

The relationship between spelling and pronunciation: A study of selected English words

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Abstract

English, being a global language of communication has become unavoidable in the present era. Learning to spell and pronounce English words correctly also receives equal importance attached to the learning of grammar, phonology and vocabulary. Unfortunately, the spelling system of English language is considered irregular, almost divorced from its spoken form despite straining through different reforms. The fact that it lacks a perfect guide on how to learn the pronunciation of the words makes it more complex. A perfect alphabet, would always have corresponding speech sounds adequately representing one sound but this remains a different case in English. The defective English spelling system accounts for its poor reflection of pronunciation of words as there are inadequate symbols to represent all the speech sounds of English. There are only 26 alphabets in English and 44 speech sounds they are meant to represent. The main aim of this work is to study the relationship between the Spelling and Pronunciation of selected English words especially where there are compromises in the representation of both morphological and phonological information including the integration of etymological spelling. Non-experimental Descriptive Research Design was used for the study. The data collected comprising two hundred (200) words generated from the Oxford Advanced Learner's Dictionary (OALD) (7th Edition), were analyzed using Bi-directional analysis introduced by Carney in 1994. The theory

analyses the relationship and irregularities in Spelling and Pronunciation of the International Phonetic Alphabet (IPA), showing its concern with the correspondence path; from spelling to sound and from sound to spelling. It was observed that there is no perfect relationship between the Spelling and Pronunciation of the selected English words. The work recommends that Phonographic Matching principle (PhM), be applied in the relationship between Spelling and Pronunciation; the spelling of a word should represent its phonological form.

Keywords: Spelling, pronunciation, relationship, and English words

Introduction

The relationship between spelling and pronunciation of selected words in English language has been an object of concern to researchers and educational bodies (Al Jayousi, 2011; Chomsky & Halle, 1968; Crystal, 2012; Fichtner, 1976; Jackson & Etienne ZeAmvela, 2000; Onuigbo, 1999; Roach, 2009; Taylor, 1981; Yule, 2010). The inability to spell and pronounce selected words correctly remains a reason for this investigation. This research was therefore initiated in order to fill this gap.

The aim of the study is to investigate the relationship between spelling and pronunciation of selected words in English language. Specifically, the objectives of the study are given below:

1. To find out the relationship between spelling and pronunciation of the selected English words.
2. To discover the irregularities in spelling and pronunciation of the selected English words.
3. To suggest remedies for the irregularities in spelling and

pronunciation of the selected English words.

Theoretical framework

To help in the achievement of the purpose of this study, the researchers chose Carney's (1994) Bi-directional Analysis, from spelling to sound and from sound to spelling. It provides a better theory of spelling and pronunciation, which in linguistic theory has remained undermined.

This theory indicates that spelling and pronunciation are deeply connected than was previously accepted, and stresses the importance of both spelling and pronunciation in understanding how spellings are formed, because word formation is somewhat dependent on phonology and the two systems cannot be entirely divorced.

Thus, the analysis will show whether variant pronunciations can be predicted from a word's spelling. In addition, Carney (1994) equally introduced a useful way of accounting for the etymological information stored in so many English spellings. Carney's concern is with the correspondence path, which is the path used in reading new words such as baroque, pyjamas, camphor, hiccough, quagmire, squad, google, marijuana, awesome, ghetto, tsunami; unfamiliar or pseudo-words such as iblick, detron, yaw, quantum, lilick;, silent words, such as, sign, Psalm, listen, Psychology, Pneumonia, knight; homographs such as write, right, rite; sight, cite, site, to, two, too, etc, as a reader can decode the pronunciation from the spelling. This can be seen in the word "sign", where /g/ is considered to be a silent letter, with no phonemic mapping, and /i/=ai/. While this letter alone is not the default correspondence for /ai/ in this position, the correspondence is relatively a common word – and a syllable final. He argues that such an analysis makes for a simpler system-

description, than considering /ig/ as a functional unit.

Empirical studies

Ryan (2017) examines how English spellings are formed. He submitted five basic principles of English spelling implying that different kinds of words may be spelt in different ways, which remain subject to different applications of the principles in question. One of these principles is the phonographic matching principle which in effect means that the spelling of a word must match the known phonological form and changes may be made, where necessary, if possible, by amending the spelling-to-sound correspondences. This study was done to provide a method for studying a wide range of English spellings and the application of their various phonological forms.

