SAMR and the EdTech Quintet: A Deeper Dive

Ruben R. Puentedura, Ph.D.

Tech acts as a direct tool substitute, with functional improvement

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

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

Modification Tech allows for significant task redesign Transformation

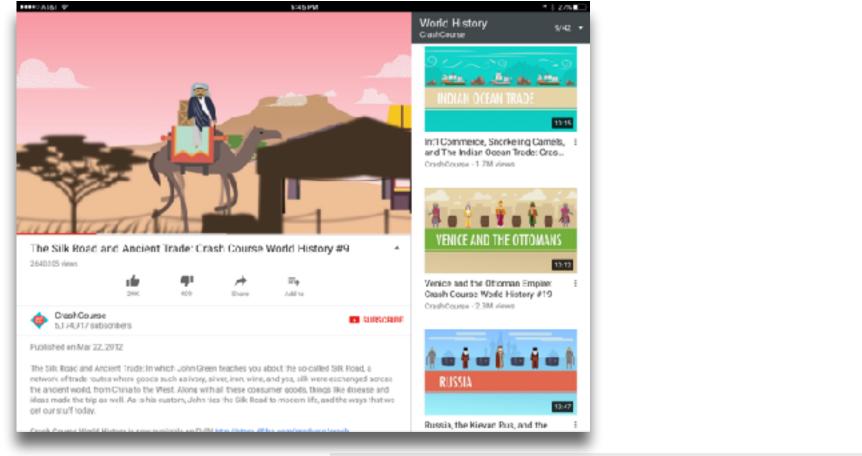
Augmentation

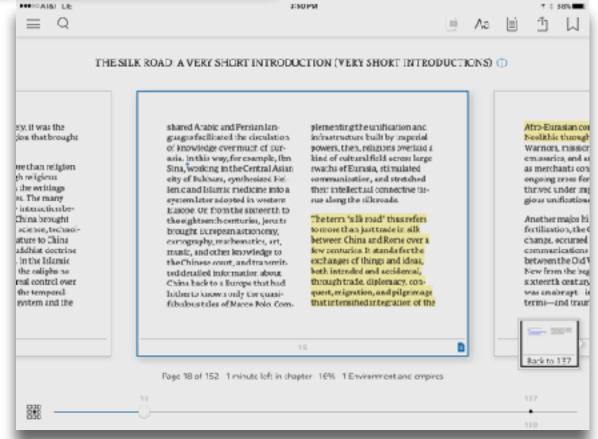
Ruben R. Puentedura, As We May Teach: Educational Technology, From Theory Into Practice. (2009)

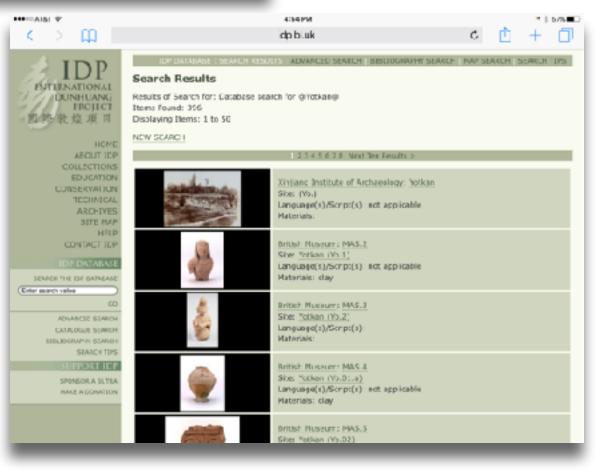
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Substitution



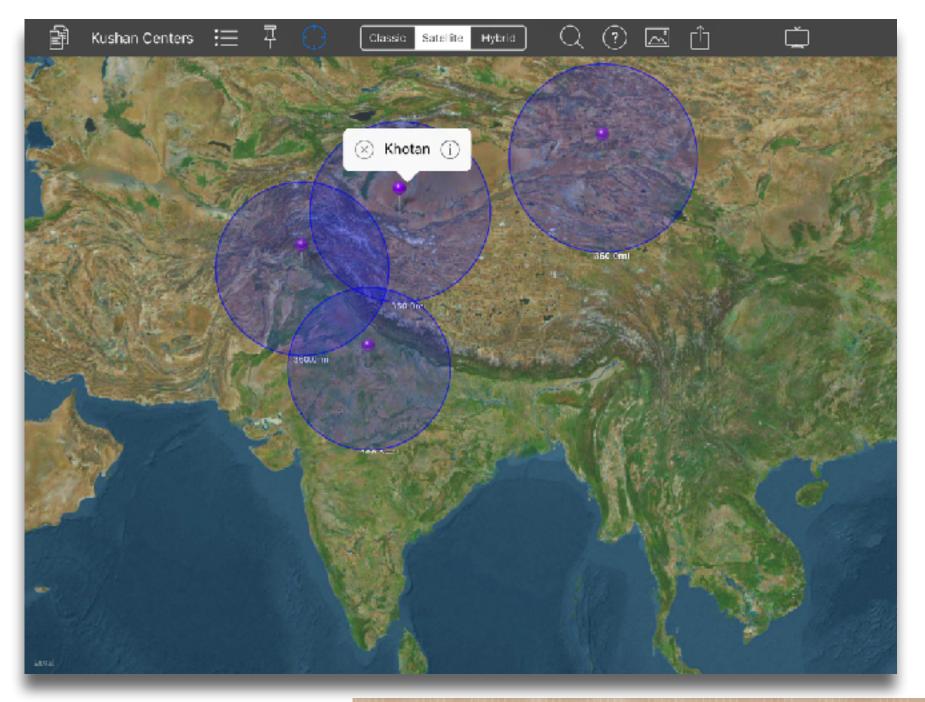


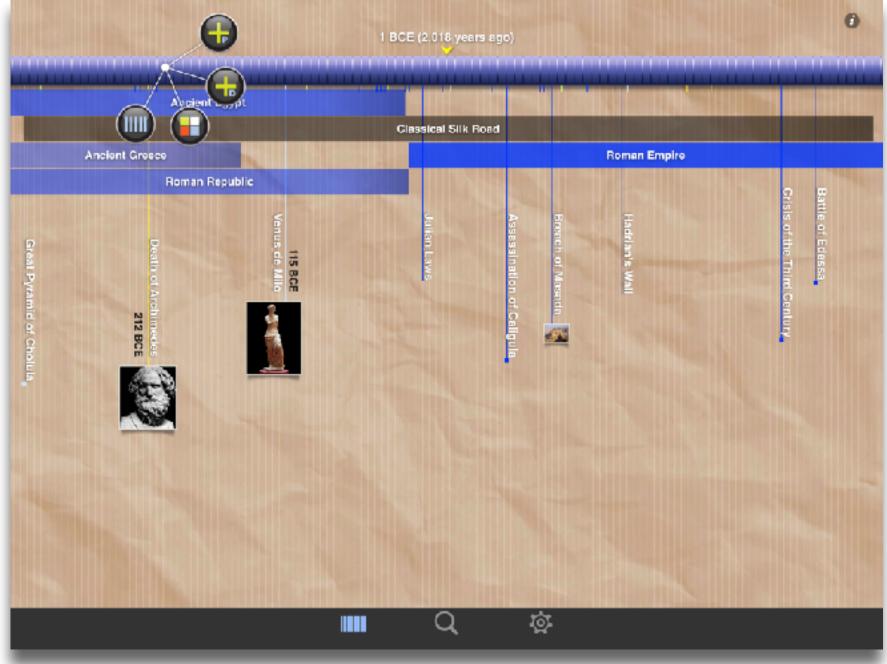


Modification Tech allows for significant task redesign

Augmentation

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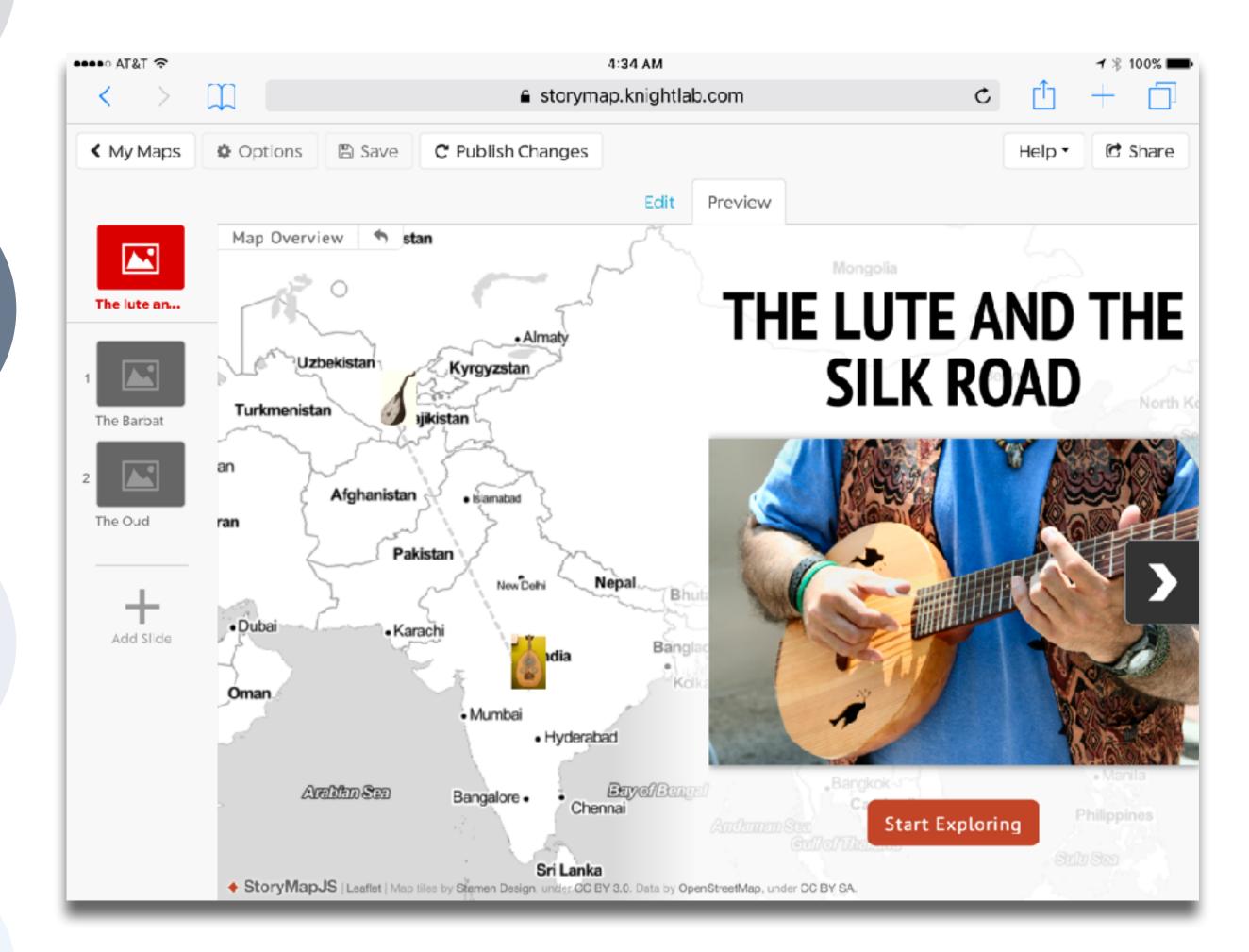




