

Meaning And Humor Comprehension of Chinese-English Pseudo Words Among Chinese EFL Speakers: A Conceptual Blending Perspective

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Abstract. Assuming that Chinese–English pseudo words (CEPWs) are humorous and have multiple meanings, this study, based on the conceptual blending theory (CBT), investigates the comprehension of meaning and humor in CEPWs for Chinese speakers learning English as a foreign language (EFL). Specifically, it aimed to answer the following questions: 1) What is the humorous effect of CEPWs as perceived by Chinese EFL speakers? 2) What is the comprehensive understanding of CEPWs among Chinese EFL speakers according to CBT? and 3) How are Chinese EFL speakers' understanding of CEPWs and their perception of the humorous effect related? This study adopted a mixed method of quantitative (questionnaire) and qualitative (semi-structured interview) approaches. It surveyed 114 native Chinese EFL speakers and interviewed 12 of them. Quantitative data were collected via a questionnaire disseminated on the online questionnaire platform wenjuan.com, gathering 114 valid responses. After collection, the quantitative data were analyzed using SPSS Statistics 20 software. The findings revealed that CEPWs are more humorous than their Chinese originals. A conceptual blending model of Chinese EFL speakers' comprehension of CEPWs was proposed, which allows these speakers to generate numerous interpretations of CEPWs. The humor in CEPWs comes from homophony, bilingual speech, and conceptual blending, facilitated by the meaning correspondence of English words in the CEPW and context. This suggests that the incongruity between input spaces and the emergent structure of conceptual blending is involved in creating humor. CEPWs meet the criteria for puns, providing a new perspective on this phenomenon. The findings provided empirical data, based on which a model of Chinese EFL speakers' comprehension process of CEPWs was devised, providing insights into the cognitive process behind the use of Internet language.

Keywords: conceptual blending theory; Chinese–English pseudo words; Chinese EFL speakers; meaning; humor.

1. Introduction

Bilingual wordplay has attracted researchers' interest worldwide (e.g., Knospe, 2015, 2016; Stefanowitsch, 2002)^{[1][2][3]}. Recently, bilingual wordplay has also emerged on the Chinese Internet as homophonic Chinese–English mixed words, such as *半tour废* (from 半 bàn途 tú而 ér 废 fèi, meaning “give up halfway”; Kleeman & Yu, 2010a, p. 21)^[4] and *duck不必* (from 大 dà可 kě不 bú必 bì, “be entirely unnecessary”; Kleeman & Yu, 2010b, p. 141)^[5], which mainly originate from celebrities or Internet celebrity events (Wang & Peng, 2022)^[6]. For example, *duck不必* originated from the live broadcast of a Chinese e-commerce host, Austin Li (Li Jiaqi in Chinese), and was then widely spread through Sina Weibo, a Chinese social media platform (50k Stewed Duck Snacks become 500k!, 2019^[7]; see Appendix A for a news report). Another Chinese–English mixed word, *半tour废*, became popular after being posted on Sina Weibo by Papi酱, an Internet celebrity, receiving over 16,000 replies as of July 2023 and eliciting countless creations of Chinese–English mixed words with similar structures by netizens (Lu & Huang, 2020)^[8]. These words were created by substituting one or two Chinese characters in Chinese four-character words or four-character idioms with similarly pronounced English words to create a lighthearted and humorous tone. Considering these characteristics of the words, they are hereby named Chinese–English pseudo words (CEPWs).

The CEPW phenomenon has attracted scholarly attention (e.g., Liu, 2018; Lu & Huang, 2020; Wang & Peng, 2022)^{[9][8][6]}. Some researchers identified the phenomenon as English homophony or homophonic mosaic in Chinese (Liu, 2018; Lu & Huang, 2020)^{[9][8]}, while others considered such words as new Internet language variants of Chinese idioms and named them Chinese–English blended idioms (Wang & Peng, 2022)^[6]. However, three inadequacies exist in the current literature. First, although Chinese–English mixed Internet expressions exist in abundance, studies on bilingual Internet expressions are scarce. Second, past studies focused on theoretical discussions, indicating that empirical studies are needed to deeply understand the comprehension processes of such phenomena. Finally, although Wang and Peng (2022)^[6] mentioned the humorous effect of Chinese–English blended idioms, the actual effect of the humor in such words perceived by people, and the reasons behind it, remain unstudied.

Thus, this study aimed to attain empirical evidence on Chinese English as a foreign language (EFL) based on speakers' meaning and humor comprehension processes of CEPWs.

