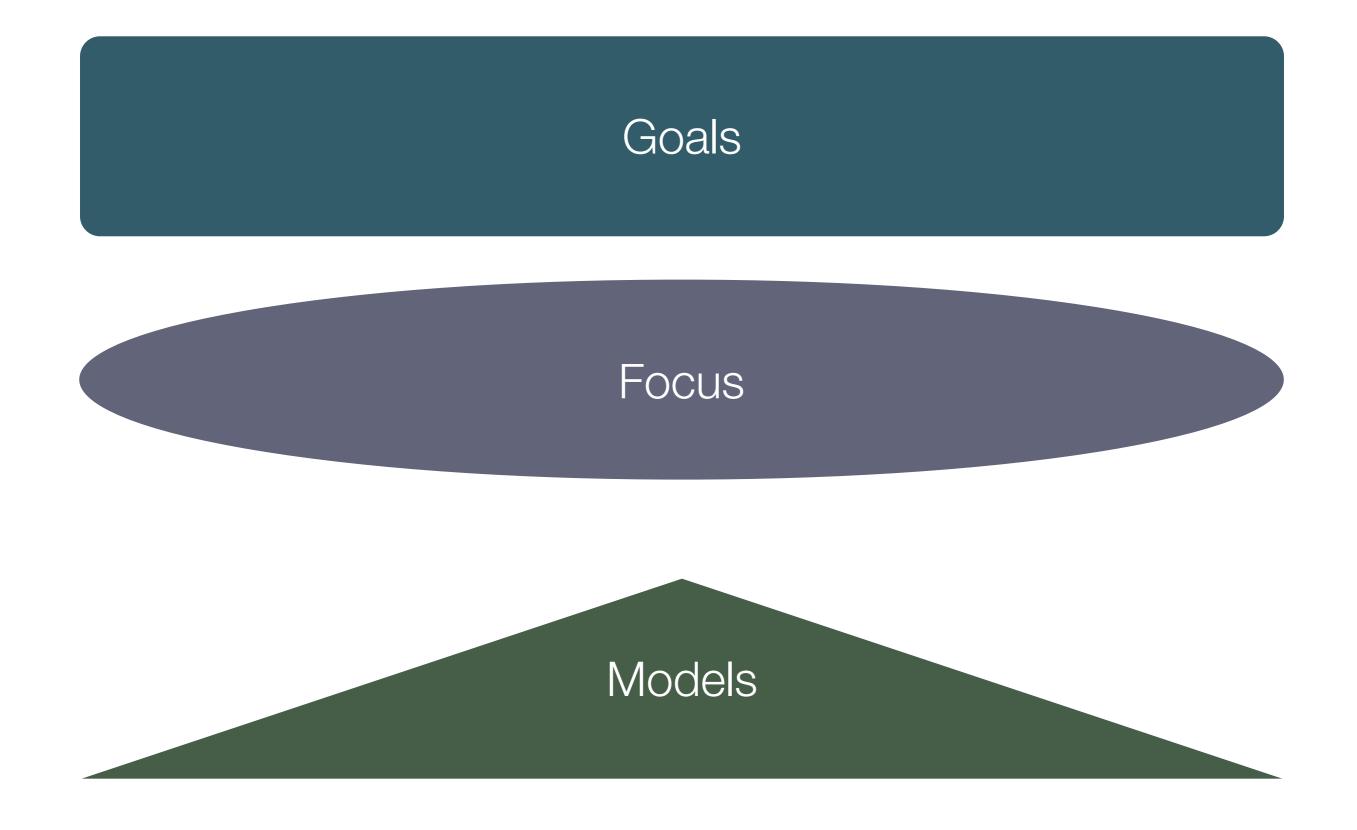
Transforming Learning Through Technology: Goals and Models

Ruben R. Puentedura, Ph.D.



