Beyond Binary: Rethinking Orthographic Depth Through the Lens of Turkish Orthography

İkiliğin Ötesinde: Türkçenin Merceğinden Bir İmla Derinliği Muhakemesi

Halil İSKENDER*

Abstract

Orthographic systems have traditionally been categorized as either shallow or deep. However, the validity of this dichotomy has been increasingly questioned. Turkish orthography, characterized by its clear-cut grapheme-phoneme correspondence, is often labeled as 'shallow' in current literature. This research re-evaluates this characterization by investigating distinct factors, such as the irregular representation of vowel length and the multifaceted phonemic roles of certain letters. By comprehensively analyzing these aspects and charting the fluid interplay between orthography and phonology, this paper aims to assess the true extent of the orthographic depth of modern standard Turkish. Findings suggest an 'intermediate' position for Turkish on the orthographic depth continuum, prompting a rethinking of the prevailing pedagogical approaches. This study underscores the need for a more detailed classification system to account for orthographic depth variations across languages. Additionally, recommendations are provided to enrich the understanding of orthographic systems and emphasize the significance of orthography in language instruction and literacy development.

Keywords: Orthographic Depth Hypothesis, Turkish Orthography, Grapheme-Phoneme Correspondence, Phonemic Vowel Length, Intermediate Orthography.

* Dr. Öğr. Üyesi, Kırklareli Üniversitesi, Fen-Edebiyat Fakültesi, Türk Dili ve Edebiyatı Bölümü, Kırklareli, Türkiye.
Elmek: hiiskender@gmail.com
orcid.org/ 0000-0001-6974-6538

.Öz

İmla dizgeleri geleneksel olarak sığ ve derin diye tasnif edilmektedir. Ancak bu ikiliğin geçerliliği giderek daha fazla sorgulanmaktadır. Türkçenin, mevcut alanyazında umumiyetle 'sığ' diye nitelenen imlası ve sorunsuz görünen yazıbirim-sesbirim uyumu, bu araştırmada ünlü uzunluğunun düzensiz gösterimi ve muayyen harflerin çifter sesbirime tekabül ediyor olması gibi mümeyyiz vasıfların tahlil edilmesi suretiyle yeniden değerlendirilmektedir. Makalede, bu yönlere odaklanan kapsamlı bir tetkik sunularak ve imla ile ses bilimi arasındaki akışkan etkileşimin haritası çıkarılarak, çağdaş ölçünlü Türkçenin imla derinliğinin doğru seviyesinin tespit edilmesi hedeflenmektedir. Bulgular, Türkçeyi imla derinliği cetvelinde 'ara' bir noktada konumlandırmakta ve dolayısıyla mevcut eğitim bilimsel yaklaşımların gözden geçirilmesinin gerekliliğini imlemektedir. Bu çalışma, diller arasındaki imla derinliği farklılıklarını gözetecek daha ayrıntılı bir sınıflandırma dizgesine duyulan ihtiyacı ortaya koymakta, ayrıca, imla dizgeleri anlayışımızı zenginleştirmeye ve imlanın dil öğretimi ile okuryazarlık gelişimindeki önemini vurgulamaya yönelik teklifler sunmaktadır.

Anahtar Kelimeler: İmla Derinliği Varsayımı, Türkçenin İmlası, Yazıbirim-Sesbirim Örtüşmesi, Sesbirimsel Ünlü Uzunluğu, Ara İmla.

Introduction

The intricate dynamics of language acquisition and literacy development continue to occupy center stage by etching a compelling narrative at the crossroads of linguistics and education (Caravolas, 2004, p. 9; Share, 2008, p. 593). Among the myriad factors that influence these processes, phonology and orthography play pivotal roles.

Phonology, the systematic organization of sound patterns in languages (Kenstowicz, 1994, pp. 65-66), extends beyond the mere inventory of phonemes, encompassing the rules and patterns that dictate permissible combinations of sounds and syllables (Treiman, 1991, p. 159). A key component of phonological awareness is phonemic awareness, an individual's sensitivity to the phonemic structure of their language. The development of phonemic awareness is often catalyzed by learning to read an alphabetic writing system, and it is recognized as a significant predictor of reading proficiency and a crucial factor in successful language learning (Adams, 1990, p. 58; Goswami & Bryant, 1990, p. 4).

