

SAMR and the EdTech Quintet: Setting the Stage

Ruben R. Puentedura, Ph.D.

Transformation

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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Enhancement

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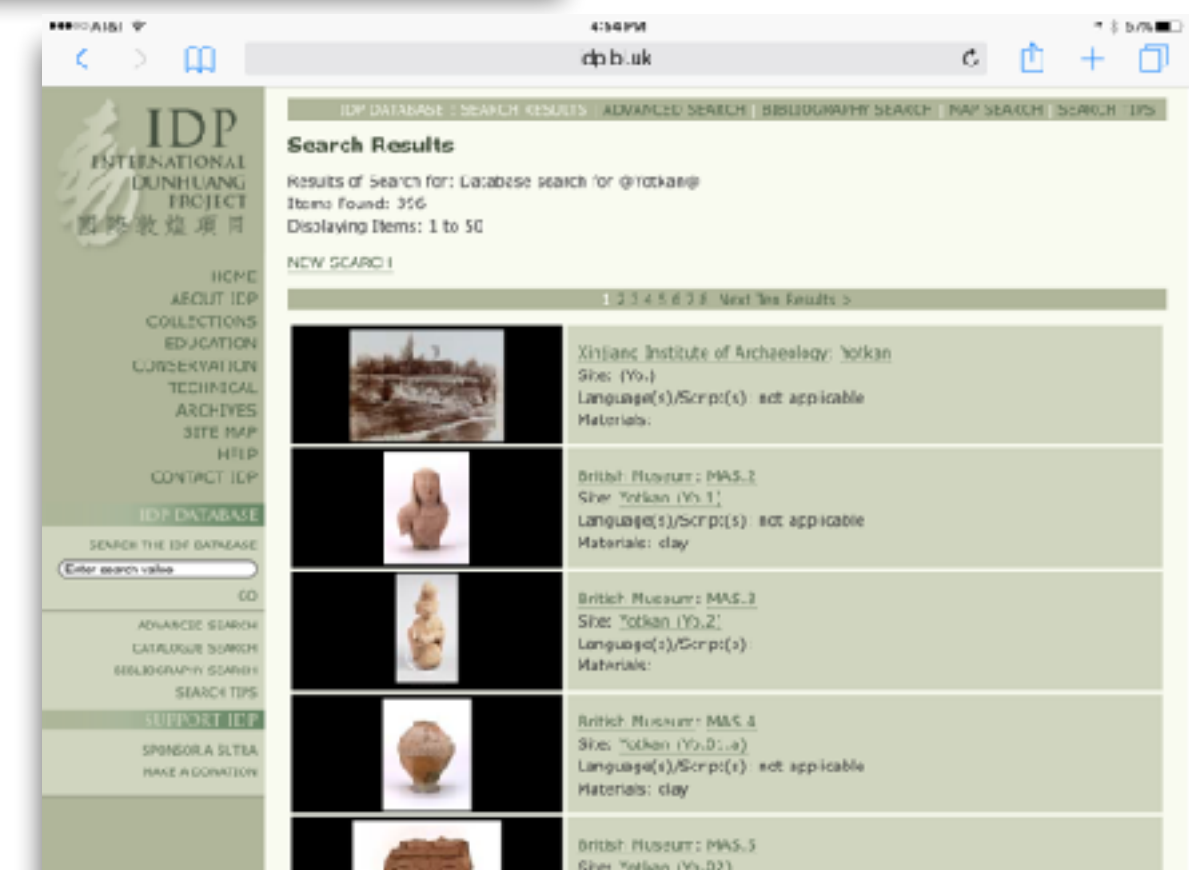
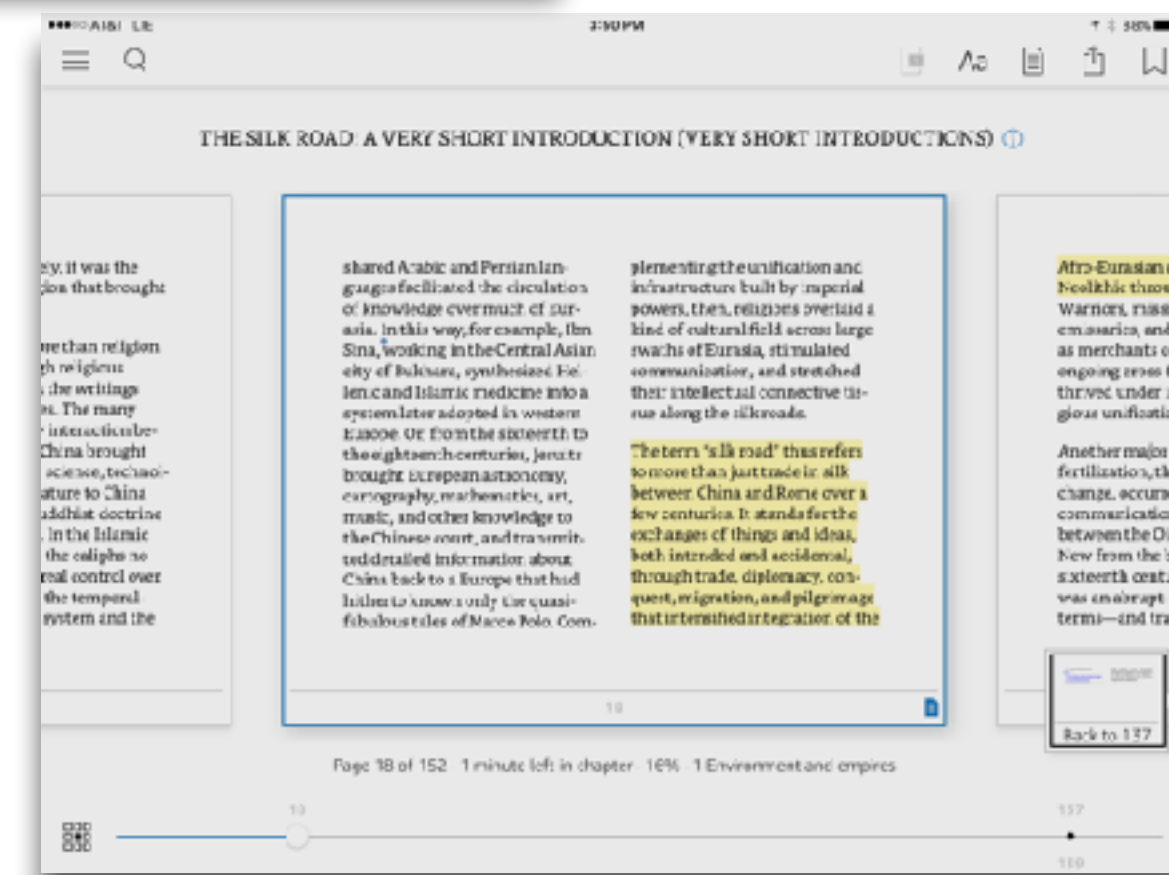
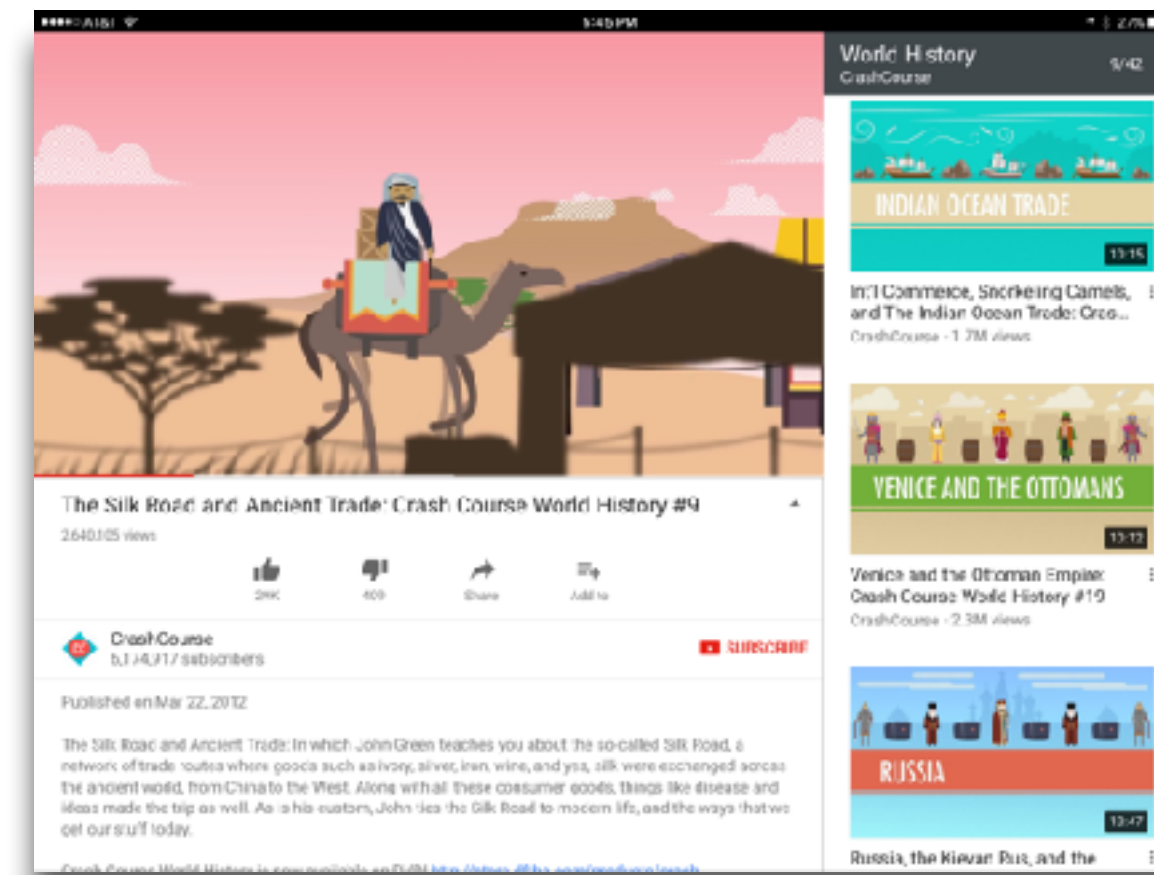
