

Language Differences between British and American Cultures: "Parting Ways" from Spelling, Pronunciation to Vocabulary

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Abstract: With the increasing demand for English learning and cross-cultural communication around the world, the differences between British English and American English in spelling, pronunciation and vocabulary usage have brought learners misunderstandings and communication errors. Existing language learning and assessment methods mostly focus on grammatical structures and ignore pragmatic details and cultural background differences, making it difficult to achieve accurate language style recognition and situational adaptation. To this end, this paper introduces an intelligent perception mechanism that integrates an artificial intelligence speech recognition system with an Internet of Things interactive platform. Through a multidimensional perception model, learners' behavioral responses in different language tasks (such as speech imitation accuracy, spelling error correction rate, pragmatic understanding errors, etc.) are collected, and semantic recognition and contextual reasoning algorithms are combined to monitor the process and conduct real-time feedback regulation. Through a four-stage empirical experiment, including vocabulary recognition, spelling perception, speech imitation, and pragmatic selection tasks, a detailed indicator control model is established. Participants showed some understanding bias when faced with differences in British and American expressions, especially when it came to idioms and colloquial expressions. D003 performed best, selecting 9 expressions correctly and only misunderstanding once, indicating that he has a strong ability to adapt to the context of British and American languages. C005 achieved the highest accuracy (95%) in American imitation, with an r sound recognition rate of 98%, showing a high degree of adaptability to American speech.

1. Introduction

As an important carrier of culture, language carries the function of communication and reflects the differences in social history, values and ways of thinking at a deeper level. As one of the most

widely used languages in the world, English is mainly divided into two variants: British English and American English. Although the two languages share the same language foundation, they have formed systematic differences in spelling norms, phonetic systems, vocabulary usage and pragmatic expressions under the influence of long-term independent development of cultural and social backgrounds.

In recent years, with the deepening of international exchanges and the globalization of English teaching, learners frequently encounter misunderstandings, mixed expressions and pragmatic misreading in the process of contacting the British and American languages, which affects their language output and communication efficiency. Especially in non-English-speaking countries such as China, learners usually switch back and forth between American film and television content and British textbooks, and are more easily influenced by the source of language input, resulting in mixed language style tendencies and blurred standard cognition.

Based on the cross-perspective of linguistics and experimental psycholinguistics, this paper conducts an experimental design around the differences between British and American English in spelling cognition, pronunciation imitation, vocabulary recognition, and pragmatic expression. Combining quantitative data with misunderstanding cases, this paper analyzes learners' preferences and obstacles in the recognition and use of British and American English, and explores the relationship between language input, cultural background and expression choice. The study aims to reveal the impact of language variants on learning paths and cognitive strategies, and also to provide more targeted theoretical basis and practical suggestions for bilingual English teaching and cross-cultural pragmatics teaching.

2. Related Works

In recent years, language differences and cross-cultural understanding have become a hot topic in multidisciplinary research. In particular, scholars have conducted extensive discussions on issues such as the differences between British English and American English, the impact of social background and technological intervention on language learning, etc.

Djurayeva compared the linguistic differences between British English and American English, starting from the historical background, analyzing the impact of colonization and immigration on the development of English. The content covers pronunciation, vocabulary, grammar differences and the challenges they pose to understanding, while clarifying misunderstandings about the formality and comprehensibility of the two languages [1]. Shadieva and Yu reviewed the literature on cross-cultural education based on computer-assisted language learning in the past five years. The results showed that theories such as the Byram model of cross-cultural communication competence were mostly adopted, and commonly used technologies included forums, Facebook, Skype, etc. The language was mainly English, and American culture received the most attention [2]. Gutchess and Rajaram advocated that cognitive psychology research should adopt an inclusive approach to enhance cultural diversity. An analysis of articles in cognitive psychology journals from 2016 to 2020 found that only about 7% involved cultural issues, with most focusing on language and bilingual studies [3]. Rinaldi et al. reviewed the impact of gender on early language acquisition and explored whether girls have an advantage in language development and the age at which this occurs. Girls have a slight advantage in language development, but this is not significant at all ages [4]. Yokubjonova compared the impact of social background on English learning among Tajik and Kyrgyz students. Data was collected through questionnaires and interviews. The results showed that social background significantly affects students' learning methods, language attitudes and performance, suggesting that educators should pay attention to the differences and influences of social factors in teaching [5]. Keles and Yazan conducted a diachronic content analysis of the

