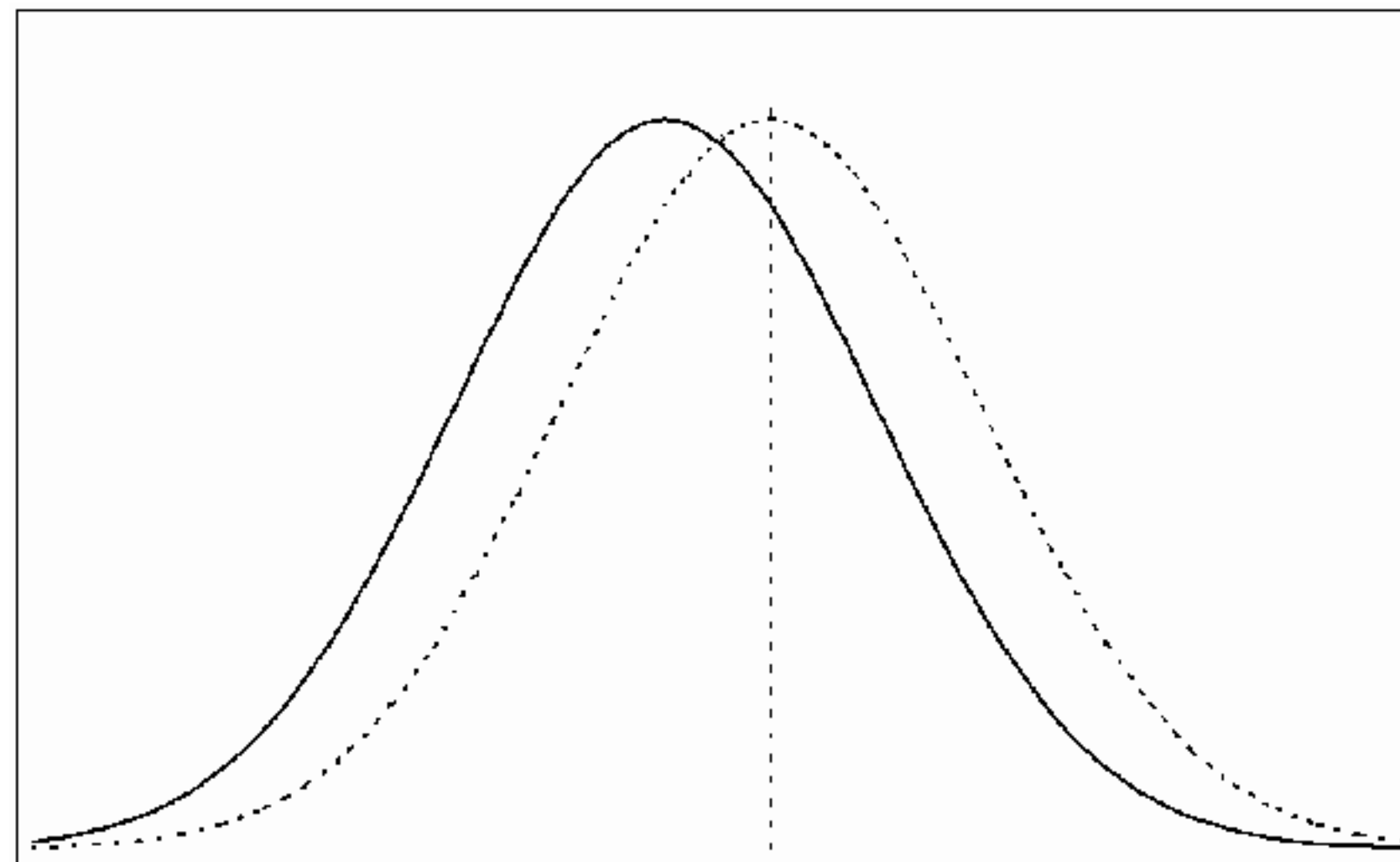
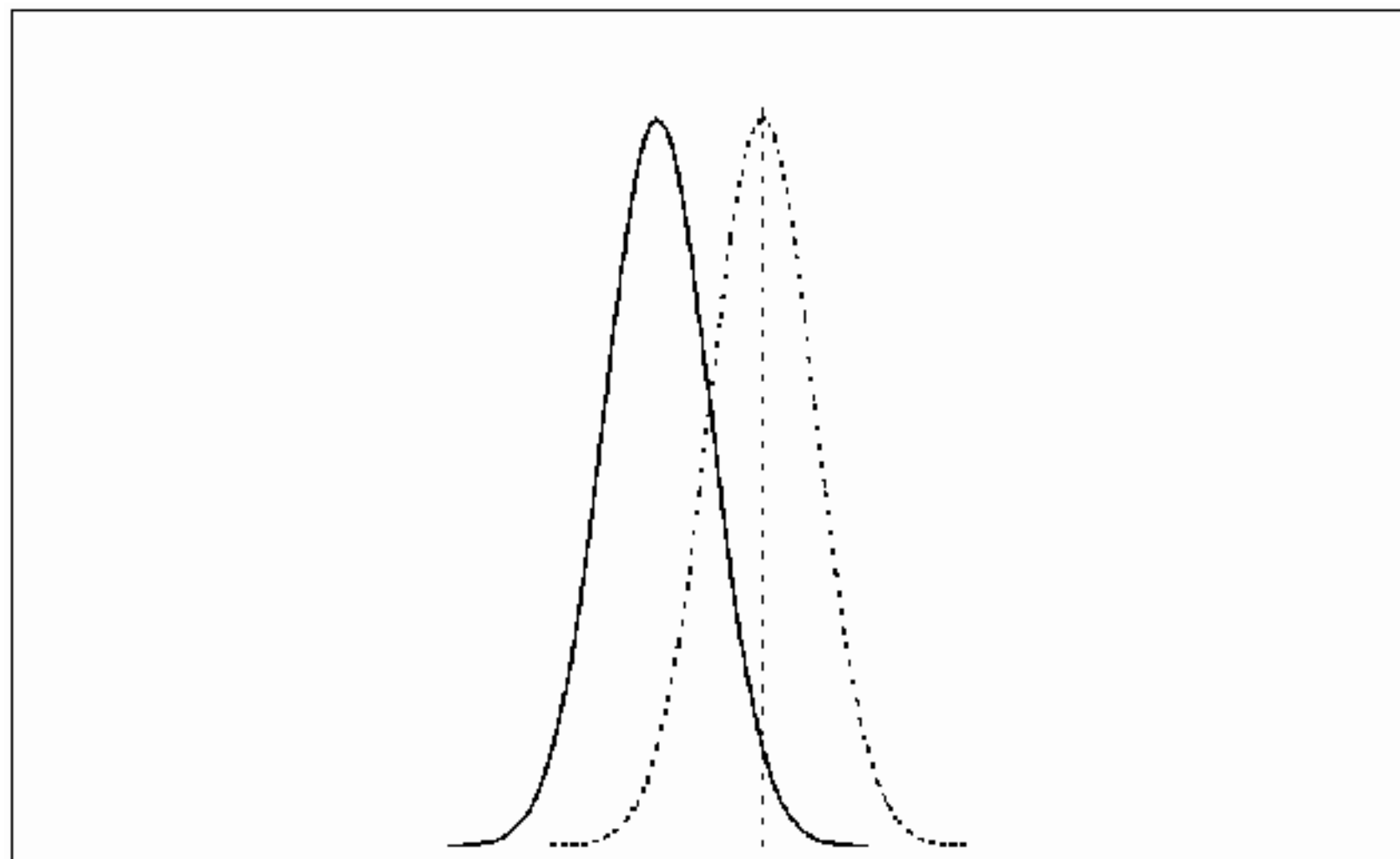