2. Literature review

Owing to the phonetic nature of Mandarin Chinese, homophonic words are ubiquitous on the Chinese Internet and have attracted scholarly attention (e.g., Huang, 2013; Xu, 2013)^{[10][11]}. Such words created via the homophonic substitution of existing words are referred to as “homophonic imitation words” (Zhu, 2008, p. 77)^[12]. Sometimes, homophonic imitations may have no semantic relation to the original words, called “unrelated homonyms” by Xu (2013, p. 69)^[11]. For example, 鸡冻 (jī dòng, literally “chicken freeze”) is the unrelated homonym of 激动 (jī dòng, “excited”). In other homophonic imitations, homophones contribute their meaning to the semantics of the word—such as 百万负翁, meaning “broke man” (literally “hundred ten-thousand negative man”) as opposed to the phrase 百万富翁, meaning “millionaire” (literally “hundred ten-thousand rich man”)—despite identical pronunciations. Considering CEPWs, a specific type of homophonic words on the Chinese Internet, words both with and without semantic association between homophonic imitations and originals exist, with Wang and Peng (2022)^[6] labeling them “with semantic coercion” and “without semantic coercion,” respectively (p. 4).

While homophonic imitation words might not differ in meaning compared with their originals, they have unique pragmatic functions. For instance, Huang (2013)^[10] believed that Internet homophones make expression more tactful and humorous. Wang and Peng (2022)^[6] also highlighted the playful nature of CEPWs, a sub-type of homophonic imitation words.

However, in English, homophony has mainly been studied from the perspective of puns. A comprehensive scholarly definition of a pun was given by Attardo (2018)^[13]: “a textual occurrence in which a sequence of sounds must be interpreted with reference to a second sequence of sounds, which may but need not be identical to the first sequence, for the full meaning of the text to be accessed” (p. 91), while humor is “the perlocutionary goal or effect of puns” (p. 91). Other scholars studying puns also predominantly mentioned three aspects of puns, namely, multiple interpretations, sound-related interpretation, and humor (e.g., Attardo, 1994, 2018; Koestler, 1964)^{[14][13][15]}.

Nonetheless, puns are not intrinsic features of words but rely on two conditions to be transformed from an ambiguity, which may be the feature of a word: the meanings are “opposed,” which may be a general criterion (Partington, 2009)^[16], and a pun is “concocted” by someone deliberately manufacturing, or at least highlighting, the ambiguity (Attardo, 1994, pp. 133–134)^[14].

Many researchers studied humor from the perspective of humor comprehension or appreciation (e.g., Cunningham & Derks, 2005; Feingold, 1983; Koestler, 1964; Vaid, 2000)^{[17][18][15][19]}. Humor comprehension is the process of understanding or “getting” a joke, an essential step before one finds an instance of humor funny, and humor appreciation is the experience of finding something amusing (Kozbelt & Nishioka, 2010)^[20].

Literature on bilingual puns exists, the most representative being the study of English–German bilingual puns (Knospe, 2015, 2016; Stefanowitsch, 2002)^{[1][2][3]}. Moreover, Knospe (2015)^[1]

adopted a cognitive approach to the comprehension of bilingual puns and applied the conceptual blending theory (CBT), which has also been used by researchers to study puns (e.g., Fauconnier & Turner, 2003) ^[21].

CBT is also called conceptual integration theory and builds on the theory of mental spaces, which are small conceptual pockets structured by frames and cognitive models constructed for purposes of local understanding and action (Fauconnier, 1994; Fauconnier & Turner, 2002) ^{[22][23]}. The basic four-space model of CBT involves four mental spaces: a) input space 1, b) input space 2, c) generic space, and d) blended space. A partial cross-space mapping connects counterparts in the input mental spaces. A generic mental space maps onto each of the inputs and consists of the shared elements of the input spaces. Finally, in the blended space, the shared parts in the input spaces are projected into the same mental space and fused to develop an emergent structure that neither of the input spaces contains, through three steps—composition, completion, and elaboration. In this process, new meaning is achieved in the emergent structure (Fauconnier & Turner, 2002) ^[23].

The basic diagram in Figure 1 illustrates the central features of CBT (Fauconnier & Turner, 2002) ^[23].