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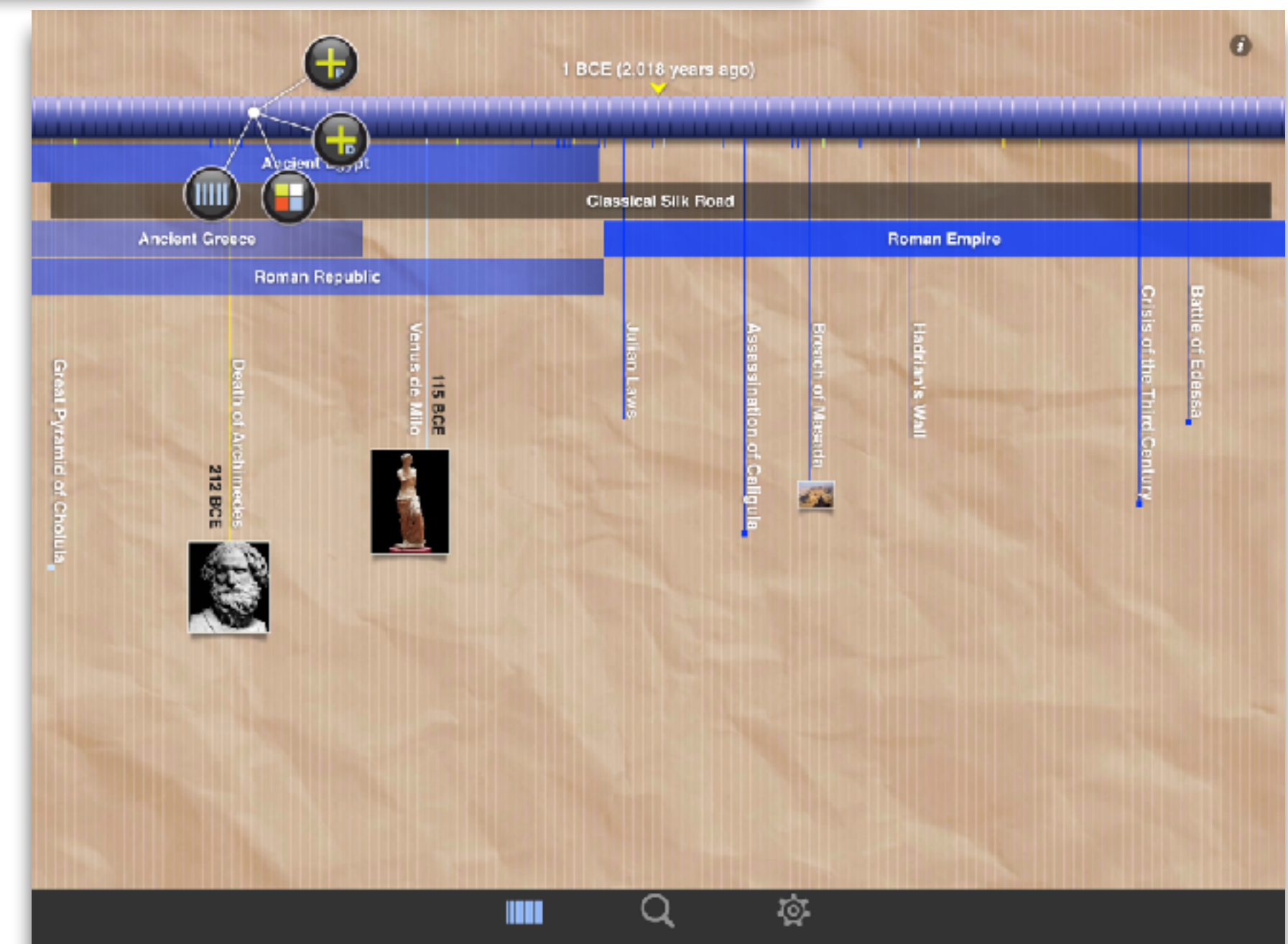
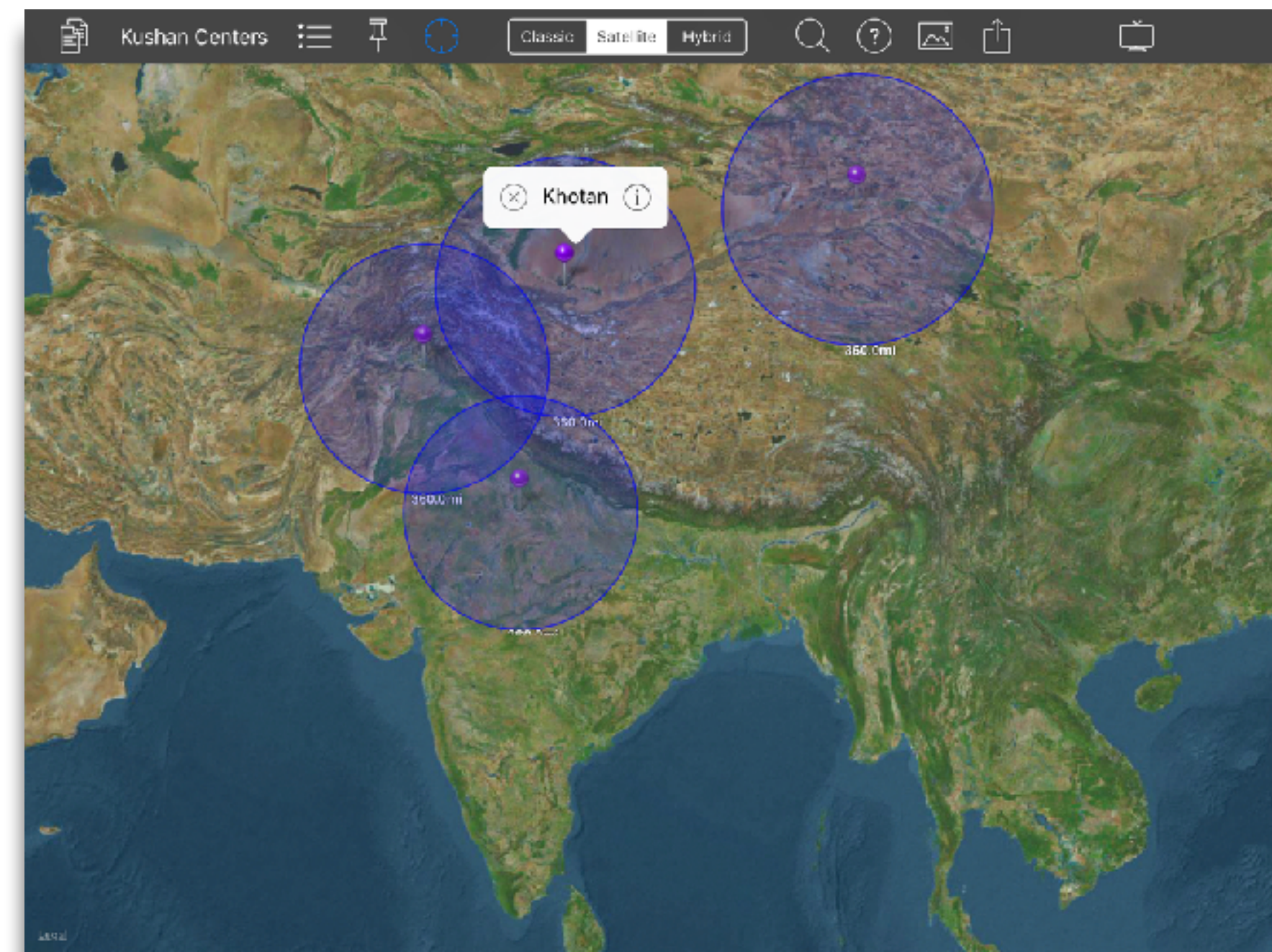
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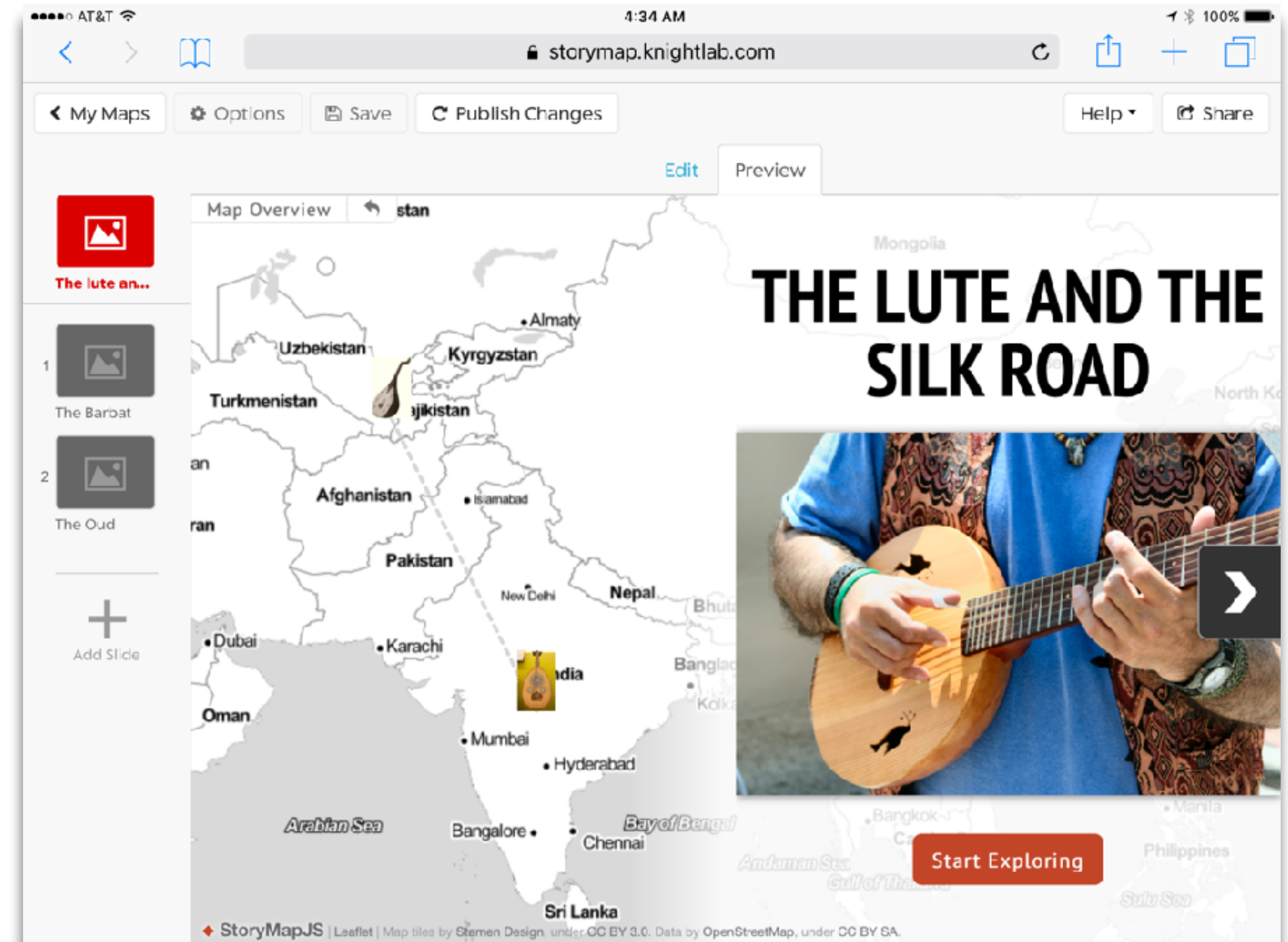
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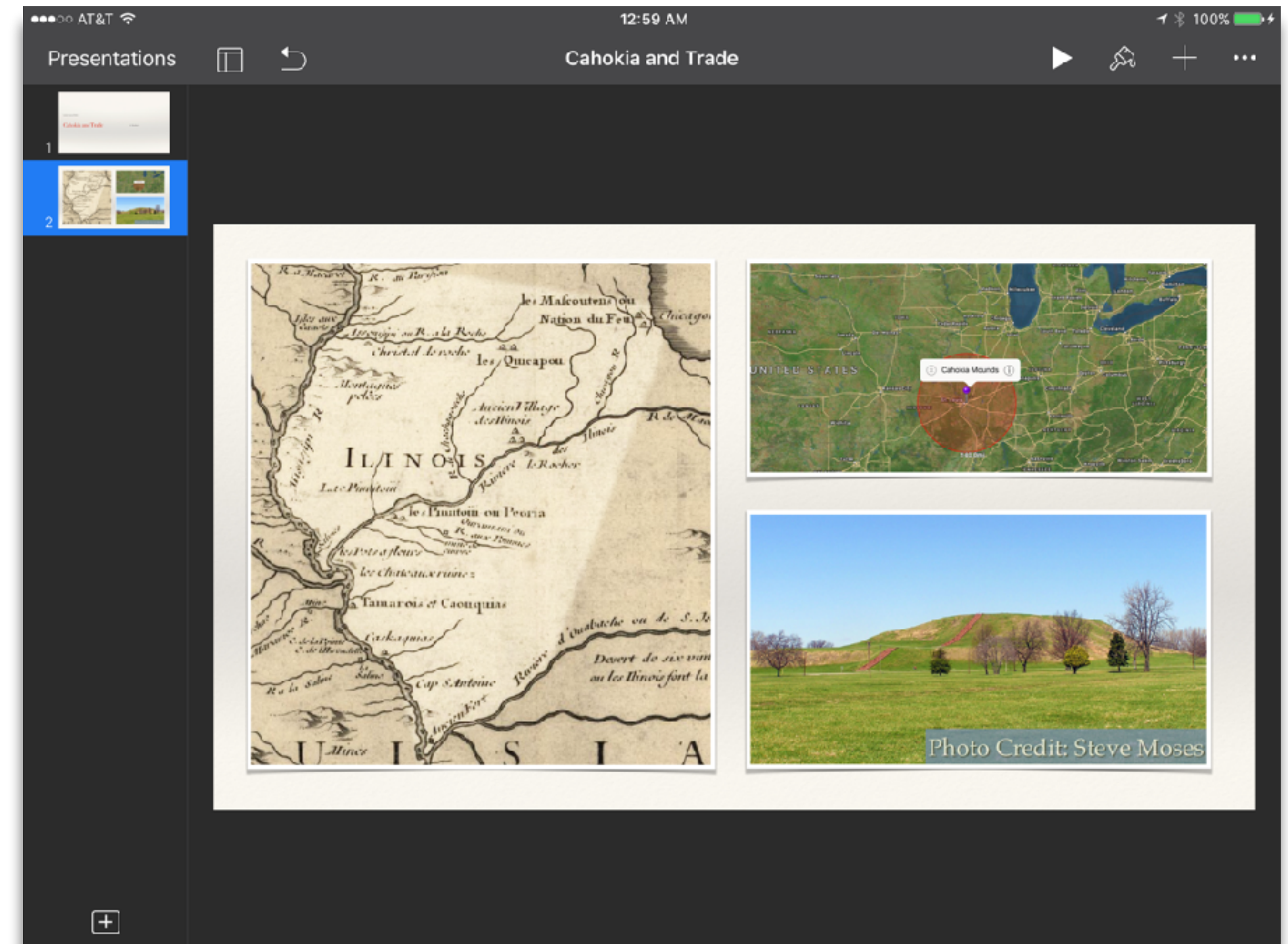
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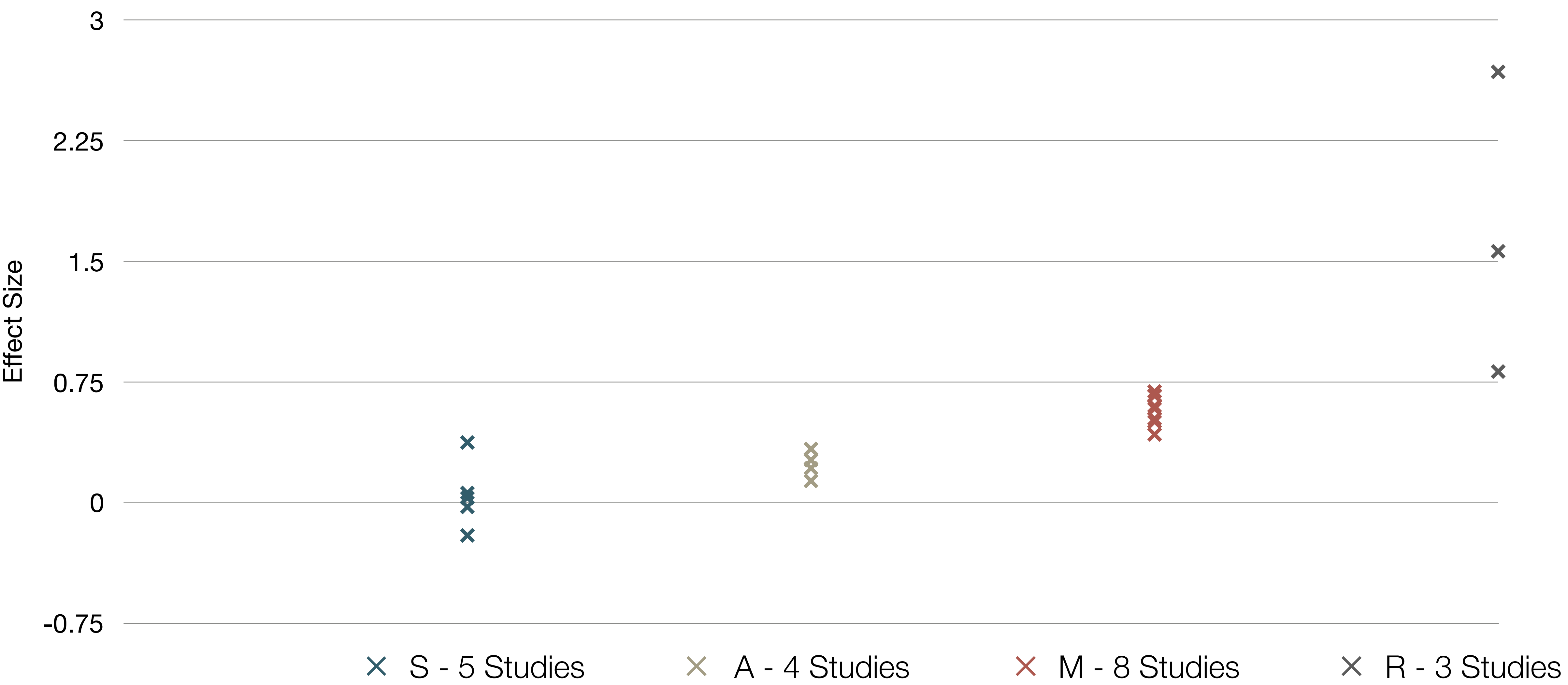