Holmes and Malone (2004) carried out an investigation on the spelling skills of adults with good reading skills but poor spelling skills. By analogy to the other words, by using morphological knowledge, the study consisted of words that require word specific spelling knowledge rather than words that can be spelt by general rules and patterns of grapheme-phoneme connections. This involved 163 participants who were English native speakers. They discovered that there are certain strategies taught to the participants which can be beneficial to both skilled and unskilled adults.

Fresch (2008) tested the spelling ability on “efficacy,” “metacognition” and “illegible” among 17 undergraduate college students. His finding is that the students who scored the lowest marks were the ones who wrote that the strategy they would use is phonics, while trying to spell an unknown word. Of all the words given to them, “designation” was the only word spelt correctly by all the 17 students. The author presumed there may

be predictable letter-sound correspondences in this word.

Amakaeze (2010) conducted a study which had one hundred participants chosen from selected secondary schools in Anambra State, dealing on the subject matter of the inconsistencies found in English spelling which indicates that the relationship between spelling and pronunciation is a strong contributory factor in complicating learners' spelling difficulties. The result of the analysis of the word dictation tests given to the students, produced spelling problems arising from the ignorance on the part of the learners which involves the following speech sounds /a /, /tʃ /, / dʒ/, /ʒ/, / θ/, and /ð / not found in Nigerian languages. The substitution of the above speech sounds with those found in their native language creates difficulty in pronouncing the words correctly. This, alternatively, leads to incorrect spelling of words.

Burt and Butterworth (1996) used a sample of Australian college students to examine the interactions between spelling ability, word frequency and regularity of word spellings. They found out that the orthographic structure and the correspondence between letter and sound are important in spelling all words, no matter how familiar the words may appear. Significant correlations were found between decoding and spelling skill in the study carried out by Shankweiler, Lundquist, Dreyer and Dickson (1996) using high school students. The correlation coefficient for real word decoding and spelling was 68, and the correlation coefficient between non words and spellings was 70. In regression analyses, significant unique variance in spelling was explained predicting spelling, decoding along with phonemic awareness and morphological awareness.

Turkan's (2015) study was to find out whether college students would be able to determine if they could also benefit from a strategy employed in spelling pronunciation which assists

in remembering spellings of 20 commonly misspelt words and the contribution of decoding skill, exposure to print and vocabulary knowledge in explaining variance in their general spelling ability. The ability to remember the spelling of words vary and the predictors adopted were expected to explain this unique variance, based on Share's (1995) self-teaching hypothesis. This involved 42 college students who happen to be native speakers of English chosen from an urban college in the area. The participants were shared into two with one half trained to learn spellings of words through the application of a strategy for spelling pronunciation and the other half practiced reading the words. It was observed that in the production of more correct words, letters, words involving silent letters, letters that represent schwa vowels, and double letters, the trained participants performed better than those who only practiced reading words.

Linguistic analysis of over 17,000 of the words with the highest frequency in English resulted in the conclusion that English orthography is predictable over 80% of the time (Hanna, 1966). Despite this assertion, English predictability has once again been thrown into question in recent years by a growing area of cross-linguistic researchers.

Furthermore, in a study of the problems of English spelling of students of Enugu State Polytechnic, Anibueze (2002), brought to the fore the problems of the students which are caused mainly by failure to recognize different letters with similar sound symbols owing to the fact that the language system of English is complex. Only a few of the participants matched some certain sounds to their different letters. Consequently, this development adversely has had negative effects in their writings at a higher level, the continuous study and learning of the English language notwithstanding.

Beech (2002) also examined the interplay between reading, spelling, and knowledge of grapheme-phoneme correspondence using a sample of one hundred and ten undergraduates in the United Kingdom. There was a confirmation from the results obtained that reading and writing are highly interrelated and exposing the participants to the use of printed words are both relevant to pronunciation and spelling.

Summary of reviewed literature

The empirical review focuses on the empirical researches written on the relationship or otherwise of the spelling system of the English language and Pronunciation. It was observed that the studies that have been done on this topic so far show that the issue of correlation not found between spelling and pronunciation is seen as a herculean task in the study of English words.

