Spelling Reformation – A Systematic Literature Review on Spelling Change in Languages of the World

ABSTRACT

Languages change according to time, both in their spoken and written forms. Many languages in the world have gone through changes in how they are visually represented – from change in the writing system (e.g., logographic, or syllabic, or alphabetic), to change in the script (e.g., Latin, or Arabic, or Cyrillic, or Greek), to change in orthographic system (e.g., deep orthography, or shallow orthography). This systematic literature review (SLR) was conducted to investigate if the Arabic script of Malay, Jawi, a marginalized script among Malaysians, can be reformed to revitalize its popularity among the Malay speech communities. This SLR was conducted on 37 articles that reported spelling reformations in 25 languages of the world. It describes the reasons why there was a need for the 25 languages to reform its spelling system. This SLR then illustrates the different challenges that have taken place to reform the spelling of the respective languages and the factors that contribute to the success of the reformation of spelling systems in other languages. The findings from the SLR suggests a strong possibility of reforming the current Jawi spelling system in the near future so that more speakers of Malay will be able to read the script.

Keywords: *orthographic system, spelling reformation, script, writing system.*

INTRODUCTION

Languages change as time passes by, both in their spoken and written forms (Sebba, 2018). When language change takes place, all aspects of the language tend to change as well, including its speech sounds, sound patterns, word forms, meanings, grammatical structures, usage in different contexts, and writing system. Although language change takes place gradually over hundreds of years, the changes that take place may be so vast that the same language may look like completely different languages if they were to be diachronically compared.

The spelling of the old English, for example, does not resemble how words are spelled today. To illustrate the change, Yule (2019) provides the following example: "The older letters þ (called 'thorn') and ð ('eth') were both replaced by 'th' (as in þu → thou, eorðan → earth), and æ ('ash') simply became 'a' (as in dæg → today) (p. 256). Hence, spelling has been described as "complex and error prone" (van den Boer & de Bree, 2023, p. 1), that its acquisition is a "prolonged process" (van den Ven & de Bree, 2021, p. 369).

Generally, changes in the spoken form of a language take place to ease articulation (e.g., nasal sounds are dropped after a nasalized vowel) and to avoid confusion in homophones (e.g., the word [si:t] (seat) that were used as a noun and a verb in the Old English has been changed to [si:t] and [sɪt] in the Modern English; the former is now used as a noun whereas the latter is used as a verb). To reflect the change in the sound, the written correspondence of each sound also changes (Fromkin et al., 2017). Consequently, any change in the written correspondence of the sound naturally results in change in spelling. For example, the written correspondence for [si:t] and [sɪt] are now spelled as 'seat' and 'sit', respectively, to avoid confusion due to homographic ambiguities.

Some of the sound changes that took place in the past were regular. For example, in the Great Vowel Shift, almost all words containing the high front vowel /u:/, (e.g., /hu:s/, /mu:s/, and /su:θ/ for the words 'hus', 'mūs', and 'sūþ' respectively) changed to the closing diphthong /au/ (e.g., /haus/, /maus/, and /sauθ/ for the words 'house', 'mouse', and 'south' respectively) (Fromkin et al., 2017; Perkins, 1977). Other than change in the vowel quality that consequently

results in the change in the letter of their corresponding sounds, the spelling of certain words may also change as particular phonemes disappear or are added. The disappearance of the Old English voiceless velar fricative phoneme /x/, for example, has changed the spelling of the word 'niht' to 'night' in the Modern English (Wolman, 2009). The sound [v], which was an allophone along with [f] for the voiceless labiodental fricative phoneme /f/, which was written as the letter <f> in the Old English, has now been manifested as the letter <v> in the Modern English spelling.

There has been an increase in studies that investigate spelling system (c.f., 'graphemic system', see Hartmann et al., 2021) due to the fact that spelling system can be investigated from interdisciplinary perspectives – linguistic, cultural, cognitive, sociological, anthropological, and educational perspectives. According to Overmann (2021), from the neurological perspective, understanding how change in the written form helps researchers to understand how our brain develops to "a literate brain from one that is not literate" (p. 57).

Spelling was not really standardized until the 18th century. They used to be more idiosyncratic (Beal 2002). Spelling became more standardized as the printing industry developed. The English spelling system, for example, were influenced by the orthographies of other languages, for example, Greek, Latin, and French (Yule, 2019; McGregor, 2015). The spelling has changed its forms several times till the orthography that we use today – which is complex and irregular (Hevia-Tuero et al., 2022). Many movements to reform the English spelling system have existed, to address issues caused by the irregular English spelling to improve literacy (The English Spelling Society, 2021). According to Beal (2002), "for pronunciation, the best general rule is to consider those as the most elegant speakers who deviate least from the written words" (p. 6). In other words, the spelling of words should reflect the way the words should be articulated; the spelling of words should "imitate spoken language" (Gómez Camacho & Casado Rodrigo, 2016, p. 646).

Change in the spelling system, unfortunately, takes place with much resistance as they are seen as making "old books useless" (Beal, 2002, p. 6) and as being "detrimental" because it results in language users having to learn spelling twice (Gómez Camacho & Casado Rodrigo, 2016, p. 648). Spelling formation is difficult to take place because of "major political obstacles" (Carter, 2006, p. 81).

However, change in spelling is seen as necessary. The English spelling, for example, takes place "to render the orthography of English Language identical with its pronunciation… to establish a perfect orthography of the English language" (Beal 2002, p. 6). The English morpheme spellings, for example, "do not conform to letter-sound correspondence rules" (Nunes et al. 1997, p. 113). Carter (2006), who describes the current English spelling system as "archaic and dysfunctional" (p. 83), says that changes in the English spelling is necessary as many are struggling to read due to the complexity of the English spelling system in addition to other known factors that affect spelling proficiency, such as semantics, frequency, position, and lexicality (Klasen et al., 2024). According to Carter (2006), "because such people have mastered a dysfunctional spelling system several decades ago, and have got used to it, they believe it will not hurt other people to do the same. However, this is being inherently callous of other people's mental welfare" (p. 87). In other words, spelling reformists are those who empathize the struggle novice and slow readers go through in trying to read. Their aim is to fight against the "centres of power behind the dictatorship of the traditional orthography" (Carter, 2006, p. 87).

Malay is a language that is spoken as a native language by the Malays in the Malay Archipelago. This Austronesian language which is the official language of Malaysia, Brunei, Indonesia, and Singapore, is written in the Latin (or Roman script, known as Rumi) and in the Arabic script (known as Jawi) (The 1963/67 National Language Acts, 2006). Unfortunately, in Malaysia, Jawi, is one writing system that experiences a decline in the number of people reading

the script (Murah et al., 2012). Jawi was once the official script of the Malay language – even the British, who colonized the Tanah Melayu (before being known as Malaysia), documented significant events throughout the history of the nation (e.g., the 1874 Pangkor Treaty) in Jawi. Rumi, today, has become the more official script in Malaysia that Jawi now is perceived by the majority of Malaysians as only fitting for religious discourses. In fact, there are some Malaysians who strongly feel that Jawi belongs only to the Muslims that the effort to re-introduce Jawi in the school curriculum is regarded as an act of Islamisation by them (Mohd Salleh, 2019; Osman, 2019). While preserving a national heritage such as an alternative script via day-to-day use is not an issue in countries like Bosnia and Herzegovina, a Muslim country that uses both Latin and Cyrillic scripts in the Bosnian language despite the latter script being widely used in ancient Bosnian bibles, efforts to revive Jawi by making it commonplace in Malaysia and by re-introducing it in the Malaysian education system are not well-received.