Meta-analysis	Number of studies	<i>ES</i> type	Mean <i>ES</i>	<i>SE</i>
Bangert-Drowns (1993)	19	Missing	0.27	0.11
Bayraktar (2000)	42	Cohen's <i>d</i>	0.27	0.05
Blok, Oostdam, Otter, and Overmaat (2002)	25	Hedges's <i>g</i>	0.25	0.06
Christmann and Badgett (2000)	16	Missing	0.13	0.05
Fletcher-Flinn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

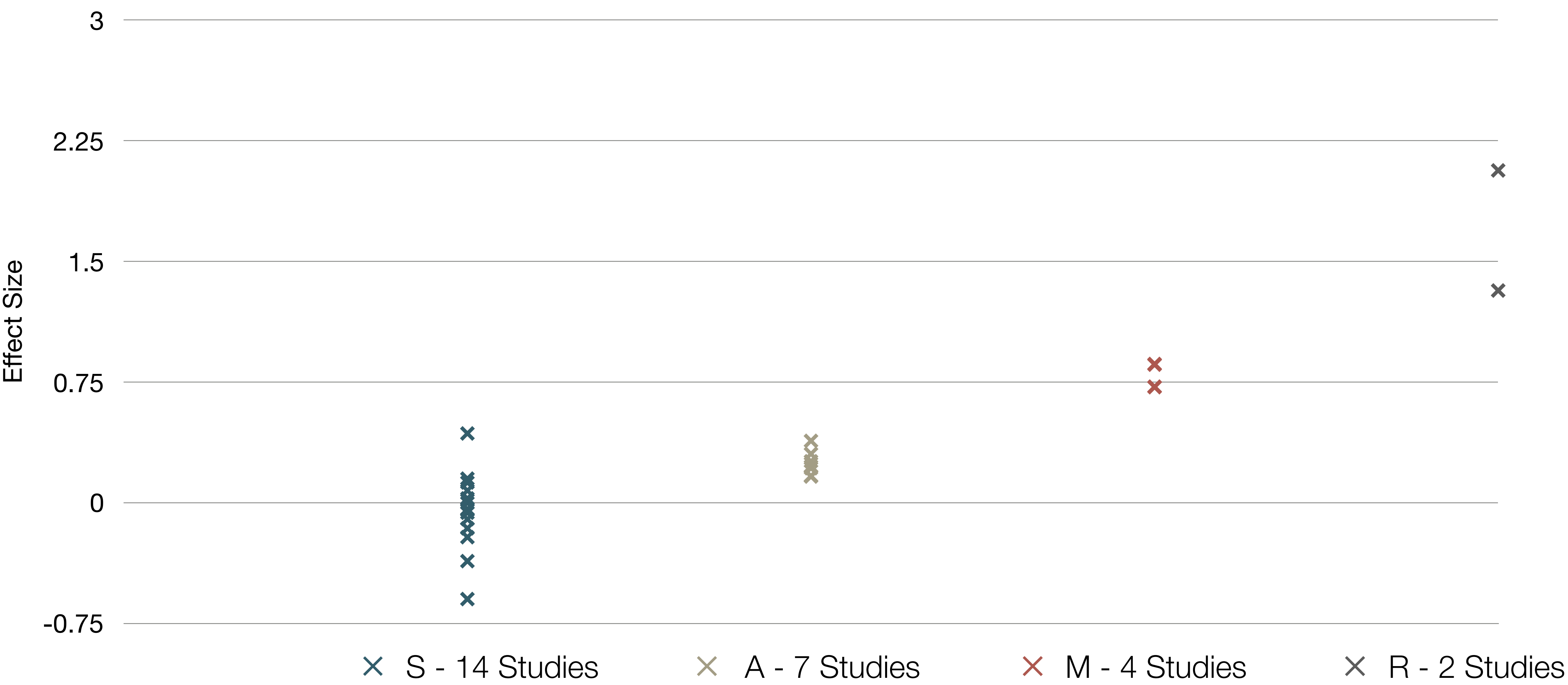
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Michko (2007)	45	Hedges's <i>g</i>	0.43	0.07
Onuoha (2007)	35	Cohen's <i>d</i>	0.26	0.04
Pearson, Ferdig, Blomeyer, and Moran (2005)	20	Hedges's <i>g</i>	0.49 ^a	0.11
Roblyer, Castine, and King (1988)	35	Hedges's <i>g</i>	0.31	0.05
Rosen and Salomon (2007)	31	Hedges's <i>g</i>	0.46	0.05
Schenker (2007)	46	Cohen's <i>d</i>	0.24	0.02
Soe, Koki, and Chang (2000)	17	Hedges's <i>g</i> and Pearson's <i>r</i> ^a	0.26 ^a	0.05
Timmerman and Kruepke (2006)	114	Pearson's <i>r</i> ^a	0.24	0.03
Torgerson and Elbourne (2002)	5	Cohen's <i>d</i>	0.37	0.16
Waxman, Lin, and Michko (2003)	42	Glass's Δ	0.45	0.14
Yaakub (1998)	20	Glass's Δ and <i>g</i>	0.35	0.05
Zhao (2003)	9	Hedges's <i>g</i>	1.12	0.26

a. Converted to Cohen's *d*.