presentation of culture and community in the five editions of the New Headway primary textbook. The results showed that the textbooks continued to focus on the culture of English-speaking countries (inner circle), and the non-European extended circle and outer circle cultures were seriously insufficient, accounting for only about 10% [6]. Meighan proposed the concept of "colonial linguistics", which refers to the implicit or explicit maintenance of colonial languages, colonial heritage and neoliberal diversity values. Colonial languages carry the burden of colonial history, continue the worldview of imperialism and neoliberalism, and separate language from regional culture, viewing it as a "resource" with only economic "value" [7]. Kwak and Pardos explored the application of large language models in education, focusing on the differences in their performance in classifying K-12 teaching knowledge across countries and languages. They found that not only non-English languages, but also English and non-American curriculum systems have significant performance gaps [8]. Based on the knowledge perspective of the global South and the sociolinguistic reality of postcolonial English in Bangladesh, Hamid proposed the concept of "English from the perspective of the Southern Language". This view not only recognizes the necessity of English in an English-dominated world, but also emphasizes the need to break the language hegemony centered on standard English and native speakers [9]. Kitayama and Salvador reviewed the research findings of cultural psychology over the past three decades, demonstrating its potential in understanding the influence of culture on cognitive, emotional, and motivational processes. They analyzed current non-Western cultural regions, such as Arab, East Asian, Latin American, and South Asian cultural regions, and discussed their contributions to the formation of contemporary Western cultural regions [10]. Richards and Pun discussed the growing trend of English-medium courses (EMI) around the world. Although it has various names, such as content and language integration learning, immersion teaching, bilingual education, etc., it is uniformly referred to as EMI in this paper. Due to the variety of EMI forms, it often causes confusion, and even multiple types may coexist in the same school or region [11]. Although existing research widely involves language differences and cultural factors, there are generally shortcomings such as single samples, one-sided technology application, and lack of dynamic interactive experimental verification.

3. Methods

3.1 Differences in Spelling: Language Simplification and Logical Reorganization

The differences in spelling between British and American English reflect the different pursuits of "language norms" in the two language cultures. British English retains many traditional spelling methods, and there is a certain discrepancy between the spelling and actual pronunciation of some words, such as "colour" and "honour". American English pays more attention to the phoneme correspondence and writing efficiency of spelling, and usually omits letters that do not contribute to pronunciation, turning them into forms such as "color" and "honor". In addition, American English has also adjusted some root structures, such as "centre" becomes "center", and "defence" becomes "defense". These changes reflect the simplicity of American language logic and the high emphasis on pragmatism in its culture.

3.2 Differences in Pronunciation: Gentleman Tone and Free Tone

The differences between British English and American English in the phonetic system are quite obvious, especially in the intonation structure and consonant processing. British English is usually more gentle, emphasizing stable tongue position, clear pronunciation, and no tongue rolling on consonants, presenting a "gentlemanly" intonation rhythm. American English is characterized by

rhotic accents, a more lively tone, and emphasizes the agility of intonation and emotional expression. For example, the clear pronunciation of /r/ in American English makes the overall voice more tense and rhythmic, which is in sharp contrast to the relatively restrained and straightforward expression style of British English. In addition, vowel linking and syllable weakening are more common in American English, making oral expression more natural and fluent.

3.3 Vocabulary Differences: Cultural Clues behind Language

The difference between British and American English in vocabulary selection is one of the most intuitive differences. The same thing often has completely different names in the UK and the US. For example, "apartment" (US) corresponds to "flat" (UK), "truck" (US) corresponds to "lorry" (UK), etc. These vocabulary differences often come from differences in historical background, social structure and even lifestyle. This paper takes "public school" as an example. In British English, this word refers to the traditional aristocratic private school in the UK, while in the United States it refers to the public school system. This semantic deviation reflects the differences in education systems and their impact on word meanings.

In daily life, this lexical difference is also reflected in different ways of expressing the same action or behavior, such as "to wash up" (UK) means washing dishes, while in American English it is usually "to do the dishes"; the British "dustbin" corresponds to the American "garbage can"; the British say "maths", while Americans say "math". These differences in details also affect the understanding and accuracy of cross-cultural communication.

3.4 Differences in Idiomatic Expressions: Perspective on Language Style from the Cultural Core

In terms of idiomatic expressions, British and American English reflect deep cultural and psychological differences. British expressions tend to be euphemistic and indirect, emphasizing the principle of cooperation and polite culture, while American expressions are more direct and contagious. For example, the British are used to saying "speak up" to express speaking louder, while Americans often use "louder"; when comforting others, British English often uses "don't lose heart", while American English often uses "never say die", showing the differences in emotional expression and psychological implications between different cultures.

