Curriculum and Teaching Methodology (2025)
Clausius Scientific Press, Canada

DOI: 10.23977/curtm.2025.080208
ISSN 2616-2261 Vol. 8 Num. 2

The Reform of Empirical Operation for Spelling and Reading in English

Lin Wang

Jingdezhen Ceramic University, Jingdezhen, Jiangxi Province, China
ilvwild@qq.com

Keywords: Empirical Operation, Phonics, Letter Name Assignment, Letter-sound

Abstract: This paper systematically explores the refined application of the Empirical Operation Method in English phonics. Building upon Wang Lin's (2015, 2020) [1][2]theoretical framework of the Simplified Empirical Solution of Phonics, the study reinterprets the logic of grapho-phonemic correlations between letters and phonetic symbols from the perspective of linguistic encoding mechanisms. A novel integrated improvement scheme is proposed, categorizing English word spelling and pronunciation rules into three core operational categories: 1) Dual letter-name assignments (emphasizing the historical inheritance and synergy between English and Latin letter name assignments); 2) Extended application of grapho-phonemic correlation principles (including operations such as shape resemblance, derivative relationships, and rotational symmetry to guide phonetic conversion); 3) Flexible handling of the English-specific [ə] weakening mechanism (anchored in vowel letter name assignments and non-stressed syllable features). Compared to prior approaches, the new scheme optimizes the logical connection between letter essence and phonetic encoding, significantly enhancing rule simplicity and applicability. It not only provides a more scientific classification basis for phonics pedagogy but also extends to practical domains such as vocabulary reorganization (e.g., CET-4/6 wordlist redesign). By foregrounding phonetic assignment as the foundational layer of English linguistic information encoding, this research offers fresh insights for deepening the theoretical and pedagogical exploration of English phonics.

1. Introduction

Empirical Operation comes from experiences when people do reading and spelling. It refers to any letter or letter combination contained in an English word that can be legally and reasonably manipulated and transferred from its spelling to the its pronunciation or vice versa by comprehensive means such as using the relationship between its spelling and its phonetic symbols of a word, in order to read or pronounce words directly or indirectly.

Wanglin (2020: 246) thinks the reason for the Empirical Operation of the Simplified Empirical Solution of Phonic in English to take place in reality is due to the similar principles of sound encoding within two sets of Alphabets in the same modern English language and the same origin of letter-sound relationship [2]. The written alphabet of English and the phonetic alphabet of English, as the alphabets in the same kind of English used for different purposes in modern English, have

inherited the basic principles and schemes of phonetic encoding of language information by corresponding letter symbols. It considers the possible sounds for letters or monogram in each word. There were three groups of possible sounds for letters or monogram in each word, the letter name, the letter shape-related, and other regular or irregular pronunciation in origin scheme of the Simplified Empirical Solution of Phonic. These considerations can be also recognized as a way of empirical operation. There are other basic empirical operations, such as letter s with similar sound and similar shape, shape transformation, the transfer of voiced and voiceless consonants, symmetrical rotation, etc.

Based on Wang Lin's (2015: 51, 2020: 246) [1-2] theoretical framework of the Simplified Empirical Solution of Phonics and the understanding of the linguistic information function of written symbols, a more optimized scheme is proposed for the processing of the pronunciation possibility of letters or monogram in words. The new solution is a scheme that combines the possibility of a letter or monogram being pronounced in a word with empirical operation. It also reduces both the likelihood of letters being pronounced in words and the ways of empirical operation to three categories:1)the assignment of letter-name-related sound value operations including both English letter name and Roman letter name; 2)the letter-shape-related transformation operations and other phonetic-relation operation; 3)Flexible handling the characteristic sound [ə] in English. The following will be stated in these three kinds of situation and its corresponding operation.

2. The Assignment of Sound Value Based on Letter Name

The principle of letter-name assignment, as the fundamental mechanism of grapheme-phoneme correspondence systems, exhibits complex diachronic stratification characteristics within English orthography. Through a historical linguistic lens, we can reveal the inheritance and reconstruction mechanisms of Latin letter-name assignments in the English writing system.