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



SAMR and the Use of Tablets in Education



Social	Mobility	Visualization	Storytelling	Gaming
200,000 years	70,000 years	40,000 years	17,000 years	8,000 years
				

Bookmarks



RSS Feeds

Discussions



Microblogging

Blogging

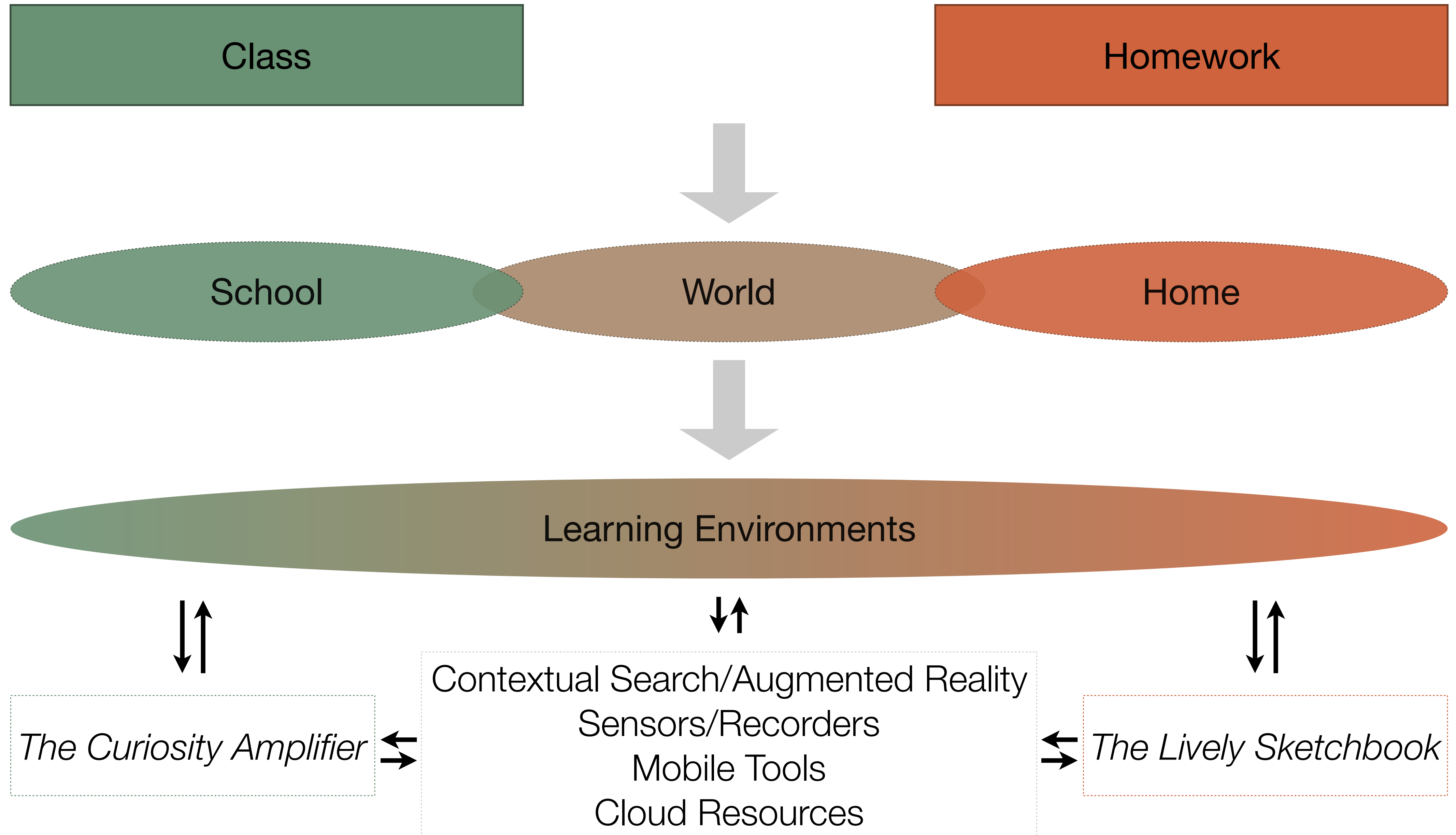


Wikis

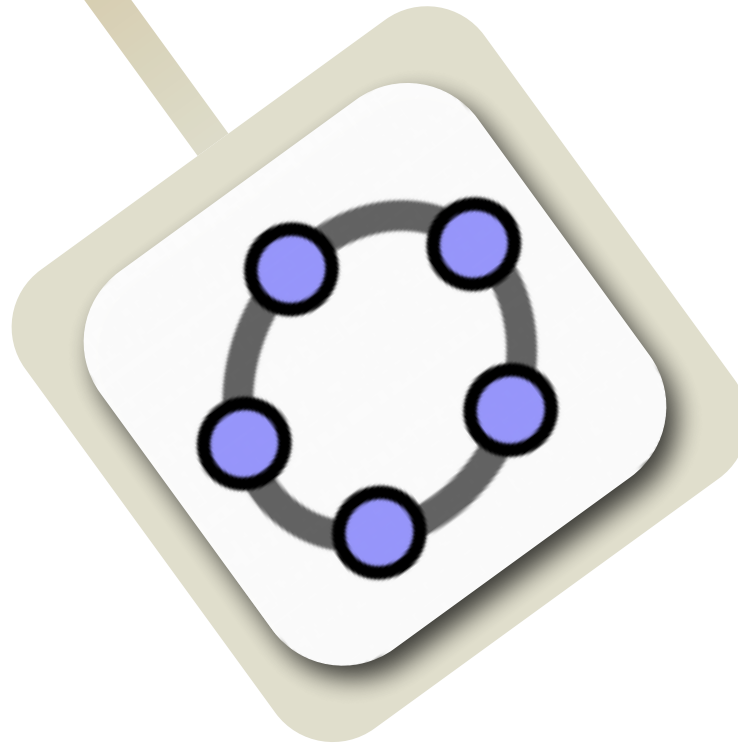
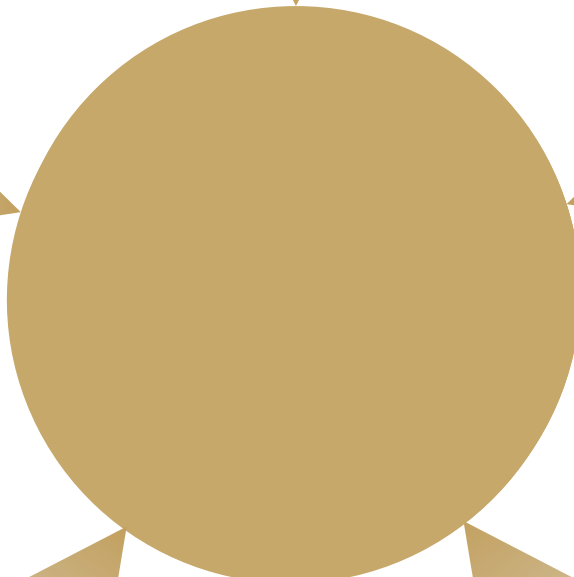
Telepresence