Modification

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



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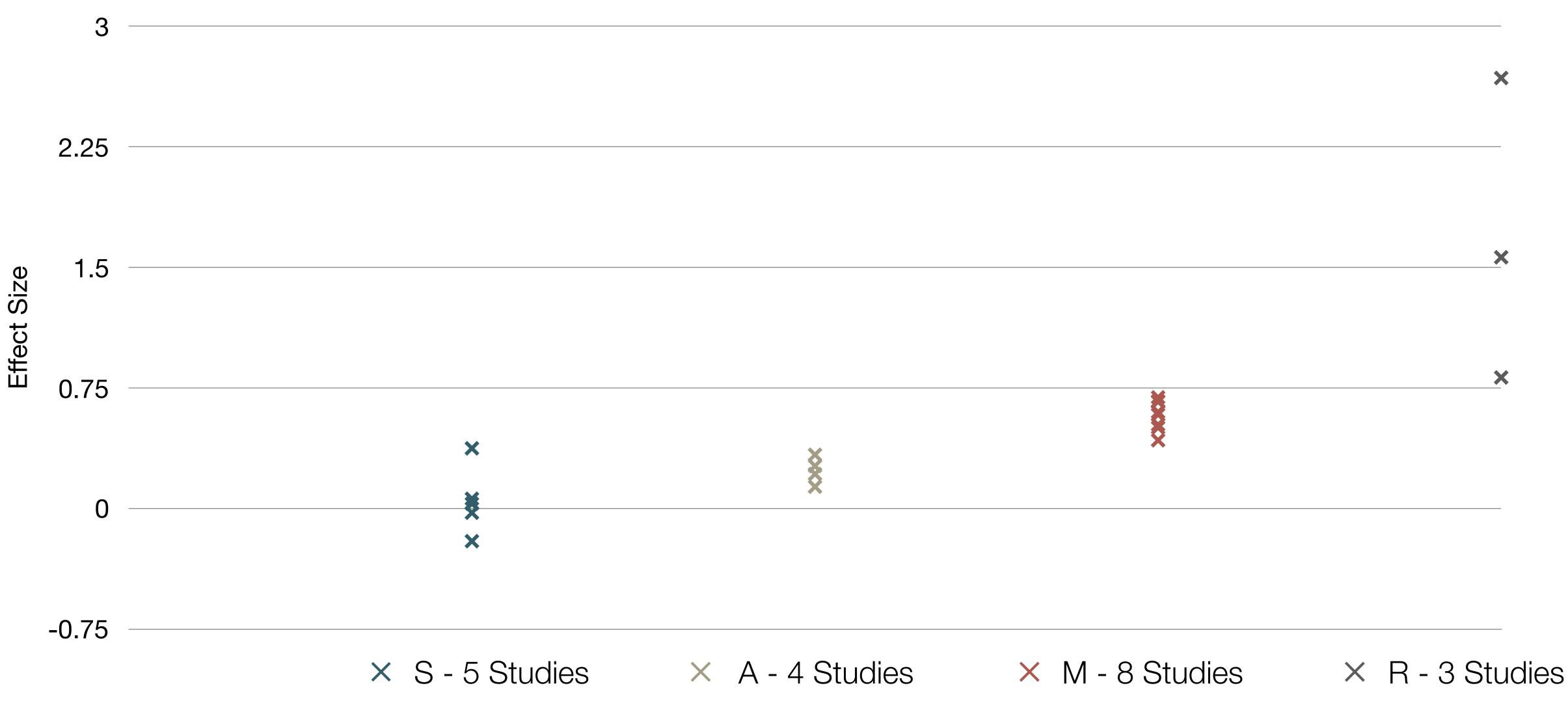
Meta-analysis	Number of studies	ES type	Mean ES	SE
Bangert-Drowns (1993)	19	Missing	0.27	0.11
Bayraktar (2000)	42	Cohen's d	0.27	0.05
Blok, Oostdam, Otter, and Overmaat (2002)	25	Hedges's g	0.25	0.06
Christmann and Badgett (2000)	16	Missing	0.13	0.05
Fletcher-Flinn and Gravatt (1995)	120	Glass's ∆	0.24	0.05
Goldberg, Rus- sell, and Cook (2003)	15	Hedges's g	0.41	0.07
Hsu (2003)	25	Hedges's g	0.43	0.03
Koufogiannakis and Wiebe (2006)	8	Hedges's g	-0.09	0.19
Kuchler (1998)	65	Hedges's g	0.44	0.05
Kulik and Kulik (1991)	239	Glass's ∆	0.30	0.03
Y. C. Liao (1998)	31	Glass's ∆	0.48	0.05
YI. Liao and Chen (2005)	21	Glass's ∆	0.52	0.05
Y. K. C. Liao (2007)	52	Glass's ∆	0.55	0.05

	Number of		Mean	
Meta-analysis	studies	ES type	ES	SE
Michko (2007)	45	Hedges's g	0.43	0.07
Onuoha (2007)	35	Cohen's d	0.26	0.04
Pearson, Ferdig, Blomeyer, and Moran (2005)	20	Hedges's g	0.49ª	0.11
Roblyer, Castine, and King (1988)	35	Hedges's g	0.31	0.05
Rosen and Salo- mon (2007)	31	Hedges's g	0.46	0.05
Schenker (2007)	46	Cohen's d	0.24	0.02
Soe, Koki, and Chang (2000)	17	Hedges's g and Pearson's r ^a	0.26ª	0.05
immerman and Kruepke (2006)	114	Pearson's r ^a	0.24	0.03
Forgerson and Elbourne (2002)	5	Cohen's d	0.37	0.16
Waxman, Lin, and Michko (2003)	42	Glass's ∆	0.45	0.14
Yaakub (1998)	20	Glass's Δ and g	0.35	0.05
Zhao (2003)	9	Hedges's g	1.12	0.26

a. Converted to Cohen's d.



SAMR and the Use of Technology to Enhance Reading Performance in Middle School

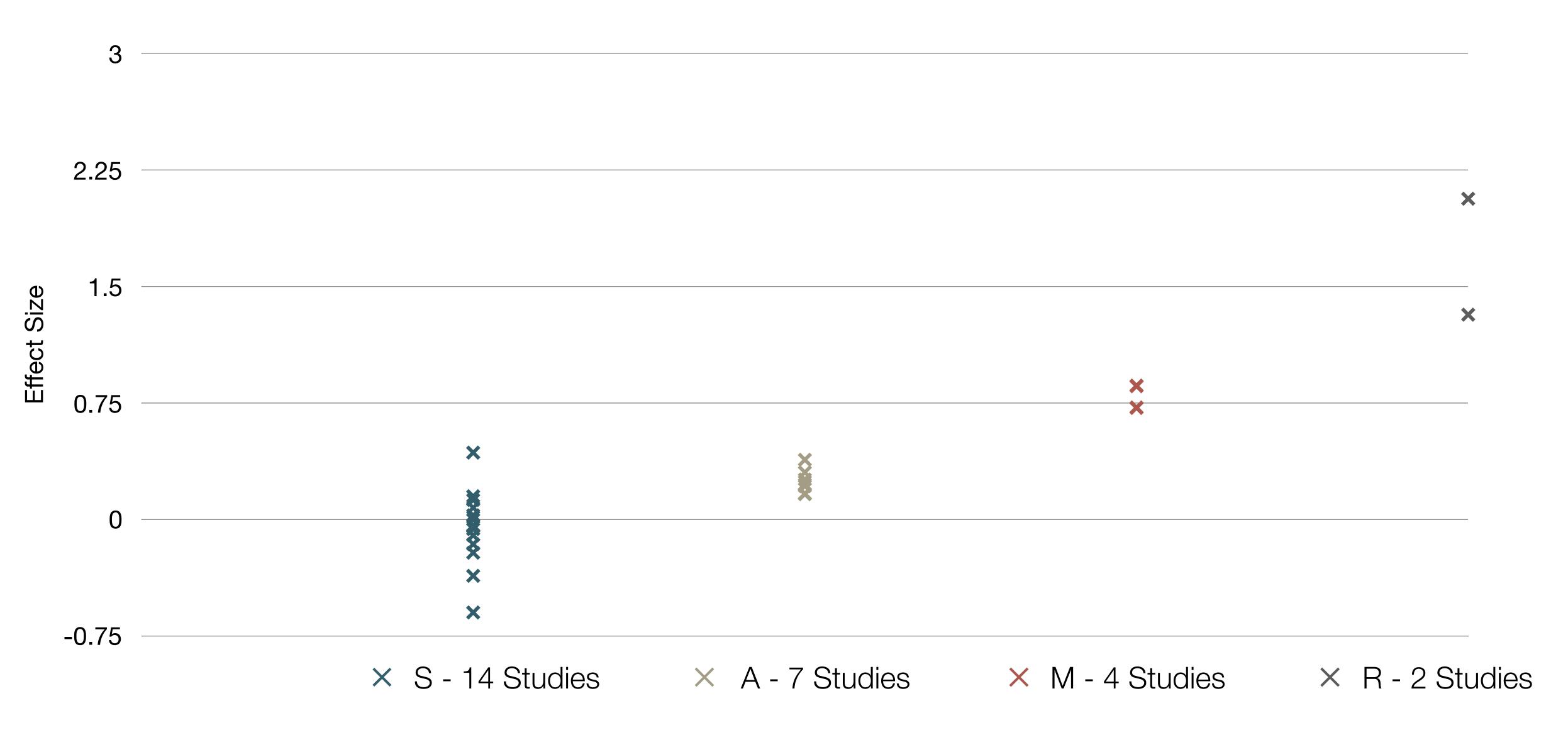


Pearson, P.D., Ferdig, R.E., Blomeyer Jr, R.L., & Moran, J. "The Effects of Technology on Reading Performance in the Middle-School Grades: A Meta-Analysis With Recommendations for Policy." Learning Point Associates/North Central Regional Educational Laboratory (NCREL) (2005).





SAMR and the Use of Tablets in Education



Tamim, R.M., Borokhovski, E., Pickup, D., Bernard, R.M. & El Saadi, L. "Tablets for Teaching and Learning: A Systematic Review and Meta-Analysis." Commonwealth of Learning (COL) (2015).

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 Educati	on: The First 200,000 Years" The NMC Perspective Series: Ideas	that Matter. NMC Summer Conference, 2012.	