Using Effect Sizes

Ruben R. Puentedura, Ph.D.

Comparing Results



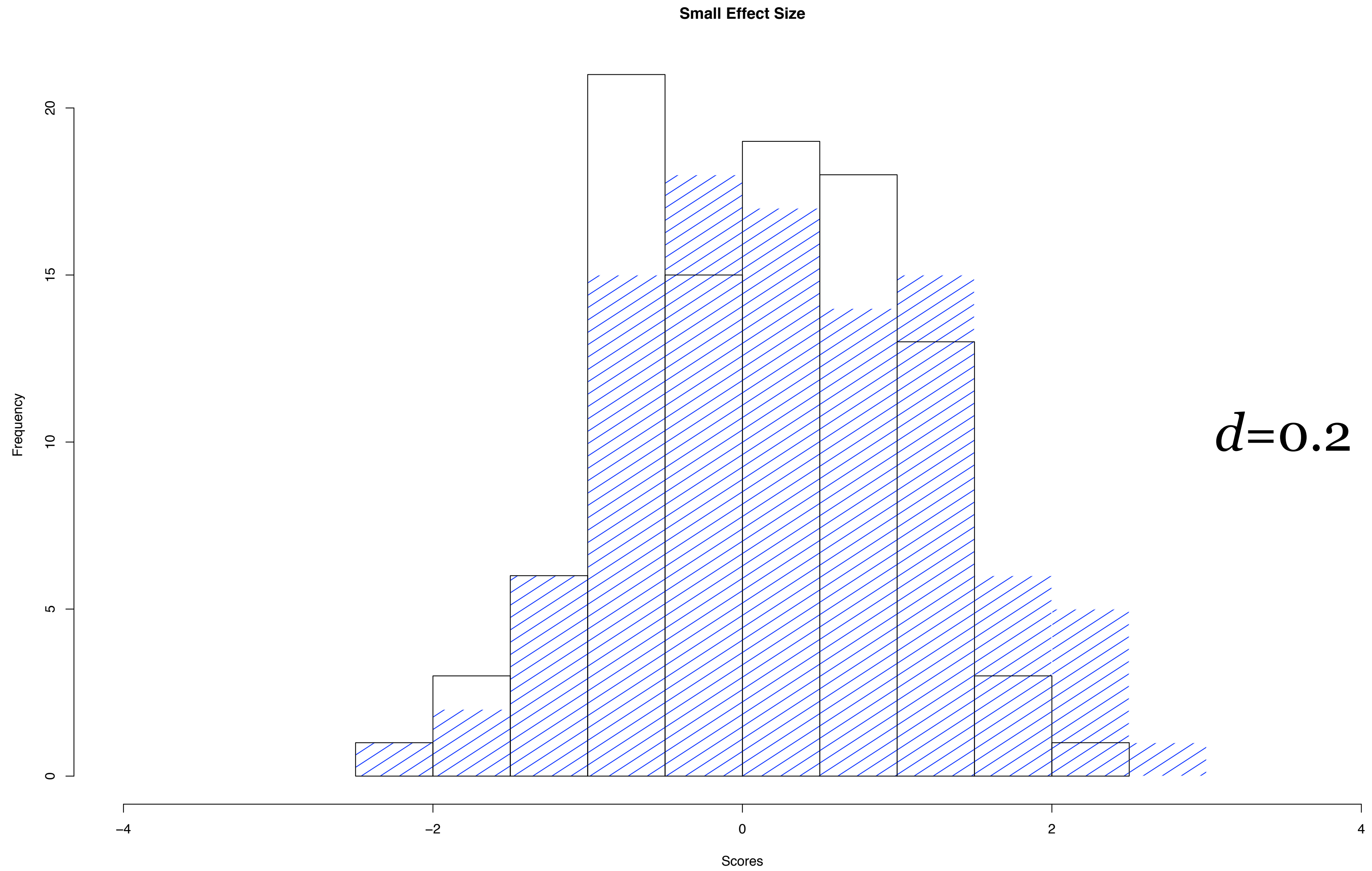
Cohen's Effect Size Index d