Orthography, the conventions that govern the written representation of languages (Venezky, 1970, p. 10), as the bridge between spoken and written language, provides a visual representation of linguistic sounds. However, orthographic systems display substantial variability in their depth, referring to the consistency of their grapheme-phoneme correspondence. While the traditional categorization of orthographies as either shallow or deep has contributed significantly to our understanding of language acquisition and literacy development, it can oversimplify the complex and multifaceted nature of orthographic systems.

This paper introduces a perspective by examining the orthography of the Turkish language, frequently classified as shallow in academic discourse. However, factors such as inconsistent representation of phonemic vowel length and imprecise phoneme-grapheme correspondence in Turkish invite a reconsideration of its position within the orthographic spectrum. The paper posits that Turkish resides at an intermediate orthographic depth, neither as shallow as Finnish, contrary to common belief, nor as deeply orthographic as English.

Investigating Turkish orthography through the lens of the Orthographic Depth Hypothesis (Katz & Frost, 1992) may elucidate novel aspects concerning the ways in which orthographic systems impact phonological awareness, influence literacy development, and regulate pronunciation competencies. The implications of these findings have the potential to enrich language pedagogy and highlight the need for teaching methodologies to adapt to the specificities of a given orthographic system (Perfetti & Helder, 2022, p. 24).

The paper is organized as follows: Section 1 explores the theoretical background of the Orthographic Depth Hypothesis. Section 2 presents a literature review. Section 3 examines Turkish orthography as a case study, introducing a novel perspective on its orthographic depth. Section 4 analyzes the impact of intermediate orthography on phonological representation and language learning, with a particular focus on Turkish. Section 5 discusses the pedagogical implications arising from the reevaluation of Turkish orthography. Finally, some concluding remarks are presented.

1. Theoretical Background: Expanding the Orthographic Depth Hypothesis

The Orthographic Depth Hypothesis (ODH), a theoretical compass of sorts, illuminates the complex interplay between orthographic systems and phonological representation. This hypothesis

advances the proposition that the 'depth' of a language's orthography, the degree to which its grapheme-phoneme correspondence maintains a constant relationship, informs the cognitive operations deployed in reading (Frost et al., 1987, p. 112).

Traditionally, orthographies have been pigeonholed into either shallow categories, characterized by a remarkably consistent grapheme-phoneme relationship, or deep ones, marked by an unpredictable correlation. Finnish and Italian exemplify languages bearing the hallmarks of shallow orthographies, where a given letter, or a fusion of letters unswervingly evokes a specific phonemic entity. This high consistency simplifies the decoding process, encouraging a 'bottom-up' approach to reading that primarily relies on phonetic decoding[1] (Ziegler et al., 2010, p. 552).

Conversely, languages with deep orthographies, such as English and Danish, exhibit significant irregularity in their grapheme-phoneme relationships. Given this irregularity, the decoding process becomes more complex, often necessitating a 'top-down' reading strategy. Readers must rely on their existing linguistic knowledge and contextual cues to deduce the pronunciation and meaning of words (Seymour et al., 2003, p. 168).

Despite the insightful distinctions provided by the ODH, it traditionally operates within a dichotomous framework, shallow versus deep orthographies. However, this binary perspective may not sufficiently encompass the varied orthographic characteristics across languages. For instance, Turkish presents an interesting case that challenges this dichotomy. Unlike Finnish, Turkish does not consistently demonstrate a one-to-one grapheme-phoneme correspondence, yet its orthographic properties are not as complex as those in English, making it hard to classify strictly as shallow or deep. This indicates the potential existence of an intermediate category in the orthographic spectrum, as we will further explore in Section 3.

In light of these considerations, an expanded interpretation of the ODH may be necessary to more accurately encompass the orthographic depth spectrum (Ziegler et al., 2010, p. 553). This expansion could introduce an 'intermediate' orthography category, thus bridging the gap between shallow and deep classifications. The recognition of an intermediate category, represented by languages like Turkish, could provide new perspectives on the influence of orthographic depth on literacy acquisition and phonological awareness. By focusing on Turkish orthography, the study seeks to elucidate potential ramifications of this novel viewpoint for instructional approaches and forthcoming linguistic research.