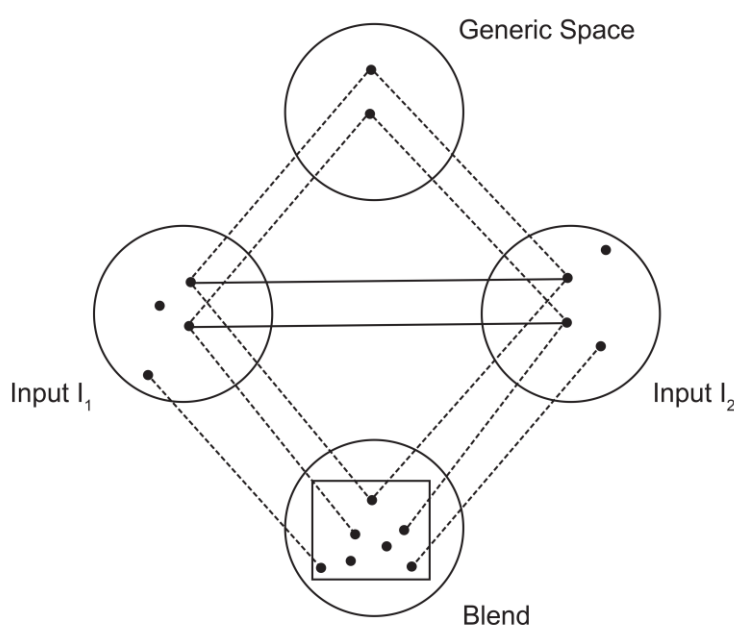


Figure 1. Basic Diagram

Owing to its unique feature of blending, CBT has been widely applied to interpret formal blending, the most typical example of which is puns. Fauconnier and Turner (2003) ^[21] investigated the relationship between conceptual blending, form, and meaning, concluding that puns may require both conceptual and formal blending to be understood, but the mirroring of formal blending and conceptual blending is rare. Lundmark (2003) ^[24] further noted that the weak humor of a pun whose multiple meanings are unrelated could be explained by it involving a blend that occurs only at the formal-expression level but not at the conceptual one.

Although a theory of meaning construction, CBT has also been applied to understand humor. Kang and Gao (2019) ^[25] found that humor arises from blending verbally humorous language, contextual situations, and inferential analysis, thereby producing the emergent structure and understanding and appreciating it. Fujii (2008) ^[26] determined that humor is generated by blending a variety of knowledge frames and compressing layers of incongruities to create just the right degree of cognitive and social tension, which is an essential ingredient of humor, corresponding with conventional humor theories that regard incongruity (e.g., Attardo, 1994; Nerhardt, 1977; Suls, 1972) ^{[14][27][28]} or tension (e.g., Pollio, 1996) ^[29] as necessary for humor. Wang (2004a, 2004b) ^{[30][31]} also applied conceptual blending to humorous discourse but concluded that additional conditions of mental spaces were needed to interpret humor generation and comprehension using CBT. Lundmark (2003) ^[24], however, employed

an indirect approach to demonstrate the compatibility between CBT and Nerhardt's (1977)^[27] model of humor, which involves "a discrepancy between two mental representations" (p. 32): a humorous scenario encompasses two events that are perceived as both similar and dissimilar, allowing them to remain in distinct classes representing the input spaces of a blend. These input spaces exhibit sufficient similarity to yield a generic space while remaining distinct from one another.

In brief, CEPWs are a type of homophonic imitation phenomenon on the Chinese Internet. However, whether CEPWs can be considered bilingual puns and whether conceptual blending can explain the meaning and humor comprehension of CEPWs by actual language users, specifically Chinese EFL speakers, requires further study. Here, the humorous effect is defined as humor perceived by language users, which is, essentially, how humorous a language user finds a word. Therefore, in the absence of existing empirical research, the study tries to answer the following research questions:

- 1) What is the humorous effect of CEPWs as perceived by Chinese EFL speakers?
- 2) What is the comprehensive understanding of CEPWs among Chinese EFL speakers according to CBT?
- 3) How are Chinese EFL speakers' understanding of CEPWs, and their perception of the humorous effect related?

3. Research design

This study adopts a mixed method of quantitative (questionnaire) and qualitative (semi-structured interview) approaches.

3.1. Participants

The participants for the study's quantitative approach were 114 Chinese EFL speakers, all native speakers of Mandarin, sampled via snowball sampling—47 men, 65 women, and two unwilling to disclose their gender. Most participants (98) were undergraduate students, 12 were graduate students or were pursuing a higher education degree, 1 was a junior college student, and 3 were a part of the workforce. All procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

The participants of the study's qualitative part were 12 randomly sampled Chinese EFL speakers (A–L)—6 men and 6 women. Participant E was a junior college student; the other 11 participants were undergraduates. Eight participants had language-related majors, such as English, Translation and Interpreting, Chinese, and Hausa; the other four participants studied Music Education, Computer Science and Technology, Investment and Wealth Management, and Mathematics.

Informed consent was obtained from all participants before their participation.

3.2. Instruments

3.2.1 Questionnaire

Twelve CEPWs were selected from the 33 typical CEPWs that Wang and Peng (2022)^[6] selected and classified. Wang and Peng (2022)^[6], adopting the classification of coercion in construction grammar by Taylor (2002, as cited in Wang & Peng, 2022)^[6], sorted CEPWs into four groups according to the number of Chinese morphemes substituted by English in phonetic coercion and whether semantic coercion existed in the English part of the CEPW. However, only phonetic coercion was considered here, and six CEPWs were randomly selected from words with monomorphemic phonetic coercion and bimorphemic coercion. The CEPWs with monomorphemic phonetic coercion are 无可^{phone}告, 铺^{guy}天^地, 人见^{eye}人, 一^{pie}胡言, 胆大^{bow}天, and 别来无^{young}. The CEPWs with bimorphemic phonetic coercion are *cheer*不舍, 有^{bear}来, *Eason*不吭, *fun fun*之交, 半^{tour}废, and *duck*不必. For more information on the selected CEPWs, please refer to Appendix B.