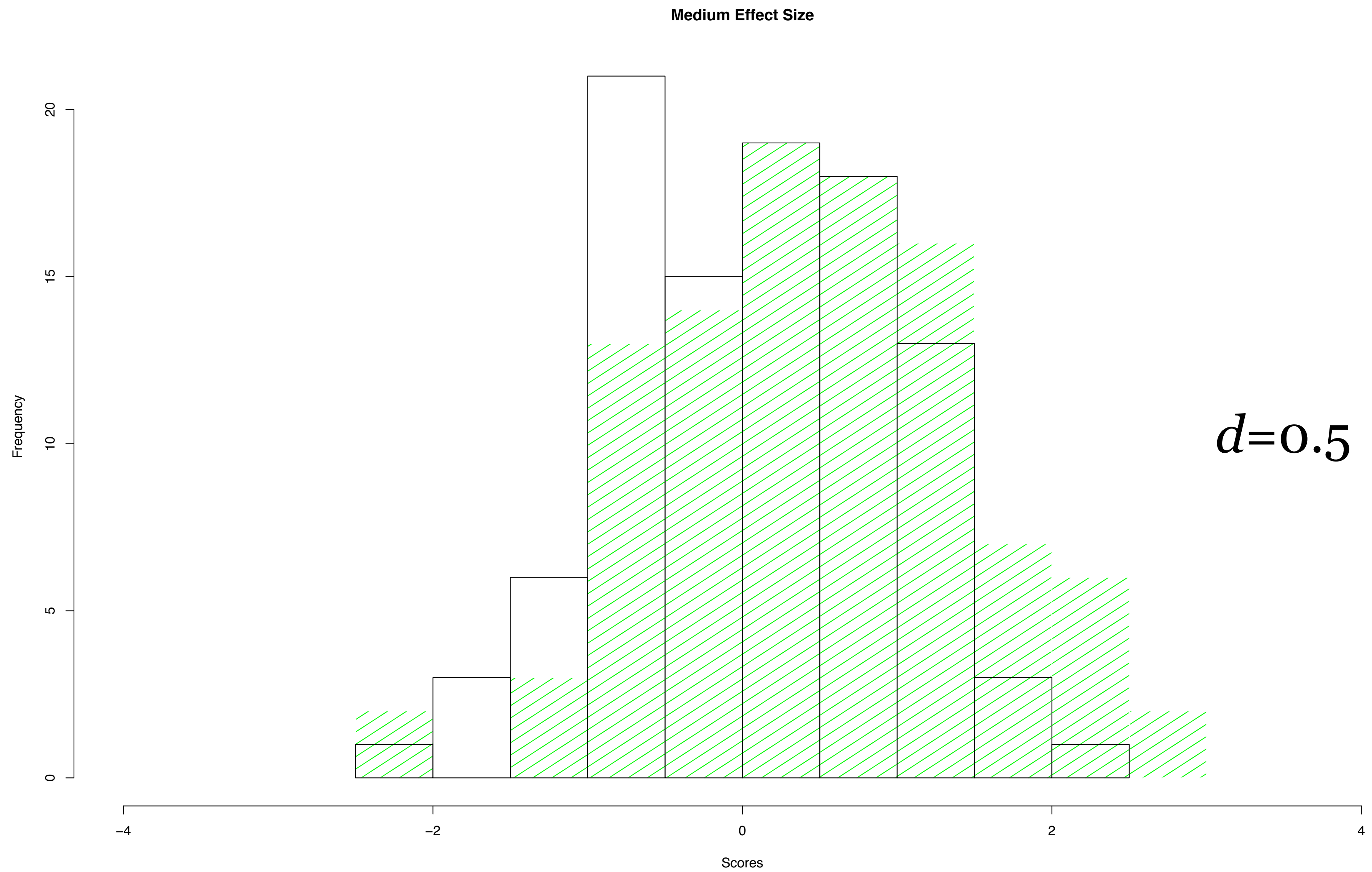
$$d = \frac{|m_A - m_B|}{\sqrt{\frac{(n_A - 1)\sigma_A^2 + (n_B - 1)\sigma_B^2}{n_A + n_B - 2}}}$$