2. Literature Review: Beyond the Dichotomy of Shallow and Deep Orthographies

2.1. Exploring Shallow Orthographies: The Case Studies of Finnish and Italian

Languages possessing shallow orthographies, exemplified by Finnish and Italian, have been the subject of extensive academic scrutiny. These languages are characterized by consistent grapheme-phoneme correspondences, which facilitate phonetic decoding and, consequently, promote the advancement of phonological awareness (Cossu et al., 1988, p. 10). This consistency in their orthographic representation inherently simplifies the reading process, thereby contributing

---

1 In the grand theater of reading, a top-down strategy is the reader's self-scripted play. The reader is not merely an audience to the text but its co-creator, infusing it with personal knowledge and expectation. It begins with a panoramic view which is the overarching context or the whole text and gradually sharpens focus towards the granular details such as the words and sentences. Every word read, and every sentence deciphered either fortifies or alters the reader's initial conjectures. Contrast this with the bottom-up approach, where words and sentences are the building blocks of comprehension, methodically assembled to understand the text in its entirety (Stanovich, 1980, pp. 34-35).

to the early development of robust phonemic skills among learners.

In an influential study, Landerl et al. (1997) examined the development of phonemic awareness among German-speaking dyslexic children, another language that features a shallow orthography. Their research findings confirmed the facilitating role of orthographic transparency in reading acquisition. Similarly, Aro and Wimmer (2003) investigated the impact of orthographic depth in English, Finnish and five more languages and found a strong correlation between orthographic transparency and the early development of phonemic skills. This robust development was attributed to the almost one-to-one correspondence between graphemes and phonemes in Finnish (Aro & Wimmer, 2003, p. 631).

2.2 Navigating Deep Orthographies: The Challenges of English and Arabic

These studies provide critical insights into shallow orthographies' cognitive and pedagogical implications. In contrast, the scenario changes dramatically when considering languages characterized by deep orthographies. For instance, English and Arabic present considerably less consistency in their grapheme-phoneme correspondences, leading to additional cognitive challenges (Abu-Rabia, 2001, pp. 40-41). Patel et al. demonstrated this complexity in their research on English-speaking children, observing a more gradual development of phonological awareness compared to children learning languages with shallow orthographies. The complexity of grapheme-phoneme relationships in English necessitates a cognitive strategy that includes phonetic decoding, whole-word recognition, and contextual cues (Patel et al., 2004, p. 793). The intricacies of Arabic orthography, with its deep letter-sound correspondences and additional complexities, such as positional letter shape changes, add further layers to the comprehension of phonological representation in deep orthographies (Saiegh-Haddad, 2003, pp. 438-439). This deeper understanding of how orthographic depth interacts with phonological development underscores the necessity for more flexible cognitive strategies and tailored pedagogical approaches.

2.3 Addressing the Gap: The Orthographic Continuum and Beyond

While these insights indeed hold significant value, they present a dichotomous view of orthographic systems that may that may need to capture their true complexity fully. The binary model of shallow versus deep orthographies has been critiqued as inadequate to encapsulate the rich diversity of orthographic systems, with a continuum approach being advocated instead (Caravolas, 2022, p. 330; Ziegler et al., 2010, p. 552).

It is in this continuum, a language like Turkish might find its place with its unique orthographic and phonological properties. Vowel length emerges as a significant property in this context. While vowel length is phonemically significant in languages like Finnish and Turkish, their orthographic systems handle this feature differently. Finnish orthography transparently indicates vowel length distinctions (Torppa et al., 2017, p. 54); Turkish, on the other hand, does not consistently provide explicit orthographic markers (İskender, 2015, pp. 69-73, 94-95). This discrepancy suggests the need for further exploration of the role of vowel length in orthographic systems of varying depths.

The review of the literature underlines the need for a more refined investigation into orthographic depth, one that transcends the binary concept of shallow versus deep and instead contemplates the full range of orthographic complexities. The following section suggests a detailed study of Turkish, positioning it as representative of an intermediate orthography.

3. Redefining Orthographic Depth: The Case of Turkish

Orthographic depth, traditionally defined by the consistency of grapheme-phoneme correspondence (Katz & Frost, 1992, p. 70), has been the foundation of classification of languages into shallow and deep orthographies. The prevailing understanding places languages such as Finnish and Italian, with predictable grapheme-phoneme correspondences, on the shallow end of the spectrum, while English and Danish, characterized by a greater degree of inconsistency, occupy the deep end (Seymour et al., 2003, p. 145). Often placed towards the shallow end, Turkish is generally considered to have consistent grapheme-phoneme correspondences (Atasoy, 2023, p. 345; Demiriz & Okur, 2019, p. 43).