Bookmarks

Discussions

Social

Blogging

Telepresence







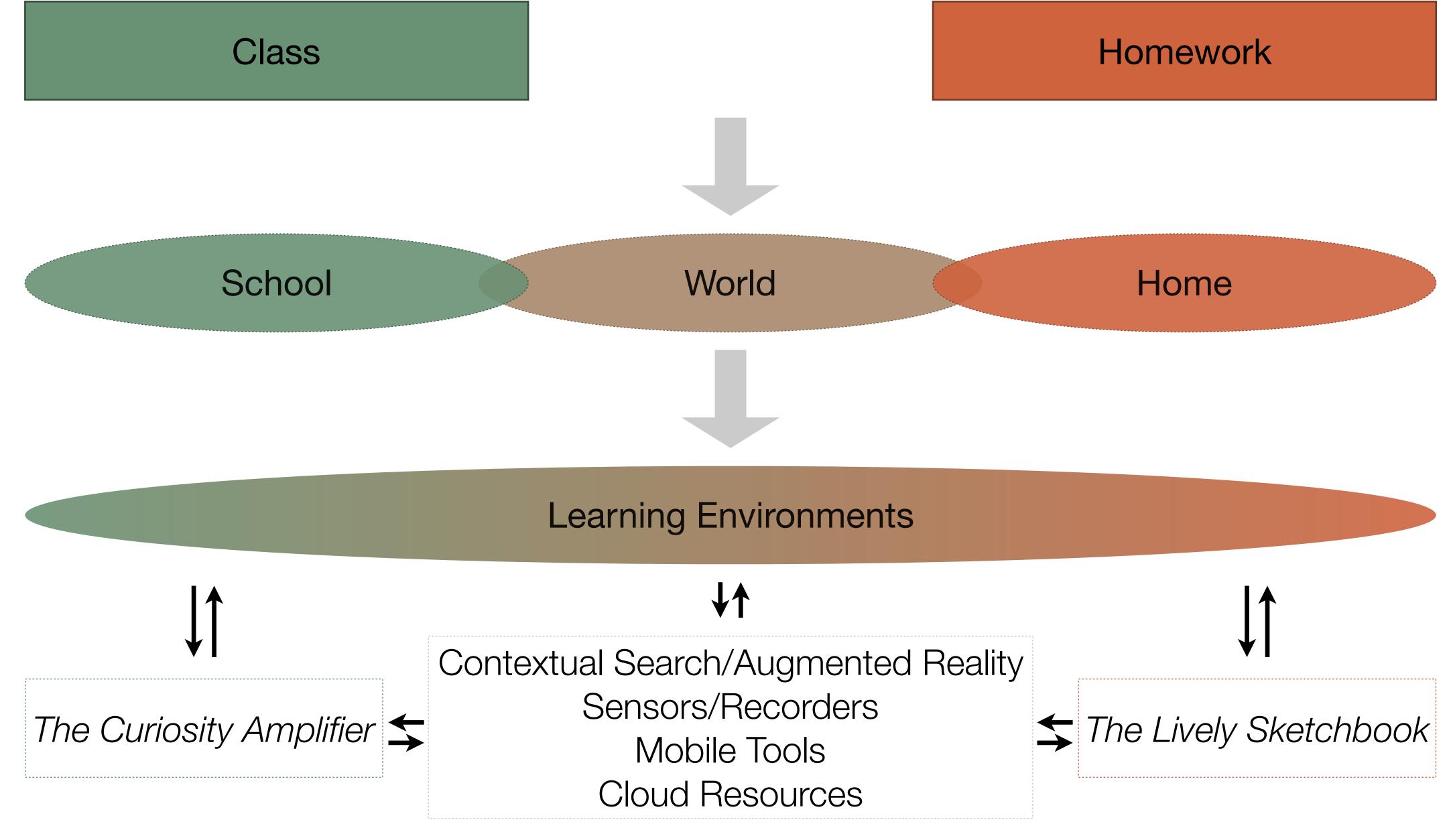




Microblogging

Wikis

File Sharing



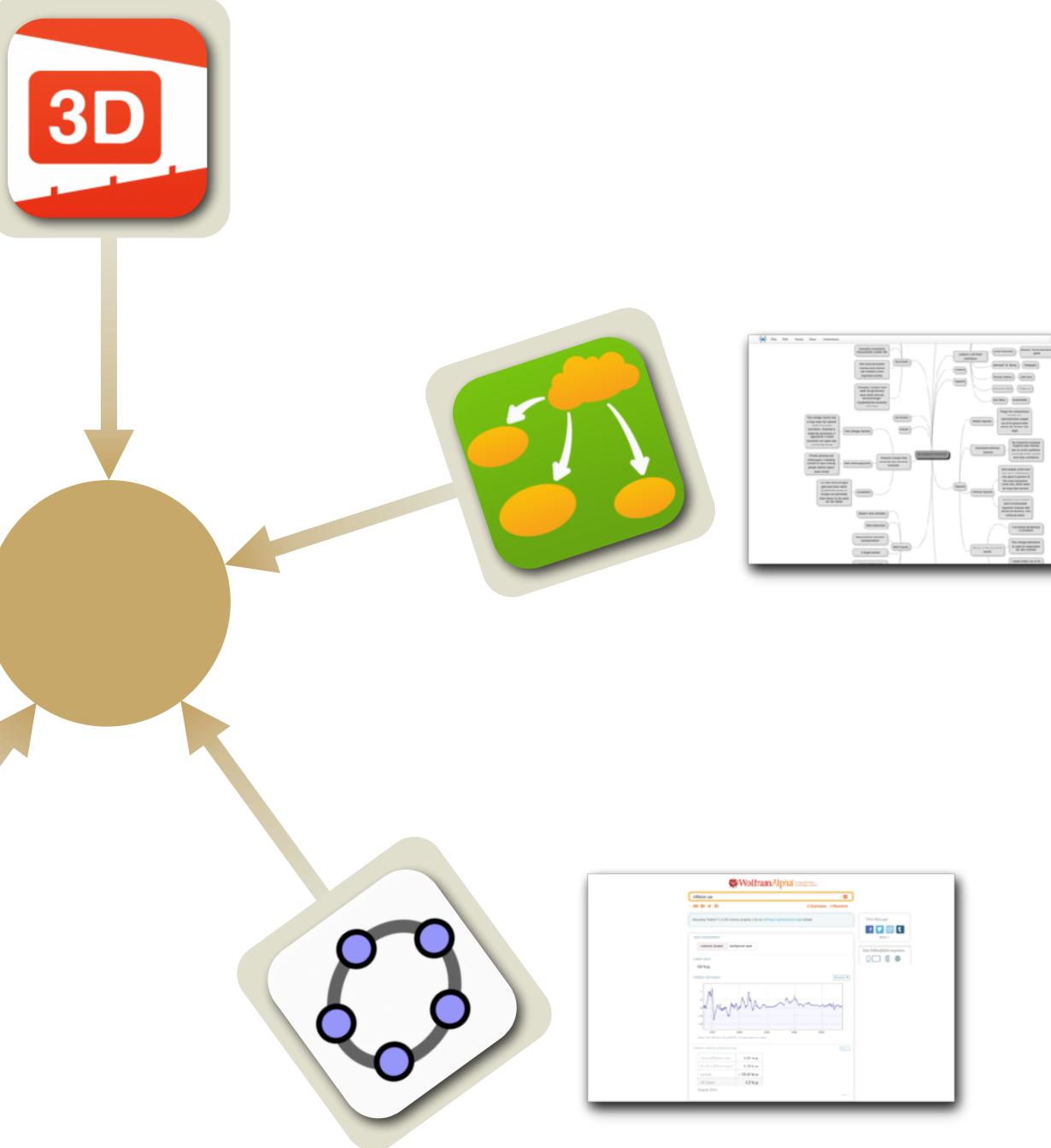




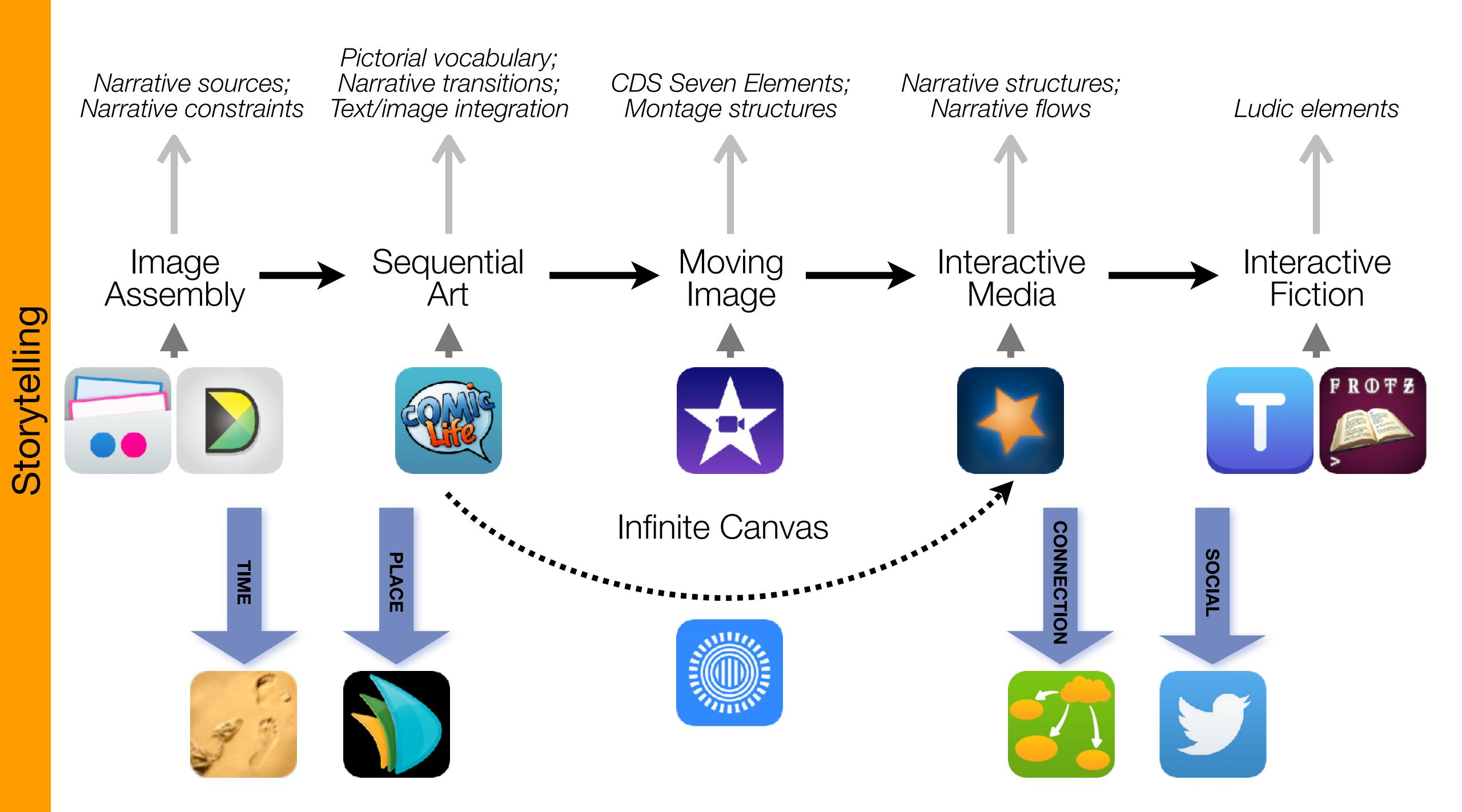












Formal Definition of **Game** (Salen & Zimmerman)