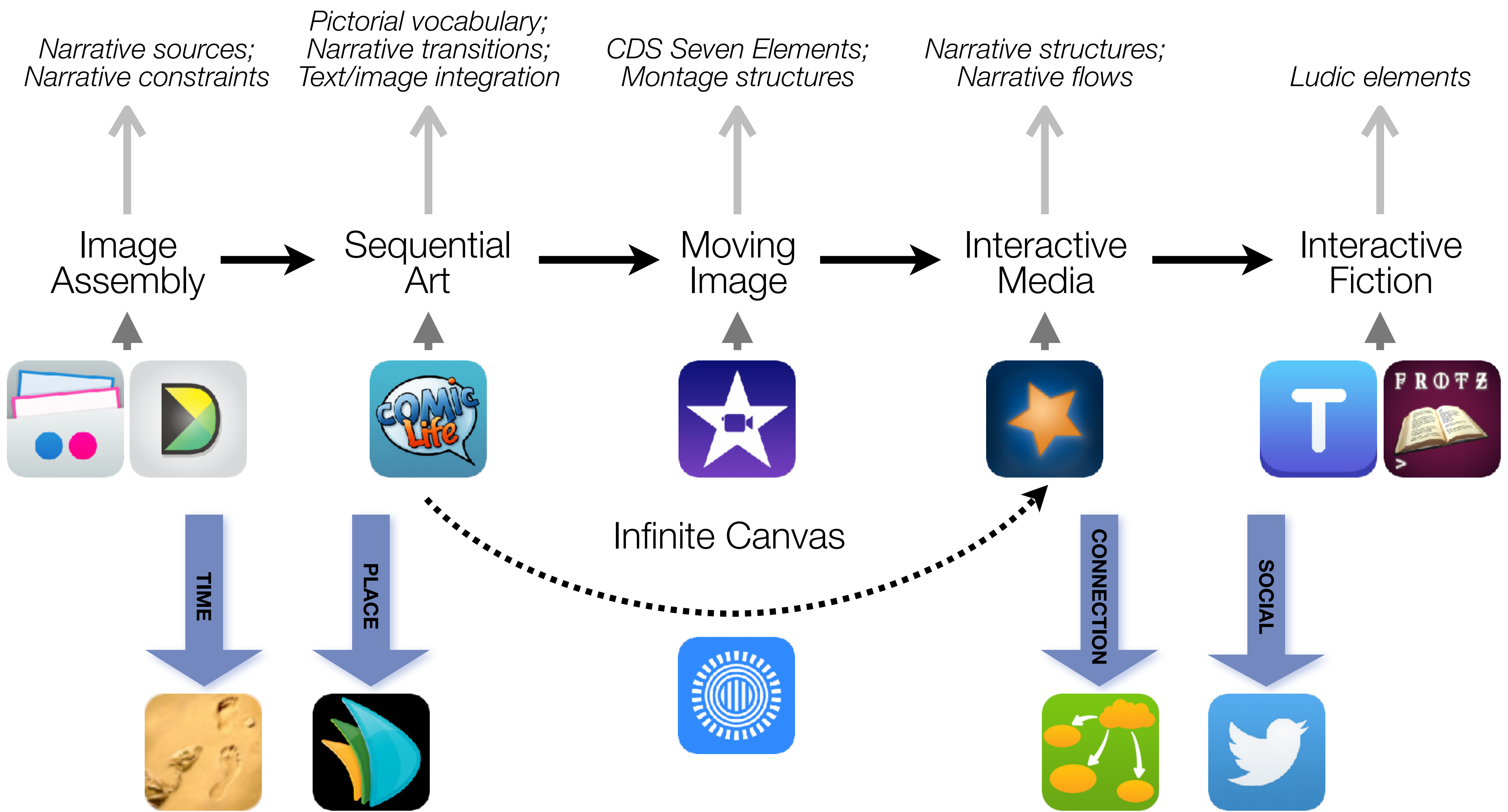


File Sharing



Visualization



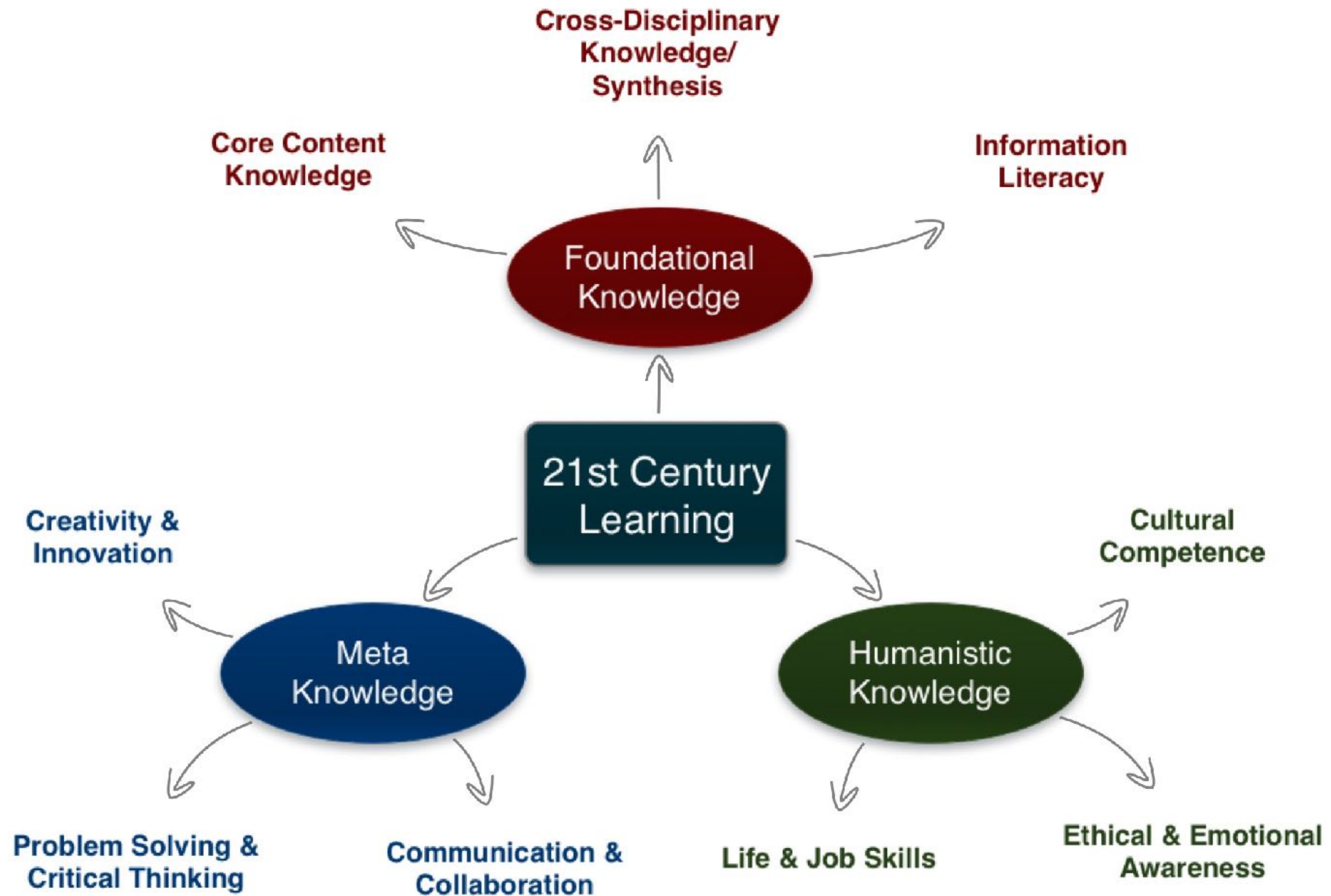


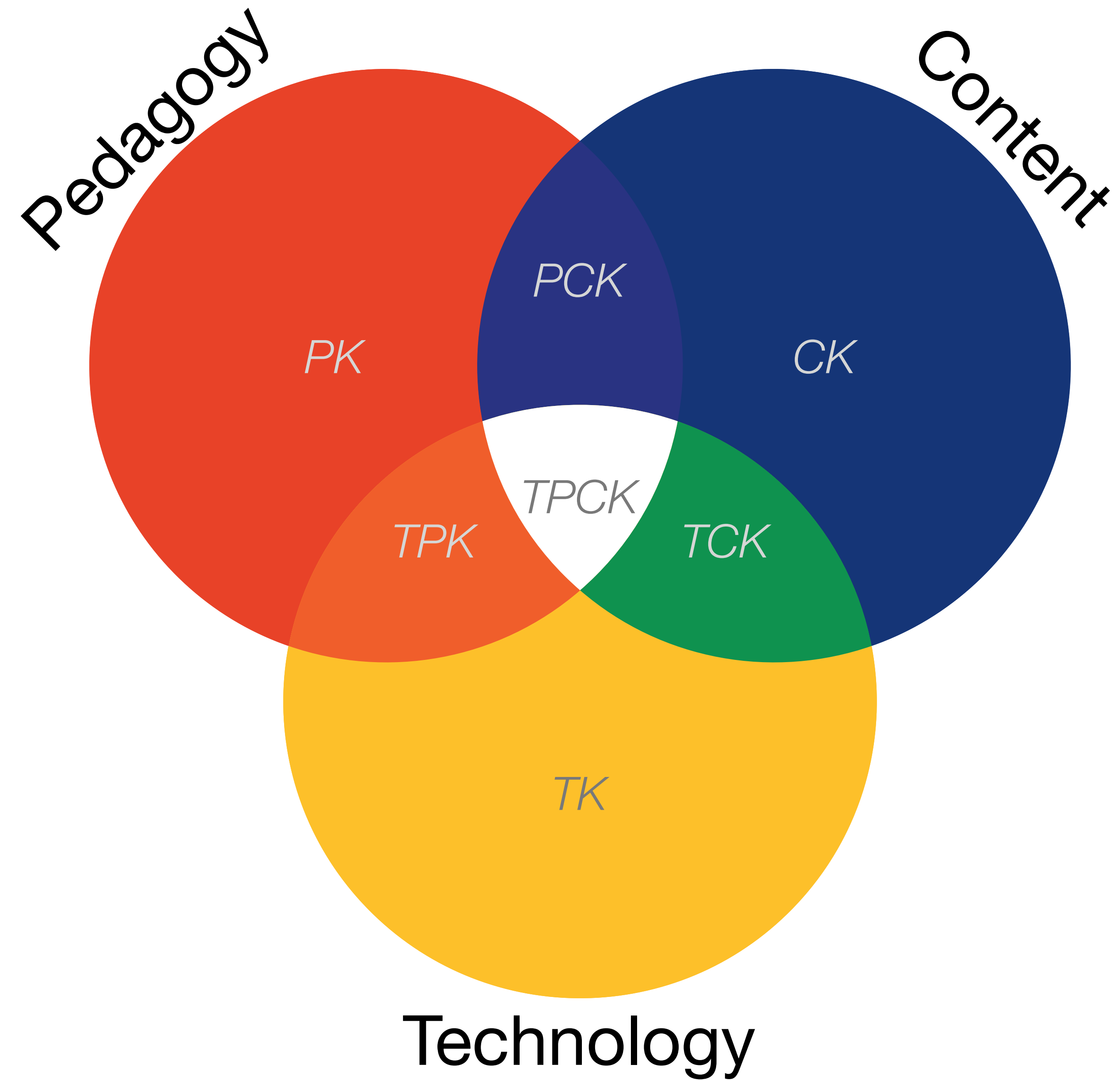
Formal Definition of **Game** (Salen & Zimmerman)

“A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.”

The EdTech Quintet – Associated Practices

Social	Communication, Collaboration, Sharing
Mobility	Anytime, Anyplace Learning and Creation
Visualization	Making Abstract Concepts Tangible
Storytelling	Knowledge Integration and Transmission
Gaming	Feedback Loops and Formative Assessment