A three-part questionnaire in Chinese was designed to collect data on these CEPWs' humorous effects (Appendix C). Part 1 was designed to collect demographic data. Part 2 collected participants' humor ratings of the selected CEPWs. Part 3 gathered information on participants' familiarity with the phenomenon of CEPWs. In Part 2, participants were asked to rate how humorous they found the CEPWs on a five-point Likert scale (1 = not humorous at all to 5 = very humorous). Here, "humorous" was defined as "making one smile or laugh in an understanding way" with reference to the dictionary definition of "humor (your mo)" in Chinese, "interesting or funny yet meaningful" (Dictionary Editorial Office of Linguistics Institute of Chinese Academy of Social Sciences, 2012, p. 1571, translated by the author)^[32]. Part 2 consisted of four questions rating the humorous effect of CEPWs on a Likert scale and two questions about participants' knowledge of all the words in this part. The four items on the same construction to be rated on their humorous effect were Chinese four-character words alone, Chinese four-character words in a contextual sentence or paragraph, CEPWs alone, and CEPWs in the same or similar contextual sentence or paragraph in the above order. The researcher, inspired by *duck 不必* in Austin Li's livestream incident, designed the contexts of CEPWs to be related to the semantic meaning of the English replacement through the following process. First, usages of the CEPW and the Chinese original terms were searched for in the BLCU Corpus Center, a corpus mainly consisting of contemporary Chinese developed by Beijing Language and Culture University (Xun et al., 2016)^[33], and on the Internet. Second, certain nouns were substituted by nouns corresponding to the English replacements in CEPWs. Finally, some nouns in the non-CEPW sentence were replaced by pronouns so as not to betray the study's true intention via their pronunciation. The only exception was *duck 不必*, presented as a shortened version of an online news report of Austin Li's livestream incident (Appendix A).

Test-retest reliability measures were conducted to test the questionnaire's overall reliability because no two questions in the questionnaire were essentially homogenous, and Cronbach's alpha would be unreliable. The participants were sampled via snowball sampling among Internet users on WeChat to ensure that respondents could be reached for the retest; 12 responses (4 men, 8 women) from the 14 received were valid. All 12 were undergraduates aged 18–25. After two weeks, the same respondents were retested on the same set of questions. A Pearson correlation coefficient was computed to assess the linear relationship between the test response and the retest response, revealing a positive correlation between the two variables, $r(10) = .876$, $p < .001$, proving the questionnaire reliable.

3.2.2 Semi-structured interviews

The qualitative study collected data via semi-structured interviews designed to ascertain participants' understanding of the meaning and humorous effect of CEPWs using *duck 不必* as the only case, which was chosen for two reasons: first, results of the quantitative study show that it had a significant increase in the humorous effect both as a standalone word and in context (the results are presented in Section 4); second, *duck 不必* is the only CEPW here with an anecdotal context. Interview questions covered several topics, including the meaning of *duck 不必*, thoughts generated by *duck 不必*, the differences between *duck 不必* and *大可不必*, and the factors that may influence their understanding of the humorous effect of *duck 不必*.

3.3. Data collection and analysis

Quantitative data were collected via a questionnaire disseminated on the online questionnaire platform wenjuan.com, gathering 114 valid responses. After collection, the quantitative data were analyzed using SPSS Statistics 20 software.

Qualitative data were collected through semi-structured interviews with 12 participants, conducted face-to-face or online via WeMeet. They were recorded with an IFlytek voice recorder, and a cellphone voice recorder application was used as a backup. To maximize usable data, interview durations were not strictly controlled. The audio and video files obtained from the interview were transcribed using IflyRec transcription software and saved as Microsoft Word 2016 files, which were

then proofread manually. The transcripts of the 12 interviews amounted to 69,311 Chinese characters and were imported into Nvivo 14, where each interview file was created as a case and manually coded for analysis.

4. Results

Most of the 114 respondents (111, 97.37%) encountered CEPWs frequently or occasionally on Chinese social media, while only 3 (2.63%) had never come across CEPWs, reflecting the popularity of this phenomenon.

4.1. Humorous effect of CEPWs

4.1.1 Humorous effect of CEPWs out of context

A paired-samples t-test was conducted ($n = 114$) to compare the means of the humor ratings of each CEPW with its original Chinese four-character word as a standalone word. The ratings of the humorous effects of the 12 Chinese four-character words versus their corresponding CEPWs are shown in Table 1.