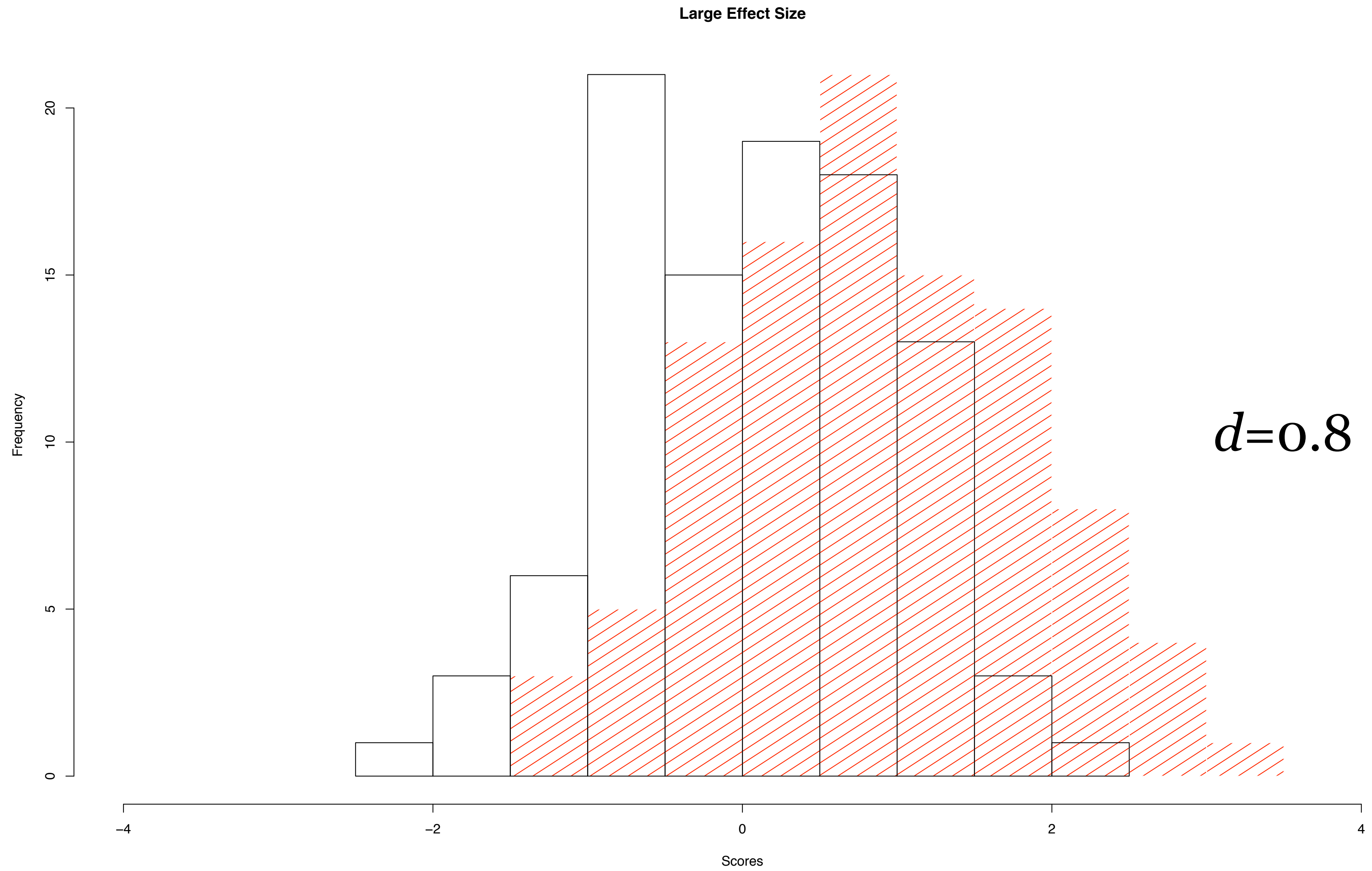
m_A, m_B : mean scores for the two groups being compared