The evolution of English writing system [3] underwent three crucial orthographic transformations that constitute the core trajectory of grapheme-phoneme relationship development: (1) The primitive runic script system; (2) The hybrid writing system formed through Carolingian minuscule reform (introducing Latin alphabet); (3) The standardized 26-letter Latin system from post-printing revolution, comprising 23 classical Latin letters and three Roman-derived characters (J, U, W)for continental European accent. Notably, the second-phase orthographic reform essentially established Latin alphabet's dominance in English writing, accompanied by dual inheritance of phonetic assignment mechanisms: preserving original Latin phonemic values (e.g., R/r → [ɾ]) while reconstructing letter-name assignments through sound shifts like the Great Vowel Shift (e.g., Latin [aː] → Middle English [æː] → Modern [eɪ]).

The grapheme-phoneme correspondence of letter W serves as a paradigmatic case: Through topological transformation of glyphs (V V→W), it replaced the runic ᚹ [w] while establishing a new nominal assignment [ˈdʌbəl.juː]. This dual assignment mechanism verifies the relativity of Saussure's (1916) arbitrariness principle in diachronic dimensions- when glyph forms undergo topological changes, their phonetic assignments can maintain historical continuity [4]. Additionally, while Latin R/r's original assignment [r] (alveolar trill) differs articulatorily from English [r] which could be written distinctively →[ɹ], their distinction bears no impact Empirical Operation on English spelling-readout mechanisms.

It is worth stating that the very fact that in English writing, letters such as the Nivan symbols with letter names that were the name of certain things had been replaced by the 26 standard Latin letters whose letter names are meaningless purely phonetic names, which can illustrates 1)The phonetic information of the language is the first element in the alphabetic writing symbol system

represented by English;2)The substitution of letters with different or similar shapes from different sources in the history of English has not had a substantial impact on the definition of English in the academic system of Western languages;3)In this system, within a period of a stable stretch of written letters and spoken English, the relationship between form and sound is more essential than the relationship between form and meaning. Therefore, in terms of the information function of language, phonological assignment is the basic or primary encoding of language information in English, while the coding of meaning is its secondary encoding of language information.

From a graphemic typological perspective, the evolution of English writing system reveals three essential characteristics: (1) Phonetic primacy principle: The runic-to-Latin transition essentially constitutes symbolic substitution of phonetic representation systems; (2) Stability of grapheme-phoneme correspondence: Cross-system phonemic migrations preserve phonological oppositions; (3) Secondary semantic encoding: Semantic information is realized through recombinatorial operations on phonetic symbols, aligning with Bloomfield's (1933) hierarchical coding theory [5].

As a synchronic projection of diachronic phonetic assignment mechanisms, the apparent irregularities in grapheme-phoneme correspondences of Modern English Orthography fundamentally stem from the simultaneous interaction of multi-layered historical assignment systems. In reformed Empirical Operation to phonics-based pedagogy, adopting the letter-name assignments of two stable alphabetic systems (e.g., historical Latin and modern English) as foundational starting points allows practitioners to bridge the connection between a word's sounds and its written form through multi-step Empirical Operation.

3. The Letter-Shape-Related Transformation Operations and Other Phonetic-Relation Operation

Letter- sound association refers to: 1)the stable relationship between written letters or phonetic letters and the sound values they can express during a certain historical period: a)Sound value could be assigned from letter name, for example, assigned sound value of phonetic alphabet is its letter name itself, b)Assignment convention of sound value, c)convention for writing; 2)Additional derived alphabetic related values generated by the stable phonetic assignment of written letters or phonetic letters, that is, if the letters are similar in shape, the phonetic values may be close, especially for phonetic alphabet letters.

