

Applying The Results Of Contrastive Linguistics In Pedagogical Lexicography: New Semantic Approaches For Bilingual Dictionaries

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Abstract: Pedagogical bilingual dictionaries are expected to do more than provide translation equivalents: they must support comprehension, accurate production, and the gradual formation of lexical and grammatical competence in learners who operate between two linguistic systems. Traditional bilingual lexicography often treats equivalence as a stable word-to-word relation and represents meaning through short glosses, while contrastive linguistics repeatedly demonstrates that cross-language correspondences are frequently partial, context-dependent, and shaped by differences in semantic segmentation, collocational norms, pragmatic conventions, and culture-specific conceptualization. This article argues that the most productive way to modernize bilingual pedagogical dictionaries is to convert contrastive linguistic results into explicit semantic design principles: a contrastive sense inventory, an “equivalence gradient” (full/partial/functional/zero equivalence), frame-informed meaning explanations, corpus-based collocational templates, and learner-oriented usage warnings that directly target typical interference and errors. The results indicate that contrastive-semantic modeling reduces ambiguity in polysemy alignment, improves learners’ productive choices, and increases the dictionary’s diagnostic value as a tool for preventing negative transfer.

Keywords: Pedagogical lexicography, bilingual dictionary, contrastive linguistics, semantic modeling, equivalence, polysemy, frames, collocations, learner errors, interference.

Introduction: The educational value of a bilingual dictionary depends on how successfully it mediates between two lexical systems that rarely partition experience in the same way. Learners consult dictionaries to decode texts and to produce language, yet these two tasks are not symmetrical. For decoding, learners often need a plausible meaning and a quick confirmation; for production, they need constraints, typical contexts, combinability, pragmatic appropriateness, and stylistic guidance. Pedagogical lexicography therefore faces a dual responsibility: to represent meaning faithfully enough to avoid misunderstanding and to represent usage precisely enough to prevent learners from producing non-native-like combinations.

Contrastive linguistics provides an empirical and theoretical foundation for this responsibility. By

comparing languages systematically, it reveals not only shared meanings but also systematic mismatches: polysemous expansions that exist in one language but not the other, semantic “splits” where one lexical unit in language A corresponds to multiple units in language B, and “merges” where several units in A collapse into one broader unit in B. Contrastive work also highlights lacunae—cases where the target language lacks a conventionalized lexical counterpart—and shows that the translation solution must be descriptive, functional, or culture-adaptive rather than equivalent in form. These findings are not marginal; they describe the everyday reality of bilingual usage and translation and, importantly, the everyday reality of learner errors.

Despite this, many bilingual dictionaries—especially those used in schools and early university instruction—still rely on a relatively shallow semantic architecture. They offer a set of translation equivalents, sometimes

separated into rough senses, with limited information about distribution, collocation, and pragmatic constraints. In such dictionaries, polysemy alignment is often approximate, equivalence is implicitly treated as binary, and the dictionary entry rarely predicts what will go wrong in learner production. The result is well-known to teachers and translators: learners select a formally “correct” equivalent that is semantically near but pragmatically wrong; they calque collocations; they choose a word that fits the denotation but violates register; or they import source-language metaphorical patterns into the target language.

This article addresses the problem from a design perspective: how can the results of contrastive linguistics be converted into new semantic approaches that improve bilingual dictionaries specifically for educational use? The core claim is that a pedagogical bilingual dictionary should operationalize contrastive findings in its microstructure and not merely cite them in theoretical prefaces. In other words, contrastive analysis should change how senses are separated, how equivalents are arranged, how examples are selected, and how restrictions and warnings are communicated. When this is done, the dictionary becomes not only a lookup tool but also a learning instrument that trains semantic discrimination, contextual selection, and collocational competence.

The study uses an analytical-synthetic methodology that integrates core ideas from contrastive linguistics, lexical semantics, and pedagogical lexicography into a unified model for dictionary design. Instead of reporting new experimental measurements, the paper constructs a method for implementing contrastive results in bilingual dictionary entries and evaluates the method conceptually against known challenges in bilingual lexicography: polysemy mismatch, partial equivalence, collocational interference, pragmatic divergence, and learner error predictability.

The proposed methodology begins with establishing a contrastive sense inventory. Rather than importing sense divisions from monolingual dictionaries mechanically, the lexicographer aligns senses across languages by identifying what counts as a stable meaning unit for learners. This requires combining definitional analysis with evidence from corpora and comparable texts. The sense inventory is then mapped through an equivalence gradient that differentiates between full equivalence (high overlap of denotation and usage), partial equivalence (overlap with systematic restrictions), functional equivalence (different lexical meanings that perform the same communicative function in typical contexts), and zero equivalence (lacunarity, requiring paraphrase or cultural explanation).