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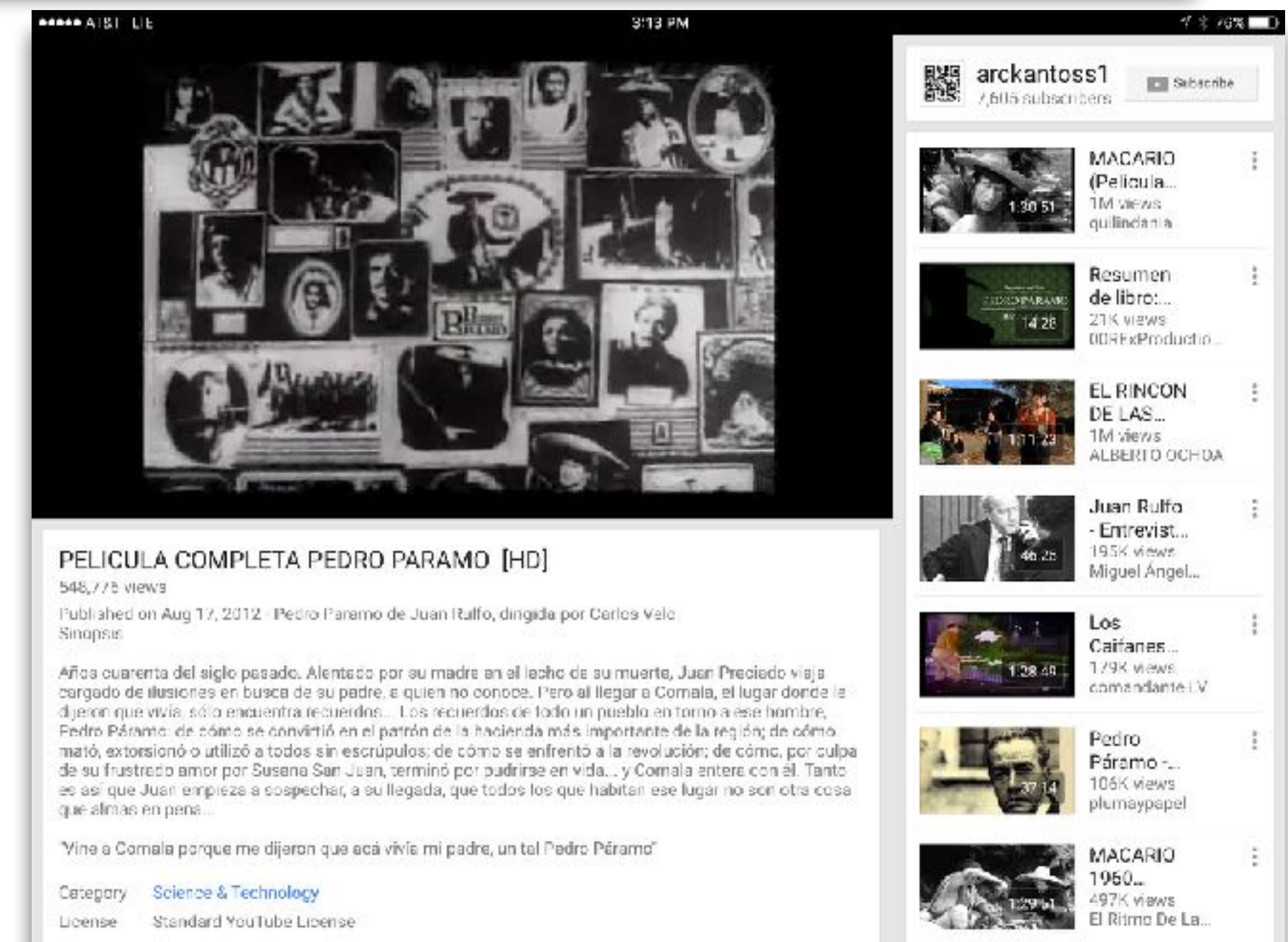
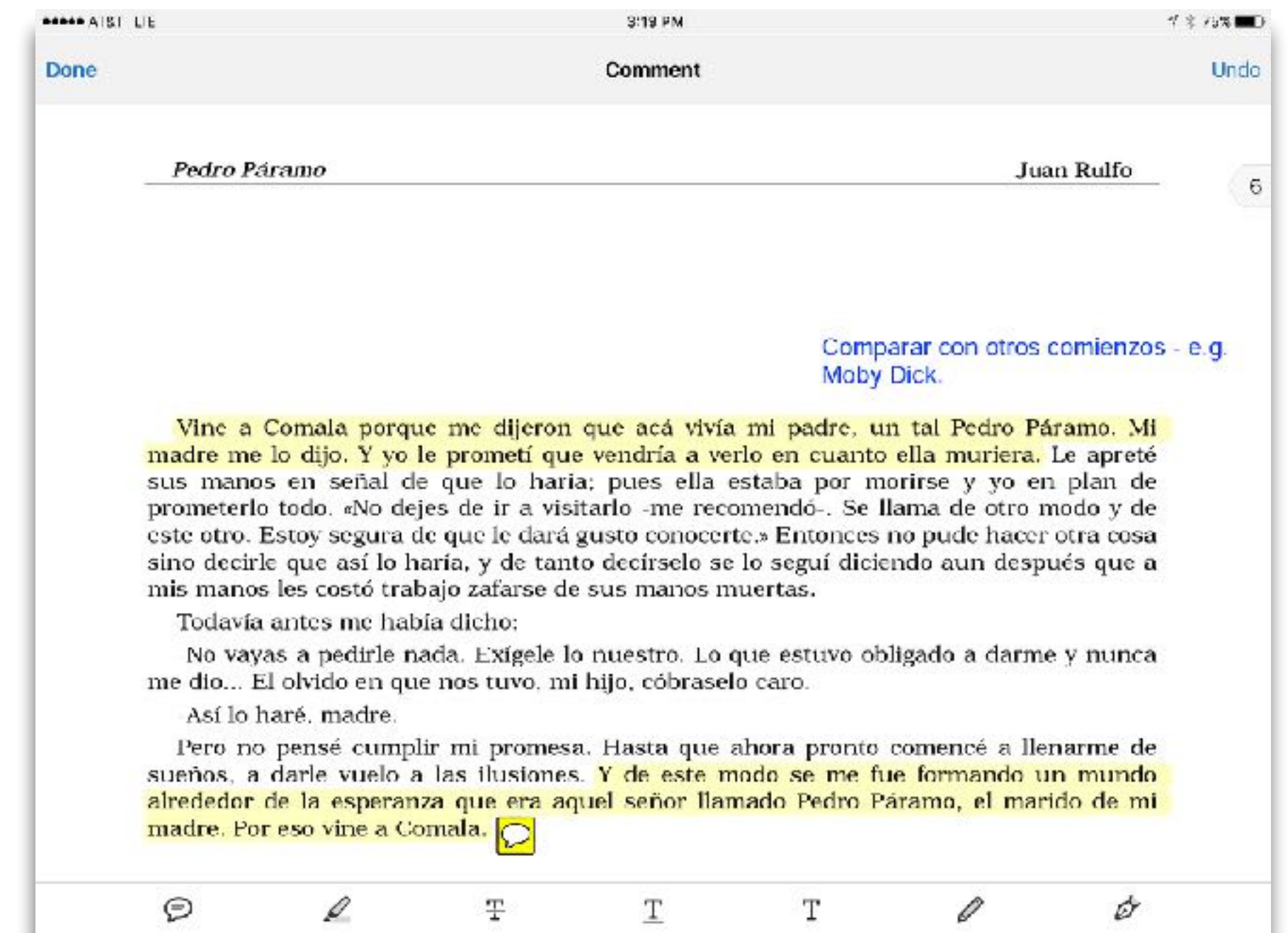
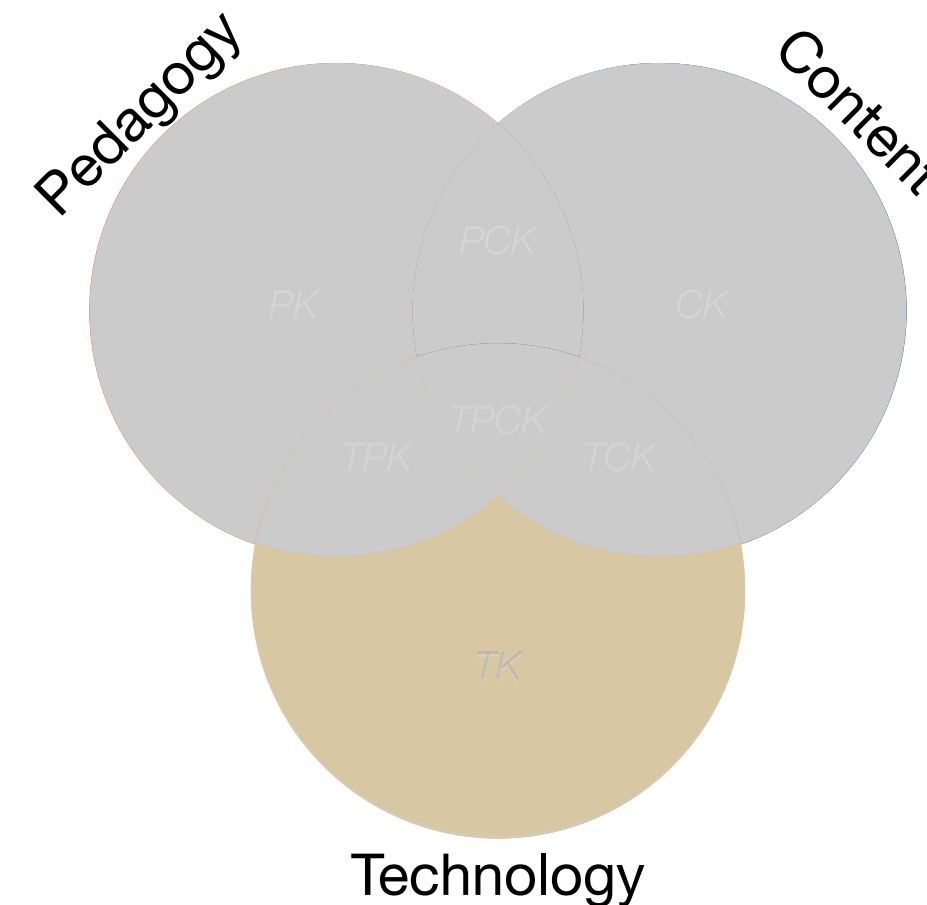
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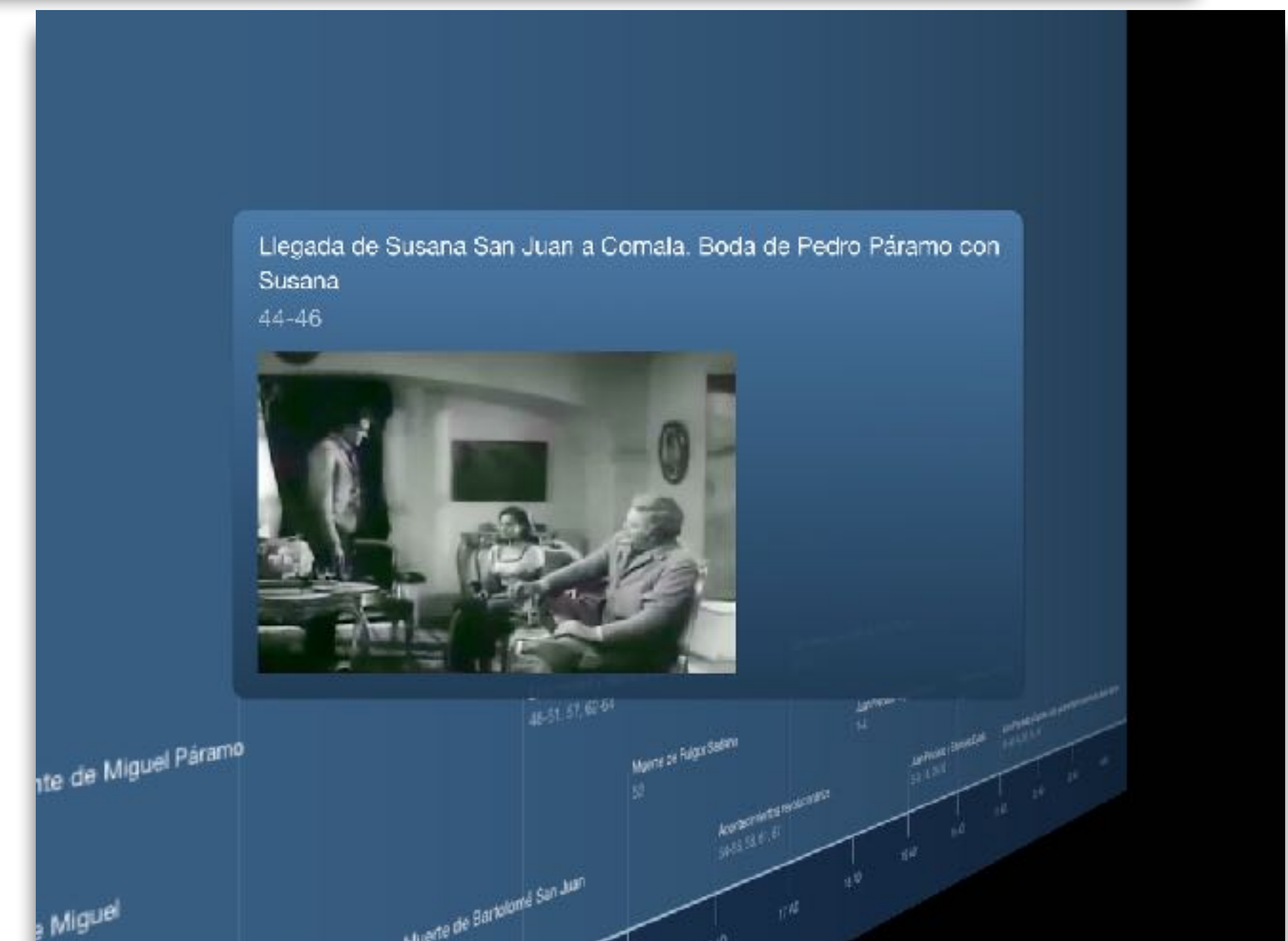