n_A, n_B : sample sizes for the two groups being compared

σ_A, σ_B : standard deviation of the scores for the two groups being compared

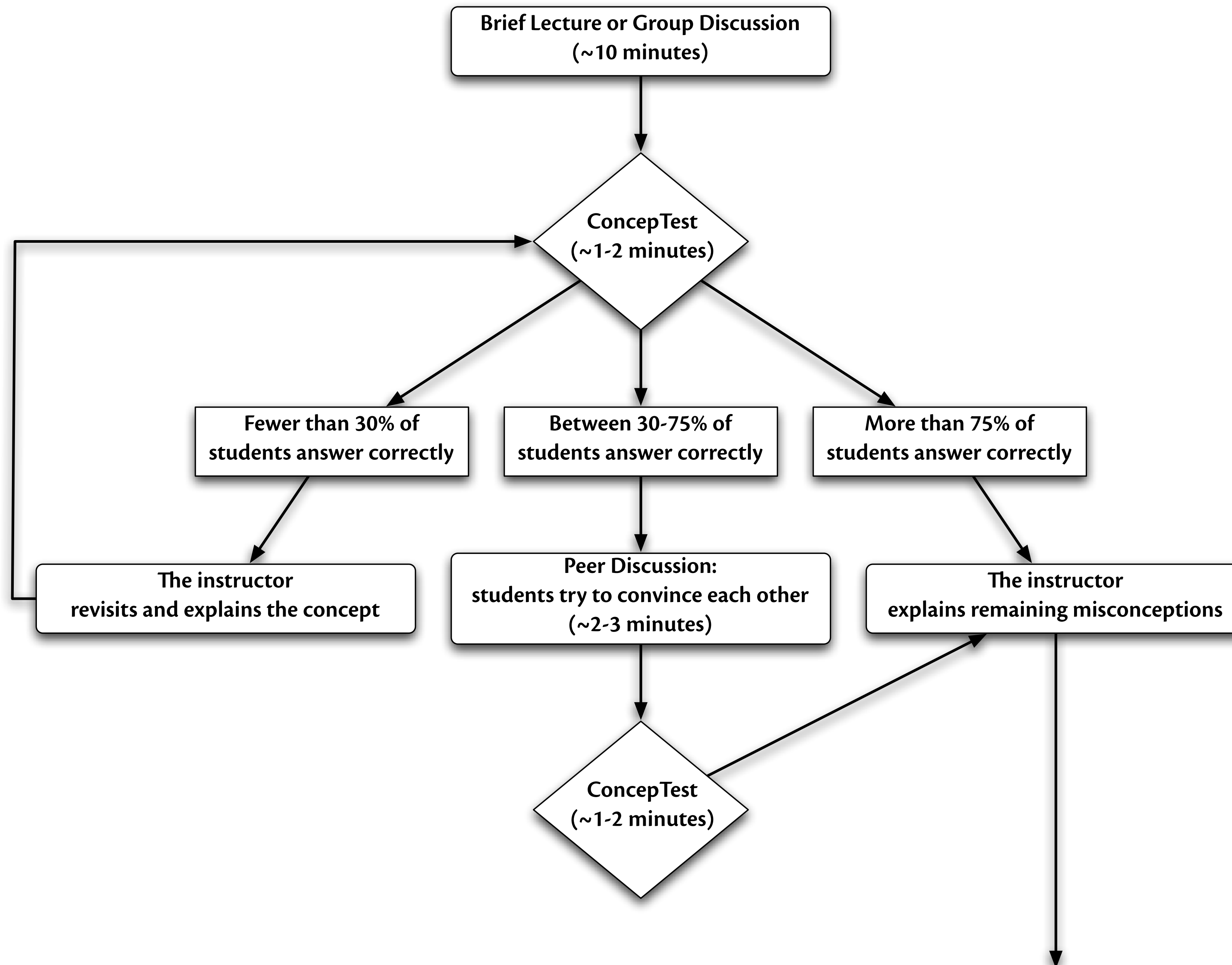






Converting Effect Size to Percentile Gain

Effect Size	Percentile Gain	Effect Size	Percentile Gain
0.1	4	1.1	36
0.2	8	1.2	38
0.3	12	1.3	40
0.4	16	1.4	42
0.5	19	1.5	43
0.6	23	1.6	45
0.7	26	1.7	46
0.8	29	1.8	46
0.9	32	1.9	47
1.0	34	2.0	49