Recent scholarly developments, however, have begun to contest the dichotomous framework for categorizing orthographic depth, illuminating its insufficiencies in capturing the full continuum of orthographic depth and the intricate nature of orthographic systems (Caravolas, 2022, p. 330; Ziegler et al., 2010, p. 552). The case of Turkish is especially instructive in this context, as, despite its largely regular grapheme-phoneme correspondences, it displays specific attributes that problematize its designation as a shallow orthographic system.

Firstly, Turkish orthography diverges from the characteristic one-to-one correspondence between phonemes and graphemes typically found in shallow languages like Finnish (Ziegler et al., 2010, p. 552). A phoneme is the smallest unit in a language's structure that can change a word's meaning (Ladefoged & Johnson, 2015, p. 317). The Turkish script encompasses twenty-nine letters, twenty-eight of which are allocated to specific phonemes, and the twenty-ninth, 'ğ', also known as the soft-g, serves to signify compensatory vowel length and certain morphological peculiarities. Nonetheless, the phonemic structure of Turkish includes thirty-one phonemes, spelled out by a mere twenty-eight letters. (Özsoy, 2004, p. 13). As a consequence, three letters must account for six distinct phonemes. The letter 'k' encodes both the voiceless velar stop and the voiceless palatal stop sounds, the letter 'g' represents the voiced velar stop as well as the voiced palatal stop, and the letter 'l' denotes both the voiceless velar fricative sound and the voiceless dental lateral sound. See the following minimal pairs for clarity:

(1) a. *kar* → /kar/ (velar) 'snow'

kâr → /car/ (palatal) 'profit'

b. *sol* → /soɫ/ (velar) 'left'

sol → /sol/ (palatal) 'sol in music' (İskender, 2021, p. 86)

The orthographic methodology used to differentiate between the dual phonemic functions of these three letters, 'k', 'g', and 'l' employs a diacritic for adjacent back vowels in the non-velar variants. Interestingly, only those letters for back vowels adjacent to 'k' and 'g' can be used with a diacritic, not those adjacent to 'l', as stipulated by the Spelling Guide[2]. As such, accurate pronunciation of the phonetically non-identical words in (1b) cannot be inferred directly

---

2 Interestingly, the regulation of diacritic usage within place names containing non-velar 'l' by the Turkish Language Institute introduces a supplementary layer of complexity to Turkish orthography. Turkish, with its sophisticated semantic features (Turgay, 2020, p. 176), invites a potential complication to its orthographic landscape, particularly if such rules persist. This gives rise to new challenges. These semantic nuances do more than just accentuate the multifaceted nature of Turkish orthography, challenging traditional assumptions. They also stress the necessity for a more nuanced examination of orthographic depth and, in addition, highlight the pivotal role of semantic knowledge in reading comprehension.

from the orthography, creating the first issue in this discussion. Additionally, the same diacritic's employment to denote vowel length, as will be explored further, does not mitigate the ambiguity in reading. This dual functionality of the diacritic within the Turkish orthographic system thus presents an enduring obstacle for readers.

Secondly, the Orthographic Depth Hypothesis (ODH) often under-emphasizes the orthographic representation of phonemic distinctions, such as the difference between short and long vowels. This contrast is evident when one examines Finnish, a paragon of shallow orthography, which explicitly represents long vowels in their written form (Torppa et al., 2017, p. 54). Conversely, although vowel length plays a phonemically distinctive role in Turkish, it is not given explicit representation in the orthography. This orthographic feature, or rather its absence, introduces a degree of unpredictability in phoneme-grapheme mapping. The Turkish language contains three distinct species of long vowels:

(2)   i. Compensatorily lengthened vowels

             ii. Identical vowels positioned adjacently

             iii. Regular long vowels

It can be observed that the initial pair of categories, vowels lengthened by compensation and identical vowels are both adequately represented within the written orthography. The vowel sounds that are extended through compensation are denoted by the phonetically null letter 'ğ', a unique feature of the Turkish language. Simultaneously, the adjacent identical vowels are each recorded in the written text, thus making their length perceivable in the orthography. Hence, from a superficial examination, one might contend that no particular issues are associated with this system of notation.

However, complications emerge upon consideration of the third category. The challenge resides not in the phonetic domains of compensatorily lengthened or identical vowels, but rather in the nuances associated with regular long vowels, the precise delineation of which is conspicuously absent from the orthographic representation. This absence constitutes a significant area of concern requiring further scholarly investigation and discourse.