In addition, although the common "long time no see" in American English is similar to Chinese English in structure, it is actually an authentic expression formed in the American cultural context, reflecting the openness and inclusiveness of American English in the use of idioms. British English tends to be more structured and logical, such as using "different from", while American English is more accepting of "different than".

3.5 Differences in Pragmatic Features of Literary Language

In literary creation, the pragmatic expressions of British and American English show their own style tendencies. English literary language often reflects stronger etiquette and implicit expression, and its conversational style mostly follows the traditional pragmatic cooperation principle, emphasizing the adaptation to the context and the semantic communication of refined structure. American literary language emphasizes the diversity of pragmatic strategies, tends to use non-standard conversational structures, and pays more attention to the language personality and authenticity of the characters.

As shown in Emma, British literature has a rigorous treatment of language form and attaches great importance to the matching between character tone, identity and context. In modern American

literature, such as *The Catcher in the Rye*, pragmatic strategies rely more on the authentic spoken language of the dialogue, bringing readers closer to the emotional world of the characters. This difference essentially stems from cultural traditions - British literature upholds the beauty of classical norms, while American literature pursues individual liberation and cultural diversity.

3.6 Quotation and Symbolism: Language Connotation under the Influence of Classical Culture

The citation of ancient Roman and Greek classical culture in the language of British and American literature is also an important part of its differentiated expression. For example, the allusion of "Achilles' heel" is widely used in both Britain and the United States, referring to the fatal weakness of someone or something. This classic metaphor enhances the cultural depth and symbolic meaning of the language, and also reflects the common cultural roots of British and American literature.

However, in terms of the way of quoting, British literature tends to implicitly embed allusions to enhance the classical aesthetics of the work, while American literature is more direct to enhance the tension of the story and the symbolic conflict.

3.7 Summary Analysis: Cultural Logic Behind Language Differences

The differences between British and American English are not only reflected in the language form, but also rooted in the deep differences in cultural traditions, social structure, historical background and national psychology. From spelling to pronunciation, from vocabulary to pragmatics, from expression habits to literary style, the two language systems have formed their own unique development trajectories in "common roots and different cultures". This "parting of ways" not only brings challenges to language learners, but also provides a rich perspective for cross-cultural research. Understanding these differences can help people better grasp the cultural attributes of language, thereby improving language sensitivity and cross-cultural adaptability in international communication.

4. Results and Discussion

4.1 Experimental Subjects

Experimental group 1 (British preference group): 30 Chinese college students with a British English learning background (such as those who use Cambridge textbooks or receive a British education system)

Experimental Group 2 (American preference group): 30 Chinese college students with American English learning background (such as those who use New Concept English or American TV series more often)

Control Group: 10 native English-speaking exchange students from British and American countries (5 from the UK and 5 from the US), used as a standard reference for difference judgment

4.2 Experimental Materials

Vocabulary difference test materials (30 groups of words, each group includes a pair of British and American contrasting words) such as:

Lift (UK) / Elevator (US)

Trousers (UK) / Pants (US)

Rubber (UK) / Eraser (US)

Spelling difference materials (20 groups of words, involving typical spelling differences) such as:

Colour / Color

Centre / Center

Realise / Realize

Voice recognition and follow-up materials (20 common sentences, one British and one American recording version) such as:

“Could you pass me the butter?” (British) vs “Can you pass me the butter?” (American)

Pragmatic judgment materials (10 groups of contextual scene dialogues, participants choose the more appropriate expression) such as:

British: “Don’t lose heart.” Vs American: “Never say die.”

British: “Different from.” vs American: “Different than.”

4.3 Experimental Process

Phase 1: Vocabulary recognition test (paper and pen + computer answering)

Time: 30 minutes

Format: Give sentence gaps or picture word selection, test whether the correct choice of British and American words can be made

Evaluation criteria: accuracy + reaction time

Phase 2: Spelling perception and error correction task

Time: 20 minutes

Format: Mixed British and American spellings of the paper paragraphs, asking students to point out "spelling errors" or "uncomfortable spellings"

Data collection: Correct recognition rate + subjective preference questionnaire (such as which form you are more accustomed to)

Phase 3: Voice imitation and recognition test (recorded using voice software)

Time: 10 minutes per person

Task 1: Listen to the British and American recording versions and determine the of the speaker

Task 2: Imitate and read the sentences of the British and American versions

Software records and scores: compares speech clarity, stress, use of tongue rolls, etc.