As the English phonetic alphabet is mainly derived from Latin alphabet and the derived alphabet of Latin alphabet, the design of the use of new phonetic alphabet also follows the basic principles of letter-sound relationship of Roman alphabet and of “similar in shape, then similar in sound value.” Therefore, in modern English letter-sound association exists not only in the written letters or phonetic symbols alone; but also within both the written letters and phonetic symbols of modern English.

(1)The principle of “similar in shape, then similar in sound value” existed in Latin Alphabet has been extended to English Alphabet, for example derivative letter groups such as G/g C/c K/K, S/S Z/Z.

(2)Lower case comes from cursive script of upper case. The use of upper case and lower case makes the principle of “similar in shape, then similar in sound value” more compatible. Although P/p or B/b is not derived from each other in Latin letters, the Romans optimized and adjusted the letter name and assignment of sound value. Compared with the ancient Greek letter name, the assigned sound value of the letter P turned to be closer to the conventionally assigned sound value [b] of the letter B. Similarly, there are M/m and N/n with similar sound values after adjustment. After the adjustment in the Latin alphabet, the name of the vowel is often the phonetic assigned

value itself while the name of the consonant is mostly the single syllable composed of the consonant phoneme assigned to it and the vowel phoneme not generally involved in the assignment of sound value. This naming method of letter, which makes the shape and sound value of letters more intuitive and stable, is also used in English letter names. In addition, the group of v u w as listed in last chapter, which has the same case form, also extends their derivative relationship to modern English. But Latin vowels have long and short sounds, for instance, the expression of long vowels is as in ā ē ō ī ū, and this type of long vowel signs do not exist in modern English spelling. The long sound of vowel sometimes has a sound value close to that of double vowel except for the long sound of unit sound, for example, ē=[ɛ:]or ē=[e:]≈[ei], ō=ɔ: or ō=[o:]≈[əu]/[ou]. Special attention should be paid to these situations.

(3)The similarity principle: “similar in shapes of letters, then similar in their sound value”. This principle applies not only to Latin letters, but also to international phonetic symbols. There are several groups of examples from phonetic symbols: i/ɪ, i:, j ; u: and u ;ɒ and ɔ: ;ɑ:,æ and e;s, ʃand tʃ; ʒ and dʒ; m,n and ŋ. For ʃand ʒ, and tʃand dʒ, these two groups of corresponding voiced and voiceless consonants also conform to this principle. There are several seasons as listed below. ʒ is a written variant of z such as the Greek letter Z/ ζ (Its Ancient Greek letter name zeta and assigned sound value/z/),phoneme ʒ Close to the value of phoneme Z, and the letterʃis a phonetic letter designed based on the letter s. The phoneme "ʃ" is close to the phoneme "s", and the phoneme "s" and "z" are also a group of corresponding voiceless and voiced consonants. In English, a group of corresponding voiced and voiceless consonants have the same pronunciation mode and similar sound value, but the difference is whether the vocal cords are vibrating.

(4)The principle of similarity applies to both sets of alphabet in modern English, between the written alphabet and the phonetic alphabet of modern English. Due to the objective reason of the typesetting design of 26 popular Latin letters on the printing press at that time, the English letters finally adopted 26 popular Latin letters in the process of borrowing Latin letters. And even though these letters have been renamed as English letters, the assigned value of letter names of English consonants is mostly consistent with that of Latin letters, such as b, d, f, h, k, l, m, n, p, q, s, t, x, z.

The selection and design of International Phonetic Alphabet of English is mainly based on the Roman alphabet (IPA Handbook, 2020) [6]. It contains not only fine-tuned forms of the 26 Latin letters such as ɒ and writing variants such as ʒ, but also derivatives of the Latin alphabet such as the Old English letter æ. It follows the similarity principle between old and new letters most of time. The letter ʒ, which could also be considered as an Old English letter and the variant of the letter g sometimes, more emphasizes the stabilized newly-assigned sound value and the difference between the newly-assigned sound value and the conventional assigned value of written letter g. In addition, the international phonetic alphabet of English also uses another Old English letter ð and a Greek letter θ associated with sound values of ð.