"A game is a system in which players rules, that results in a quantifiable outcome."

engage in an artificial conflict, defined by

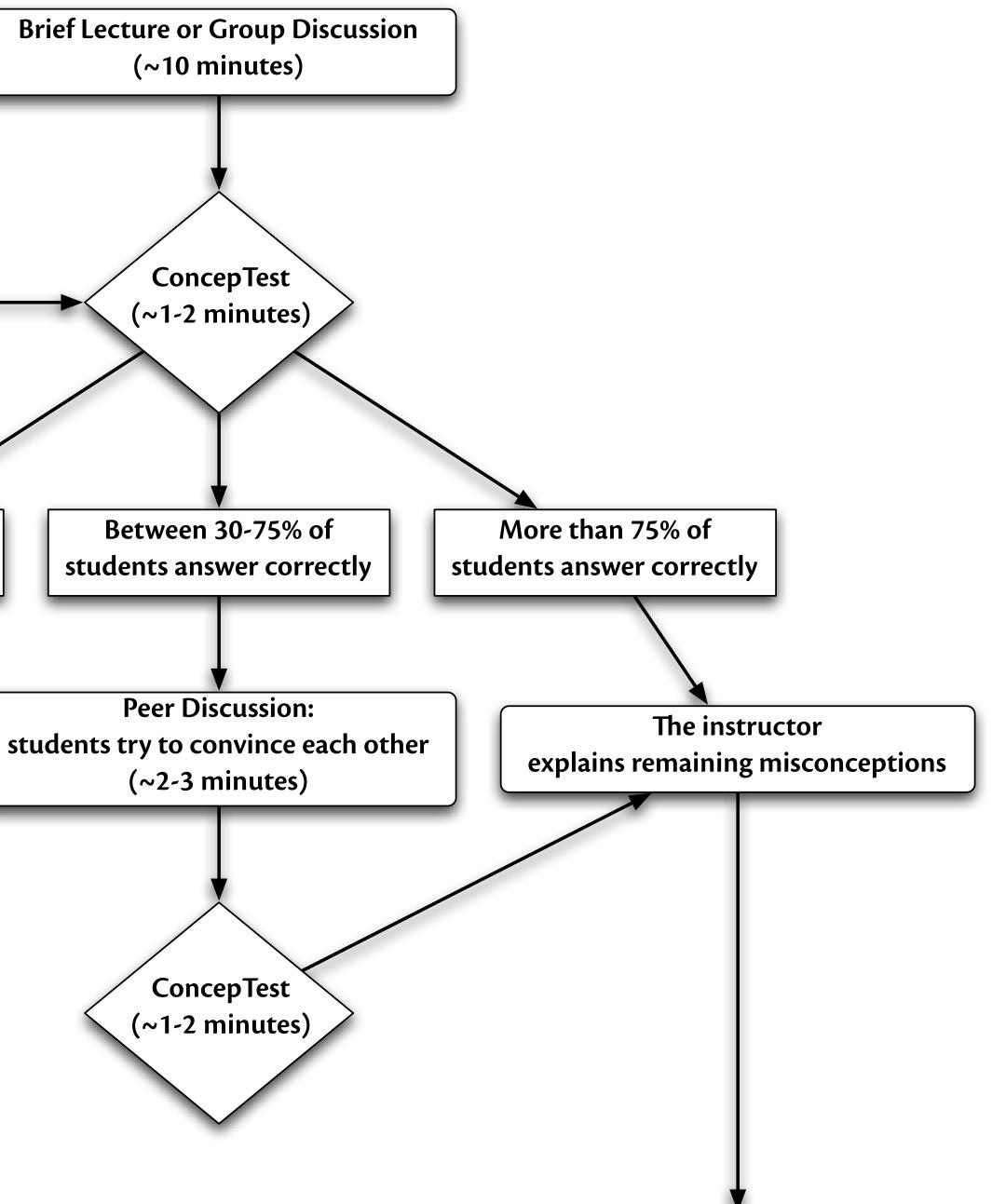
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Visualization	Making
Storytelling	Knowledg
Gaming	Feedback L

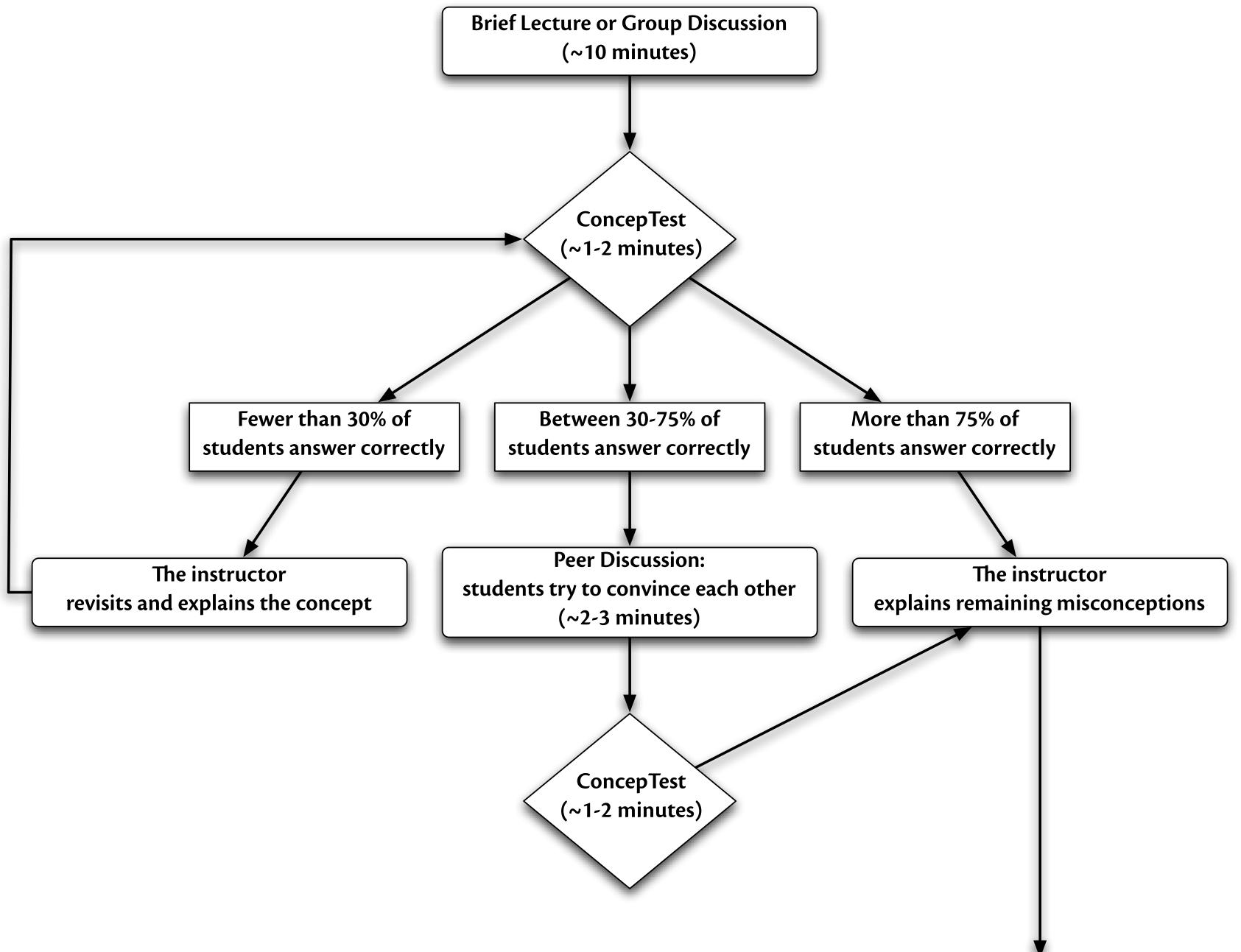
et – Associated Practices

- nication, Collaboration, Sharing
- Anyplace Learning and Creation
- g Abstract Concepts Tangible
- ge Integration and Transmission
- Loops and Formative Assessment

S to A: The Value of Shared Practices

- Augmented Note Taking and Annotation
- Visualization Methods:
 - 5 Primary Domains: Space, Time, Networks, Text, Number
- Simple Blogging
- Simple Digital Storytelling Video •
- Flipped Classroom: •
 - Materials Creation
 - Peer Discussion/Instruction Methods
- Simple Interactive Fiction
- LMS Practices







Modification Tech allows for significant task redesign

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

Substitution

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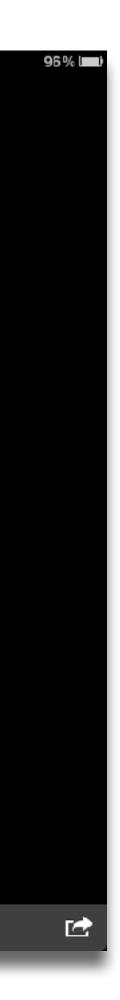