In conclusion, the studies that have been carried out in the area of the relationship between spelling and pronunciation in English shows that it poses great difficulty to speakers of the language globally. As a matter of fact, the relationship between spelling and pronunciation of English words is so arbitrary and remains an issue that requires researchers to give more attention to it in order to find better ways of dealing with this disparity.

Method

Research design

This research was designed to investigate the relationship between the Spelling and Pronunciation of selected English words. To do this, the researchers adopted a non-experimental Descriptive research design which examines the relationship between two or more variables. The analysis was done to clearly explain and describe the irregularities, inconsistencies and

relationship in the English spelling and pronunciation.

Area of the study

The study was limited to the study of selected words from Oxford Advanced Learner's Dictionary (OALD) (7th Edition). The dictionary was chosen because it is widely read and consulted on matters concerning spelling and pronunciation of English words.

Population of the study

Since the area of this study focused on the spelling and pronunciation of selected English words, the researchers chose two hundred (200) English words, including their origin, meaning, sound, and phonetic transcription.

Method of data collection

The data for this study were generated from the Oxford Advanced Learner's Dictionary (OALD) (7th Edition) for the relationship between Spelling and Pronunciation, and for irregularities/inconsistencies of the selected English words. This was done using convenient sampling method to choose 200 words from 183,500 words. Words selected comprised words that have silent letters, homophones, homographs, new words, unfamiliar or pseudo-words as well as words with diverse origins. The SPSS computer programme (Version 17) aided in the selection.

Procedure for data analysis

The data for this study were analysed based on the features of relationship, inconsistencies and irregularities in spelling and pronunciation of the selected English words using Carney's (1994) Bi-directional analysis. As stated earlier, the aim of the study is to determine whether there is any relationship between

English spelling and pronunciation using selected English words from OALD. The study of the selected English words was done including the sound, phonetic transcription, meaning and origin which were done in trying to establish a relationship between the selected words and their pronunciation. This was further analysed using Carney's (1994) Bi-directional analysis which provides a better theory of spelling and pronunciation of words in English.

Data analysis

Research Question 1: What is the relationship between the spelling and pronunciation of the selected English words?

Table 1: A study of the selected English words

S/N	Spelling	Sound	Transcription	Meaning	Origin
1	Abscess	/s/	/absɪs, absɛs/	A swollen area within body tissue, containing an accumulation of pus	Latin
2	Abscond	/k/	/əb'skɒnd/	Depart suddenly and secretly.	Latin
3	Acclimatize	/k/	/ə'klaɪmətaɪz/	Modifying a living thing to suit a foreign climate.	French
4	Acme	/k/	/akmi/	Highest point	Greek
5	Acne	/k/	/ækni/	Highest point, or facial eruption	Greek/M odern Latin
6	Ally	/aɪ/	/alaɪ/	To bind, or join, associate.	Latin
7	Anarchy	/k/	/anəki/	A state of disorder due to absence of authority	Greek
8	Anchor	/k/	/aŋkə/	Device for	Old

				securing ships to the under the water by means of cables.	English
9	Annihilate	/ə/	/əˈnaɪlɪt/	Reduce to nothing.	Late Latin
10	Aquatic	/kw/	/əˈkwɑːtɪk/	Pertaining to water.	Latin
11	Archaeology	/k/	/ɑːkɪˈɒlədʒɪ/	Ancient history, antiquity	Greek
12	Ascend	/c/	/əˈsɛnd/	Go up or climb	Latin
13	Awesome	/ɔ:/	/ɔ:s(ə)m/	Profoundly reverential.	English 16c
14	Banquet	/kw/	/bɑŋkwɪt/	An elaborate and formal evening meal for many people	Old French
15	Baroque	/rɒk/	/bəˈrɒk/	Designating a pearl of irregular shape.	Portuguese
16	Bdellium	/d/	/ˈdɛlɪəm/	Aromatic gum resin similar to myrrh	Greek to Latin
17	Belle	/ɛ/	/bɛ/	Beautiful woman, well dressed, reigning beauty.	Latin
18	Benign	/ai/	/biˈnaɪn/	Gentle and kind	Latin
19	Berserk	/z/	/bɜːz:k/	An ancient Norse warrior who fought with uncontrolled ferocity.	Old Norse
20	Bomb	/m/	/bɒm/	Container filled with explosive designed to explode when detonated	Greek