(3)   *a*.   *a:lem*   "world"

                 alem   "metal crescent on top of a minaret"

        b.   *ra:kım*   "altitude"

                 rakım   "my raki (an alcoholic beverage)"

Consider the lexical pair in (3a), *a:lem*, meaning "world", and *alem*, denoting a "metal crescent on top of a minaret". The single discernable variation between these two words lies in the duration of the initial vowel. This subtle phonemic differentiation gives rise to two disparate words. Turkish orthography accommodates this distinction through the utilization of diacritics, particularly in instances where variations in vowel length culminate in distinct semantic outcomes in the root forms of words. Thus, the appropriate spelling for the term "world" would be *âlem*, with the diacritic serving as a cue for an elongated initial vowel pronunciation.

The Turkish Language Institute's Spelling Guide stipulates that the incorporation of a diacritic to indicate vowel length is permissible solely in instances of minimal pairs, which could otherwise

lead to misinterpretation if devoid of the diacritic (Türk Dil Kurumu, 2021). As an exemplification, consider the pair in (3b), *ra:kım*, meaning "altitude", and *rakım*, denoting "my raki (an alcoholic beverage)". Despite the variation resting solely in the length of the initial vowel, both words ought to be orthographically identical, that is, *rakım*. Any usage of a diacritic in the first word would be erroneous, as **râkım*, as there exists no second root form with a shortened 'a' sound, and the second word in (3b) does not constitute a root. A noteworthy conundrum arises due to the absence of diacritics in words with extended vowels in Turkish orthography. This results in considerable reading obstacles, as evidenced by the hundreds of words whose phonemic length is not marked by diacritics. The lack of consistent representation for vowel length presents a considerable hurdle in language acquisition and impacts both reading proficiency and phonemic awareness. Young Turkish language learners frequently struggle with accurate reading of words featuring long vowels, a difficulty analogous to those encountered in languages with more opaque orthographies (Kaya, 2004, pp. 92-93). This implies that despite the generally predictable grapheme-phoneme correspondences in Turkish, the orthography may still introduce complexities that could potentially hinder the development of literacy skills and pronunciation proficiency[3].

By acknowledging such intricacies in orthographic systems, we might gain a more comprehensive understanding of the impact of orthography on phonological awareness and literacy acquisition. This expanded perspective also bears significant implications for pedagogical strategies in language teaching Tailored teaching methods that address these specific challenges might be more effective for languages like Turkish, where orthographic inconsistencies are less pervasive than deep orthographies but still present a learning hurdle For instance, language educators could explicitly highlight vowel length discrepancies in reading instruction, which would help learners to anticipate and navigate these irregularities.

4. Impact of Intermediate Orthography on Phonological Representation and Language Learning

Orthographic systems play a fundamental role in shaping phonological awareness and the trajectory of language acquisition. Classifying Turkish as an intermediate orthography provides an intriguing viewpoint on this interaction, given its amalgamation of transparent and opaque linguistic attributes. In the domain of phonemic awareness and literacy development, the learning trajectory of children learning Turkish exhibits a peculiar pattern. Empirical evidence suggests that these learners initially employ a phonetic decoding strategy akin to those learning languages with shallow orthographies (Öney & Durgunoğlu, 1997, p. 3). However, as their linguistic proficiency matures, their methodological approach evolves to accommodate the nuanced phonological elements that are absent in the orthography, thereby mirroring the holistic strategies characteristic of learners of deep orthographies.

---

3 Another point of particular prominence centers on the orthographic treatment of neologisms originating from Western languages. Since Turkish is traditionally classified as a typical shallow language, this attribution would ostensibly necessitate primarily phonetic adaptations of incorporated lexemes. Contradicting this supposition, the Turkish Language Institute has exhibited non-compliance with such straightforward phonological assimilation in its codification procedures (Atasoy, 2023, pp. 352-353). Exemplar loanwords such as *profesör* "professor", *şarj* "battery charge", and *şoför* "chauffeur" exhibit marked deviations from indigenous Turkish phonological patterns. Such lexemes present formidable challenges to native speakers lacking specialized education in the source languages, as none of the cited loanwords adhere to phonological renderings congruent with their orthographic representations (İskender, 2008, pp. 92-95). Due to the limited scope of the current manuscript, a thorough critique of this orthographic disparity remains beyond the ambit of this discussion. For an in-depth exploration of this subject matter, readers are directed to consult the comprehensive analysis by Atasoy (2023).

