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Article

A Study on Semantic Cognitive Error of the Chinese Word—“duō shǎo”

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Abstract: From the perspective of semantic cognition, this study conducts an in-depth investigation into the errors involving the Chinese word “duōshǎo (how many)” , categorizing them into “intrusive errors” and “deviant errors.” Through analyzing the usage of “duōshǎo (how many)” in the HSK Dynamic Composition Corpus, it is found that intrusive errors mainly manifest as the inappropriate insertion of “duōshǎo” into linguistic contexts where “hěnduō (a lot of)” , “dà xiǎo (size),” or structures like “duō/duōme (how)+ adj/bù (not) adj” should be used. Deviant errors, on the other hand, occur when words such as “henduō (a lot of),” “duō (much)” , or “xiǎo (small)” are incorrectly substituted for “duōshǎo (how many/many).” Furthermore, this paper explores the semantic-cognitive reasons behind these errors, highlighting that the characteristics of dimensional adjectives and the difficulty Chinese learners face in comprehending vague quantitative meanings are key factors contributing to these mistakes. The findings provide significant insights for Teaching Chinese as a Foreign Language (TCFL) and language acquisition.

Keywords: scalar adjectives, semantic error, Mandarin Chinese, quantifiers, second language acquisition

1. Introduction

Regarding errors, to better align with the research content of this paper, a more generalized classification of errors has been proposed based on traditional error analysis methods, incorporating fundamental concepts of pragmatics and the basic definition of errors.Mr. He Zhaoxiong (2000) pointed out in his book "A new introduction to pragmatics.": "Among the numerous definitions of pragmatics, two concepts are fundamental—one is meaning, and the other is context." From the perspective of linguistic elements themselves, the process of language output can be understood as these elements entering linguistic contexts that match their intended meanings. Errors emerge as systematic mistakes occurring during this process. Therefore, errors caused by linguistic (or syntactic) components entering an incorrect linguistic environment are termed "intrusive errors," while errors resulting from linguistic components failing to enter the correct linguistic environment are called "divergent errors." This paper uses this standard to classify errors related to "duōshǎo (how many)." According to the Modern Chinese Dictionary (Chinese Academy of Social Sciences, Institute of Linguistics, 2016), "duōshǎo" functions as both a pronoun and an adverb, defines "duōshǎo (how many)" as:

1. Interrogative pronoun, asking about quantity; indicating an uncertain amount.
2. Noun, referring to the magnitude of quantity.
3. Adverb, to some extent; somewhat.

"Quantified expressions like duō shǎo in Mandarin display distributional patterns that differ significantly between native speakers and second language learners, indicating a gap in conceptual encoding." (Chen & van Deemter, 2022)

2. Related Work

Searching for the word "duōshǎo (how many)" in the HSK Dynamic Composition Corpus yielded a total of 306 results, with 31 instances of lexical errors related to "duōshǎo (how many)". In the following detailed analysis of error samples, some cited error examples contain multiple errors. Without altering or affecting the semantic meaning of the erroneous sentences, this study has made reasonable corrections and deletions to the non-"duōshǎo (how many)" error parts. The HSK Dynamic Composition Corpus has already corrected and marked the error types during data entry, using the annotation format {CC}. The notation "target word {CC

other word}" indicates the misuse of another word as the target word, while "other word {CC target word}" denotes the misuse of the target word as another word.

3. Intrusive Errors

The phenomenon of intrusive errors arises when linguistic elements enter incompatible linguistic contexts, yielding two distinct outcomes. The first manifests as substitution, wherein inappropriate elements supplant expected constituents within given syntactic or semantic environments. The second constitutes insertion, whereby foreign elements infiltrate linguistic settings without displacing existing components.

Two critical observations warrant emphasis. First, the present discussion focuses exclusively on errors speakers can consciously monitor—instances where linguistic elements are actively introduced into unsuitable environments, hence termed "intrusive." Though the process may appear deliberate, second language (L2) learners typically remain unaware of the incompatibility between intrusive elements and their contexts, along with the resulting dissonance. Second, such intrusions stem from systematic cognitive misinterpretations of linguistic components and must be distinguished from performance lapses (e.g., stress-induced monitoring failures). The latter involve transient disruptions in speech monitoring, where speakers promptly detect and correct contextual mismatches without exhibiting consistent error patterns.

Following Corder's (1981) taxonomy of interlanguage development, errors may be classified as presystematic, systematic, or postsystematic. This paper posits that during presystematic and systematic phases, learners remain blind to contextual incompatibilities, whereas in the postsystematic phase, they typically identify such mismatches and autonomously correct them while offering metalinguistic explanations.