Declaring Fridays as "Hari Jawi" ("Jawi Day") beginning July 10th, 2020, is the Malaysian Government's latest effort to uphold the national heritage (Malay Mail, 2020). Unfortunately, despite the multi-million-ringgit efforts to revive Jawi, this Arabic script of the Malay language continues to be marginalized by many Malaysians; a majority still perceive Jawi as only relevant to the 'more conservative'" Malays and is solely appropriate for religious functions (Hasin, 2019; Salehuddin & Jaafar, 2004).

Ideally, the majority of Malaysians should be Rumi-Jawi biscriptals as both scripts are mentioned as the script of the Malay language, i.e., the National Language of Malaysia, in the National Language Act (The 1963/67 National Language Acts 2006). Unfortunately, in reality, the majority of Malaysians are not Rumi-Jawi biscriptals; there is even a great number of Malay-speaking Muslims who cannot read Jawi well despite their ability to recite the Qur'an (which is written in the Arabic script) very fluently (Salehuddin & Winskel, 2015). This is possibly due to the fact that the process of reading Jawi is cognitively more complex than reading Rumi.

The current Jawi spelling system is cognitively more complex than Rumi because psycholinguistically, there is an inconsistent cognitive mapping between the symbols and the sounds each symbol represents; there is a relatively high degree of opacity in reading Jawi; the long list of rules (see *Pedoman Ejaan Jawi Yang Disempurnakan* 1986). For example, on page 20, it is stated that readers must know that the words originate from the Arabic language before they could decide whether to voice the letter "ق" as /k/, or /q/, or /ʔ/, or, to choose the letter "ك", "ق", or "ء" when writing in Jawi. On page 22-23, the rule requires readers to know the origin of the word to decide whether or not to add the vowel letters "ا", or "ي", or "و" in their spelling. All these makes reading Jawi cognitively demanding to readers.

In addition to this, Jawi readers have to consider various conditions when reading Jawi as one Jawi letter may be mapped to multiple Malay speech sounds (e.g., the letter 'wau' <و> represents the vowels /o/ and /u/ as well as the consonant /w/) and that one speech sound may be mapped to multiple Jawi letters (e.g., the vowel /ʌ/ may be represented by the letters 'alif' <ا>, 'hamzah' <ء>, or no letter at all) (*Pedoman Ejaan Jawi Yang Disempurnakan,* 1986). Hence, to read the current Jawi spelling system, readers must also know the meaning of the words and the Jawi spelling rules that come with so many exceptions (e.g., the origin of the word, the number of syllables, etc.) Since Jawi is a cognitively demanding spelling system, many Malaysians resort to avoiding this script in their day-to-day activities (Salehuddin & Jaafar, 2024).

However, to reform an already established Jawi spelling system may not be well-received by many – especially when there have been many efforts to revive this script via campaigns, the social media, etc. However, reform in the Jawi spelling system may be necessary especially when it continues to be seen as unappealing to many (Hasin, 2019; Murah et al., 2012; Salehuddin & Jaafar, 2024). According to Carter (2006), "an inefficient spelling system

in any language slows down and may even halt the process of acquiring literacy in that language" (p. 90). This is probably the case with Jawi – the declining number of Jawi literates should be taken as a strong indication to consider if reformation in the current Jawi spelling system should take place.

Hence, this review was conducted to evaluate if a reform in the current Jawi spelling system is necessary and possible. Specifically, the review was conducted to answer the following research questions:

1. What languages have gone through spelling reformations?
2. Why did spelling reformations in those languages take place? And
3. What kind of challenges that spelling reformers have to face to reform the spelling system and what are the factors that contribute to the success of spelling reformations?

METHODOLOGY

To achieve the above research questions, a Systematic Literature Review (SLR) was conducted. An SLR is defined as a "systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work made by researchers, scholars, and practitioners" (del Amo et al., 2018). The current SLR followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis Guidelines) as proposed by Moher et al. (2010) and adopted the qualitative content analysis approach.

In addition to PRISMA, the current SLR also followed Mengist, Soromessa, and Legese's (2020) PSALSAR framework, with an addition of the first and the last step to the SALSA framework proposed by Grant and Booth (2009). This includes 1) Research Protocol – defining the research scope; 2) Search – defining searching string and types of databases; 3) Appraisal – pre-defining literature inclusion and exclusion, and quality assessment criteria; 4) Synthesis – extracting and categorizing the data; 5) Analysis – narrating the results and finally reach into conclusion, and 6) Reporting results – stating the procedure followed and communicating the result to the public. The steps were taken to "guarantee accuracy, systemization, exhaustiveness, and reproducibility as well as… to reduce risks related to publication bias and to increase acceptability of the work" (Mengist et al., 2020, p. 3). A summary of the framework of this study following the steps adopted from Mengist et al. (2020, p. 3) is presented in Table 1.

Table 1: The frameworks for systematic literature review. Source: Adapted from Mengist et al. (2020: 3)

	Steps	Methods	Outcomes
PSALSAR Framework	Protocol	Only Spelling Change and its various derivations	Defined study scope
	Search	Searching strings	Defined search strategy
		Search Databases	Search studies
	Appraisal	Defining inclusion and exclusion criteria	Selecting Studies
		Quality criteria	Quality assessment of studies
	Synthesis	Extraction template	Extract data
		Categorize the data on the iterative definition and ready it for further analysis work	Categorize the data
	Analysis	Quantitative categories, description, and narrative analysis of the organized data	Data analysis
		Based on the analysis, show the trends, identify gap and result comparison	Result and discussion
		Deriving conclusion and recommendation	Conclusion
	Report	PRISMA methodology	Report writing
		Summarizing the report results for the larger public.	Journal article Production

The following sections describe how each SLR step and method was taken to obtain their outcomes.

STEP 1 – RESEARCH PROTOCOL

To ensure transparency, transferability, and replicability of the work, a Research Protocol was conducted. This, according to Mengist et al. (2020), is important to reduce biasness. To determine the research scope, the PICOC (i.e., Population, Intervention, Comparison, Outcome, and Context) framework by Booth, Sutton, and Papaioannou (2016) was used. For this SLR, PICOC is presented as in Table 2. PICOC can be applied to each SLR steps.

Table 2: SLR research scope based on the application of the PICOC framework to the determined research questions. Source: Adapted from Mengist et al. (2020: 4)

Concept	Definition according to Booth et al.	SLR Application
Population	The research work dealing with a topic	Research work on Spelling Reformation
Intervention	Existing techniques utilized to address the problem identified	Indicate the gaps that need further research work: e.g., *Why did spelling reformation in other languages take place?*
Comparison	Techniques to contrast the intervention used to measure items against each other	Compare and contrast how one study is different from another.
Outcome(s)	Measure to assess the knowledge and gaps mentioned in the selected publications in the studies	Evaluate what each study investigates, its focus, and the sources used to investigate Spelling Reformations
Context	The particular settings or areas of the population	What languages and what countries are involved in the Spelling Reformation, and the reactions by parties.