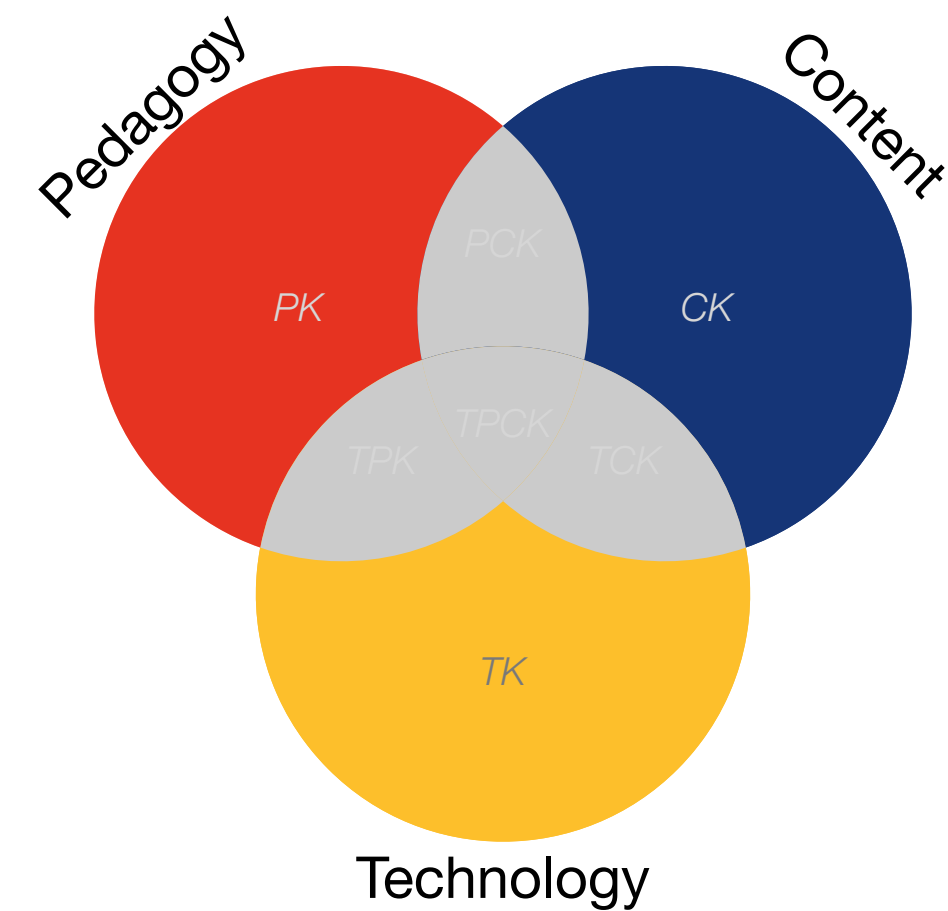
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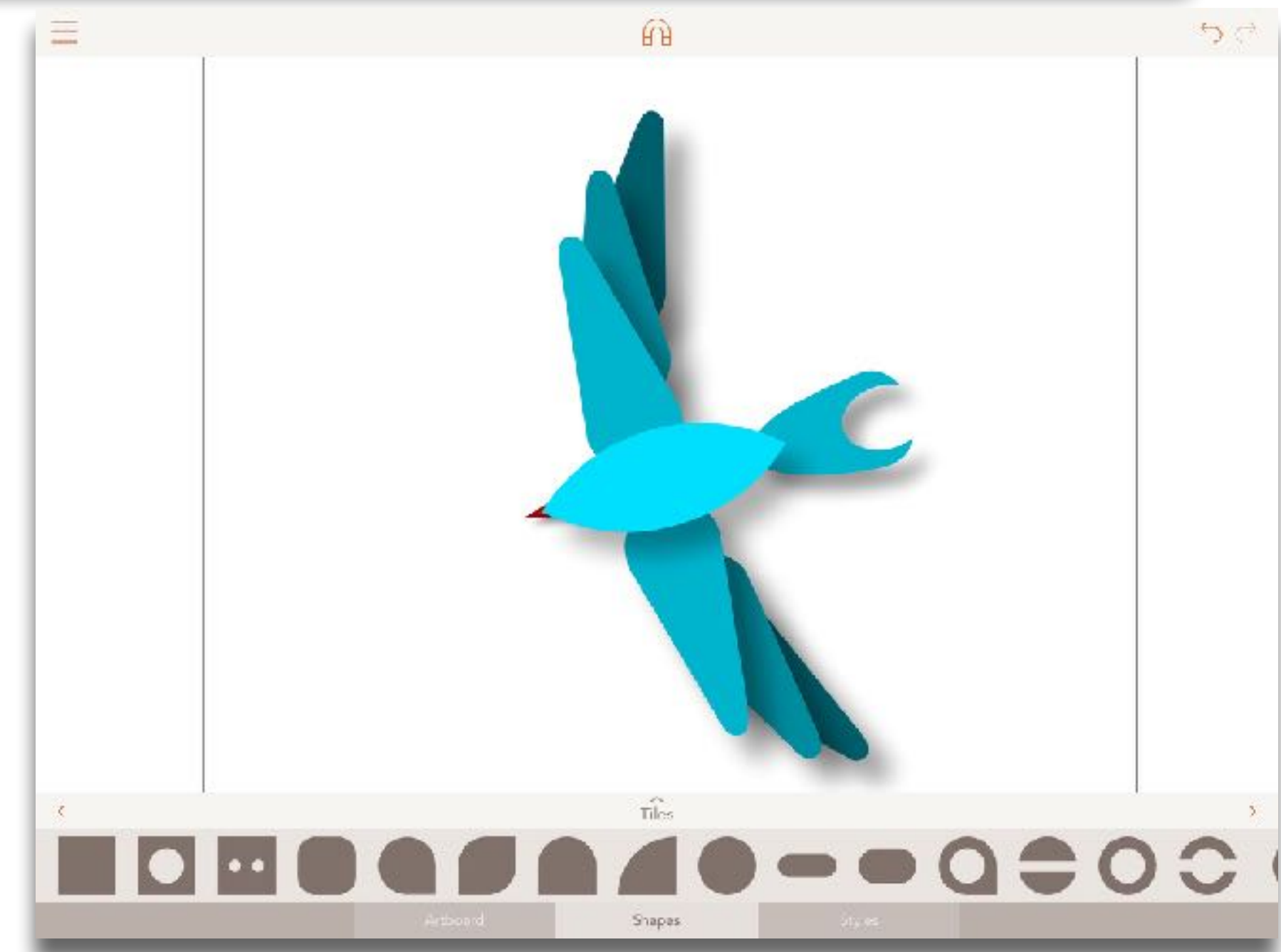
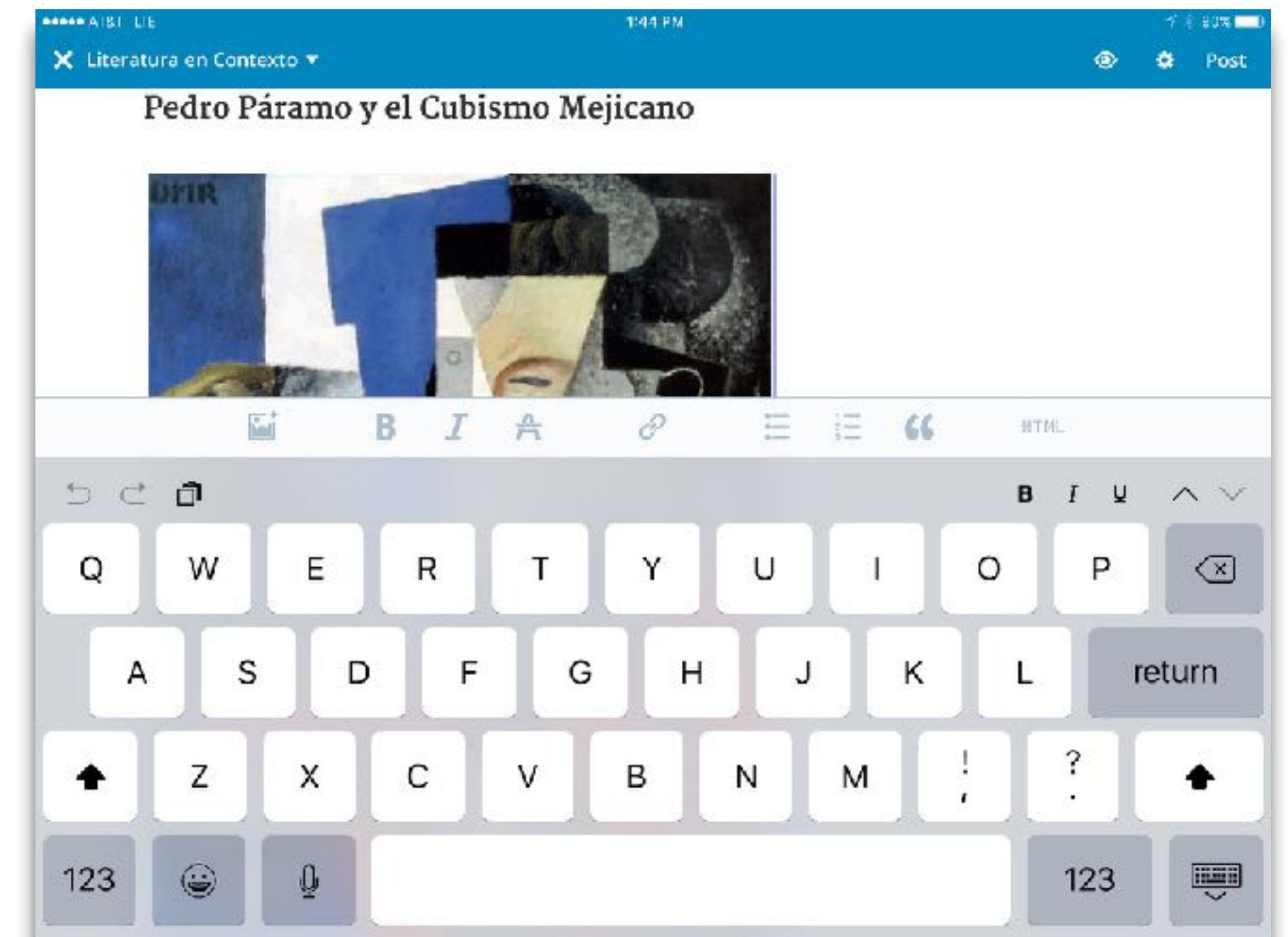
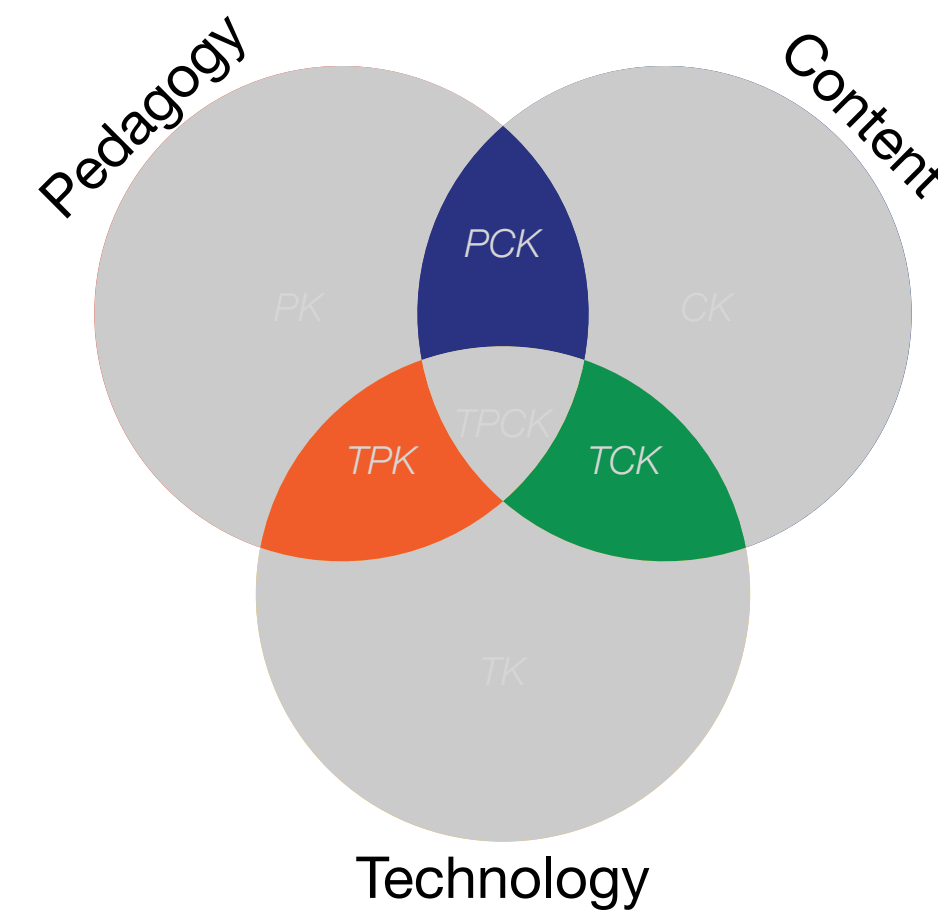
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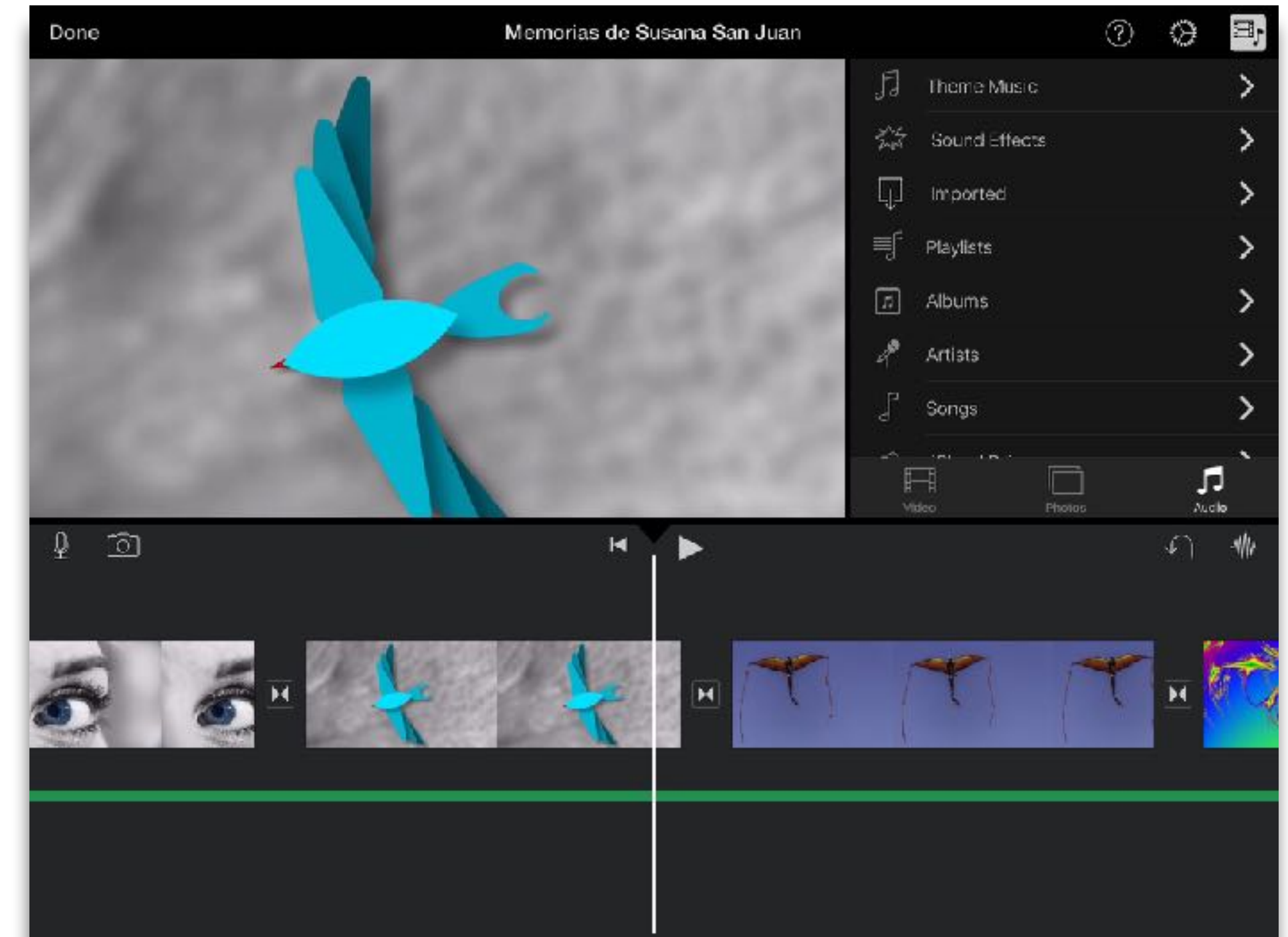