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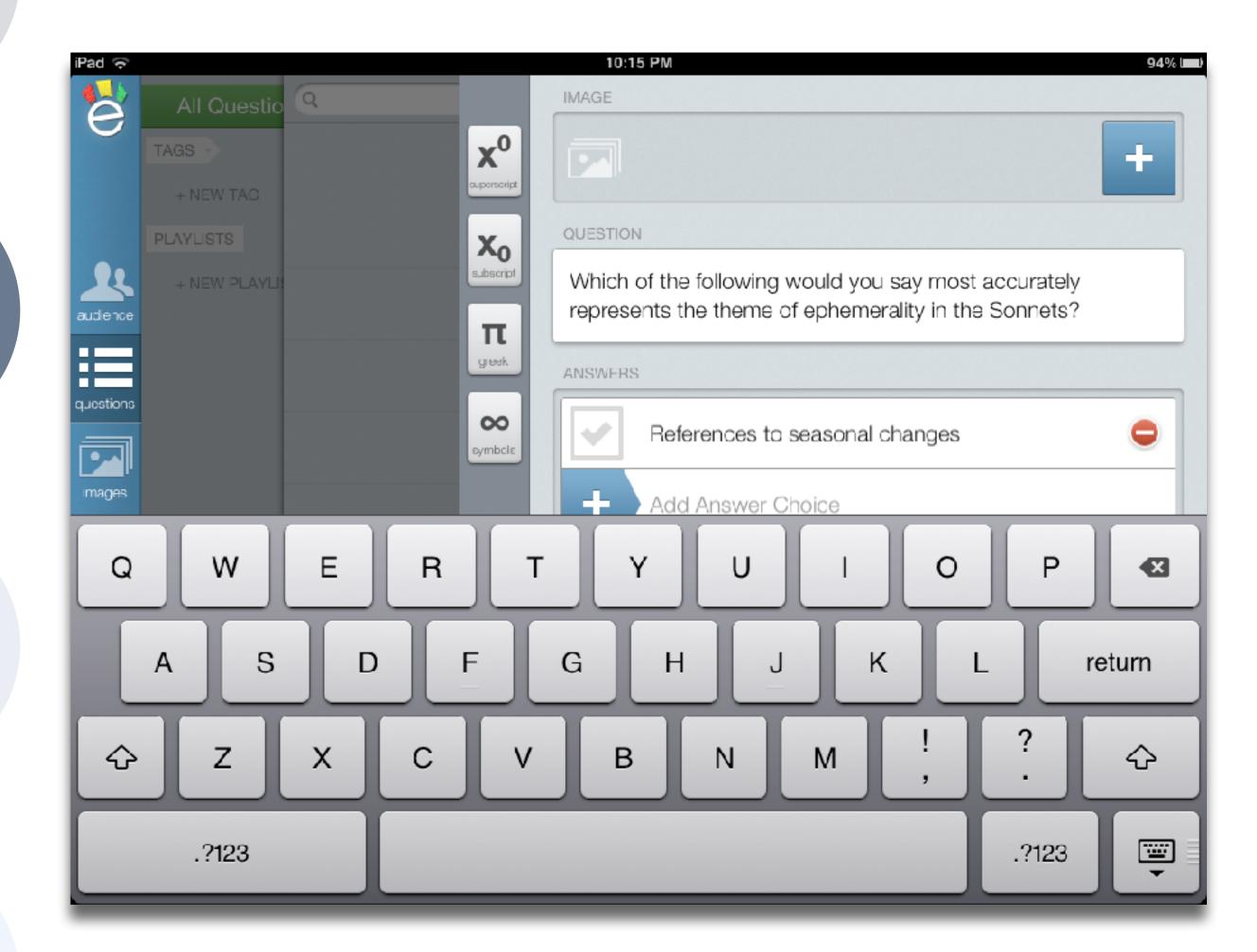
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Modification

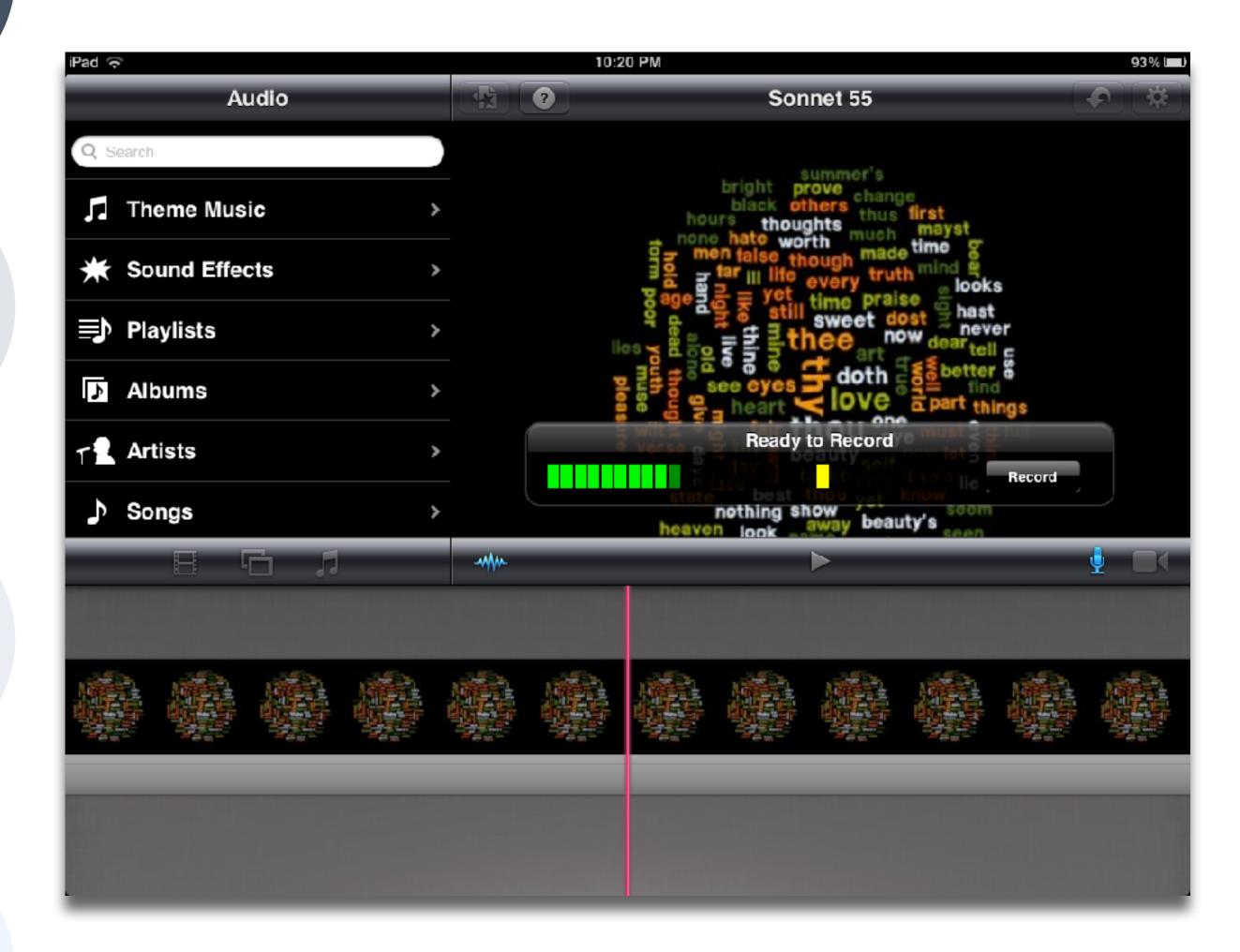
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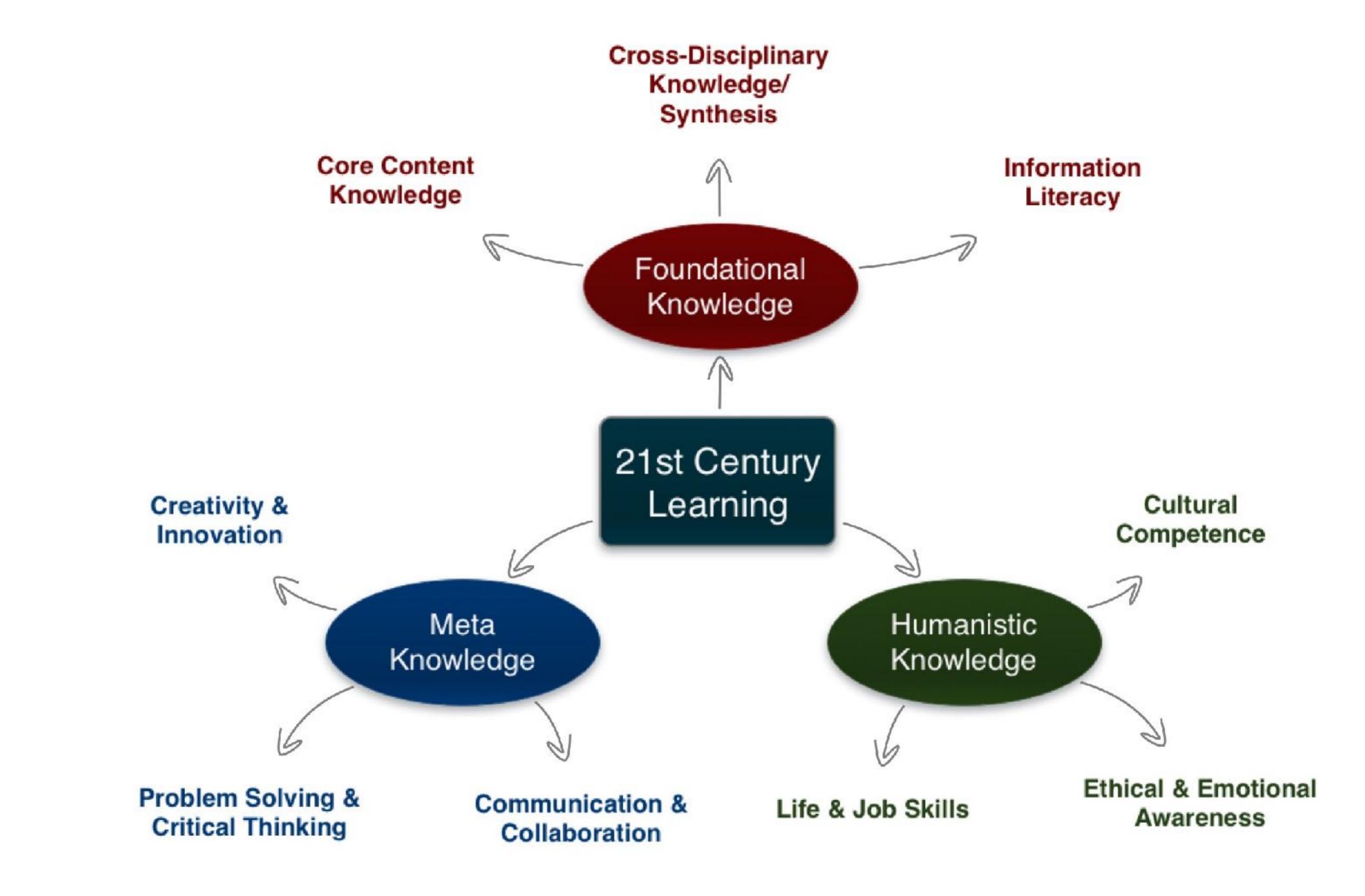
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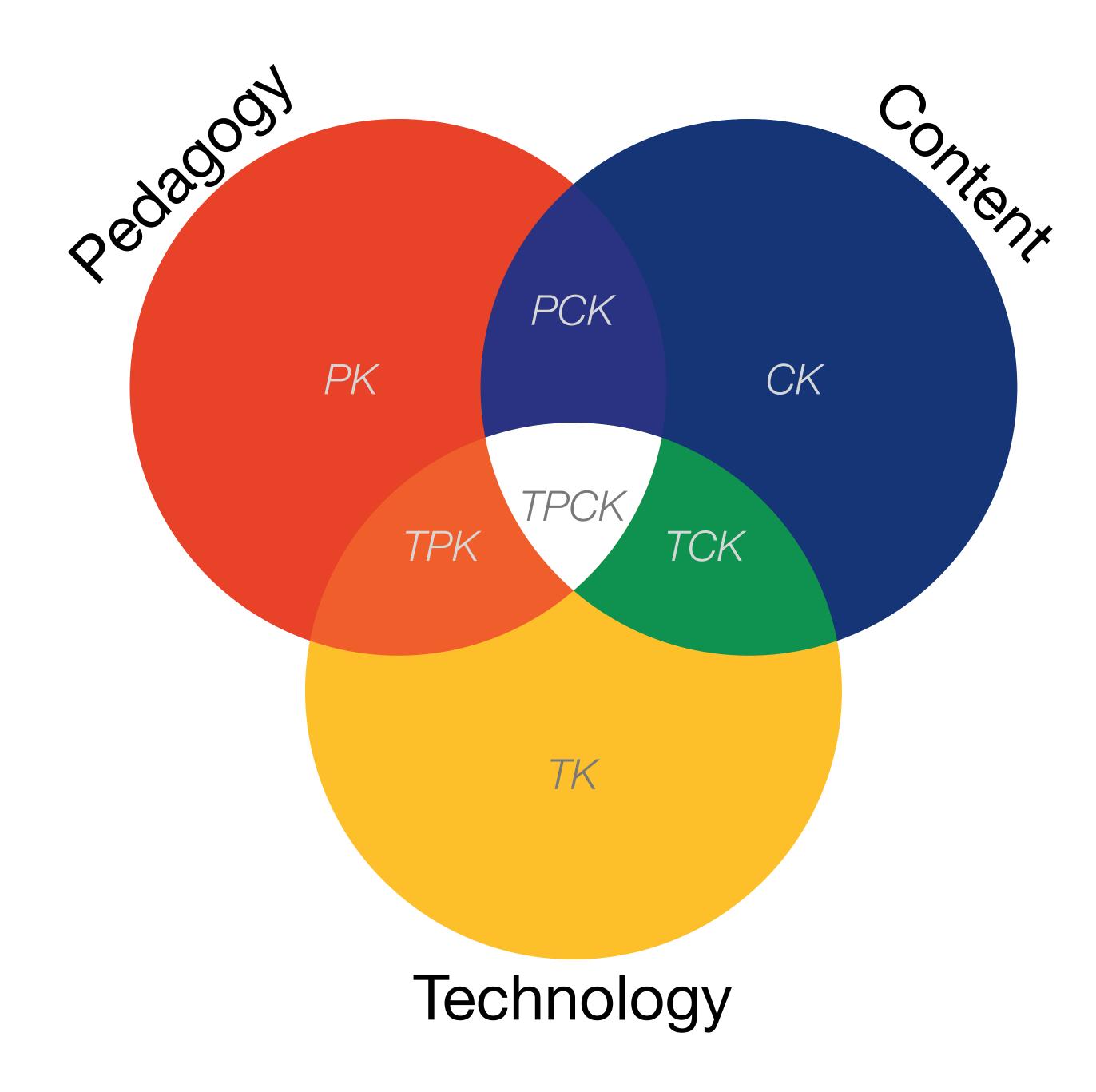