21	Bouquet	/k/	/bʊkeɪ/	Bunch of flowers	Old French
22	Bourgeois	/ʒ/	/'bʊəʒwa:/	The French middle class	French
23	Cable	/k/	/keɪb(ə)l	A heavy, strong rope.	Late Latin
24	Cake	/k/	/keɪk/	Flat thin mass of baked dough	Scandinavian
25	Camphor	/k, f/	/'kɑmfə/	A white volatile crystalline substance with an aromatic smell and bitter taste, occurring in certain essential oils.	Sanskrit
26	Candidate	/k/	/'kɑndɪdeɪt/	A person who seeks or is put forward for an office by election or appointment.	Latin
27	Canine	/k/	/keɪnaɪn/	A pointed tooth.	Latin
28	Capable	/k/	/keɪpəb(ə)l/	Sufficiently able, having power or capacity, qualified.	Latin
29	Carnivore	/k/	/'kɑ:nrvɔ:/	Eating or feeding on flesh.	Latin
30	Castle	/k/	/kɑ:s(ə)l/	A fortified residence	Latin to Anglo-Norman French
31	Century	/s, tʃ/	/'sentʃəri/	One hundred (of anything).	Latin
32	Champagne	/ʃ/	/'ʃɑm'peɪn/	Sparkling wine.	Latin
33	Chart	/tʃ/	/'tʃɑ:t/	Map for the use of navigators	Latin

34	Chasm	/k, z/	/'kaz(ə)m	Gaping hollow.	Greek
35	Chassis	/ʃ,si/	/ʃasi/	The base frame of a car, carriage, or other wheeled vehicle.	Latin
36	Cheque	/tʃ,k/	/tʃek/	An order to a bank to pay a stated sum from the drawer's account, written on a specially printed form.	French, Latin
37	Chlorophyll	/k/	/klɔ:rəfɪl/	Green-coloured stuff in plants.	Greek
38	Choir	/kw/	/'kwɔərə/	Band of singers	Latin
39	Chrome	/k/	/krəʊm/	Having brilliant colours.	Greek
40	Chronology	/k/	/krə'nɒlədʒi/	The arrangement of events or dates in order of their occurrence.	Greek
41	Chyle	/k/	/kail/	Milky fluid formed during the process of digestion	Greek
42	Circumcise	/s, k/	ˈsɜ:kəmsaɪz/	Cut around or cut off the foreskin	Latin
43	Clarify	/k/	/'klaɪfai/	Make pure and clear.	Latin
44	Climate	/k/	/klaɪmət/	Atmospheric condition of a region.	Greek
45	Cognate	/k/	/kɒɡneɪt/	Allied by blood, connected or related by birth...descended from a common	Latin

				ancestor.	
46	Colleague	/k/	/ˈkɒli:g/	Partner in office.	Latin
47	Colonel	/k/	/kə:n(ə)l	Chief commander of a regiment of troops	French (modified by assimilation)
48	Computer	/k/	/kəmˈplu:tə/	To think and to prune, calculate.	Latin
49	Concept	/k, s/	/ˈkɒnsept/	Something conceived.	Latin
50	Concept	/k/	/ˈkɒnsept/	Something conceived.	Latin
51	Condemn	/k/	/kənˈdem/	Express complete disapproval of; censure.	Latin
52	Condemn	/k/	/kənˈdem/	To blame, pronounce judgement against.	Latin
53	Connoisseur	/k/	/kɒnəˈsə/	An expert, a Judge, one well versed	French'
54	Conquer	/k/	/ˈkɒŋkə	Gain, win.	Latin
55	Conspiracy	/k, s/	/kənˈspɪrəsi/	A plotting of evil, unlawful design...for evil purpose.	Latin
56	Cough	/k/	/kɒf/	A violent, noisy effort to expel air from the lungs	German (keuchen)
57	Crest	/k/	/krest/	Highest part of a helmet.	Greek
58	Critique	/k/	/kriˈti:k/	Critical examination or review of the merits of	Greek – French