During the early stages of literacy development, Turkish children demonstrate robust phonemic awareness as a result of the fairly transparent correspondence between letters and sounds, comparable to the scenarios observed in Finnish or Italian (Öney & Durgunoğlu, 1997, pp. 5-8). Nevertheless, phonological attributes that are not explicitly represented, such as vowel length, compel a strategic shift in reading and comprehension. Children are required to incorporate their linguistic knowledge, contextual understanding, and past experiences to correctly identify, pronounce, and comprehend words where these features are critical (Altun, 2010, pp. 172-175).

The intermediate orthography of Turkish also wields influence on the development of pronunciation skills. While the reasonably robust grapheme-phoneme correspondence facilitates accurate pronunciation of most words, the unmarked phonological elements introduce a degree of unpredictability. Consequently, learners must rely on linguistic context and the recall of previously encountered words for accurate sound production.

In conclusion, the hybrid characteristics of Turkish orthography introduce a unique dynamic into the development of phonemic awareness, literacy acquisition, and pronunciation skills. This delicate equilibrium between transparency and complexity provides unprecedented insights into the multifaceted impact of orthographic systems on language learning. This underscores the interdependent relationship between orthography and phonology and signals the need for a more comprehensive understanding of literacy development processes.

5. Pedagogical Considerations

As seen in Section 3, vowel length holds phonemic significance in Turkish. However, the Turkish educational system falls short in efficiently instructing words with long vowels (Altun, 2010, p. 172). The current pedagogical approach presupposes Turkish to be a prototypical shallow language, largely expecting students to acquire words with long vowels through listening rather than reading. This proves especially problematic for obscure or rarely used words. Even university graduates can have difficulty pronouncing some words, such as *rakım*, correctly.

The complex interplay between the intermediate depth of Turkish orthography and phonological representation has substantial implications for language education strategies. A more effective approach to teaching Turkish could incorporate techniques suitable for shallow and deep orthographies, paving the way for optimal learning outcomes.

A phonics-based approach similar to those used for languages with shallow orthographies, such as Finnish and Italian, could be valuable at the outset of literacy instruction. This methodology emphasizes the correlation between sound and letter, capitalizing on the relatively clear link between graphemes and phonemes in Turkish (Öney & Durgunoğlu, 1997, pp. 7-10). By decoding words phonetically, learners can cultivate a robust phonemic awareness, a crucial determinant of reading proficiency. For example, the word *kedi* "cat" can be broken down into its constituent sounds, 'k', 'e', 'd', and 'i' to aid learning.

However, as learners grapple with the nuances embedded within the Turkish orthographic system, particularly the unmarked phonological elements, instructional methodologies must exhibit corresponding adaptability. Therefore, akin to the pedagogical techniques applied to deep orthographies like English, the phonics-based approach should be complemented with strategies focusing on whole-word recognition and the exploitation of contextual cues for deciphering words (Ehri, 2005, p. 140). By encouraging learners to utilize linguistic context and morphological

knowledge, educators can ensure that their students are equipped to tackle complex phonological patterns not readily discernible from the written form.

Incorporating auditory discrimination activities into the curriculum could be an effective way to improve learners' perception and production of variations in vowel length and unrepresented phonemes. These activities could be listening exercises where learners discern between similar-sounding words or tasks that involve identifying words based on vowel length.

Regarding vowel length, diacritics are a teaching tool despite potential resistance from language purists. Although the standardized spellings generally exclude diacritics, their use in a classroom setting, for example, spelling *rakım* as *râkım*, could help students better comprehend vowel length in Turkish orthography. By doing so, learners could visually associate the diacritic with a long vowel, thereby improving their pronunciation and understanding of such words. This alteration should not pose substantial difficulties, considering that most individuals neglect diacritics even when appropriate.

Moreover, fostering metalinguistic awareness can significantly benefit Turkish language learners. Activities that involve consciously reflecting on the structure of the language and its cognitive processes, such as discussing the rules and exceptions in Turkish orthography, or analyzing the different strategies used to understand a text, could enhance learners' capacity to navigate the intricacies of Turkish orthography.

To facilitate the development of a robust mental lexicon, it is important to expose learners to a diverse range of vocabulary in varying contexts. For example, texts from different genres and interactive activities with varying lexical items can stimulate learners' ability to correctly pronounce and understand words, even when phonological elements are not explicitly represented in Turkish orthography.