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Punya Mishra & Matthew J. Koehler, "Technological pedagogical content knowledge: A framework for teacher knowledge". Teachers College Record, 108(6). (2006)

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

Substitution

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Pedro Páramo		Juan Rulfo
	Comparar or Moby Dick.	on otros comienzos - e.g.

madre me lo dijo. Y yo le prometí que vendría a verlo en cuanto ella muriera. Le apreté sus manos en señal de que lo haria; pues ella estaba por morirse y yo en plan de prometerlo todo. «No dejes de ir a visitarlo -me recomendó-. Se llama de otro modo y de este otro. Estoy segura de que le dará gusto conocerte.» Entonces no pude hacer otra cosa sino decirle que así lo haría, y de tanto decirselo se lo seguí diciendo aun después que a mis manos les costó trabajo zafarse de sus manos muertas.

Todavía antes me había dicho:

No vayas a pedirle nada. Exígele lo nuestro. Lo que estuvo obligado a darme y nunca me dio... El olvido en que nos tuvo, mi hijo, cóbraselo caro.

Así lo haré, madre.

Pero no pensé cumplir mi promesa. Hasta que ahora pronto comencé a llenarme de sueños, a darle vuelo a las ilusiones. Y de este modo se me fue formando un mundo alrededor de la esperanza que era aquel señor llamado Pedro Páramo, el marido de mimadre. Por eso vine a Comala. 🔘





PELICULA COMPLETA PEDRO PARAMO [HD]

548,775 views

Published on Aug 17, 2012 - Pedro Paramo de Juan Rulfo, dirigida por Carlos Velo. Sinopsis

Años cuarenta del siglo pasado. Alentado por su madre en el lecho de su muerte, Juan Preciado viaja cargado de ilusiones en busca de su padre, a quien no conoce. Pero al llegar a Comala, el lugar donde la dueron que vivía, sólo encuentra recuerdos... Los recuerdos de todo un pueblo en torno a ese hombre, Fedro Páramo: de cómo se convirtió en el patrón de la hacienda más importante de la región; de cómo mató, extorsionó o utilizó a todos sin escrúpulos; de cómo se enfrento a la revolución; de cómo, por culpade su frustrado amor por Susana San Juan, terminó por pudrirse en vida... y Comala entera con él. Tanto es así que Juan empreza a sospechar, a su llegada, que todos los que habitan ese lugar no son otra cosa qué almas en pena...

"Vine a Comala porque me dijeron que acá vivía mi padre, un tal Pedro Páramo"

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Technology

Content

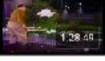
Pedagogy



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Los Caifanes 1798 views comandante LV	1
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MACARIO 1960 497K views El Ritmo De La	÷

Redefinition

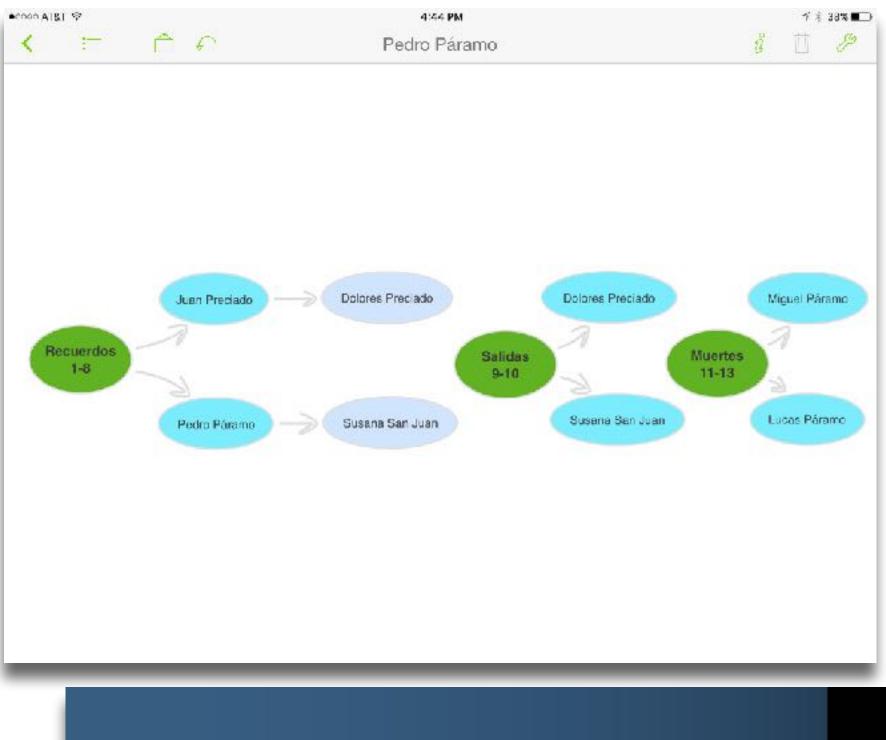
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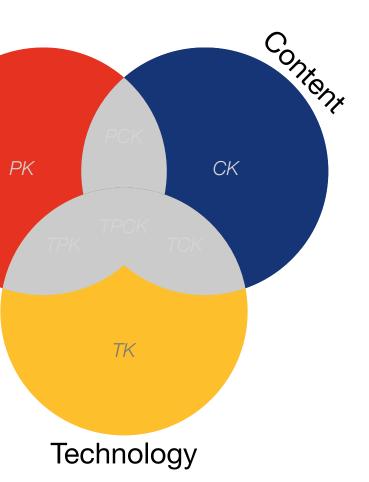
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Pedagogy