STEP 2 - SEARCH

This phase consisted of searching strategy and delivery to define the appropriate search string and identify the relevant databases so that relevant documentations can be collected. The number of databases is determined by the nature of the topic selected. Hence, the search string definition was done based on the terminology identified for the population in the SLR application in the PICOC Framework (Table 2). The search string is presented in Table 3 – they revolve around 'spelling change', 'spelling reformation', 'writing system'. The following syntax was used: TITLE-ABS-KEY as additional search engine in combinations of the above keywords like 'Spelling Reform*' OR 'Spelling Change'. Three (3) databases were used, namely Web of Science (WoS) by Clarivate, SCOPUS, and ScienceDirect by Elsevier. All articles were from peer-reviewed journals that were published from the three data sources and the literature searchers were finalized on 1st September 2024.

Table 3: The Search String and Search Terms used to obtain the articles

Databases	Search String and Search Terms		No. of Articles	Acquisition Date
WoS	Main searching terms – using doc title, abstract and keywords	"Spelling Reform*" OR "Spelling Change"	40	1st September 2023
SCOPUS	Main searching terms – using doc title, abstract and keywords	"Spelling Reform*" OR "Spelling Change"	66	1st September 2023
Science Direct	Main searching terms – using doc title, abstract and keywords	"Spelling Reform*" OR "Spelling Reforms" OR "Spelling Reformation" OR "Spelling Change"	53	1st September 2023

The article search was not restricted to any publication dates or durations because Spelling Change is a continuous process that has started a long time ago due to many factors that are unique for each period.

STEP 3 - APPRAISAL

Papers that meet the inclusion criteria were selected for further investigation and assessments on their contents. 'Gray literature' (e.g., reports, policy literature, working papers, speeches, government documents), extended abstracts, presentations, keynotes, review articles, book chapters, and papers written in languages other than English and Malay were omitted. Table 4 summarizes the Inclusion and Exclusion Criteria for this SLR.

Table 4: The study selection of literature using inclusion and exclusion criteria

Criteria	Decision
When the predefined keywords exist as a whole or at least in title, keywords, or abstract section of the paper	Include
The paper published in a peer-reviewed journal	Include
The paper should be written in the English language OR the Malay language	Include
Studies that present pieces of evidence of spelling reformation OR spelling change	Include
The articles address or describes at least ONE language that has gone through at least one spelling change	Inclusion
Papers that are duplicated within the search documents	Exclude
Papers that are not accessible	Exclude

The general screening process and the flow of relevant literature selection are presented in Figure 1. Initially, 627 records were found from all three databases from the Title/Abstract/Keywords used (i.e., 139 from WoS, 202 from SCOPUS, and 286 from ScienceDirect). All 627 records were transferred to a single Database. At this screening stage, 482 works that are considered 'Gray Literature', Conference Proceedings, Book Chapters, and Editorials, including those that are not written in either English or Malay, were removed, leaving 159 articles. Twenty-two articles duplicates were removed, leaving 137 journal articles to be evaluated based on their Titles. The titles of articles were further read, and 55 were excluded. The abstracts of all 82 articles were read, and 42 articles that do not seem to be able to answer the research questions of this SLR were excluded after an agreement between Author 1, Author 2, and Author 3 was met. Out of these 40 articles, three were not accessible and finally, 37 articles were read for the final analysis.
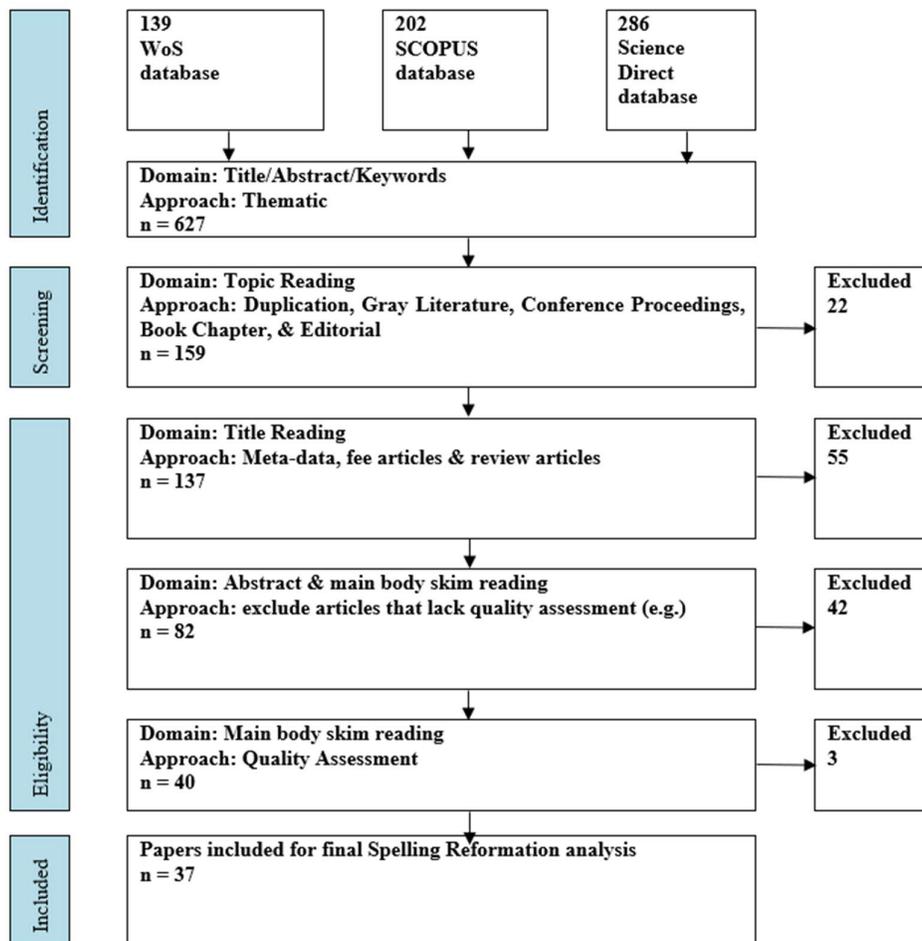
Figure 1: The flow diagram for the database search of publication following (PRISMA flow chart showing the process of article screening and selection process for this systematic review (n = number of articles).

STEP 4 - SYNTHESIS

The synthesis was done by both extracting (identification and extraction of relevant data from selected papers) and classifying the relevant data obtained from the 37 papers selected.

To address the research questions, the information was organized on the general characteristics of the articles, and on specific information like References (e.g., Author Name, Year of Publication, Journals), RQ1, RQ 2, and RQ3. All data related to each selected paper were extracted into an Excel spreadsheet for data processing.

STEP 5 - ANALYSIS

All information gathered was analysed and summarized into the table to achieve all the research questions of this SLR. The presentation of data in one spreadsheet facilitates the process of analysis. Information for each Research Question was categorized under the different themes that emerge from each Research Question.

STEP 6 – REPORT

Results of the analysis are presented according to the three research questions of the current SLR in a very descriptive manner as this is a qualitative study. As such, no statistical data is reported.

RESULTS

RQ1: What are the languages that have gone through spelling reformations?