Phase 4: Pragmatic expression selection and situational adaptation test

Time: 20 minutes

Give a specific context, such as expressing encouragement, expressing surprise, asking for opinions, and choose a more appropriate expression

Also record whether the other expression is understood, and explain the reason

4.4 Data Collection and Analysis Methods

In order to systematically explore learners' mastery of British and American English in terms of vocabulary recognition, spelling perception, phonetic imitation and pragmatic comprehension, this paper designed and implemented four experimental tasks based on multi-dimensional indicators such as accuracy, reaction time, number of error corrections, imitation accuracy and frequency of pragmatic misunderstanding.

In the vocabulary recognition test, the average total accuracy of the 5 participants in the 30 test words reached 90%, indicating that the overall recognition ability of the differences between British and American vocabulary was strong. Among them, participant A005 performed best, with an accuracy rate of 93.3% and a reaction time of only 3.3 seconds, showing that his vocabulary

comprehension and reaction speed were both excellent. The number of correct recognitions of American vocabulary is generally higher than that of British vocabulary, especially A002, who correctly recognized 18 American usages, reflecting that learners are more familiar with the usage habits of American English. The average reaction time is between 3.2 and 4.1 seconds, reflecting that some participants have a certain cognitive delay when encountering British usage. In Figure 1, American vocabulary has a greater advantage in frequency of use, and British vocabulary recognition is still a weak link in language learning.

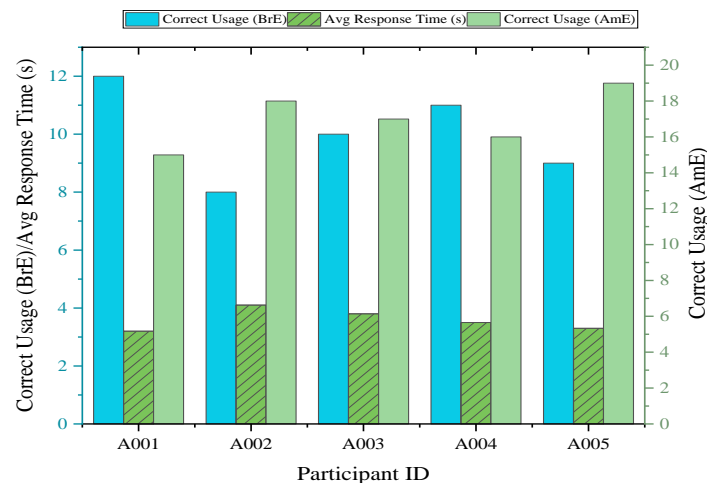


Figure 1 Vocabulary recognition test (British vs American/total vocabulary = 30)

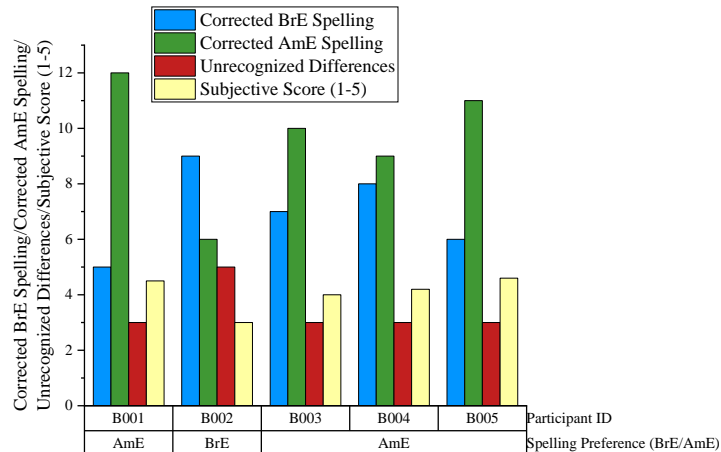


Figure 2 Spelling perception and error correction task (total number of spelling items = 20)

In the spelling perception and error correction task, participants as a whole showed a high sensitivity and recognition ability to American spelling. Four of the five participants showed a clear preference for American spelling, among which B005 corrected 11 American spellings with a subjective score of 4.6 points, indicating that he had a good perception of spelling differences and consistency in self-assessment. In contrast, the number of corrections for British spellings was generally low. Although B002 preferred British spellings, his correction performance was not outstanding, and he only received a subjective score of 3 points. The number of spelling differences that all participants failed to identify was basically the same, with an average of 3 items, indicating that there are certain blind spots in spelling cognition. The overall data in Figure 2 show that American spelling is easier to recognize and accept due to its simplified rules, reflecting learners'

potential tendency to culturally adapt to spelling styles.