This chapter mainly discusses how to operate the similarity principle, writing convention and assignment convention of sound value. Since the use and design of the English phonetic alphabet is mainly based on the Roman alphabet with no difference between its upper case and lower case, and one phoneme corresponds to only one phonetic alphabet, while the principle of similarities in shape and sound is strictly followed too. Then after assigning the sound value of a letter or a monogram by some steps of empirical operations based on letter name, later we can get a sound value expressed in form of IPA, as to gain a direct and clear phonetic relationship visually in the process of empirical operations.

When learning or teaching new words, people can refer to the actual pronunciation or phonetic symbols of the words, and gradually complete a complete conversion between written letters and phonetic symbols by using different method of empirical operations step by step to assign the sound value with a start point from letter names of letters. These conversion steps often reveal the

relationship among similar phonemes in changes of local accent, or the newly-stabilized assignment of sound value for some letters, and even the changes and relations in writing among letters sometimes.

If the word has unstressed syllables, both the loose vowels ‘ə’ and the assignment of sound value based on the letter names of vowel letters or its combinations should be considered. Take the two as the baselines to weigh the assignment of sound value of letters or letter combination that play the function of vowel in its spelling and the strength of the changes in the phonetic values assigned to letters or letter combinations that play the function of vowel.

The empirical operations for the similarity principle contain resemblance, deformation, horizontal rotation or vertical symmetrical rotation of 180 degrees (horizontal symmetry or vertical symmetry). These empirical operations could also apply to the examples illustrated for the similarity principle of ““similar in shapes of letters, then similar in their sound value” in the paragraphs above. And the long or short sound operations from the phonetic relationship can be basically included in the empirical operation of resemble while the empirical operation of deformation could be considered as a special form of resemble.

The horizontal rotation came from back and forth writing convention of farming style for both ancient Greek letters and Latin letters in a certain period of their writing, which resulted in two horizontal symmetric writing forms for the asymmetric letters in those two sets of alphabets. Horizontal symmetry can connect this two groups of sound values that are relatively close to each other, ɔ: / ɒ and ɑ:/Λ. For example, a in wash watch, which equals to ɑ in this case (a=ɑ), could be horizontally rotated by 180 degrees to the form of ɒ which is happen to the phonetic letter of its actual sound value. In draw wall ward, ɑ could be horizontally rotated to obtain ɒ, then transfer to its real sound value ɔ: by long or short tone operation. In other another, o could be transferred as ɒ, as its assigned value of Latin letter name is sound value ɒ in IPA of English or by resemble operation; the with horizontal rotation we obtained ɑ(:) which can reach its real sound value Λ by long or short sound operation or by capitalizing. ɑ: and Λ are separately consistent with the lower case and upper case of writing forms for the letter A/a.

The Latin letter U and the letter Λ have a vertical and symmetrical derivation relationship, and the Runi variant character in English conforms to the form of Λ and can be converted to the Latin letter U (the Runi variant letter is named ur). The letter Λ is close to the capital form of the Latin letter A/a in its appearance. The occurrence of the conversion from the written letter U → the actual sound value Λ, may be due to the differentiation of the vowel u and changes in local accent which finally produces a situation of Λ sound of letter U in the stress of closed syllables, but the reason for it is still unclear.

It might be one of the few cases of empirical operations where you can't assign a value directly with a start point of a letter name. However by the similarity of its vertically symmetric derivative letter Λ and letter A/a, the sound value can be indirectly assigned by the Latin letter name of the letter A/a, which is the empirical way of dealing the operation of U→[Λ].The derivative is also a writing convention of letters, except that Λ is no longer the writing letter of modern English.