The current SLR has shown that spelling reformation is indeed a common phenomenon. From the 37 articles selected for this SLR, two of the articles are not relevant; one reports a statistical analysis on students' spelling style, and the other compares and contrasts the different spelling in legal language. From these 35 articles, 25 languages were reported to have gone through spelling reformations. Three are Asian languages, 1 Asia-Pacific language, 1 African language, and the rest are English and European languages. The languages (in alphabetical order) are as follows:

1. Breton (an endangered language): Hewit (2017)
2. Bulgarian: Gochev (2018)
3. Cameroon 1980: Bird (2001)
4. Chinese 1977: Bunčić (2017)
5. Croatian 1994-2013: Stojanov (2021)
6. Czech 1918: Salzmann (1980); Bunčić (2017)
7. Dutch: Jacobs (1997)
8. English: Beal (2002); Beal (2016); Bunčić (2017); Carter (2006); Davidson; (1999); Garvía (2018), Howard-Hill (2006); Jones (2001); Ma (2022 – Tudor English); Ogren (2017 – American English); Thompson (1982 – Mormons in American English)
9. French 1990 – Humphries (2019); Bunčić (2017); Tebaldi (2020)
10. German 1995: Bunčić (2017); Garvía (2018 – also reported German's 1886 reform); Johnson (2002); Garvía (2018 – also reported 1886 reform); McLelland (2009); Voeste (2007); Weth & Bunčić (2020 – in Asbau Languages)
11. Greek: Bunčić (2017)
12. Italian: Presutti (2021)
13. Japanese: Bentley (2002)
14. Korean: Kim (2017)
15. Latin: Bunčić (2017)
16. Montenegrin: Tyran (2023)
17. Palau: Imamura (2018)
18. Portuguese: Zúquete (2008)
19. Romanian: Presutti (2021)
20. Russian: Bunčić (2017), Garvía (2018)
21. Slovak 1931: Salzmann (1980)
22. Slovenian: Bunčić (2017)
23. Spanish: Presutti (2021); Reyes (2013); Villa (2015)
24. Ukraine 1930: Horbyk & Palko (2017); Karunyk (2017)
25. Uzbek: Bunčić (2017)

Some of the articles reported that spelling reformation of particular languages have taken place many times and in different stages. Apart from the English language, Russian (Bunčić, 2017; Garvía, 2018), German (e.g., McLelland, 2009; Voeste, 2007), and French (e.g., Humphries, 2019; Tebaldi, 2020) are among the languages that have gone through spelling reformations more than once and in different eras. Although the most recent spelling reformations reported are Dutch in 2005, Swedish in 2006 (McLelland, 2009), and French in 2016 (Tebaldi, 2020), there are currently many movements that are actively proposing change in the spelling system in their respective languages. Eastern Cham (Brunelle, 2008) and Palauan (Imamura 2018) are two other languages that are still going through spelling reformation.

Although English spelling may seem to be a 'stable' spelling system since it has not been systematically modernized for 1,000 years (Davidson, 1999), many organizations (e.g., Simplified Spelling Board in the US; Simplified Spelling Society in the British islands) (Garvía, 2018) and individuals such as Benjamin Franklin, Mark Twain, and Sir Arthur Conan Doyle (Ogren, 2017) had proposed reformations in the English spelling and this proposition is still on-going till today.

RQ2. Why did spelling reformations in those languages take place?

Spelling reformations in many languages of the world have taken place due to several reasons. The current SLR has identified two (2) key themes that motivate spelling reformations, and they are further described in the following subsections.

IDENTITY

Identity is one of the most common factors that leads to spelling reformation. One of the most common steps taken by the governments of newly-independent countries, or countries that had just gone through a civil war, or a revolution, is to either change their scripts (e.g., Turkish, from Arabic to Latin, see Beal 2002), or their spelling system. This SLR has found eight languages that had gone through spelling reformations that are motivated by identity. Palauan, a language in the Asia Pacific, has changed (and is still changing) its spelling system to demonstrate a national identity and their ability not to be dependent on other languages (Imamura, 2018). The same reason is reported to have taken place for Korean (Kim, 2017), Croatian (Stojanov, 2021), Montenegrin (Tyran, 2023), Ukraine (Gochev, 2018), Spanish (Villa, 2015), Portuguese (Zúquete, 2008), and Cameroon (Bird, 2001).

Korean, for example, have two different sets of Han'gŭl; one used by the South Koreans to represent the Kyŏnggi dialect and the other used by the North Koreans to represent the P'yŏngan dialect soon after the 1950 Korean war (Kim, 2017). Spelling reformation has also taken place in Croatian, Montenegrin, and Serbian, after the 1990 Balkan war. According to Tyran (2023), spelling reformation in Montenegrin is "strongly connected to ideological and political standpoints" (p. 142) due to the need to emphasize the dissimilarities between the newly-independent countries. They believe that the new spelling can function as a "a stylistic marker of exclusion from Serbian linguistic appropriation and a forced emphasis of Montenegrin autonomy" (p. 142).

While the above-mentioned languages went through spelling reformations to form their own identities, some languages reformed their language to associate themselves with languages that are spoken within the same community. Cameroonian languages, for example, have gone through reformations in their spelling to have one Cameroonian spelling system that can be read by all Cameroonian language speakers, regardless of whether they understand each other or not (Bird, 2001). The 1918 Czech and 1931 Slovak spelling reformation took place as an effort to prevent their literary languages from drifting apart, as both nations had a politically close relationship between one and the other (Salzmann, 1980). The 2006 Swedish spelling reformation which results in the use of <w> as a separate letter from <v> has made the Swedish spelling system more similar to the international practice (McLelland, 2009).

LITERACY

According to Garvía (2018), one of the reasons why English, French, and German went through transformations is to enable illiterate children and adults to acquire reading and writing skills more easily so as to reduce illiteracy. This in turn will help improve "symbolic social mobility" and "remove social barriers" (Garvía, 2018, p. 288). The spelling of English, for example, has been described as being too dependent on memory (Thompson, 1982); and French, on the other

hand, as having too many 'anomalies'; removing the anomalies is one way to improve the literacy rate among learners.

Most of the articles reviewed in this SLR have suggested the simplification of spelling to foster literacy. Villa (2015), for example, suggests that simplifying the spelling system of Spanish can "save time and effort to acquire one of the most precious gifts in life, which is to know how to read and write" (p. 234). Ogren (2017), in her article on English spelling reformation says that "memorizing illogical spellings and reciting them wasted students' time and detracted from real learning" (p. 349); this is why many individuals and organizations have proposed the reformation of the American English spelling system. Since reformation can save time and money, the acquisition of elementary-level knowledge among students in America can be shortened by two years (Ogren 2017). The spelling system of German was reformed in 1996 "to reduce the overall number of rules for spelling and punctuation, and to eliminate some of the more general inconsistencies and errors that had arisen over time" (Johnson, 2002 p. 555). The change in other German-speaking countries also has made spelling accessible to all children and has enabled adults to avoid uncertainty when spelling (McLelland 2009).