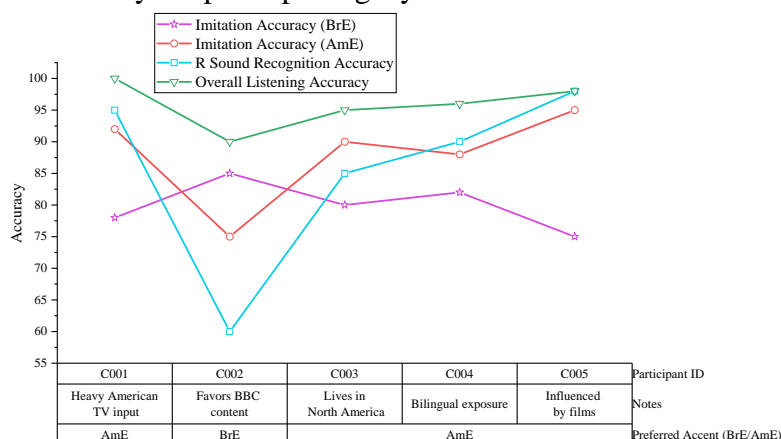


Figure 3 Voice imitation and recognition accuracy

The participants as a whole performed better than British pronunciation in terms of American pronunciation imitation accuracy and r sound recognition accuracy. C005 achieved the highest accuracy (95%) in American imitation and r sound recognition rate of 98%, showing a high degree of adaptability to American speech, which is highly related to its frequent film and television input. C001 and C003 showed a strong tendency towards American pronunciation due to the input of American TV series and the experience of living in North America. The r sound recognition rate was above 85% and the listening accuracy rate was close to full marks, indicating that the real language environment has a significant impact on pronunciation mastery. In contrast, although C002 prefers British pronunciation, the r sound recognition rate is only 60%, indicating that British pronunciation learners are easily disturbed in this phoneme, as shown in Figure 3.

Table 1 Pragmatic context selection and misunderstanding analysis

Participant ID	Correct Pragmatic Choices (out of 10)	Understanding Gap Score (1-5)	Misunderstanding Frequency	Example Misinterpretation
D001	8 / 10	4	2	Misread 'Don't lose heart' as 'lose sanity'
D002	7 / 10	3.5	3	Did not understand 'never say die' means 'don't give up'
D003	9 / 10	4.5	1	Mistook 'do the dishes' for 'cook food'
D004	6 / 10	3	4	Misheard 'speak up' as 'start to speak'
D005	8 / 10	4	2	Confused 'wash up' with 'wash face'

In the pragmatic expression recognition task, participants showed some understanding bias when faced with the differences between British and American expressions, especially when it came to idioms and colloquial expressions. D003 performed best, selecting 9 expressions correctly and only misunderstanding once, indicating that he has a strong ability to adapt to the conversion of British and American language contexts. D004 only correctly selected 6 items and had 4 misunderstandings, which reflected that he had obvious obstacles in the pragmatic understanding of common phrases such as "speak up". Many participants had semantic deviations when understanding phrases such as "never say die" and "wash up", indicating that although these expressions are common, the meaning of the expressions in cross-cultural contexts is still unclear (Table 1).

5. Conclusions

This paper designs and implements four experimental tasks focusing on the language differences between British English and American English in spelling, pronunciation, vocabulary and pragmatic expression, and systematically analyzes the performance and deviations of non-native learners in language cognition, expression selection and comprehension preference. The study found that most learners are more likely to accept American spelling with obvious simplified rules in spelling, and are more proficient in imitating the American phonetic system dominated by the r sound in pronunciation; At the vocabulary level, American expressions have a slightly higher recognition rate, while British words are partially misunderstood or confused; in pragmatic expression tests, idioms and colloquial phrases are the most common areas for comprehension deviation, reflecting that learners still lack a good grasp of the British and American cultural context. Experimental data show that the source of language input (such as film and television content, learning materials) has a significant impact on the choice of language style. Learners generally show a certain "American bias", especially in phonetics and vocabulary cognition. The study in this paper is limited by the small sample size and the laboratory setting, which has not fully simulated the real cross-cultural communication scene. Future research can further expand the sample range, introduce more interactive multimodal language materials, and explore the deep mechanism of input environment and cultural adaptation in the understanding of language variants, so as to provide more practical and systematic path optimization suggestions for international English teaching.

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