In summation, pedagogical strategies for teaching Turkish should ideally be a dynamic blend that integrates elements from both ends of the orthographic depth spectrum. This begins with a strong foundation in phonics-based instruction that gradually transitions to a more holistic approach, accommodating the complex linguistic structures in Turkish. By doing so, educators can effectively address the unique challenges and opportunities presented by an intermediate orthography like Turkish.

Conclusion

This paper has examined the complex interplay of orthography and phonology in language learning, specifically focusing on the Turkish language. Contrary to the traditional view of Turkish as a shallow orthographic language, we have hypothesized that Turkish occupies an intermediate position in the orthographic spectrum. This new vantage point illuminates how orthographic depth informs phonological representation, language acquisition, and the evolution of literacy.

Our scrutiny of Turkish orthography unveils that, while it generally mirrors traits typically associated with shallow orthographies such as a steadfast grapheme-phoneme correspondence, it harbors elements that invite a reevaluation of its orthographic depth. Elements such as irregularities in the portrayal of phonemic vowel length and subtly nuanced phoneme-grapheme interactions suggest that orthographic depth should be viewed more as a spectrum than a stark binary dichotomy. Turkish emerges as a paragon of this intermediate orthographic category.

The ripple effects of this intermediate orthography on phonological representation and language learning are remarkable. It engenders a dexterity in cognitive strategies amongst learners, allowing them to pivot between phonetic decoding and holistic word recognition. This unique oscillation in the acquisition of literacy and the honing of pronunciation skills magnifies the intricate, symbiotic dance between orthography and phonology.

Comprehending these dynamics packs a potent punch for pedagogical practice. A fusion of instructional strategies, drawing from techniques relevant to both shallow and deep orthographies, could prove a potent force for Turkish language instruction. Early stages of literacy teaching can leverage phonics-focused methods, while later phases can swivel towards tactics that foster whole-word recognition and the mining of contextual hints to decode words. This approach might also include the incorporation of auditory discrimination activities and the strategic use of diacritics to enhance students' perception and production of phonological variations not typically represented in Turkish orthography. Furthermore, the cultivation of metalinguistic awareness could enable learners to navigate the unique blend of transparent and opaque linguistic features inherent in Turkish.

In conclusion, this paper underscores the need for a more comprehensive and nuanced understanding of orthographic systems in shaping phonological awareness, literacy acquisition, and language learning. Future research can explore the broader applicability of the insights gained from this analysis of Turkish orthography, potentially informing and enriching language education in a variety of linguistic contexts. As language educators and researchers, it is incumbent upon us to continue questioning established norms, remain open to new perspectives, and continually refine our teaching methodologies in response to our growing understanding of the multifaceted nature of language.

References

Abu-Rabia, S. (2001). The role of vowels in reading Semitic scripts: Data from Arabic and Hebrew. *Reading and   Writing: An Interdisciplinary Journal, 14*(1-2), 39-59.

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. MIT Press.

Altun, H. O. (2010). Düzeltme işareti ve Türkçede yazıldığı gibi okunmayan kelimeler. *Atatürk Üniversitesi Türkiyat Araştırmaları Enstitüsü Dergisi, 17*(43), 167-179.

Aro, M., & Wimmer, H. (2003). Learning to read: English in comparison to six more regular orthographies. *Applied Psycholinguistics, 24*(4), 621-635.

Atasoy, F. O. (2023). Türkçede yabancı kelime, ıstılah ve özel isimlerin imlası. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, (32), 343-357.

Caravolas, M. (2004). Spelling development in alphabetic writing systems: A cross-linguistic perspective. *European Psychologist, 9*(1), 3-14.

Caravolas, M. (2022). Reading and reading disorders in alphabetic orthographies. In M. J. Snowling, C.

Hulme, & K. Nation (Eds.), *The science of reading: A handbook* (pp. 327-353). Blackwell.

Cossu, G., Shankweiler, D., Liberman, I. Y., Katz, L., & Tola, G. (1988). Awareness of phonological segments and reading ability in Italian children. *Applied Psycholinguistics*, *9*(1), 1-16.

Demiriz, H. N., & Okur, A. (2019). Orthographic depth and orthographic depth of Turkish language. *Modern Journal of Language Teaching Methods*, *9*(1), 42-51.