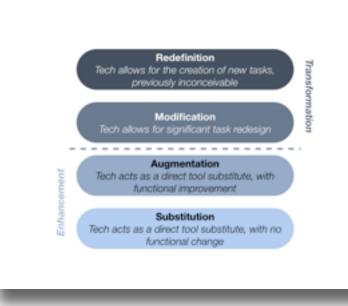
Technology

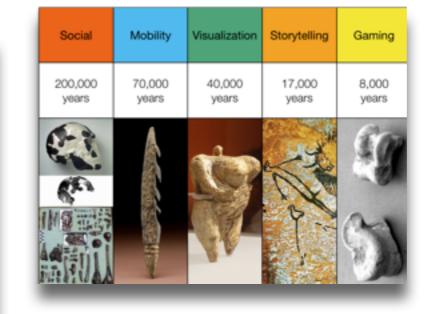


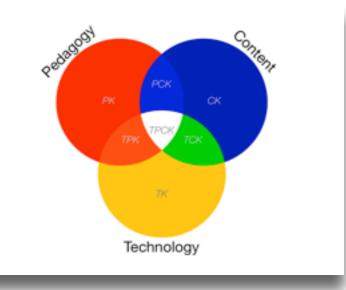
Augmenting Human Intellect & Learning Capacity



21st Century Learning







One-to-One Technologies

Redefinition

Tech allows for the creation of new tasks, previously inconceivable

Modification

Tech allows for significant task redesign

Augmentation

Tech acts as a direct tool substitute, with functional improvement

Substitution

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Modification Tech allows for significant task redesign

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10:37 Pl	
Library 📃 William Rosen	The Most Powerful Idea in the World ${}_{A}A = Q$
	the wheel's speed. Science Museum / Science & Soci- ety Picture Library
	THE SUN-AND-PLANET (or, for that matter, the crank plus connecting rod, which was, after all, Watt's first choice for producing rotary motion, and would be everybody's after the Wasbrough patent expired in 1794) was a huge step toward the introduction of steam power into mills and factories, rather than pumps. But it was only a step. The les- son
Fig. 5: The caption for this technical drawing reads "Mr. Watt's Patent Rotative Steam Engine as con- structed by Messes. Boulton & Watt, Soho, from 1787 to 1800. 10 Horse power." By 1787, the engine	pro but com tect 178 but issued per year? pro- pro- by ary, pro- pro- by ary, pro- pro- pro- pro- pro- pro- pro- pro-
had evolved considerably from the earlier versions, using the sun-and-planet gear to drive the large wheel; the Watt linkage to connect the beam with the cylinder, on the left; and even Watt's feedback- driven flyball governor—the two balls hanging above and to the left of the large wheel—to control	pac that had ohn Locke in the centur, preceding. Consider that from 1700 to 1740, fewer than five patents were issued in Britain annually; from 1740 to 1780, the annual number had