One of the ways to simplify the spelling system is to make it more phonemic. This has helped children in Vietnam to learn Eastern Cham through formal instructions (Brunelle, 2008). The act of making spelling system be more phonemic echoes Davidson's (1999) claim that "A true alphabet is a writing system in which each consonant and each vowel is represented by a symbol" (p. 5). Russian (Bunčić, 2017), is one example that went through spelling reformation to abolish "superfluous" letters; Ukrainian has also gone through spelling reformation with a strong belief that "each sound (phoneme) must have a separate letter in the alphabet" based on phonetic principle (Karunyk 2017, p. 196). According to Beal (2002), the current English spelling system should be reformed because many of the English language users feel that its spelling has too many "superfluous letters" that are "highly eccentric and impracticable" (p. 21). The fact that one symbol is used to represent more than one sound and that many symbols are used to represent one sound complicate readers. Beal (2002) adds that the use of one symbol to represent one sound, (i.e., "one phoneme – one grapheme" as mentioned in Imamura (2018), will facilitate readers in their reading (c.f. Bracknell et al. 2022 on their Nyungar language revitalisation project).

Spelling reformation has been found to have taken place also because of how pronunciation has changed in the spoken discourse of certain languages. Just like the change in the English language after the Great Vowel Shift (1977), Greek has now abolished certain diacritics in their spelling system (Bunčić, 2017) as they are found to be no longer relevant with the Modern Greek pronunciation. This shows that removing the mismatch between the sound each symbol carries can simplify the spelling of various languages of the world, which in turn, can increase the literacy rate of the languages.

RQ3. What kind of challenges that spelling reformers have to face to reform the spelling system and what are the factors that contribute to the success of spelling reformation in other languages?

PRESERVATION

Identity is one of the most common factors that leads to spelling reformation. One of the most common steps taken by the governments of newly-independent countries, or countries that had just gone through a civil war, or a revolution, is to either change their scripts (e.g., Turkish, from Arabic to Latin, see Beal, 2002), or their spelling system. This SLR has found eight languages that had gone through spelling reformations that are motivated by identity. Palauan, a language in the Asia Pacific, has changed (and is still changing) its spelling system to demonstrate a national identity and their ability not to be dependent on other languages

(Imamura, 2018). The same reason is reported to have taken place in Korean (Kim, 2017), Croatian (Stojanov, 2021), Montenegrin (Tyran, 2023), Ukraine (Gochev, 2018), Spanish (Villa, 2015), Portuguese (Zúquete, 2008), and Cameroon (Bird, 2001). One of the strongest arguments given by those who oppose reformations in the spelling system is the need to protect the 'purity' of their languages. The purists, as they are called by spelling reformers, argue for the need to ensure that their language is preserved through its written documents. According to Humphries (2019), the change in the 1990 French spelling system received strong resistance from the purists based on aesthetic and nationhood reasons. To the purists, changes in the spelling system "contaminate" the purity of their language and are seen as leading the French language to an eventual decline. The purists even equate the 1990 French spelling system reformation with language decline into "mediocrity", and regard such a reformation as an act of lowering the values of French (Humphries 2019, p. 13).

The same is experienced by German. McLelland (2009) describes the purists as linguistic nationalist who did not accept development because of their strong belief in preserving the language form or eliminating "putative" foreign or undesirable elements (p. 95). Spelling change in German-speaking countries is rejected by some for fear of alienation (McLelland, 2009). To them, the change in the spelling system increases the distance from other languages like Norwegian and Swedish. Yet, the change actually brings their language closer to other Nordic languages (McLelland, 2009). Brunelle (2008) reported that the resistance in the spelling reformation of Eastern Charm was done via the sentiment that old is sacred and must not be modified. The same argument was reported in Jacobs (1997) when change was proposed in the orthodox orthography of Dutch. Similarly, the 2010 Spanish spelling reformation was opposed by the purists for the following reasons: aesthetic, sentimental, historical, identity, "deterioration of the language" (Reyes, 2013).

RELEARNING DIFFICULTY
The other common argument against spelling reformation is the problem of having to relearn a new set of spelling. Spence's 18th century English spelling reformation received many challenges from the public because it was deemed as being "too radical" that fluent readers will have to go through "too much trouble to learn it" (Beal, 2016, p. 9). The same argument was reported by Brunelle (2008) on Eastern Cham spelling reformation and by Bird (2001), when Cameroon started to reform their languages in 1980. The spelling reformation of these languages was described as being too radical by those who already know or are already fluent in reading the pre-reformed spelling. According to Johnson (2002), some speakers of German opposed the 1996 German spelling reformation because they were not willing to change a "previously acquired system that are already stored in their 'mental lexicon'" (p. 558). Teaching the new system, especially during the time when dictation was still common in the community, is a frustrating and time-consuming effort to the teachers. However, spelling reformations on a language that is widely spoken internationally like English, are likely to face major political obstacles especially because of the fact that such a change may be difficult to be coordinated at the international level (Carter, 2006).

LACK OF SUPPORT
The success of any spelling reformation is dependent on the support it gets from the government of the countries in which the spelling reformation is proposed. One of the reasons why Ukrainian's 1930 spelling reformation was not successful was due to the lack of governmental interest in standardizing the newly formed written language; the reformed spelling was non-existent in the school system (Horbyk & Palko, 2017) due to economic reasons. Spelling reformation, according to McLelland (2009) and Jacobs (1997), involves a lot of money as it means additional costs in printing dictionaries, textbooks etc. To the Spanish people who were

against the 2010 Spanish spelling reformations, change in their spelling system affect their propriety rights (Reyes, 2013).

The community also plays a role in the success of spelling reformations. Although the majority of Palau speakers support the change in their spelling system, the older generations resisted it (Imamura, 2018). Dutch spelling reformation was strongly opposed by professionals, who gave "fierce resistance" (Jacob, 1997, p. 104) to the change, to defend their own interest. The 1990 French spelling reformation was not well accepted by the media and their speech community (Humphries, 2019). The subsequent 2016 French spelling reformation also was strongly opposed by the community as it took place during "a time of conflict over national identity, immigration and the assimilation of French people with migrant backgrounds, made more salient both by the 2015 Islamic terrorist attack" (Tebaldi, 2020, p. 17). What made it worse is the fact that the then Minister of Education was a female of the North African heritage. As the white French speakers see the circumflex as a symbol of French identity and French linguistic purity, the removal of the circumflex was regarded as a "conspiracy theory" that white French people are being replaced by immigrants (Tebaldi, 2020, p. 23).

For the Spanish purists, their protest against the reform made by the Royal Spanish Academy was based on the argument that "serious damage that can be done by the misunderstanding caused by an impure orthography in important documents" (Villa, 2015, p. 234). The American English spelling reformation proposed by the Mormons, although was initially well received by the Mormon community, was declined as the community began to feel that the reformed spelling actually "isolate the local population from the rest of the English-speaking world" (Thompson, 1982, p. 55).

However, not everyone in the speech communities mentioned above were against the spelling reformation of their respective languages. Among the Dutch, more support was given for the simplification of the spelling system by the older generation; the professionals were only against the overly radical changes but were in favor of a more consistent Dutch spelling system (Jacobs, 1997). Some of the German speakers gave their support to the German spelling reformation. They believe that the pre-reform spelling may socially marginalize those who had difficulty to spell well (Johnson, 2002). Some Spanish speakers also gave their full support to the 2010 Spanish spelling reformation simply because they have respect for the institution and the logic behind the reformation (Reyes, 2013).