Table 1. *Humor ratings of Chinese words vs. corresponding CEPWs*

Phonetic Coercion	Word	M	SD	t	df	p
Monomorphemic	无可奉告	1.81	1.159	-6.455	113	.000*
	无可phone告	2.73	1.326			
	铺天盖地	1.77	.996	-8.643	113	.000*
	铺天guy地	3.00	1.363			
	人见人爱	2.25	1.211	-1.276	113	.204
	人见人eye	2.41	1.295			
	一派胡言	2.30	1.310	-1.172	113	.244
	一pie胡言	2.47	1.206			
	胆大包天	2.43	1.317	.605	113	.547
	胆大bow天	2.34	1.296			
	别来无恙	1.96	1.113	-4.460	113	.000*
	别来无young	2.57	1.303			
Bimorphemic	锲而不舍	1.66	1.003	-9.849	113	.000*
	cheer不舍	2.98	1.363			
	有备而来	2.49	1.332	-4.659	113	.000*
	有bear来	3.21	1.398			
	一声不吭	1.65	.950	-8.777	113	.000*
	Eason不吭	2.95	1.486			
	泛泛之交	1.54	.894	-8.487	113	.000*
	fun fun之交	2.67	1.321			
	半途而废	1.46	.822	-10.955	113	.000*
	半tour废	2.86	1.296			
	大可不必	2.85	1.352	-4.184	113	.000*
	duck不必	3.36	1.351			

Note. * $p < .05$.

As summarized in Table 1, nine CEPWs were found to be significantly ($p < .05$) more humorous than the Chinese four-character words. Moreover, no significant difference ($p > .05$) was found in humor ratings between three pairs of CEPWs and their corresponding original four-character words, all monomorphemic variants of their Chinese original words. However, a slight decrease in the mean humor rating of the pair 胆大包天和 胆大bow天 is observed, possibly because Chinese EFL speakers feel uncertain about the meaning of the word *bow* and how it relates to the meaning of this CEPW, which some participants mentioned in their interviews.

4.1.2 Humorous effect of CEPWs in a specific context

To investigate the humorous effect of CEPWs in specially designed contexts, a paired-samples t-test based on the same samples ($n = 114$) was conducted to compare the means of the humor ratings of each CEPW with its original Chinese four-character word in a specific context matching the English part of the CEPW, the results of which are shown in Table 2.

Table 2. *Humor ratings of Chinese words vs. corresponding CEPWs in a specific context*

Phonetic Coercion	Word	M	SD	t	df	p
Monomorphemic	无可奉告	1.84	1.094	-7.232	113	.000*
	无可phone告	2.88	1.396			
	铺天盖地	3.02	1.276	-1.736	113	.085
	铺天guy地	3.24	1.404			
	人见人爱	1.95	1.196	-5.073	113	.000*
	人见人eye	2.53	1.264			
	一派胡言	2.36	1.227	-5.545	113	.000*
	一派pie胡言	3.20	1.371			
	胆大包天	2.25	1.209	-2.033	113	.044*
	胆大bow天	2.47	1.206			
	别来无恙	2.13	1.109	-5.805	113	.000*
	别来无young	2.89	1.333			
Bimorphemic	锲而不舍	1.99	1.109	-6.523	113	.000*
	cheer不舍	2.95	1.362			
	有备而来	2.32	1.300	-8.650	113	.000*
	有bear来	3.57	1.382			
	一声不吭	1.61	1.019	-15.583	113	.000*
	Eason不吭	3.74	1.351			
	泛泛之交	1.69	1.032	-8.188	113	.000*
	fun fun之交	2.80	1.332			
	半途而废	2.12	1.168	-6.885	113	.000*
	半tour废	3.11	1.288			
	大可不必	3.12	1.304	-3.885	113	.000*
	duck不必	3.66	1.426			

Note. * $p < .05$.

As summarized in Table 2, except for one CEPW, all other CEPWs in specific contexts were given significantly higher humor ratings than their Chinese originals in an identical context ($p < .05$), probably because the context of the exception pair was humorous enough in itself to elicit a high rating from respondents. Generally, humor is also a prominent product in the conceptual blend.

4.2. Chinese EFL speakers' comprehension of CEPWs

Based on interview data and the research questions, this section presents participants' comprehension of CEPWs using *duck不必* as an example from three aspects: meaning of *duck不必*, comparison and contrast between *duck不必* and *大可不必*, and associated thoughts generated by *duck不必*.

4.2.1 Meaning comprehension of *duck不必*

The main component of a successful conceptual blend is the meaning of the CEPW. The participants' understanding of the meaning of CEPW *duck不必* is shown in Table 3.