Redefinition

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

Modification

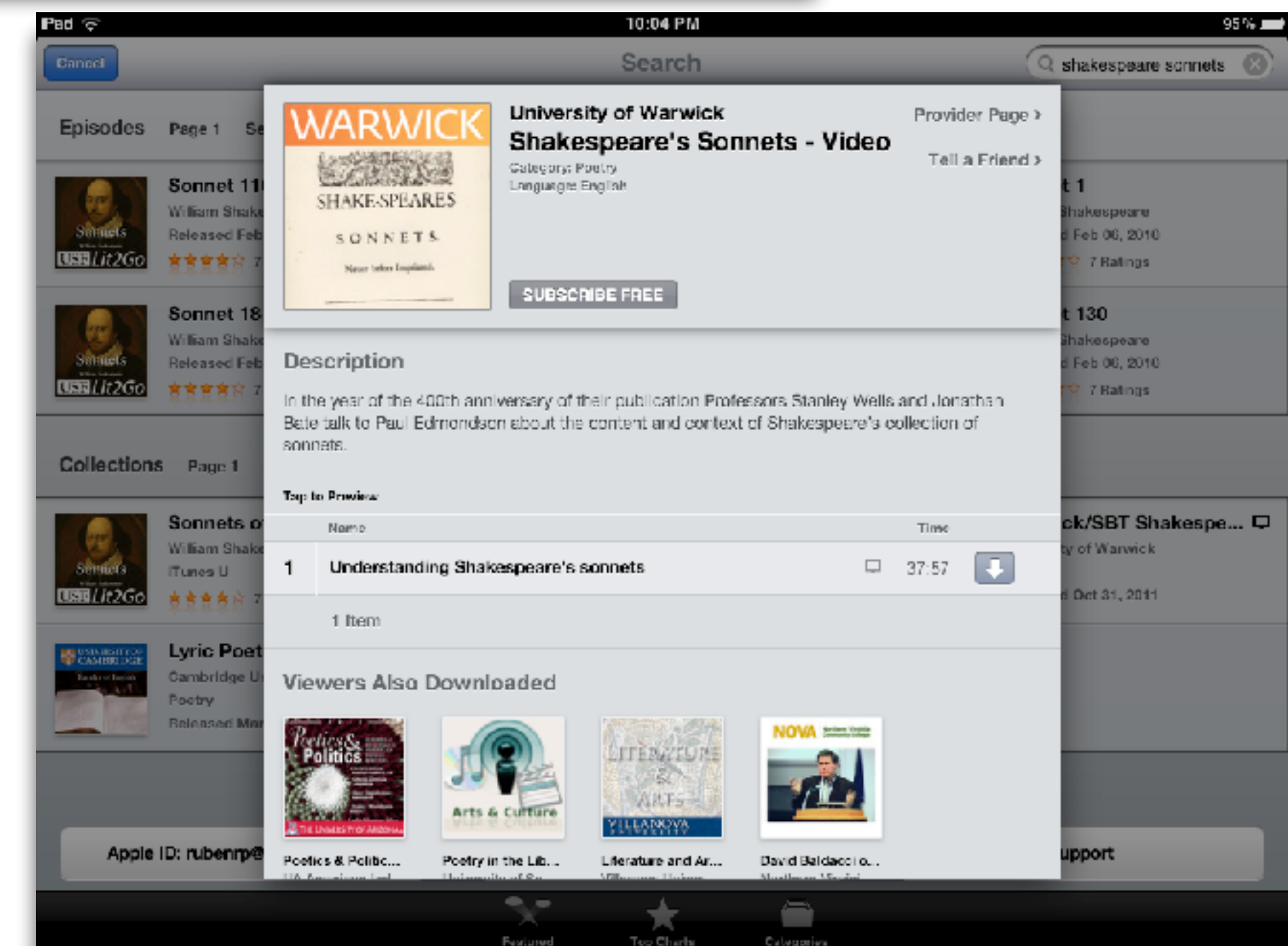