MITIGATING THE CHALLENGES
The success of spelling reformation in any language is actually dependent on the support from the government. Since spelling reformations do not happen overnight, they can be planned based on political decisions and administrative proceedings, via research institutes, academics, schools, and universities (Voeste, 2007). History has shown that spelling reformation is most successful when the reform occurs during periods of political and social change (Brunelle, 2008). The 1990 French spelling reformation, for example, took 26 years (i.e., in 2019) to reform before it is used in school textbooks (Humphries, 2019), despite the fact that their Ministry of National Education had announced official recognition in the reformed spelling in 2007.

According to Carter (2006), four stages are needed to ensure that reformation can take place successfully, beginning with 1) analysis of the issues, 2) persuasion, education, and publicity campaigns, 3) negotiations and agreement by various parties, and 4) implementation through newspapers and magazines, and book reprints.

Once the implementation has taken place, teachers should be the "main promoters" of reform (Ogren, 2017, p. 359). This, however, should be done in a non-radical way. For example, although the German spelling reformation has taken place, the old orthography is not regarded as wrong; it is only regarded as "outdated" (Johnson, 2002, p. 570). German speakers are free

to use whatever spelling they wish outside the school and other official settings. Similarly, although the official spelling of Croation has changed, the majority of its speakers "will always write in the same way" (Stojanov, 2021, p. 112).

DISCUSSION AND CONCLUSION

The current Systematic Literature Review has shown that spelling change is a common sociolinguistic phenomenon (Stojanov, 2021). The spelling system of many languages are perpetually changing because they are constantly in the need of "regulation by experts who would determine the most logical and concise form for each word" (Ogren, 2017, p. 335). This supports Zúquete's (2008) claim that change in language is a normal process and that "we should stop seeing it as decay and deterioration" (p. 504). Crystal (2004, p. 130) had earlier said that "language change is inevitable, continuous, universal, and multidirectional. Languages do not get better or worse when they change. They just change" (p. 504). In fact, "Spelling reform can be regarded as one of humankind's greatest social inventions" (Carter, 2006, p. 99).

The current SLR was conducted to evaluate if a reform in the current Jawi spelling system is necessary and possible. Although the inability to read Jawi does not lead to illiteracy and neither will affect "symbolic social mobility" or "social barriers" (Garvía, 2018, p. 288), the declining number of those who can read Jawi can lead to the demise of Jawi. Based on the research questions of this SLR, a reform in the current Jawi spelling system is indeed necessary and possible.

Although Jawi purists may argue that being a national heritage, the current Jawi spelling system should be preserved, the approach taken by Eastern Cham (see Brunelle, 2008) should be adopted. A balance between preservation of a spelling system and its revitalization must be present. In fact, one must be willing to reform in order to revitalize. Although a reform may appear to signify losing important ethnocultural symbols, such a reformation can actually save more than just being a national heritage. Therefore, the effort to reform the current Jawi spelling system should be seen as an act of revitalizing the Arabic script of Malay, rather than an act of decaying the script.

As Jawi continues to be marginalized even by its own speech community because of its cognitive complexity, steps to reduce its complexity should be taken. Since, according to Hewitt (2017, p. 191), "a good orthography for any language, whether endangered or not would have a relatively straightforward grapheme-to-phoneme mapping", Jawi can use this approach to make it more appealing to its speech community, and increase the number of Rumi-Jawi illiterates.

For spelling reformation to take place, the change must be sound, practical, and acceptable, and has to be "logical and easy to understand and apply" (Carter, 2006, p. 85). "An inefficient spelling system in any language slows down and may even halt the process of acquiring literacy in that language" (Carter, 2006, p. 90). Carter's (2006) four (4) stages of spelling reformation can be adopted in Jawi. The issue of why Jawi is marginalized by its own speech community and that it needs to be reformed can be investigated scientifically through psycholinguistic experiments, not only to justify the fact that the current Jawi spelling system is difficult, but also to propose a possible solution on how the spelling system can be improved.

The benefit and cost of reform, and the overall desirability of reform should also be analysed. Analysis of results of the study can be shared with the authority, through the Dewan Bahasa dan Pustaka, the government body responsible for coordinating the use of the Malay language, to persuade the government and other influential groups regarding the serious need to reform the spelling system of Jawi. This includes educating the public, particularly linguists, on the importance to reform the current Jawi spelling system in order to revitalize it. Publicity campaigns are much needed at this stage as, although change in the spelling system is

inevitable, there will always be resistance. This is then followed by negotiations and agreements between various parties on what is the best way to spell Malay words in Jawi, including those involving loan words. When these three stages are done, the new Jawi spelling system can be implemented through various means, for example, via newspapers, magazines, and reprints of documents with Jawi spelling. Of course, to revitalise, the teaching of the new Jawi spelling system has to be done formally in classrooms.

   Reformation of the current Jawi spelling system is necessary to ensure the sustainability of Jawi, so that it will again be a script that can be read by most Malaysians. To revitalize, one needs to reform.

ACKNOWLEDGEMENT

REFERENCES

*Beal, J. C. (2002). 'Out in left field': Spelling reformers of the eighteenth century. *Transactions of the Philological Society, 100*(1), 5-23. https://doi.org/10.1111/1467-968X.00089 (accessed 5 July 2024)

*Beal, J. C. (2016). A radical plan for the English language: Thomas Spence's "New Alphabet". *MIRANDA – Multidisciplinary peer-reviewed journal on the English-speaking world, 13*, 1-15. https://doi.org/10.4000/miranda.9244 (accessed 5 July 2024)

*Bentley, J. R. (2002). The spelling of /mo/ in old Japanese. *Journal of East Asian Linguistics, 11*(4), 349-374. https://doi.org/10.1023/A:1019911300589 (accessed 5 July 2024)

*Bird, S. (2001). Orthography and identity in Cameroon. *Written Language and Literacy, 4*(2), https://doi.org/10.1075/wll.4.2.02bir (accessed 5 July 2024)

Booth, A., Martyn-St James, M. C., & Sutton, A. (2016). Systematic Approaches to a Successful Literature Review. *SAGE*, 1-336.

Bracknell, C., Budrikis, A., & Winmar, R. Y. (2022). Maya-kwobabiny: Re-embedding language at Kepa Kurl, Western Australia. *Language Documentation & Conservation, 16*, 319-340. http://hdl.handle.net/10125/74682 (accessed 5 July 2024)

*Brunelle, M. (2008). Diglossia, Bilingualism, and the Revitalization of Written Eastern Cham. *Language Documentation and Conservation, 2*(1), 28-46.

*Bunčić, D. (2017). Factors Influencing the Success and Failure of Writing Reforms. *Studi Slavistici, 14*(1), 21-46. https://doi.org/10.13128/Studi_Slavis-21937 (accessed 5 July 2024)

*Carter, J. B. (2006). English spelling reform. *Prometheus (United Kingdom), 24*(1), 81-100. https://doi.org/10.1080/08109020600563952 (accessed 5 July 2024)

*Davidson, K. (1999). Breaking the spell. *English Today, 15*(3), 3-11. https://doi.org/10.1017/S0266078400011032 (accessed 5 July 2024)

Del Amo, I. F., Erkoyuncu, J. K., Roy, R., Palmarini, R. & Onoufriou, D. (2018). A systematic review of Augmented Reality content-related techniques for knowledge transfer in maintenance applications. *Computers in Industry, 103*, 47-71. https://doi.org/10.1016/j.compind.2018.08.007 (accessed 5 July 2024)

Fromkin, V., Rodman, R., Hyams, N. M., Amberber, M., Cox., F., & Thornton, R. (2017). *An Introduction to Language*. 11th Edition. Australia: Cengage

*Garvía, R. (2018). Spelling reformers and artificial language advocates: A shifting relation. *Language Problems and Language Planning, 41*(3), 287-303. https://doi.org/10.1075/lplp.00007.gar (accessed 5 July 2024)

*Gochev, G. (2018). The Babylonian tower of communism politics of Bulgarian authorities towards language, 1944-1947. *Balkanistic Forum, 1*, 53-62.