				something	
59	Culprit	/k/	/kʌlprɪt/	A person who is responsible for a crime.	French
60	Debt	/ɛt/	/dɛt/	Anything owed, liability or obligation to pay to another.	Latin
61	Decree	/k/	/dɪ'kri:/	Something decided.	Latin
62	Delicious	/ʃ/	/dɪ'lɪʃəs/	Delightful to the senses.	Latin
63	Democracy	/k, s/	/dɪ'mɒkrəsi/	Government by the people in which power is vested in the people.	Greek
64	Denouement	/v/	/deɪ'nu:mə/	The solution of a mystery, the winding up of a plot, the outcome of a course of conduct,	French
65	Descend	/s/	/dɪ'send/	Move or fall downwards	Latin
66	Design	/aɪ/	/dɪ'zaɪn/	To make, shape, sketch, etc.	Italian
67	Diarrhoea	/rɪə/	/dɪə'reɪə/	Flow through	Greek
68	Diction	/k/	/dɪkʃ(ə)n/	Denoting a word or phrase.	Latin
69	Discreet	/k/	/dɪ'skri:t/	Judicious in one's conduct or speech.	Late Latin
70	Doubt	/aʊ/	/daʊt/	A feeling of uncertainty	Latin
71	Electric	/k/	/ɪ'lektrɪk/	Involving electricity.	Greek

72	Encyclopaedia	/k/	/ɛn.sʌrklə(ʊ)'p i:diə/,	All-round education	Modern Latin from pseudo- Greek 'enkuklop aideia'
73	Equate	/kw/	/i'kweit/	Make equal, balance.	Latin
74	Eschew	/ʃ/	/ɪs'ʃju:,.ɛsʃu:/'	Shun or to shy	Germanic 'scheuen'
75	European	/ju/	/jʊərə'pi:ən/	A native or inhabitant of Europe	Greek
76	Ewe	/j/	/ju:/'	Woolly usually horned ruminant mammal	Germanic 'ou'
77	Exact	/g/	/ɪg'zakt/	Precise.	Latin
78	Example	/g/	/ɪg'zɑ:mp(ə)l/	An instance typical of a class.	Latin
79	Except	/k/	/ɪk'sept,ɛk'sep t/	Taken out	Latin
80	Excess	/k/	/ɪk'ses/	Beyond the bounds.	Latin
81	Extinct	/ɪk, ɪk/	/ɪk'stɪŋkt/	Extinguish.	Latin
82	Fahrenheit	/ar/	/fɑr(ə)nhart/	Relating or conforming to a thermometric scale	German
83	Fluorescent	/ʊə/	/flʊə'res(ə)nt/	A lighting fixture that uses a fluorescent lamp emitting light during exposure to radiation.	French
84	Gauge	/dʒ/	/geɪdʒ/	Fixed standard of measure	French 'gage'

85	Ghetto	/g/	/gɛtəʊ/	A part of a city, especially a slum area, occupied by a minority group or groups.	Italian
86	Ghost	/g/	/gəʊst/	An apparition of a dead person which is believed to appear or become manifest to the living, typically as a nebulous image	Germanic
87	Gnarly	/na:/	/na:li/	Knotted and rugged (“excellent” and “disgusting”)	Middle English ‘knar’
88	Gnat	/n/	/ˈnæt/	Small flying insect	Germanic
89	Google	/u:/	/gu:gl/	The proprietary name of the search engine.	Modern English
90	Gynaecology	/gai, k/	/gaɪnɪˈkɒlədʒi/	Study of women	Greek - French ‘gynecologie’
91	Heir	/ɛ/	/ɛ:/	One who inherits	Anglo-Norman ‘eir’
92	Hemorrhage	/dʒ/	/ˈhɛməɪdʒ/	An escape of blood from a ruptured blood vessel	Greek
93	Hiccough	/p/	/ˈhɪkʌp/	A quick involuntary inhalation that follows a spasm	English