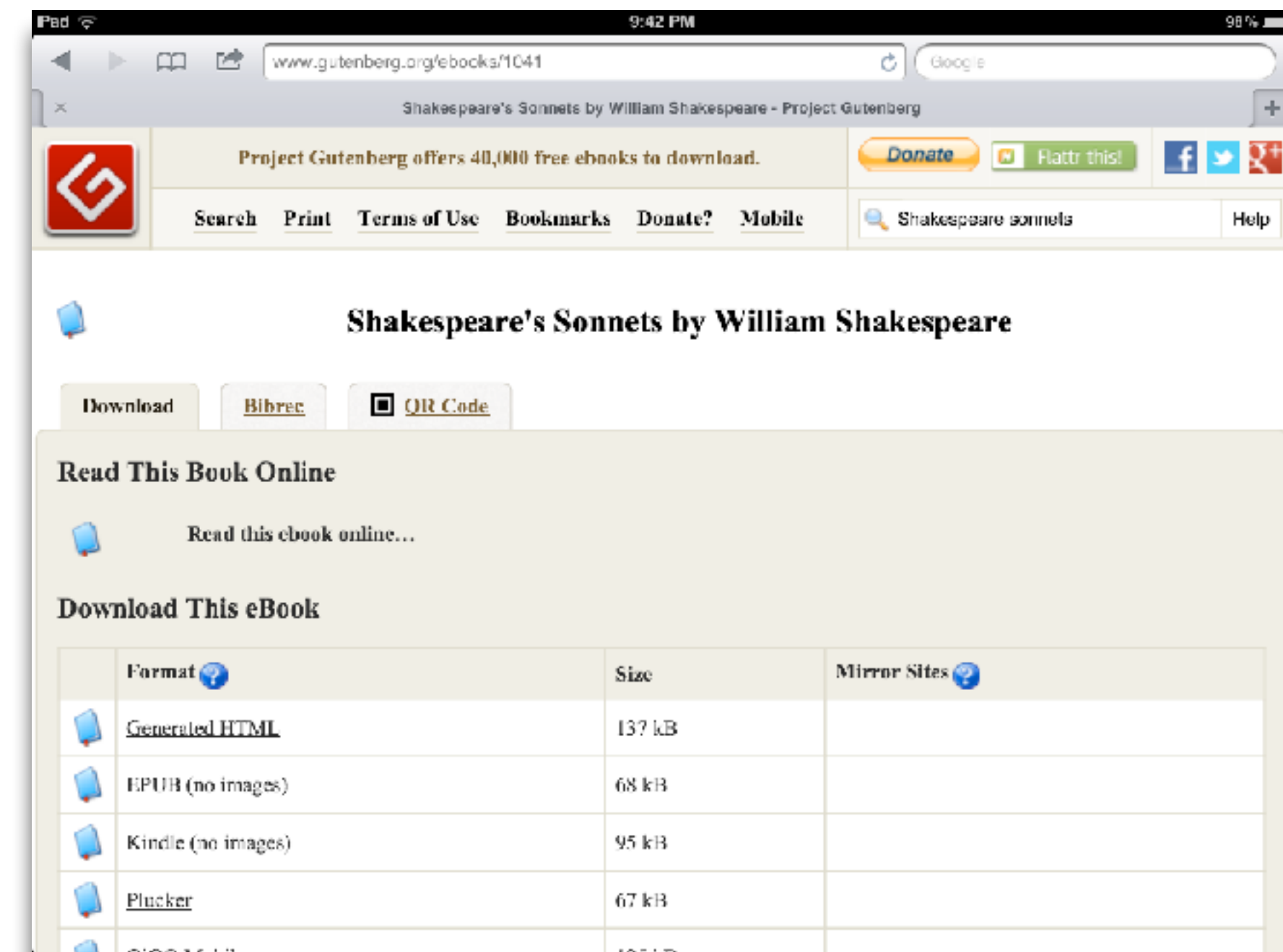
Tech allows for significant task redesign