Table 3. The Meaning of *Duck不必*

Aspects of the Meaning of <i>Duck不必</i>	Out of Context	In a Specific Context
The meaning of <i>大可不必</i> : no need	12 (100%)	12 (100%)
No need for the duck to do something	2 (16.67%)	1 (8.33%)
The duck says no need	2 (16.67%)	10 (83.33%)
No need to do something to ducks	0 (0%)	6 (50%)
No need for something about ducks	0 (0%)	1 (8.33%)
Ducks unspecified, but related to ducks	4 (33.33%)	1 (8.33%)
No meaning of ducks	6 (50%)	0 (0%)

As shown in Table 3, when *duck不必* was a standalone word, four (33%) participants could not pinpoint the exact meaning of *duck* but felt that the CEPW was somehow related to ducks, while the other two (16.67%) participants had their own understanding of the meaning of *duck*; however, when given a context involving ducks, only one participant (8.33%) could not specify the meaning of *duck*, and all other participants each had their understanding of *duck*. Therefore, whether the meaning of *duck* was part of the meaning of *duck不必* as a standalone word depended on individual understanding, but it became necessary when the CEPW was placed within a duck context. The importance of individual understanding explains the difficulty for participants to specify an exact meaning of *duck* in a standalone CEPW, which was reduced when the CEPW was placed within context as more participants came up with concrete understandings.

4.2.2 Comparison and contrast between *duck不必* and *大可不必*

When asked about the relationship between *duck不必* and *大可不必*, participants' answers mainly focused on the similarities and differences between the CEPW and the original term.

All 12 participants noted the similar pronunciation of *duck* and *大可*, which they claimed was the main reason why they took *duck不必* to mean *大可不必*.

Furthermore, Participant F explained her understanding of the relationship between the pronunciations of *duck* and *大可*: “*大可* pronounced faster becomes *duck*.” This finding highlights how the pronunciation connects the CEPW and its original, enabling the blend and corresponding it to the creation of CEPWs through interlanguage homophony.

In contrast, participants had their understandings of the differences between *duck不必* and *大可不必* apart from the difference in form (i.e., different characters), which all participants agreed upon. In a context concerning ducks, all participants agreed that *duck不必* was related to ducks and was different in humor. However, when *duck不必* was a standalone word, two (16.67%) participants did not propose differences between the CEPW and its Chinese original. Among participants who did, six (50%) related *duck不必* to ducks; nine (75%) proposed differences in humor effect, elaborated upon in Section 4.3; and seven (58.33%) either highlighted pragmatic qualities, such as differences in formality, tone, or addressee-related factors, or made inferences about speakers who used *duck不*

必 in non-duck-related contexts. For excerpts illustrating each pragmatic quality or inference, please refer to Appendix D.

Apparently, participants' understanding does not come directly from either source, 大可不必 or duck, but comes from the combination of duck and 大可不必 regarding humor and pragmatic qualities. Thus, these elements may be crucial in the emergent structure within a successful conceptual blend.

4.2.3 Associated thoughts generated by duck不必

Participants were also asked about their associated thoughts of duck不必, which, here, was limited to all thoughts generated by the mention of duck不必, excluding the words 大可不必 and duck, and the context of Austin Li's livestream incident. Seven (58.33%) participants had no new thoughts at the mention of duck不必; among the five (41.67%) participants who did, two (16.67%) thought about Austin Li, both of them his fans; two (16.67%) pictured duck emoticons that they had seen and used before, although the emoticons were related to ducks but not duck不必; and one (8.33%) participant recalled a scene from his real-life experience:

Participant C: The context was selling duck snacks, so in my imagination it was like preparing to catch ducks, and there'll be duck necks to eat, and ducks were escaping, that kind of scenario. [Although the original text did not explicitly mention] catching ducks, that was the scene in my mind... no one was there to catch the ducks, but the ducks knew and were running everywhere. Feathers were everywhere.

These findings indicated that CEPW duck不必 can conjure new thoughts either related to the word duck不必 as a whole, such as with Austin Li, or merely related to one component of duck不必, namely ducks. Interestingly, no mental association was made to the other component, 大可不必, including its original anecdote or any other related event. The simplicity of the conceptual blend in most cases is indicated by the lack of other associated thoughts; thus, few mental spaces and elements are involved other than those aforementioned.

4.3. Relationship between comprehension and humor of CEPWs

Participants were asked to compare the humorous effect of duck不必 and 大可不必 and give reasons for their judgment. All 12 participants agreed that duck不必 was more humorous in the context of Austin Li's livestream incident, but the standalone CEPW duck不必 was regarded differently by different Chinese EFL speakers. Most participants (eight, 66.67%) regarded duck不必 as more humorous; three (25%) participants did not perceive a difference in humorous effect; one (8.33%) participant was not fond of CEPWs and considered duck不必 unamusing. She expressed her worry about Chinese language and culture owing to the Internet, but even she had to admit that duck不必 in the given context was humorously a "clever play on words." Coupled with the participants' understanding of duck不必 in a duck context, these findings indicate that CEPWs such as duck不必 were generally found to be humorous by all in English-corresponding contexts regardless of the language users' a priori stances.