Gómez Camacho, A. & Rodrigo, J. C. (2016). Literacy Education and Orthography in the Spanish Golden Age, 1531-1631. *Paedagogica Historica: International Journal of the History of Education, 52*(6), 646-660.

Grant, M. J. & Booth, A. (2009). A Typology of Reviews: An Analysis of 14 Review Types and Associated Methodologies. *Health Information & Libraries Journal, 26*, 91-108. http://dx.doi.org/10.1111/j.1471-1842.209.00848.x (accessed 5 July 2024)

Hartmann, S., Nowak, J., & Szczepaniak, R. (2021). The evolution of writing systems: Introduction to the special issue. *Zeitschrift für Sprachwissenschaft, 40*(3), 253-256 https://doi.org/10.1515/zfs-2021-2048 (accessed 5 July 2024)

Hasin, A. M. (2019, August 17). Tulisan Jawi warisan Melayu Islam. *Harakahdaily*. Retrieved July 5, 2020, from https://harakahdaily.net/index.php/2019/08/17/tulisan-jawi-warisan-melayu-islam/#:~:text=Tulisan%20Jawi%20adalah%20tulisan%20Melayu,dan%20seterusnya%20mempraktikkannya%20dalam%20kehidupan.

Hevia-Tuero, C., Russak, S., & Suárez-Coalla, P. (2022). Spelling errors by Spanish children when writing in English as a foreign language. *Reading and Writing, 36*, 1797-1820. https://doi.org/10.1007/s11145-022-10356-5 (accessed 5 July 2024)

*Hewitt, S. (2017). Breton orthographies: An increasingly awkward fit. *Creating Orthographies for Endangered Languages*. 190-234. https://doi.org/10.1017/9781316562949.011 (accessed 5 July 2024)

*Horbyk, R., & Palko, O. (2017). Righting the Writing. The Power Dynamic of Soviet Ukraine Language Policies and Reforms in the 1920s-1930s. *Studi Slavistici XIV*, 67-89. https://doi.org/10.13128/Studi_Slavis-21939 (accessed 5 July 2024)

*Howard-Hill, T. H. (2006). Early modern printers and the standardization of English spelling. *Modern Language Review, 101*(1), 16-29.

*Humphries, E. (2019). #JeSuisCirconflexe: The French spelling reform of 1990 and 2016 reactions. *Journal of French Language Studies, 29*(3), 305-321. https://doi.org/10.1017/S0959269518000285 (accessed 5 July 2024)

*Imamura, K. (2017). The Pursuit of Insular Authenticity: The Spelling Reform of Loan Words in Palauan. *Shima, 12*(1): 118-127.

*Jacobs, D. (1997). Alliance and betrayal in the Dutch orthography debate. *Language Problems and Language Planning, 21*(2), 103-118. https://doi.org/10.1075/lplp.21.2.01jac (accessed 5 July 2024)

*Johnson, S. (2002). On the origin of linguistic norms: Orthography, ideology and the first constitutional challenge to the 1996 reform of German. *Language in Society, 31*(4), 549-576. https://doi.org/10.1017/S0047404502314039 (accessed 5 July 2024)

*Jones, C. (2001). John Wild of Littleleek, an early eighteenth-century spelling reformer, and the evolution of a new alphabet. *English Language and Linguistics, 5*(1), 17-40. https://doi.org/10.1017/s1360674301000120 (accessed 5 July 2024)

*Karunyk, K. (2017). The Ukrainian Spelling Reforms, Half-Reforms, Non-Reforms and Anti-Reforms as Manifestation of the Soviet Language Policy. *Studi Slavistici, 14*(1), 91-110. https://doi.org/10.13128/Studi_Slavis-21940 (accessed 5 July 2024)

*Kim, M. (2017). The han'gǔl crisis and language standardization: Clashing orthographic identities and the politics of cultural construction. *Journal of Korean Studies, 22*(1), 5-31. https://doi.org/10.1353/jks.2017.0001 (accessed 5 July 2024)

Klasen, L., Ugen, S., Dording, C., Fayol, M., & Weth, C. (2024). Do learners need semantics to spell syntactic markers? Plural spellings in real vs. pseudowords in a French L2

setting. *Reading and Writing, 37*, 129-145. https://doi.org/10.1007/s11145-023-10422-6 (accessed 5 July 2024)

*Ma, A. J. 2022. Spelling reform in Tudor England: dialogues, debates and political frames. *Language and History, 65*(3), 165-183. https://doi.org/10.1080/17597536.2022.2121123 (accessed 5 July 2024)

Malay Mail. (2020, July 10). Fridays now declared 'Jawi Day' effective today, says minister Zulkifli. Retrieved August 1, 2021 from https://www.malaymail.com/news/malaysia/2020/07/10/fridays-now-declared-jawi-day-effective-today-says-minister-zulkifli/1883213

McGregor, W. B. (2015). *Linguistics: An Introduction*. Second Edition. Bloomsbury.

*McLelland, N. (2009). Linguistic Purism, Protectionism, and Nationalism in the Germanic Languages Today. *Journal of Germanic Linguistics, 21*(2), 93-112. https://doi.org/10.1017/S1470542709000208 (accessed 5 July 2024)

Mengist, W., Soromessa, T. & Legese, G. (2020). Method for conducting systematic literature review and meta-analysis for environmental science research. *MethodsX, 19*, 7:100777. https://doi.org/10.1016/j.mex.2019.100777 (accessed 5 July 2024)

Mohd. Salleh, N. H. (2019, December 19). Takutkan Islamisasi punca Jawi ditolak, kata Dong Zong. Free Malaysia Today. Retrieved May 31, 2020, from https://www.freemalaysiatoday.com/category/bahasa/2019/12/26/takutkan-islamisasi-punca- tulisan-jawi-ditolak-kata-dong-zong/

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The Prisma Group. (2010). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *International Journal of Surgery, 8*(5), 336-341. https://doi.org/10.1016/j.ijsu.2010.02.007 (accessed 5 July 2024)

Murah, M. Z., Abdul Rahman, H., & Omar, K. (2012). Penulisan Jawi di komputer dan internet: Isu dan cabaran. Prosiding Seminar Penyelidikan Jawi & Manuskrip Melayu: Mengenali Jati Diri Bangsa Melalui Tulisan Jawi / UiTM Shah Alam. 106- 113.

National Language Acts (1963/1967). (2006). *Laws of Malaysia 32*. Retrieved March 22, 2023 from https://www.lawyerment.com/library/legislation/acts/1963/32/cite/?s=2.