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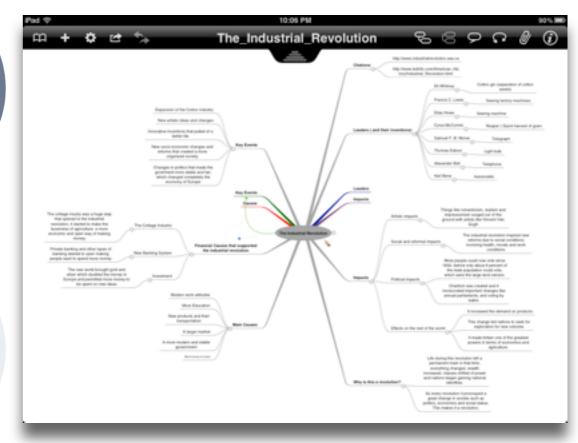
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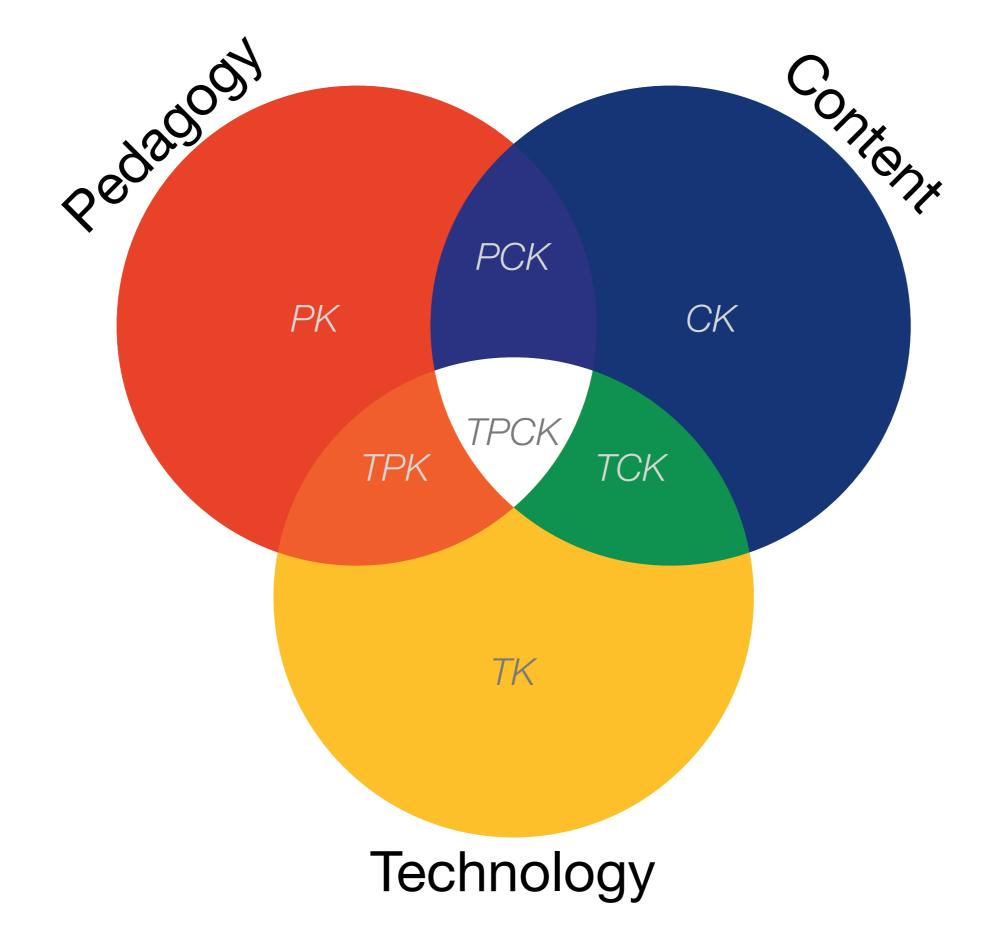
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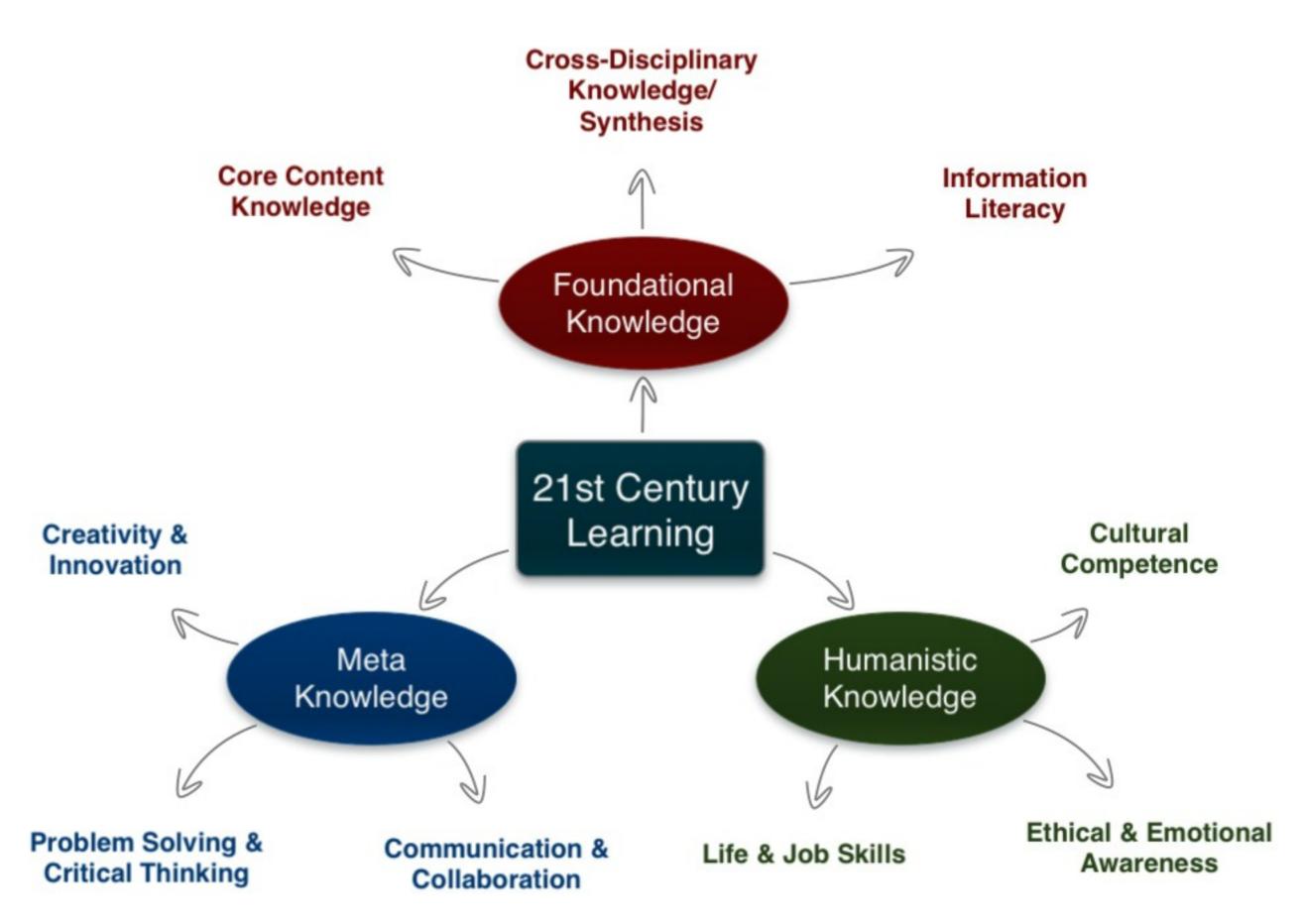
Substitution