Participants explained why they found duck不必 humorous. All 12 participants highlighted the correspondence between duck in duck不必 and ducks in context as the greatest contributor to the humorous effect. Additionally, six (50%) participants named mixing Chinese and English as a reason for the CEPW being humorous, and eight (66.67%) participants found "homophones" or "homophonic relationships" humorous.

5. Discussion

The findings indicate that Chinese EFL speakers' understanding of CEPWs can be deciphered according to CBT, as Wang and Peng (2022)^[6] demonstrated using the example of duck不必.

However, the actual results of CEPW comprehension prove more versatile and dependent on readers' individual understanding than imagined. Using *duck 不必* as a case, this study revealed Chinese EFL speakers' three possible types of understanding of a CEPW: 1) the CEPW has the same meaning as the Chinese original term (*duck 不必* meaning "there is no need to do something"); 2) the CEPW has the same meaning as the Chinese original term, but somehow retains the meaning of the English embedded clause (*duck 不必* meaning "there is no need to do something," yet having an undefinable sense of ducks); and 3) the CEPW has the integrated meaning of the Chinese original and the English embedded clause (*duck 不必* meaning "there is no need to do something to the ducks.")

Although all three meanings are accessible to Chinese EFL speakers, the final sense is a conceptual blend, while the first two senses are merely formal blends (cf. Fauconnier & Turner, 2003) [21]. The conceptual blend is illustrated in Figure 2, using the most popular meaning of "there is no need to do something to the ducks" as an example.

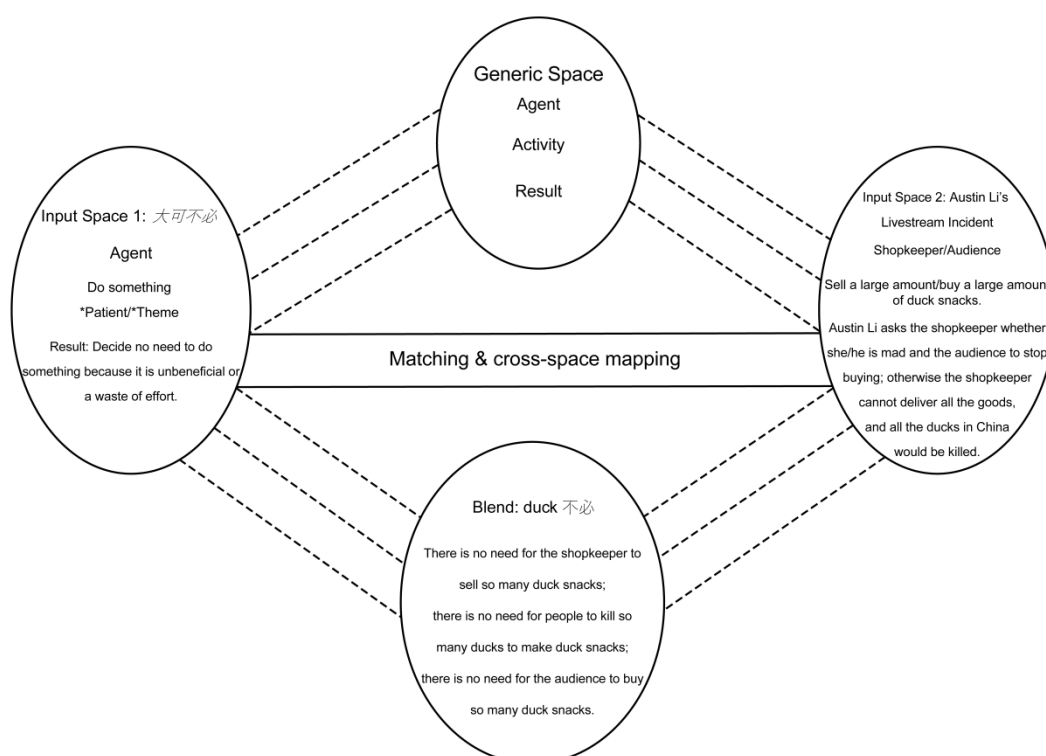


Figure 2. Comprehension model of CEPWs with English meaning, exemplified by *duck 不必*

In the conceptual blending process, Input Space 1 contains the Chinese four-character word *大可不必*. Readers' relevant language knowledge was activated, prompting them to understand the explicit and implicit meanings of *大可不必* (i.e., there is no need to do something because doing so may be unbeneficial or wasted effort). Input Space 2 contains the situation where CEPW *duck 不必* is involved, or in this case, Austin Li's livestream incident, and consists of a similar frame. However, the addition of the theme, duck snacks, is notable, corresponding with the word *duck* in the word *duck 不必*. Subsequently, the shared structure is projected into the generic space and enters the blend, where the emergent structure is developed, and new meanings of *duck 不必* emerge. To this point, Chinese EFL speakers comprehend the full meaning of *duck 不必*.