Some writing convention could be a result of writing rules made by people. For example, in the process of introducing Latin letters into English for spelling, in order to avoid spelling errors and non-standard writing caused by the u or v ligature immediately after M or N, u or v is artificially replaced by O. That is to say, there is an artificial stipulation that the vowel phoneme u or u: is represented by the letter O/o, which leads to the inconformity of O with [u] or [u:]. On the other hand, in the great change in English vowels, the front vowels of monophthong were more forward and the back vowels of monophthong were more backward. For instance, the original sound value ō[o:] of the vowel letter O in words such as do to root foot, changed to [u:] in this great change of vowels. As a result, a large number of letters O are exactly assigned to represent the phoneme u:.

The empirical operations of phonetic relationship include the operation of long or short sound, of voiced or voiceless consonant, and those listed above. The empirical operation of long or short sound has been actually included in some previous examples for operations of shape manipulation in similarity principle and conversion of lower case or upper case of a letter. Voiced operation is the main manipulation widely used in the conversion of voiced or voiceless consonant. In English, the pronunciation difference of phonemes that are a group of voiced and voiceless consonants lies in whether the vocal cords vibrate, and their sound values are very close. In fact some cases of empirical operations for similar principles may happen to be a group of voiced and voiceless consonants, such as p and b, C and K, C and G, k and g, s and z, ʃ and ʒ, t ʃ and d, ts and dz. Like p and b, this θand ð group of voiceless and voiced consonants may associate with each other from their appearance or similarity in shape due to their stable sound values and phonetic relationship. However, f and v, t and d, these two groups of voiced and voiceless consonants, can only be operated by empirical operations of clear and voiced consonants through the phonetic relationship.

In addition, it is possible to take advantage of the phonetic relations of historical and different regional alphabet phonetic assignments of sound value for transliteration operations. For example, the Greek letter θ has the modern letter name θita, whose phonetic assignment is the same as the English phoneme θ. And its ancient letter name is theta with assigned sound value of th, which can be transliterated into the Latin letters of t h, thus obtaining the historical transcription relationship between th and θ, in line with the actual phonetic relationship between some written letter th and phoneme θ in English. That's why sometimes this historical transcription relationship could be used for this empirical operation between th and θ.

4. Flexibly handling of Characteristic Pronunciation of [ə] of English

Although the pronunciation of vowels in syllables is variable, and there are often subtle differences in the strength and weight of syllables, when dealing with the characteristic pronunciation ə and phonemes with similar functions, 1) we can start from the letter name assignment of vowel letters and treat the vowel ə and phonemes with similar functions as weak forms of their letter name assignment, 2) instead of relying on the strength of syllables in the same word to compare the strength of vowels in unstressed syllables or stressed syllables, we use the tradition of sound value assignment from letter name and the characteristics of the loose vowel ə to simply identify the strength of vowels based on the assigned sound value from the letter names from vowel letters or vowel letters in combinations and loose vowel ə.

In Tim with sound value of tim, and in time with sound value of taim, the vowels of both words can be considered as stronger forms of stressed syllables because in both words the letter name of the vowel letter assigned a value.

In Identity with sound value of [aɪˈdentəti], [e] is the stronger form of letter E in the stressed syllable den, due to the assigned value of the Latin name of the letter E; In first syllables I, the assigned sound value [aɪ] from letter name is the stronger form of the letter I in unstressed syllables; In the unstressed syllable ti[tə], the loose vowel ə is the weakest form of the letter I; Ty =ti, unstressed ty[ti], which is with the stronger form of Y or I in unstressed syllables; although [i] of [ti] maybe actually weaker than [aɪ] in the unstressed syllables of this word. Some flexibility can also be obtained for dealing with phonemes that are similar to the function of vowel ə when the loose vowel ə is considered a weakened form of the sound value assigned from the letter name to a vowel letter or letter combination. The second syllables in words of passage message have two phonetic values [sə] or [si] common in English pronunciation, and [i] can be considered as not failing to be weakened to the loose vowel [ə]; so in village minute, the pronunciation [i] of the vowel letters a and u in the unstressed syllables llage and nute can also be classified as the relatively weakened

form of the sound value assigned from the letter name to a vowel letter in the unstressed syllable.