3.1. The Intrusion Of "Duōshǎo (How Many)" Into the Linguistic Contexts Of "Hěnduō/Duō (a Lot Of/Much)"

As shown in **Table 1**, "how many/much" intrudes into the linguistic contexts of "many/a lot." Both belong to the category of vague quantity expressions, where "many/a lot" indicates a large quantity, while "how many/much" generally refers to

the entirety of an indefinite quantity, though with a certain bias in meaning. From a cognitive perspective, the scope of "little/few" is smaller and often easily expressed precisely—it can be exhaustively listed in natural numbers. In contrast, the scope of "many/much" extends upward from a vague boundary standard, approaching infinity (Cheng,2015). This not only creates an imbalance between "many/much" and "little/few" as antonyms but also leads to the correct usage of "how many/much" leaning toward "many/much" in practice. However, for second-language learners, this results in a large number of intrusive errors.

Table 1

Error Sample

Original Sentence (with Error)	Corrected Sentence
我还想写很多{CC 多少}话，可是考试时间快要到了。 *I still want to write many {CC how many} things.*	我还想写很多话 *I still want to write many things.*
虽然还要很多{CC 多少}钱和时间。 *Although it still requires a lot {CC how many} of money and time.*	虽然还要很多钱和时间。 *Although it still requires a lot of money and time.*
听流行歌曲就会给人们很多{CC 多少}帮助。 *Listening to pop songs gives people a lot {CC how many} of help.*	会给人们很多帮助。 *gives people a lot of help.*
因为我担心家人花的医疗费是很多{CC 多少}的。 *Because I worry that the medical expenses my family spends are a lot {CC how many}.*	医疗费是很多的 *Medical expenses are substantial.*

3.2. The Linguistic Context of "Duōshǎo (How Many)" Into the Linguistic Contexts Of "Dà xiǎo (Size)"

Lu Jianming first proposed the concept of dimensional adjectives in "On Dimensional Adjectives" (1989), mentioning "dimension" and explaining its characteristics. Dimensional adjectives mainly refer to 13 pairs of relative adjectives, all of which carry the semantic feature [+dimension] and can indicate deviation in the structure "A + (了) + quantitative numeral". The word formation of "how many" (duōshǎo) and "size" (大 小) is consistent, and both "many/few" (多 / 少) and "big/small" (大/小) fall under the category of dimensional adjectives, with their basic meanings emphasizing the overall expression of vague quantities. Many and few are

quantifiers that combine with plural countable nouns, expressing roughly 'a large number of' and 'a small number of'. Much and little occur with non-countable (mass) nouns, and correspondingly express something like 'a large amount of' and 'a small amount of'. But what is meant by a large or small amount or quantity is of course vague. (Solt， 2011)From a cognitive semantic perspective, the vague quantity cognition of "how many" is generally based on the accumulation of natural numbers with a pluralistic entity (comprising multiple components), a process that is often discrete. In contrast, "size" is based on a unitary entity (comprising a single component) for quantity accumulation, which is continuous in terms of quantity characteristics (Wang et al., 2006). When using their native language, second-language learners are often unaware of such vague quantity cognition and expression. During the process of second-language acquisition, they frequently fail to convert this cognition into the correct target language expression, leading to "how many" invading the linguistic context of "(degree of) size.", **Table 2** shows examples of those errors.

Table 2

Error Sample

	Original Sentence (with Error)	Corrected Sentence
1	这个问题应该问程度大小{CC 多少}。 I think we should approach this problem from a different angle and ask about the degree of size {CC how many}.	程度大小 The degree of size.
2	不论事情的大小{CC 多少}，只要自己能做得到，就应该去做。 No matter the size {CC how many} of the affair, as long as one can manage it, one should do it.	事情的大小 The size of the affair

3.3. The Linguistic Context of "How Many" Into the Linguistic Contexts Of "duō/duōme (How)+ Adj./bù (Not) Adj."

Structures like "how + adj./not adj." or "" are used to emphasize the severity of the current "adj." in either a positive or negative sense, which is also an expression of vague quantity measurement without precise gradation. This paper argues that the

vague quantity meaning of “duō/duōme (How)” here is essentially the same as that of “hěnduō/duō (a Lot Of/Much)” discussed earlier, quantifiers can differ in how precise their meaning boundaries are, the lack of a specific threshold correlates with borderline cases which constitute a key characteristic of vagueness (Ramotowska, 2024), Therefore, the errors shown in **Table 3** is caused. The difference lies in the fact that “how” or “how” adds a vague quantity limitation of a large amount to “adj./not adj.”, while “adj.” also confines “how” or “how” within the scope of its expressed degree or qualitative meaning.