On examining the results on the humorous effects of CEPWs with the conceptual blending model in mind, we see that Chinese EFL speakers' lower ratings of CEPWs' humorous effects as standalone words support Kozbelt and Nishioka's (2010) [20] statement that humor comprehension comes before one finding an instance of humor funny, as Chinese EFL speakers may fail to get the point of using the English words in such information-lacking circumstances. Expectedly, the reason for CEPWs' stronger humorous effect in specific contexts than as standalone words is owing to the higher success

rate of conceptual blending in addition to formal blending in the contexts, providing support for Lundmark (2003)^[24], who noted that the weak humor of a pun could be because of it involving only a formal blend and not a conceptual one. Regarding sources of humor in CEPWs, several sources were named as follows.

First, the homophony between Chinese and English was humorous, matching Xu (2013)^[11] and some humor researchers' observations (e.g., Attardo, 1994, 2018; Koestler, 1964)^{[14][13][15]}, as aforementioned. Second, bilingual speech—namely, the stark contrast brought about by the juxtaposition of two drastically different languages—as a source of humor corresponds to the incongruity between input spaces in CBT, supporting the proposal that contrast (Lundmark, 2003)^[24], discrepancy (Nerhardt, 1977)^[27], or incongruity (Fujii, 2008; Wang, 2004a, 2004b)^{[26][30][31]} between two events, or input spaces in the case of conceptual blending, is a source of humor. However, this study did not find evidence to support or contradict Wang's (2004a, 2004b)^{[30][31]} other proposals of elements necessary for humor under the framework of CBT, such as space articulation, space shift, and space check. The final and most significant contributor to the humor of CEPWs is the blend facilitated by the correspondence of the meaning of the English word in the CEPW and context, the latter of which was the most frequent answer of participants. Essentially, the blend itself or elements in the blend are humorous. This supports claims about humorous tension in the blend (Fujii, 2008; Lundmark, 2003)^{[26][24]} or the emergent structure (Kang & Gao, 2019)^[25] as sources of humor in conceptual blending. However, the finding differs slightly from Nerhardt (1977)^[27], as the emphasis lies in the success of the blend instead of in the discrepancy between events or input spaces.

In short, CEPWs have multiple meanings, are interpreted according to sound, and are humorous. Thus, CEPWs fulfill the criteria of puns proposed by humor researchers (Attardo, 1994, 2018; Koestler, 1964)^{[14][13][15]}. This provides a new perspective on studying homophonic imitations such as CEPWs as great potential puns. Puns can be created from ambiguities by being “concocted” (Attardo, 1994, p. 133–134)^[14], or as Partington (2009)^[16] preferred, “authored” (p. 1795), when someone deliberately manufactures the ambiguity of the potential pun. However, the uniqueness of CEPWs as potential puns lies in the characteristic that they can be transformed into puns by a somewhat standardized and formulaic operation of putting a CEPW in a context that fits the Chinese original terms and corresponds to the meaning of the English word in the CEPW.

6. Conclusions

This study aimed to examine the humorous effect of CEPWs as perceived by Chinese EFL speakers, these speakers' processes of comprehending CEPWs according to CBT, and the relationship between the CEPWs' meanings and humor comprehension under said framework. The results suggested that most CEPWs were more humorous than the original Chinese four-character words, indicating that Chinese EFL speakers' comprehension of CEPWs was mostly a product of conceptual blending, which greatly contributed to the humorous effect of the CEPWs. The findings of this study provided empirical data, based on which a model of Chinese EFL speakers' comprehension process of CEPWs was devised, providing insights into the cognitive process behind the use of Internet language, a major type of modern language phenomenon. Additionally, the findings provide empirical support for incongruity between input spaces and the blend, partly accounting for humor in conceptual blending. The perspective of CEPWs as puns also provides a case of applying CBT to pun humor.

However, the present research is not without limitations. First, the humorous effect of CEPWs was only evaluated on a single dimension and was not very comprehensive. Second, while not treated as a homogeneous group, CEPWs were not analyzed based on their characteristics, except for *duck 不*. Third, each CEPW was given only one context, which could significantly influence the results. More thought could be given to the design of context to reduce the interference of context on language users' meaning and humor comprehension of CEPWs. Fifth, the sampling methods resulted in a high concentration of undergraduate students and language major students as participants, which does not represent the actual population of language users. Thus, future studies should focus on fewer words,

investigating each word from multiple aspects and in more diverse contexts, and selecting different samples of participants to gain a more comprehensive understanding of the phenomenon of CEPWs.

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Competing interests

The author declares none.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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