In addition, according to traditional phonetics, affixes aggravate the inconsistencies of English sounds and letter, which makes spelling more difficult. However, when there is the vowel weakened form situation as the situation above, the application of the affixation method is a good complement for spelling. For instance, the suffix of *age* in the word of *village* can help loose vowels ə return to its written letter *A*. *ute* is not a regular suffix, to make the relatively weaker form of vowel [i] sound in word of minute to get back to its written letter *A* may require good memory. However, when *minute* is used as an adjective, the stress is shifted to the mu syllable, and the sound value becomes [maɪˈnju:t], the letter name of *u* is assigned a value, which can facilitate the same spelling of different pronunciation situations of this word due to its part of speech.

The loose vowel ə as a weakening form of vowels, it can be related to English grammar. For example, the syllables of monosyllabic words are generally considered as stressed syllables, but the syllables of monosyllabic function words are often weakened unstressed syllables. This may be because function words mainly play a grammatical function with a fixed structures and settings in phrases and sentences. Weakening the syllables of function words will increase the difficulty of recognition, but will not cause the situation that they cannot be recognized. The usual pronunciation of the indefinite article *A /an* is [ə] /[ən] respectively, and the usual pronunciation of the conjunction word of And is ənd. The signed sound value ei from the English letter name of the word A turned to be the stressed form, while the stressed value of the word An is æn, and the stressed value of the word And is ænd. This phoneme æ is approximate to the sound value assigned by the Latin character of the written letter a →æ, and a has replaced the written letter æ in spelling, which also implies that A in some words is actually æ in modern English, that is a= æ.

5. How to Deal With Diphthong Phonemes and Letter Combinations

Vowel phonemes including diphthong phonemes in English are sometimes assigned by the letter name of a single letter with vowel value (such as letters A, I, Y, O, U for diphthong phonemes) and sometimes through the combination of letters. Sometimes vowel phoneme is assigned through a letter (such as A, I, Y, O, U, R, E) from the letter combination. Then Empirical operations towards this vowel phoneme can be done through this letter of the letter combination. For instance, the process of written oa in word of coat toward its diphthong phoneme əu, oa→əu is operated through the letter name of O. Sometimes there is more than one letter involved in the sound value assignment of a letter combination for its diphthong phoneme, and then consideration must be done on how each of these involved letters takes part in the sound value assignment of its diphthong phoneme.

When dealing with the diphthongs expressed by letter combination, the combination of monophthong values obtained by disassembling the diphthong could possibly differ from exact sound value of the diphthong but mostly similar to the actual sound value of the diphthongs, therefore in order to reach the value of these diphthongs we can reassemble these separate empirical operations of each letter that is involved in the sound value assignment of the diphthong.

The situation of sound value assignment of the vowel letter in the letter combinations containing letter R, such as vowel in ar er or ur ir, etc, should be considered; if the vowel letter is not involved in the sound value assignment, these combinations can often express the phoneme ə : or its weakened form ə. This -r combination assignment convention gives the letter r a certain association with the phoneme ə or ə:. Also the phoneme r may be naturally phonologically related to the phoneme ə in spoken language. The letter spelling ar er in a word is sometimes a diphthong, ar → eə, er → iə, and the phonemes e and i which are disassembled therein are weaker than their assigned sound value from its Latin assignments letter name (a → æ → e; e[i:] → i).In English, ar→a: is

more stable than a→a: in the empirical operations when letter a is assigned with its Latin letter name, because the letter r with its letter name a: in English Alphabet also can give ar the assigned value phoneme a: in the empirical operation. In the word clerk er → a: is very rare, however the assignment of the letter name of *r* explains this sound value.