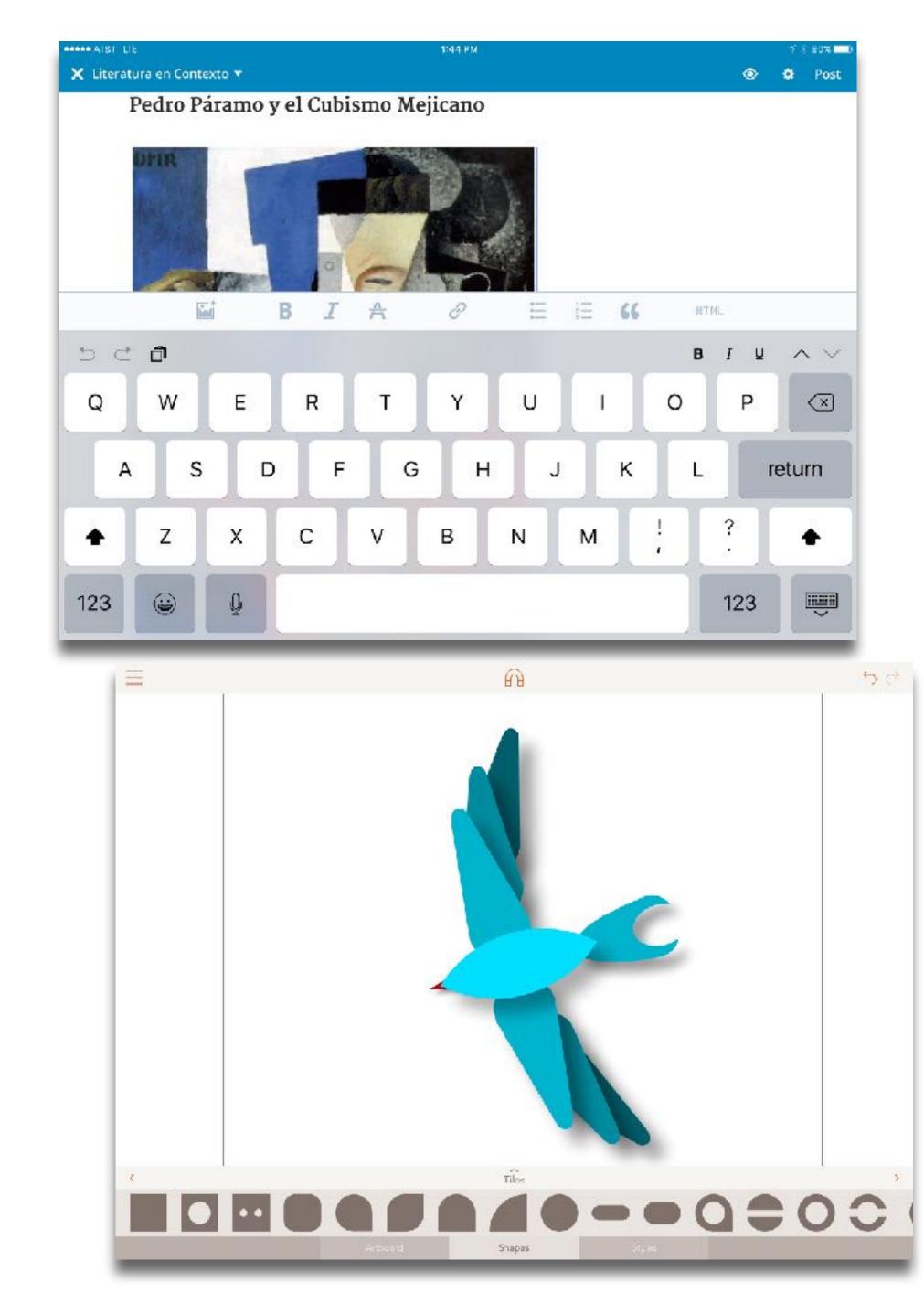
Modification

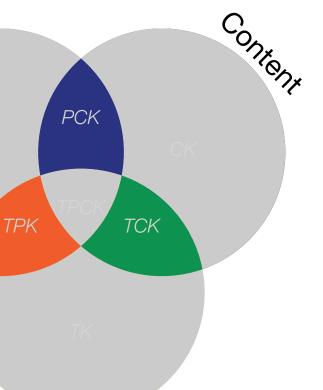
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Technology

Pedagogy

Redefinition

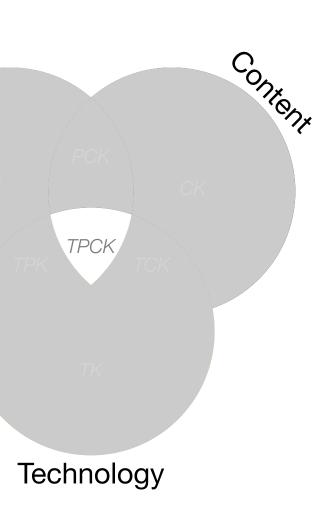
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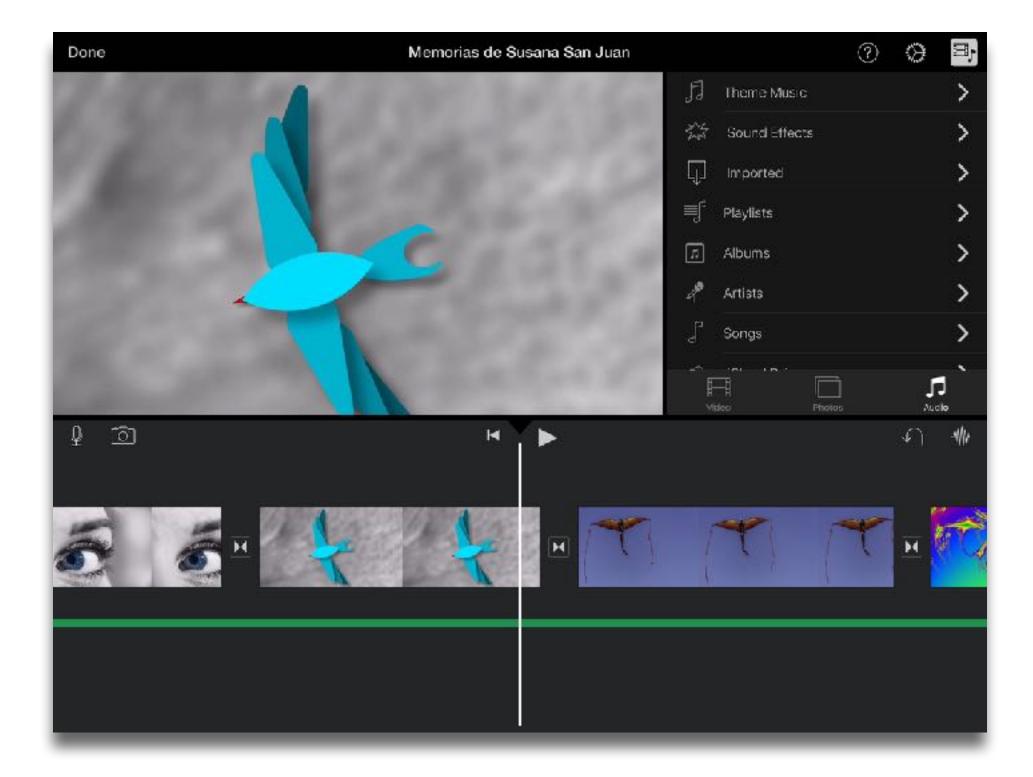
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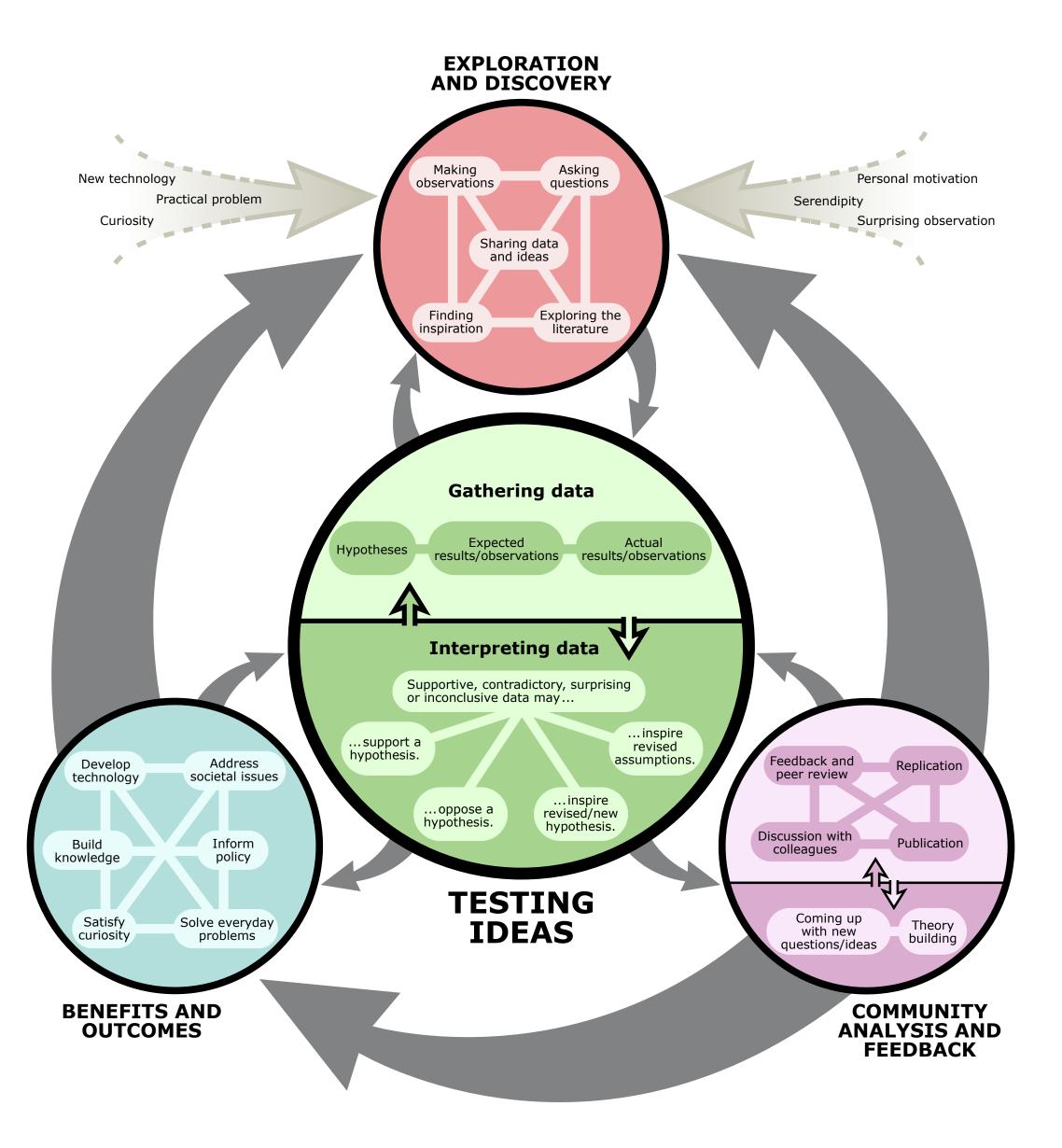
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Pedagogy