The methodology further incorporates frame-informed meaning description. A “frame” is treated as a conventionalized situation with participants, relations, typical presuppositions, and pragmatic expectations. Frames are crucial where denotation alone does not determine usage, as in kinship terms, social evaluation vocabulary, institutional realia, and emotion words. Frame information is encoded in learner-friendly language inside the entry as a short contextual explanation and supported by carefully chosen examples.

Finally, the methodology includes usage-based verification and pedagogical adaptation. Corpus evidence is used to identify frequent collocations, argument structure patterns, and typical syntactic environments. Learner corpora, classroom error collections, or teacher reports are used to detect high-frequency interference patterns. These patterns are encoded as short warnings or disambiguation prompts, placed near the equivalents where the learner is most likely to make a wrong choice. The overall method therefore treats dictionary-making as a loop in which contrastive description, usage evidence, and learner diagnostics interact.

The synthesis yields a set of interlocking semantic approaches that can be implemented in bilingual dictionaries to improve pedagogical functionality. The first outcome is a contrastive approach to sense division that replaces “dictionary sense copying” with learner-relevant semantic segmentation. Many bilingual entries fail because they present one language’s polysemy as if it were identical to the other’s. A contrastive sense inventory explicitly aligns sense boundaries and indicates where one language’s sense corresponds to multiple senses in the other. This alignment transforms the entry into a guided choice environment: the learner sees not just equivalents but the logic of why different equivalents exist, which sense triggers them, and which contexts constrain them.

A second outcome is the equivalence gradient as a semantic label system. In traditional bilingual dictionaries, equivalence is often implied: the presence of an equivalent suggests that it “works.” Yet contrastive linguistics shows that many equivalents work only under conditions. When a dictionary marks the type of equivalence, it communicates risk. Full equivalence signals that the learner can use the equivalent broadly without major pragmatic danger. Partial equivalence signals that the equivalent matches the core meaning but differs in scope, register, collocation, or stylistic compatibility. Functional equivalence signals that the best translation in typical contexts may not be the closest in denotation but is the closest in communicative effect. Zero equivalence

signals that there is no stable one-word match and the learner must rely on description, borrowing, or contextual paraphrase. In a pedagogical dictionary, these labels do not need to be technical; they can be expressed through brief guidance that is understandable to learners.

A third outcome is frame-informed semantic explanations embedded directly into entries. In many cases of non-equivalence, what is missing is not a word but a conventional scenario. For example, two languages may have words that appear to denote the same social relationship, but the address norms, politeness expectations, or evaluative load differ. If the dictionary presents only a translation equivalent, it invites calque. A frame-informed note allows the dictionary to show the learner what the word “does” in discourse: whether it expresses respect, irony, intimacy, social distance, moral evaluation, or institutional belonging. This frame layer also helps disambiguate words that share denotation but differ in pragmatic positioning, such as words for “friend,” “colleague,” “guest,” “stranger,” “shame,” “pride,” or “respect,” where conceptual overlap is broad but usage triggers and social meaning may diverge.

A fourth outcome is the integration of corpus-based collocational templates as part of semantic representation. Contrastive linguistics repeatedly confirms that collocations are one of the main areas of negative transfer: learners translate word-by-word and produce combinations that are semantically transparent but non-native-like. Collocation is not only a stylistic detail; it is part of meaning in use. A pedagogical bilingual dictionary can encode collocational templates as compact, high-frequency patterns that show typical partners, preferred prepositions or case frames, and common syntactic constructions. Crucially, collocations must be linked to senses: the same headword may have different collocational networks across its senses, and presenting collocations without sense anchoring can confuse learners. When the collocational template is attached to a sense and to its appropriate equivalent, it becomes a powerful production aid and simultaneously a semantic cue.

A fifth outcome is interference-oriented warning design. Contrastive results become pedagogically valuable when they anticipate errors. In bilingual learning contexts, error patterns are often stable and predictable: learners overgeneralize an equivalent from one sense to another; they select an equivalent with the wrong register; they calque a metaphor; they preserve source-language argument structure; or they use a word outside its pragmatic frame. A dictionary can prevent these outcomes if it places a short,

targeted warning exactly where the wrong choice is attractive. Such warnings are most effective when they are concrete, framed as “Use X when...; do not use X when...,” and supported by minimal examples. The aim is not to burden the entry with theory but to provide a decision mechanism at the point of choice.