Augmentation

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

Substitution

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



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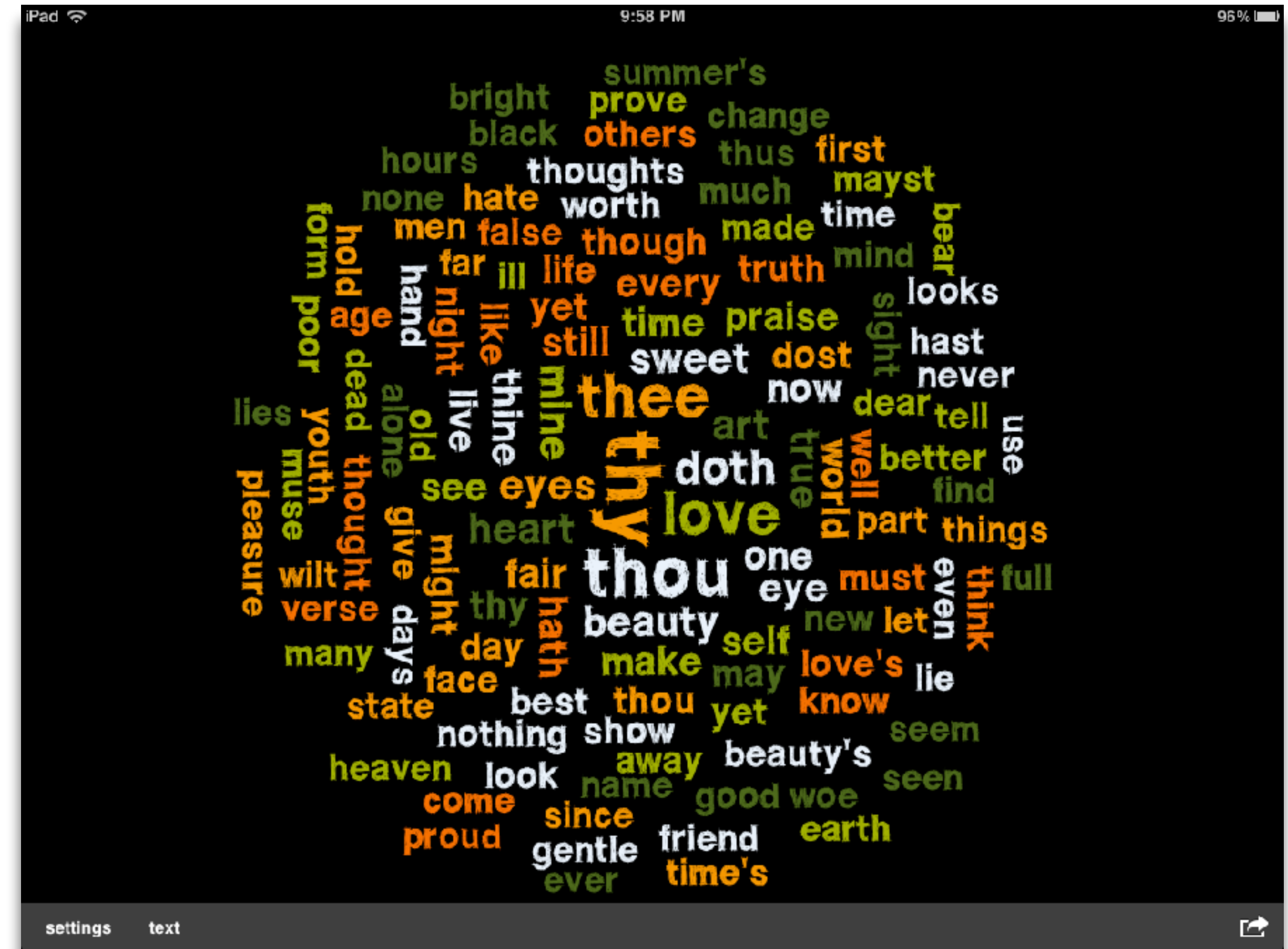
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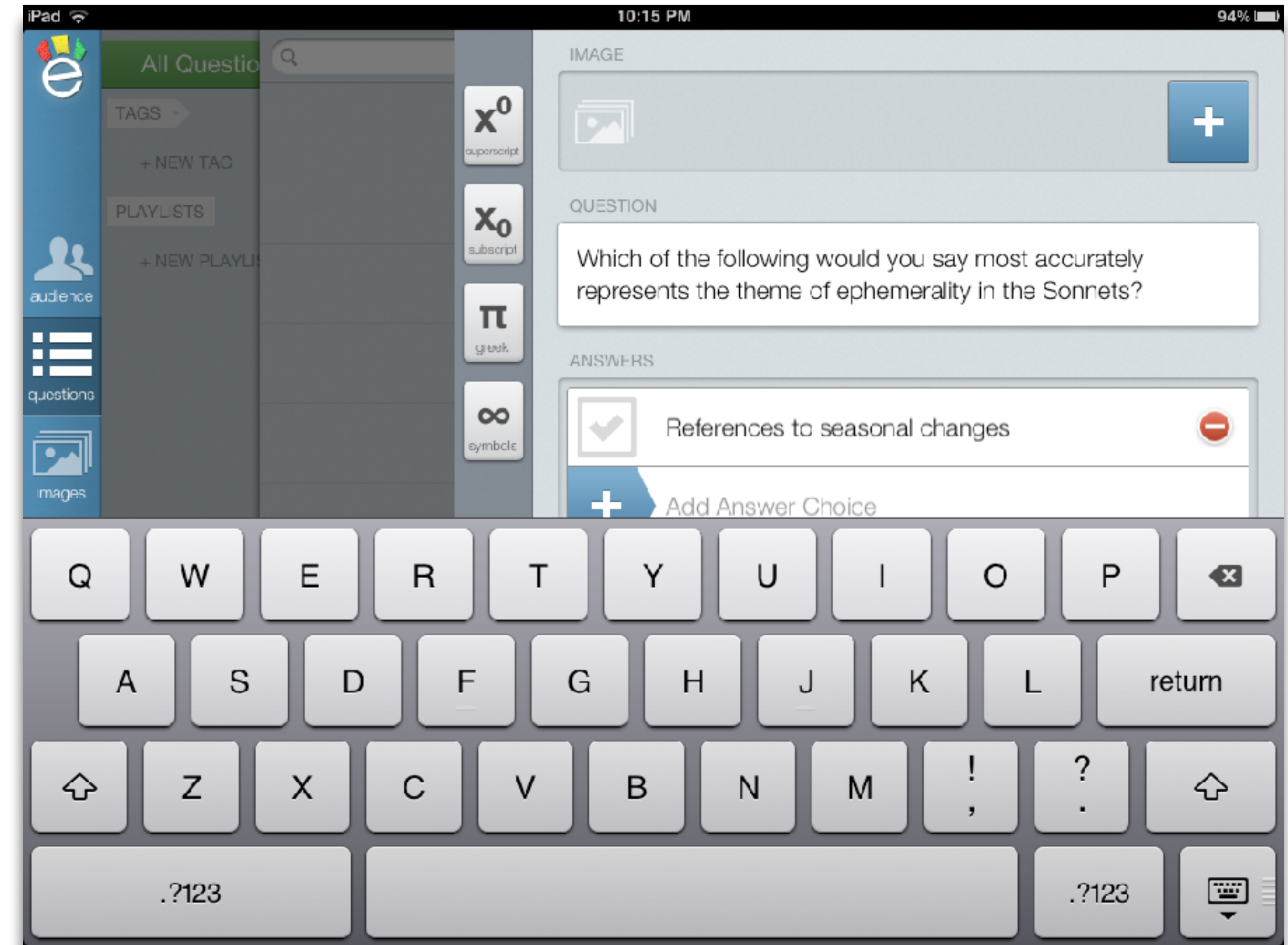
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