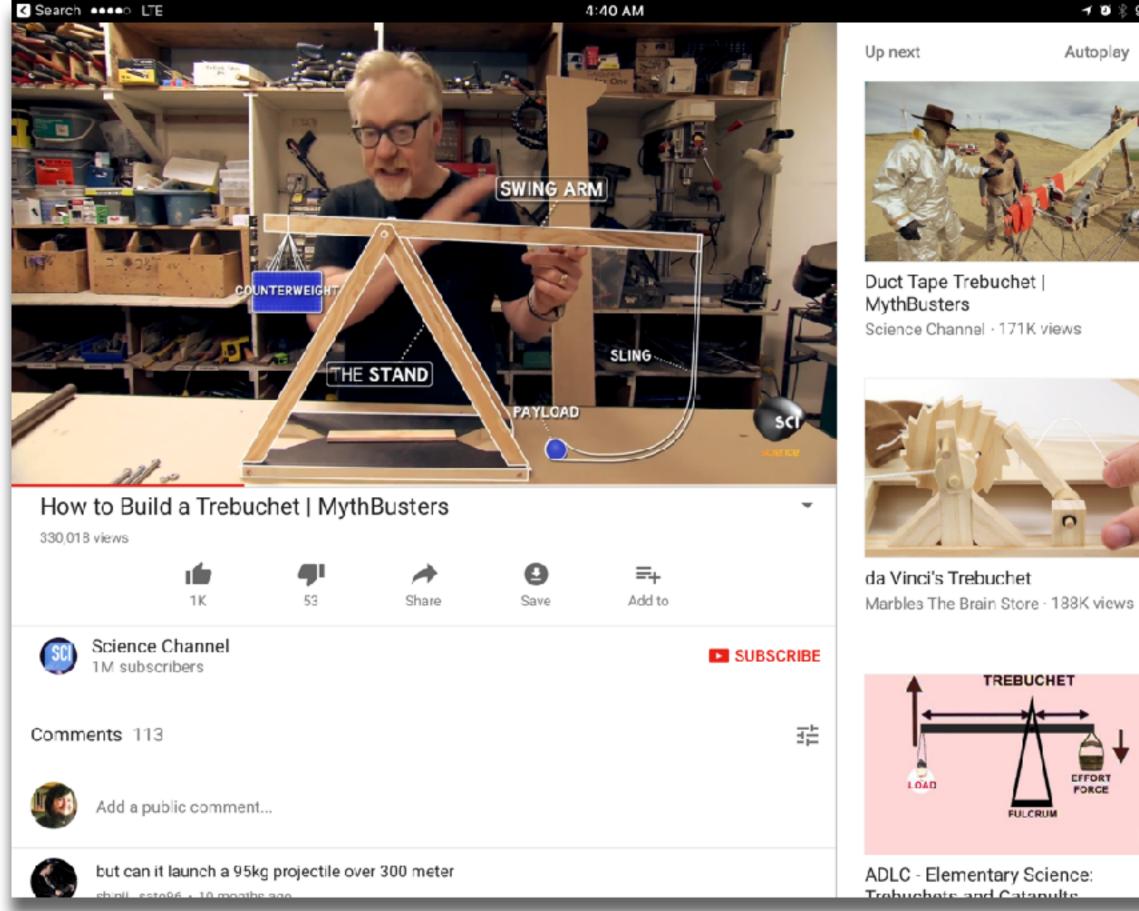


How science works



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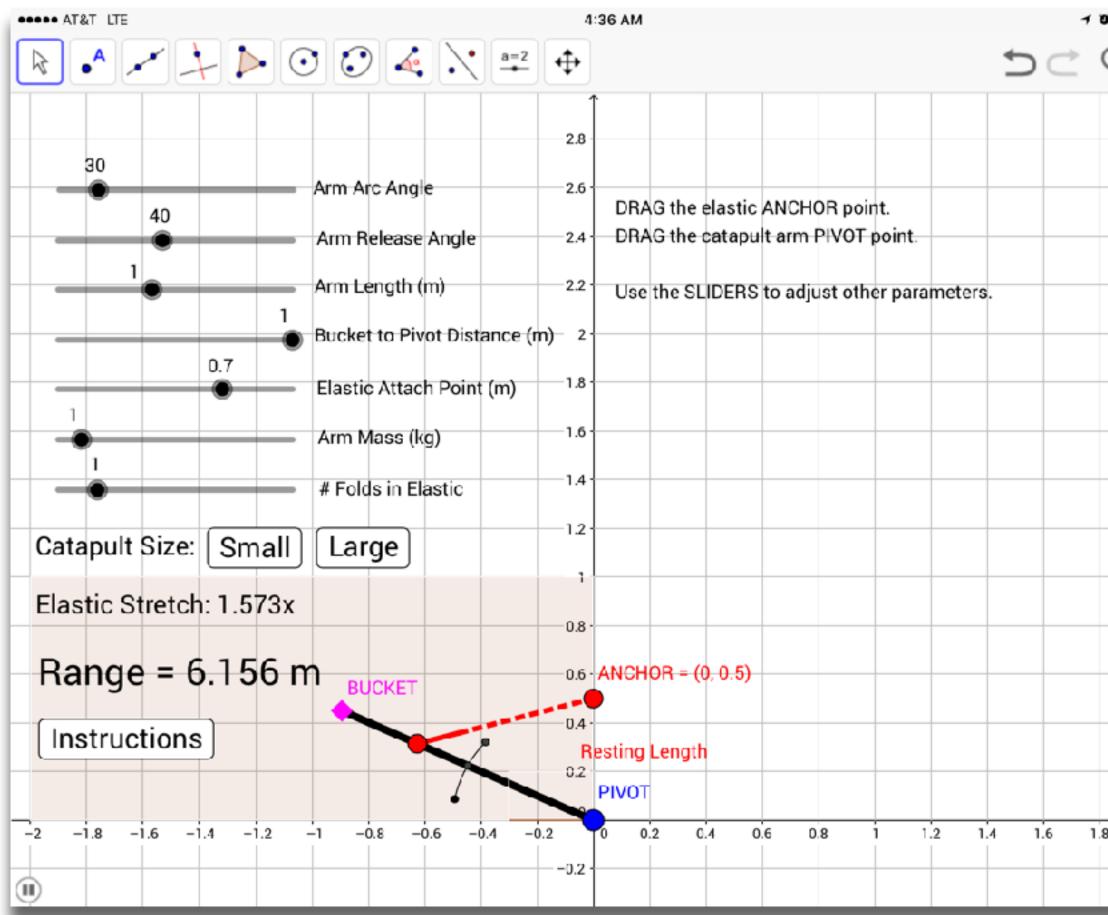




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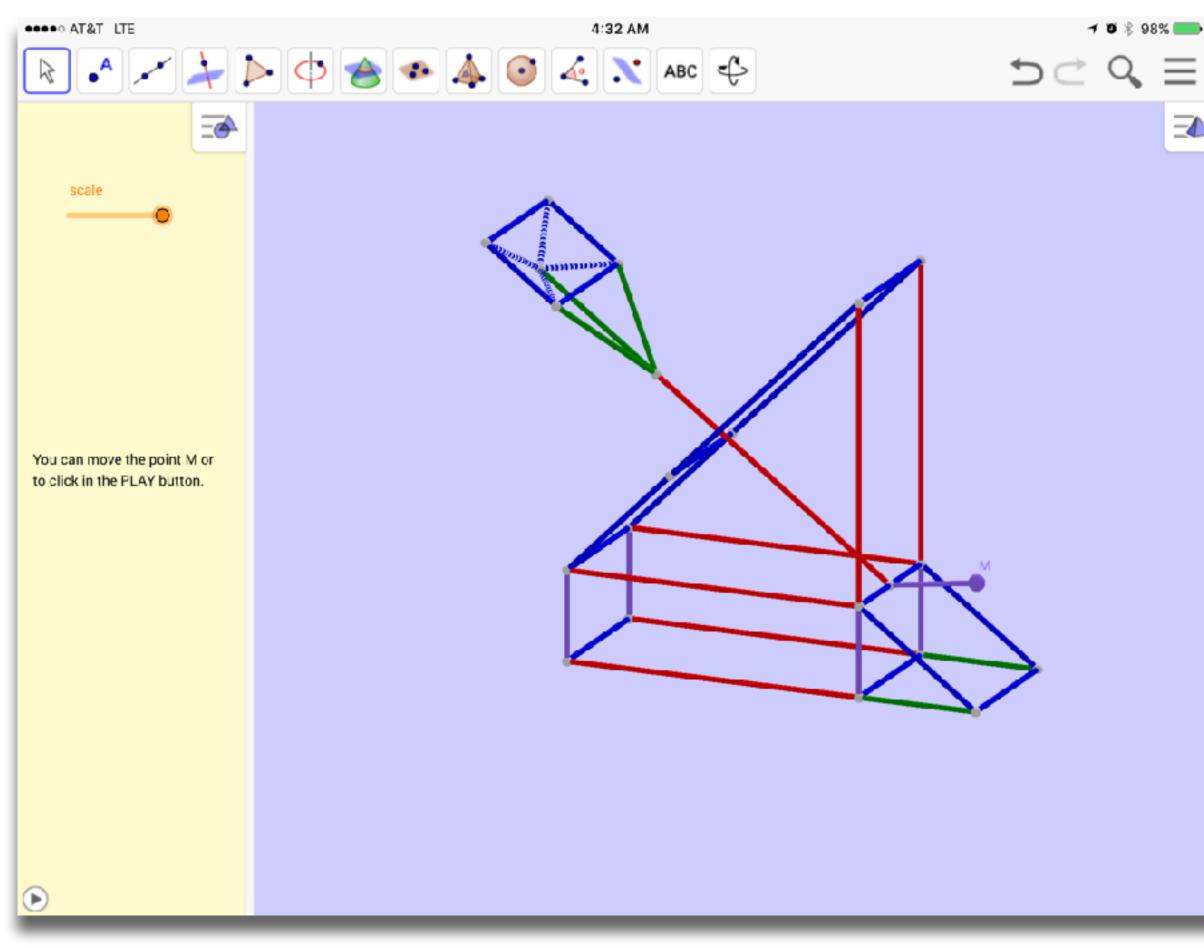
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Diego Lieban & Zsolt Lavicza, "Geometric modelling inspired by Da Vinci: shaping and adding movement using technology and physical resources". 10th Congress of European Research in Mathematics Education. (2017)





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

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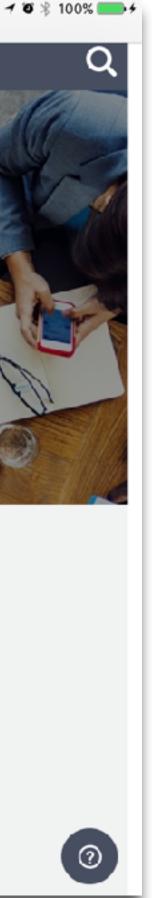
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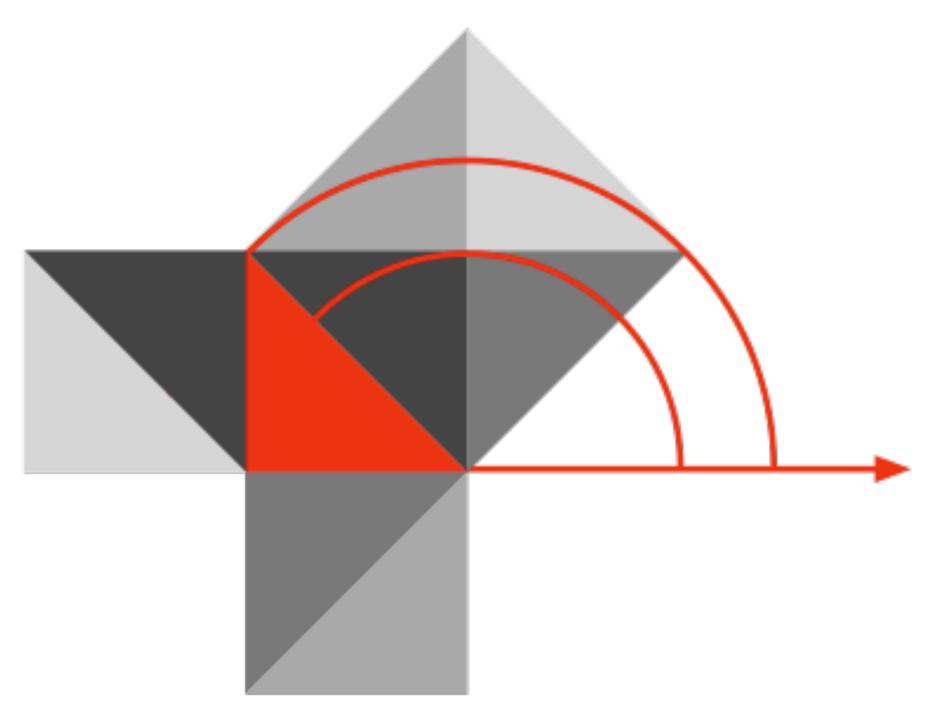
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