AACTE (Eds.) The Handbook of Technological Pedagogical Content Knowledge for Educators. New York: Routledge, 2008.

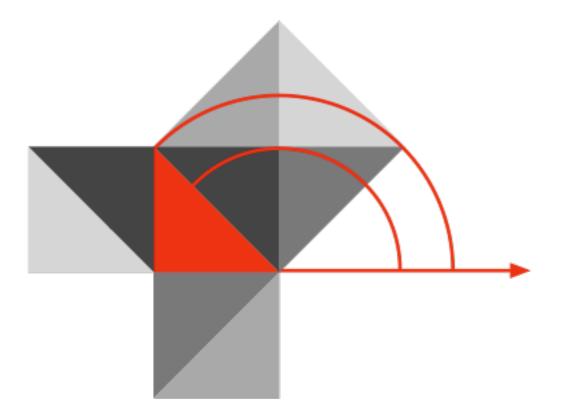
Social	Mobility	Visualization	Storytelling	Gaming
200,000 years	70,000 years	40,000 years	17,000 years	8,000 years
<image/>				

Ruben R. Puentedura, "Technology In Education: The First 200,000 Years" The NMC Perspective Series: Ideas that Matter. NMC Summer Conference, 2012.



P. Mishra and K. Kereluik. "What is 21st Century Learning? A review and synthesis." Paper submitted to the SITE2011 Conference. (2011)
P. Mishra and K. Kereluik. "What is 21st Century Learning? A review and synthesis." SITE2011 Conference Presentation. (2011)

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