Table 3

Error Sample

Original Sentence (with Error)	Corrected Sentence
流行啊，明星的私生活啊……这些东西多么{CC 多少}重要。	多么重要
How {CC how many} important are things, like trends, celebrities’ private lives, etc. ？	How important
吸烟对健康到底多{CC 多少}不好？	事情的大小
Just how {CC how many} bad is smoking for your health?	The size of the affair

4. Divergent Errors

This paper proposes divergent errors as a conceptual counterpart to invasive errors, theorizing their formation through two mechanistically linked phases: initial component displacement (failure of target linguistic elements to enter appropriate contexts) followed by pathway differentiation into either a) filling-type errors where contextual vacancies are occupied by incompatible components, or b) avoidance-type errors yielding structurally incomplete expressions through unreplaced vacancies undetected by discourse monitoring mechanisms. Crucially, while filling-type manifestations exhibit surface resemblance to invasive errors—with detectable intrusion of extraneous components but overlooked contextual semantic resistance—their analytical distinction hinges on perspective: divergence/invasion assessments apply singularly to specific components, whereas filling-phase “invasions” inherently reference other components. This perspective reveals the core dialectic—one component’s invasion constitutes another divergence, establishing an inseparable duality. It is worth noting that the analysis of the “duō shǎo” error case did

not find avoidance divergence, which is worthy of future research; Therefore, the subsequent discussion focuses only on populated divergence errors in fuzzy quantization contexts.

4.1. "Many" or "Much" Filling the Linguistic Context of "how many"

"The quantifier 'duō shǎo' exhibits diverse pragmatic functions in spoken Mandarin, ranging from straightforward quantity inquiry to expressing vagueness and approximation." (Xu & Huang, 2022). In the errors shown in **Table 4**, placing "duō shǎo" within the negative structure "méiyǒu **" (there is no...) does not negate the entire indefinite quantity. Instead, it specifically negates the aspect of large quantity within that indefinite quantity. Common Chinese expressions denoting a large quantity are "hěn duō" (many/a lot) or "duō" (much/many). Thus, "duō shǎo" becomes incompatible within this linguistic environment, and"hěn duō" (many/a lot) or "duō" (much/many) therefore fills this semantic gap.

Table 4

Error Sample

Original Sentence (with Error)	Corrected Sentence
医生说"你没有多少{CC2 多}时间了。" The doctor said, "You don't have how many {CC much} time left."	没有多少时间 There is not how much time.
他的一生不知遇到了多少{CC 好多}困难，在政治上遇到了多少{CC 很多}问题。 Throughout his life, he encountered how many {CC many} difficulties and how many {CC many} political challenges.	不知道遇到了多少问题/多少困难 Don't know encountered how many problems/how many difficulties.

4.2. "xiǎo (Small)" Filling the Linguistic Context of "duōshǎo (how many)"

"Xiǎo (Small)" is an expression of vague quantity based on subjective evaluation criteria (Chen,2023). However, as mentioned earlier regarding inequalities like "many" or "few," "small" and "few" are similar, but expressions like "how many" or "size" for vague quantities rarely appear under subjective criteria. Examples 1 and 2 in **Table 5** are special cases where "how many" diverges from the current linguistic

context because the overall context is more suited to the vague quantity expression of "small." However, in local contexts like "yield is" or "quantity of", "how many" is more appropriate.

Original Sentence (with Error)	Corrected Sentence
大多数人还在重视食物数量的多少[CC 小]。 most people still focus on the how many {CC small} of food quantity	食物数量的多少 There is not how much time.
我认为现在的饥饿问题的原因不在于农作物的产量是多少{CC2 小}。 I believe the current cause of hunger issues does not lie in how many {CC small} the crop yield is	不知道遇到了多少问题/多少困难 Don't know encountered how many problems/how many difficulties.

5. Conclusion

Shi Yuzhi (2003) proposed a system of quantitative semantic features: magnitude of quantity (number/count, degree, time, dimensions, dimensional ratio), characteristics of quantity (discrete/continuous), and attributes of quantity (definite/indefinite, precise/vague). "多（many)" and "少（few)" are a typical pair of dimensional adjectives. Their basic meaning is an estimated generalization of the current quantity of things under an implicit standard, rather than a precise quantitative connotation. The internalized implicit standard of this cognition also varies with different things, determined by factors such as the speaker's subjective cognition and the current linguistic context, further deepening the vague attributes of "many" and "few". The two aspects of "many" and "few" essentially cover the entire range of quantity cognition. The quantity range expressed by "how many" can be represented as "many + few = how many", describing the entirety of this vague quantity. The concept of quantity initially emerged from humans comparative cognition of the spatial extent occupied by objects, later evolving into more abstract perceptions of the magnitude, scope, and degree of events or attributes, ultimately forming the linguistic category of quantity in language. Modern cognitive psychology posits that biological innate mathematical abilities involve two distinct numerical representation systems: an exact representation system for small quantities (natural numbers 1-3 or 4) and an approximate representation or analog magnitude system for large quantities (natural numbers ≥4). three mechanisms—subitizing, estimation, and counting—constitute the primary numerical cognition modes for language-trained individuals (Feigenson et

al.,2004) . Subitizing operates within the range of 1-3 or 4 with high accuracy; counting functions between 5-8 or 9 with precision gradually decreasing as quantities increase; while estimation applies to quantities above 9 (Zhang,2021). From the distribution pattern of natural numbers, estimation—the most frequently employed cognitive mechanism in linguistic expression—makes fuzzy quantity expressions particularly significant in language. When learning a new language, second language learners, constrained by the inherent semantic ambiguity, are more prone to making substantial errors.

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