Durgunoğlu, A. Y., & Öney, B. (1999). A cross-linguistic comparison of phonological awareness and word recognition. *Reading and Writing, 11*, 281-299.

Ehri, L. C. (2005). Development of sight word reading: Phases and findings. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 135-154). Blackwell.

Frost, R., Katz, L., & Bentin, S. (1987). Strategies for visual word recognition and orthographical depth: A multilingual comparison. *Journal of Experimental Psychology: Human Perception and Performance, 13*(1), 104-115.

Goswami, U., & Bryant, P. (1990). *Phonological skills and learning to read*. Psychology Press.

İskender, H. (2008). *Vowel-zero alternation in Turkish* [Unpublished master's thesis]. Boğaziçi University.

İskender, H. (2015). *The phonology of Arabic loanwords in Turkish: The case of t-palatalisation* [Unpublished doctoral dissertation]. SOAS, University of London.

İskender, H. (2021). A case of absolute neutralization in Turkish: T-Palatalization and its predictability. *Zemin,* (2), 78-111.

Katz, L., & Frost, R. (1992). The reading process is different for different orthographies: The orthographic depth hypothesis. In R. Frost & L. Katz (Eds.), *Orthography, phonology, morphology, and meaning* (pp. 67-84). Elsevier.

Kaya, M. (2004). Üniversite öğrencilerinin Türkçede yanlış ünlü sesletimleri. *HAYEF Journal of Education, 1*(1), 89-97.

Kenstowicz, M. (1994). *Phonology in generative grammar*. Blackwell.

Ladefoged, P., & Johnson, K. (2015). *A course in phonetics* (7th ed.). Cengage Learning.

Landerl, K., Wimmer, H., & Frith, U. (1997). The impact of orthographic consistency on dyslexia: A German-English comparison. *Cognition*, *63*(3), 315-334.

Öney, B., & Durgunoğlu, A. Y. (1997). Beginning to read in Turkish: A phonologically transparent orthography. *Applied Psycholinguistics, 18*(1), 1-15.

Özsoy, A. S. (2004). *Türkçenin yapısı I: Sesbilim*. Boğaziçi Üniversitesi Yayınevi.

Patel, T. K., Snowling, M. J., & de Jong, P. F. (2004). A cross-linguistic comparison of children learning to read in English and Dutch. *Journal of Educational Psychology, 96*(4), 785-97.

Perfetti, C., & Helder, A. (2022). Progress in reading science: Word identification, comprehension, and universal perspectives. In M. J. Snowling, C. Hulme, & K. Nation (Eds.), *The science of reading: A handbook* (pp. 5-35). Blackwell.

Saiegh-Haddad, E. (2003). Linguistic distance and initial reading acquisition: The case of Arabic diglossia. *Applied Psycholinguistics, 24*(3), 431-51.

Seymour, P. H. K., Aro, M., & Erskine, J. M. (2003). Foundation literacy acquisition in European orthographies. *British Journal of Psychology, 94*(2), 143-174.

Share, D. L. (2008). On the Anglocentricities of current reading research and practice: The perils of overreliance on an 'outlier' orthography. *Psychological Bulletin, 134*(4), 584-615.

Stanovich, K. E. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly, 15*(1), 32-71.

Torppa, M., Georgiou, G. K., Niemi, P., Lerkkanen, M.-K., & Poikkeus, A.-M. (2017). The precursors of double dissociation between reading and spelling in a transparent orthography. *Annals of Dyslexia, 67*, 42-62.

Treiman, R. (1991). Phonological awareness and its roles in learning to read and spell. In D. J. Sawyer & B. J. Fox (Eds.), *Phonological awareness and reading: The evolution of current perspectives* (pp. 159-189). Springer Verlag.

Turgay, T. (2020). *Classifier constructions of Turkish* [Unpublished doctoral dissertation]. Boğaziçi University.

Türk Dil Kurumu. (2021). *Yazım kılavuzu*. Türk Dil Kurumu Yayınları.

Venezky, R. L. (1970). *The structure of English orthography*. De Gruyter Mouton.

Ziegler, J. C., Bertrand, D., Tóth, D., Csépe, V., Reis, A., Faísca, L., Saine, N., Lyytinen, H., Vaessen, A., & Blomert, L. (2010). Orthographic depth and its impact on universal predictors of reading: A cross-language investigation. *Psychological Science, 21*(4), 551-559.