EXECUTIVE SUMMARY

English-Spanish Cognate Analysis

86.8%	True Cognates	**7.4%**	False Friends
1 in 13	Similar words trick learners	**2.95**	Mean frequency (false friends)
20.0%	FFR: Family/Kinship	**3.69%**	FFR: Technology/Tools

CORE FINDINGS

1. The False Friends Paradox: High-frequency false friends (mean frequency 2.95 vs. true cognates) appear early in learning, creating outsized confusion. Abstract domains (Emotions: 13.33%, Family: 20.00% FFR) pose highest risk.

2. Strategic Loanword Patterns: English→Spanish loans (frequency 2.84) dominate modern tech vocabulary—essential for contemporary communication. Spanish→English loans (frequency 3.76) are cultural specialties.

3. Complexity ≠ Similarity: Levenshtein similarity shows near-zero correlation with complexity (r=0.008). Word length and syllables predict complexity (r≥0.76). Health/Medicine domains trend most complex.

4. Historical Patterns: 55.3% of false friends emerged before 1400; only 5.3% in modern times. Ancient false friends remain the primary learning challenge.

STRATEGIC RECOMMENDATIONS

Curriculum Design: Flag high-frequency false friends (*actual*, *embarazada*, *sensible*) with explicit warnings in early-stage instruction. Sequence safe domains (Technology) before high-risk domains (Family, Emotions).

Resource Allocation: Prioritize false friend instruction in Family/Kinship and Emotions/Psychology domains where FFR exceeds 13%. Leverage 86.8% true cognate foundation for rapid vocabulary expansion.

Application Development: Adaptive systems should prioritize false friend practice based on frequency data. Error prediction models benefit from domain-specific FFR rates. Personalize learning paths by complexity metrics (length, syllables) rather than similarity.