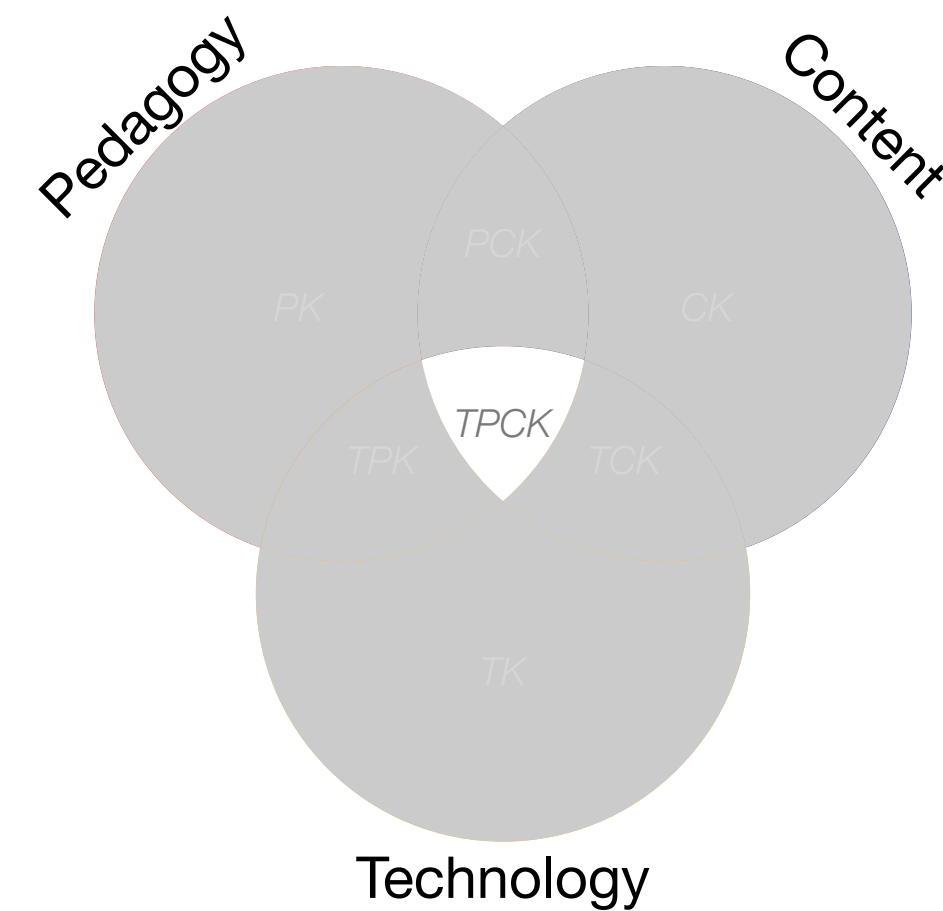
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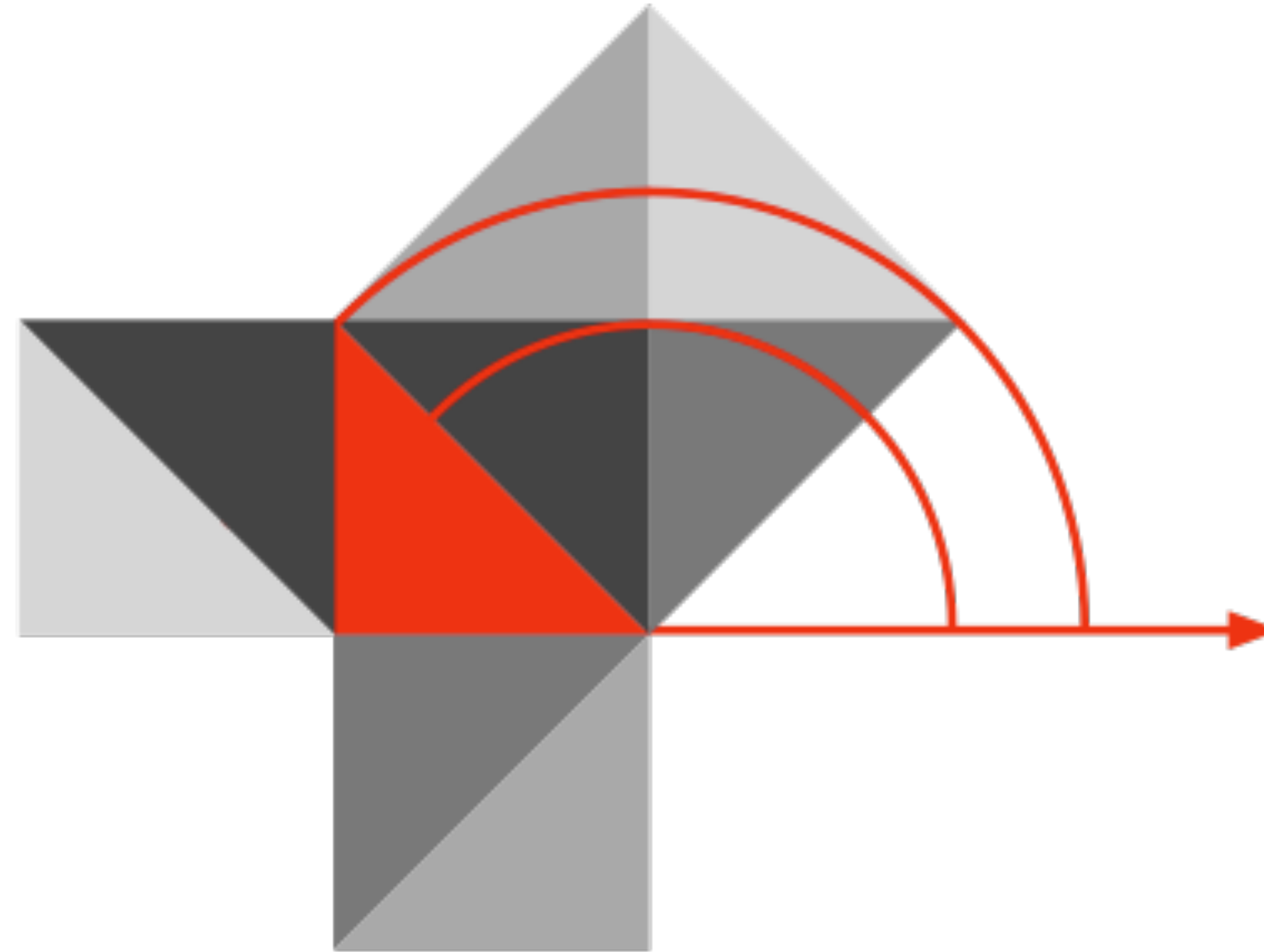
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Hippasus



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