Assigning consonants by letters or letter combinations is simpler than assigning vowels, so only the marking role of spelling letters and combinations of arrangements will be discussed here. The t and d in writings that express the phonemes of dz ts dʒ tʃ are not sound values itself, but they could be used to identify the approximate sound value of the phonemes z s ʒʃ, respectively. Also, English words spelled with ds or dz at the end have a stable letter-sound association with the phonetic value dz, while the written letter ts has a stable letter-sound association with the phoneme ts. The phoneme dʒ can be manipulated by assigning sound value dʒ from the letter name of G or J in the spelling of a word, and tʃ from the letter name of H in CH can be assigned to CH. But in addition to this dʒ tʃcan also be consistently associated with a number of letter combinations containing the letters D or T respectively. In this case, the t and d serve to identify these specific phonemes, both in the spelling of written letters and in the phonetic alphabet. The case of ng→ŋ nk→ŋ nc→ŋ is similar too. In the sound value assignment conventions of letter combinations such as gh → f, ph → f, they cannot be manipulated directly through empirical operations for similarity principles, but the spelling combinations themselves and their order can be used as phonetic identifiers.

6. Conclusions

This article proposes a refined scheme for the Empirical Operation Method in English phonics by reconstructing its theoretical framework and practical logic, grounded in the essence of phonetic assignment. The new scheme categorizes the grapho-phonemic correlations between letters and phonetic symbols into three core operations: dual letter-name assignments (emphasizing the historical synergy between English and Latin letter names), dynamic application of grapho-phonemic principles (e.g., shape resemblance, rotational symmetry, and phonetic derivations), and flexible handling of the English-specific [ə] weakening mechanism (anchored in letter-name assignments and non-stressed syllable processing). Compared to previous approaches, the improved system achieves breakthroughs in three dimensions:

1) Logical Optimization: By integrating the phonetic encoding essence of letters with their historical evolution in writing, this study reveals the underlying stability of English grapho-phonemic relationships. For instance, the implicit constraints of Latin letter assignments on modern English spelling-pronunciation patterns, and the systematic influence of shape-sound resemblance principles on phonetic symbol design, are unified within a coherent explanatory framework.

2) Simplified Classification: The fragmented categories in prior schemes (e.g., "letter shapes" and "letter names") are consolidated into an organic whole, while strengthening the link between the [ə] weakening mechanism and grammatical functions. This significantly reduces rule complexity. For example, the strength of vowels in non-stressed syllables is no longer determined by traditional syllable division but directly mapped to the weakening gradient of letter-name assigned phonetic values.

3) Extended Applications: The new scheme not only supports word grouping design in phonics pedagogy (e.g., prioritization by letter-name assignments) but also provides toolkits for advanced linguistic research. For instance, leveraging the interplay between phonetic assignments and orthographic conventions enables systematic analysis of historical origins of "grapho-phonemic paradoxes" in CET4/6 vocabulary, facilitating more efficient memorization pathways .

The theoretical significance of this research lies in reaffirming phonetic assignment as the

foundational layer of English linguistic information encoding, while its practical value resides in providing operable and verifiable conversion logic for spelling-pronunciation rules. Future studies may explore: 1) comparative analyses of phonics rules between English and other Latin-derived languages (e.g., French, Spanish) to validate the universality of phonetic assignment mechanisms; 2) development of smart phonics training tools based on this scheme, utilizing visualizations of letter-to-sound conversion steps to enhance learner cognition.

References

[1] L. Wang. A Simplified Empirical Solution of Phonics. Overseas English, 2015, 18: 50–51.
[2] L. Wang. On the significance of empirical operations in the Simplified Empirical Solution of Phonics. Dossier, 2020, 10: 246–249.
[3] F. de Saussure. Course in General Linguistics. New York: Philosophical Library, 1916.
[4] L. Bloomfield. Language. New York: Henry Holt and Company, 1933.
[5] International Phonetic Association. Handbook of the International Phonetic Association, J. Di and W. Meng, Trans. Shanghai: Shanghai Educational Publishing House, 2020. (Original work published 2015).
[6] Y. X. Zhang. From English to Globlish: A Concise Cultural History of the English Language. Beijing: Foreign Language Teaching and Research Press, 2014.