Nunes, T., Bryant, P. & Bindman, M. (1997). Learning to spell regular and irregular verbs. *Reading and Writing: An Interdisciplinary Journal, 9*, 427-449.

*Ogren, C. A. (2017). Complexities of efficieny refom: The case of simplified spelling, 1876-1921. *History of Education Quarterly, 57*(3), 334-368. https://doi.org/10.1017/heq.2017.15 (accessed 5 July 2024)

Osman, M. A. (2019, December 26). Takut Islamisasi punca penolakan tulisan Jawi – Dong Zong. *Malaysia Gazzette*. Retrieved May 31, 2020, from https://malaysiagazette.com/2019/12/26/takut-islamisasi-punca-penolakan-tulisan-jawi-dong-zong/

Overmann, K. A. (2021). A cognitive archaeology of writing: Concepts, models, goals. In P. Boyes, P. Steele, & N. E. Astoreca (eds.). *The social and cultural contexts of historic writing practices*. 55-72. Oxbow.

Pedoman Ejaan Jawi Yang Disempurnakan. (1986). Kuala Lumpur: Dewan Bahasa dan Pustaka.

Perkins, J. (1977). A Sociolinguistic Glance at the Great Vowel Shift of English, Ohio State University *Working Papers in Linguistics, 22*, 123-151.

*Presutti, S. (2021). The development of Latin alphabet identity markers: A comparison among three Roman graphemes. *Lingua, 259*(1), 103-118. https://doi.org/10.1016/j.lingua.2021.103118 (accessed 5 July 2024)

McConville, S. (2020). Why do so many people think Middle English is Old English. Quora. Retrieved June 2, 2022, from https://www.quora.com/Why-do-so-many-people-think-Middle-English-is-old-English

*Reyes, A. (2013). Complexities of efficiency reform: The case of simplified spelling, 1876-1921. *Current Issues in Language Planning, 14*(2), 337-357. https://doi.org/10.1080/14664208.2013.812946 (accessed 5 July 2024)

Richards, M., Jones, C., Merlan, F., & MacRitchie, J. (2019). Revitalisation of Mangarrayi: Supporting community use of archival audio exemplars for creation of language learning resources. *Language Documentation & Conservation, 13*, 253-280. http://hdl.handle.net/10125/24865 (accessed 5 July 2024)

Salehuddin, K., & Winskel, H. (2015). Experimenting different Jawi spelling conditions to gauge their cognitive complexity. *GEMA Online® Journal of Language Studies, 15*(2), 51-63.

Salehuddin, K., & Jaafar, N. M. (2024). Reformasi Jawi untuk Revitalisasi Jawi: Satu Kertas Konsep. *GEMA Online® Journal of Language Studies, 24*(2), 117-135. http://doi.org/10.17576/gema-2024-2402-07 (accessed 5 July 2024)

*Salzmann, Z. (1980). Language standardization in a bilingual state: The case of czech and slovak, two closely cognate languages. *Language Problems and Language Planning, 4*(1), 38-54. https://doi.org/10.1075/lplp.4.1.03sal (accessed 5 July 2024)

Sebba, M. (2018). Scripts, Spelling, and Identity. *Brown Journal of World Affairs, 25*(1), 7- 20.

*Stojanov, T. (2021). The acceptance of spelling variants as symbols of Croatian spelling changes (1994-2013). *Written Language and Literacy, 24*(1), 110-148. https://doi.org/10.1075/wll.00049.sto (accessed 5 July 2024)

*Tebaldi, C. (2020). "#Jesuissircornflakes": Racialization and resemiotization in French nationalist twitter. *International Journal of the Sociology of Language*, 9-32. https://doi.org/10.1515/ijsl-2020-2101 (accessed 5 July 2024)

The English Spelling Society. (2021). The English Spelling Society. "Our Aims." Retrieved March 25, 2022, from http://spellingsociety.org/our-aims

*Thompson, R. M. (1982). Language planning in frontier America: The case of the deseret alphabet. *Language Problems and Language Planning, 6*(1), 45-62. https://doi.org/10.1075/lplp.6.1.03tho (accessed 5 July 2024)

*Tyran, K. (2023). Indicating ideology: Variation of Montenegrin orthography. *Language & Communication, 88*, 41-51. https://doi.org/10.1016/j.langcom.2022.10.004 (accessed 5 July 2024)

van den Boer, M., & de Bree, E. H. (2024). To Show or Tell: Improving the Spelling of Rule-Based Words with Explicit or Implicit Practice. *Scientific Studies of Reading*, 28(3), 1-18. http://doi.org/10.1080/10888438.2023.2283636 (accessed 5 July 2024)

van der V. S. & de Bree, E. H. (2019). Variation is the Spice of Spelling: The Effect of Implicit Cues on Dutch Past Tense Spelling is Dependent on Age, Literacy, and Task Format. *Scientific Studies of Reading, 23*(5), 369-385. https://www.tandfonline.com/doi/epdf/10.1080/10888438.2019.1579217?needAccess=true (accessed 5 July 2024)

*Villa, L. (2015). Official orthographies, spelling debates and nation-building projects after the fall of the Spanish Empire. *Written Language and Literacy, 18*(2), 228-247. https://doi.org/10.1075/wll.18.2.03vil (accessed 5 July 2024)

*Voeste, A. (2007). Traveling through the lexicon: "Self-organized" spelling changes. *Written Language and Literacy, 10*(2), 89-102. https://doi.org/10.1075/wll.10.2.08voe (accessed 5 July 2024)

*Weth, C., & Bunčić, D. (2020). Foreign schriftdenken in ausbau languages: Luxembourgish and Rusyn orthographies in multiple language contact. *Written Language and Literacy, 23*(2), 289-312. https://doi.org/10.1075/wll.00045.wet (accessed 5 July 2024)

Wolman, D. (2009). *Righting the mother tongue: From Olde English to Email, the tangled story of English Spelling*. HarperCollins.

Yule, G. (2019). *The Study of Language*. (Sixth Edition). Cambridge: Cambridge University Press.

*Zúquete, J. P. (2008). Beyond reform: The orthographic accord and the future of the Portuguese language. *South European Society and Politics, 13*(4), 495-506. https://doi.org/10.1080/13608740902738418 (accessed 5 July 2024)

REFERENCES

References are to be put onto a **new page**. Please format your references in APA style and sort them from A-Z, no need to categorise in groups. Example:

Cloete, F., & Meyer, I. (1994). *Policy agenda setting: The title must be in italic.* Van Schaik Publishers.

Devega, E. (2017, October 10). Teknologi masyarakat Indonesia: Malas baca tapi cerewet di Medsos. *Kominfo*. https://www.kominfo.go.id/content/detail/10862/teknologi-masyarakat-indonesia-malas-baca-tapi-cerewet-di-medsos/0/sorotan_media

Ostertag, S. F. (2019). Anti-racism movements and the US civil sphere: The case of Black lives matter. In J. Alexander, T. Stack, & F. Khosrokhavar (Eds.), *Breaching the civil order: Radicalism and the civil sphere* (pp. 70-91). Cambridge University Press.

Zeti Azreen Ahmad. (2019). Embracing social media: The change and disruption to public relations practices in Malaysia. *Jurnal Komunikasi: Malaysian Journal of Communication, 35*(1), 319-337. https://doi.org/10.17576/JKMJC-2019-3501-21