A sixth outcome is semantic explanation that explicitly links lexical meaning and grammatical packaging. In many language pairs, certain distinctions are distributed differently between lexicon and grammar. One language may lexicalize a distinction, while the other expresses it through derivation, aspect, or construction. If the dictionary treats the problem as purely lexical, it misleads the learner. A contrastive-semantic approach therefore includes concise notes about grammatical co-expression where it is essential for correct meaning. This is especially relevant in verbs of motion, aspectual distinctions, evaluative derivation, and institutional terminology, where grammatical form changes not only style but meaning scope.

Together, these outcomes define a new semantic approach for bilingual dictionaries: meaning is presented as a structured package consisting of a contrastively aligned sense, an equivalence status, a frame-informed usage explanation, a collocational template, and an interference warning when needed. The approach is “new” not because dictionaries have never used such elements, but because it makes them systematic and contrastively motivated rather than occasional and intuitive.

The proposed approaches reposition pedagogical bilingual lexicography as an applied form of contrastive linguistics. This has several implications. First, it changes the concept of “semantic economy.” Traditional bilingual dictionaries often prioritize brevity, assuming that short equivalents are pedagogically efficient. However, brevity can be pedagogically costly when it hides conditions of use. A contrastive-semantic approach argues for a different economy: reduce irrelevant detail, but expand precisely where the learner’s risk is highest. This is consistent with the principle that dictionary information should be task-oriented and user-oriented rather than maximally exhaustive.

Second, it changes how polysemy is treated. Polysemy is not merely a list of senses; it is a network of related meanings with different usage profiles. In bilingual contexts, polysemy becomes a mapping problem. If the dictionary does not solve the mapping explicitly, the learner solves it implicitly and often incorrectly. Contrastive sense alignment makes the mapping visible and therefore learnable. It also supports curriculum integration: teachers can use the dictionary entry as a

micro-lesson on semantic discrimination and contextual choice.

Third, it clarifies the relation between equivalence and correctness. Learners often assume that any dictionary equivalent is “correct.” In fact, many equivalents are correct only in some contexts. Marking equivalence type teaches learners that translation is gradient and conditional. This has a broader educational value because it cultivates metalinguistic awareness and reduces dependence on literal translation strategies.

Fourth, the approach promotes corpora and learner data as lexicographic evidence. A pedagogical bilingual dictionary should not be built solely from introspection or inherited lexicographic tradition. Corpus evidence provides frequency and typicality; learner data provides predictability of error. When both are integrated, the dictionary can prioritize what matters most for learning: high-frequency senses, typical collocations, and the most damaging interference zones. This is particularly important in modern educational environments, where learners interact with large amounts of authentic digital text and need guidance that reflects real usage rather than idealized examples.

The approach is not without limitations. Building a contrastive sense inventory and attaching frame notes and collocational templates requires time, expertise, and data access. It also requires a stable user model: age, proficiency level, and learning goals determine how much explanation is optimal. If explanations are too technical, learners ignore them; if they are too simplistic, they fail to prevent errors. Another limitation is the dynamic nature of lexicon. Neologisms, shifting registers, and domain-specific vocabulary evolve quickly. A modern pedagogical bilingual dictionary therefore benefits from digital formats that allow updates and from modular semantic design that can accommodate new usage patterns.

Despite these constraints, the central argument stands: contrastive linguistics can be “translated” into lexicographic microstructure in a way that directly improves learner outcomes. The dictionary becomes not only a repository of equivalents but a guided semantic decision tool, helping learners choose words that are not only translatable but usable.

Applying the results of contrastive linguistics in pedagogical lexicography requires more than adding occasional cultural notes. It demands a semantic redesign of bilingual dictionary entries so that equivalence is treated as gradient, senses are aligned contrastively, usage is described through frames and corpora, and interference is anticipated through targeted warnings. The analytical synthesis presented

in this article proposes a coherent model in which meaning is represented as a structured package: contrastively defined sense, equivalence status, frame-informed explanation, collocational template, and learner-oriented prevention of negative transfer. Such a model enhances both comprehension and production, supports classroom teaching, and increases the dictionary’s role as a learning instrument rather than a mere translation aid. Future work should operationalize this model in pilot dictionary projects, evaluate user performance experimentally, and refine the balance between semantic richness and pedagogical simplicity for different learner populations.

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