				of the diaphragm	
94	Hierarchy	/ɑɪ,ki/	/haɪərə:ki/	Rank in the sacred order.	Greek
95	Honest	/ɒ/	/'ɒnɪst/	Free from fraud.	Latin
96	Hypocrisy	/ɪ, k/	/hɪ'pɒkrɪsi/	The sin of pretending to virtue or goodness.	Greek
97	Incessant	/s/	/ɪn'ses(ə)nt/	Unceasing	Latin
98	Isle	/ɑɪ/	/ aɪl/	In the sea	Latin
99	Kaleidoscope	/k/	/kə'leɪdəskəʊp /	Optical instrument creating and exhibiting, by reflection, a variety of beautiful colours and symmetrical forms.	Greek
100	Knee	/n/	/ni:/	Joint between the principal bones of the leg.	Germanic
101	Knife	/nai/	/naɪf/	Hand-held cutting instrument consisting of a short blade or handle.	Germanic 'knifr' for blade
102	Knife	/n/	/naɪf/	Hand-held cutting instrument consisting of a short blade or handle.	Germanic 'knifr' for blade
103	Knight	/nai/	/naɪt/	Boy, youth, servant, attendant	Germanic 'knecht'
104	Knight	/n/	/naɪt/	Boy, youth, servant, attendant	Germanic 'knecht'
105	Knock	/n, k/	/nɒk/	To pound or beat	Old

				on a door.	English
106	Knot	/n/	/nɒt/	A difficult problem, a perplexity.	Germanic
107	Knowledge	/n, dʒ/	/nɒlɪdʒ/	Acquaintance with facts.	Old English
108	Lactate	/k/	/læk'teɪt/	To produce milk	Latin
109	Licence	/s/	/'laɪs(ə)ns	Freedom, authority, permission.	Latin
110	Lieutenant	/f/	/leɪ'fɪtənənt/	A placeholder for a superior, during their absence.	Old French
111	Liquid	/kw/	/lɪkwɪd/	Fluid capable of flowing.	Latin
112	Liquor	/k/	/'lɪkə/	Any matter in a liquid state.	Latin
113	Listen	/s/	/lɪs(ə)n/	Gives one's attention to a sound	Germanic
114	Listen	/ə/	/lɪs(ə)n	Pay attention to.	Germanic
115	Luxury	/ʃ/	/'lʌkʃ(ə)rɪ/	Comfort, extravagance.	Latin
116	Marijuana	/hw/	/mæri'hwɑ:nə/	The cannabis plant and more specifically a drug prepared from it.	Latin American Spanish
117	Mnemonics	/n/	/ni'mɒnɪks, ni:'mɒnɪks/	The study and development of systems for improving and assisting the memory	Greek
118	Mosquito	/ki:/	/mɒ'ski:təʊ/	A slender long-legged fly with aquatic larvae.	Latin

119	Myrrh	/z:/	/mɜ:/	Gummy, resinous exudation of certain plants.	Semitic
120	Omelette	/ɪ/	/ɒmlɪt/	Dish made from beating eggs.	Latin
121	Opaque	/k/	/ə(ʊ)'peɪk/	Shaded, in the shade, obscure.	Latin
122	Orphan	/f/	/ɔ:f(ə)n/	Without parents.	Greek
123	Otiose	/ʃ/	/əʊʃiəs/	Unfruitful, futile, producing no useful result.	Latin
124	Parachute	/ʃ/	/pə'rəʃu:t/	A cloth canopy filled with air which allows a person or object descend from an aircraft.	French
125	Phenomenon	/f/	/fə'nɒmɪnən/	Fact, occurrence.	Greek
126	Philanthropist	/f/	/fi'lanθrəpɪst/	A person who seeks to promote the welfare of others.	Greek
127	Philanthropist	/f/	/filən'θrəpɪst/	A lover of mankind.	Greek
128	Philosophy	/f/	/fi'lɒsəfi/	The study of the fundamental nature of knowledge, existence, etc	Greek
129	Phlegm	/f/	/flɛm/	Thick yellowish substance that develops in the throat.	Greek
130	Phobia	/f/	/ˈfəʊbiə/	Fear of something	Greek
131	Physique	/f/	/fi'zi:k/	Physical or bodily structure, appearance or	French

				development.	
132	Picture	/k, ʃ/	/pɪktʃə/	To paint or make a copy.	Latin
133	Plough	/au/	/pləʊ/	A large farming implement	Old English
134	Plough	/aʊ/	/pləʊ/	A farm implement	Germanic
135	Plumber	/mə/	/plʌmə/	A person who fits and repairs pipes, fittings, etc	Latin
136	Pneumonia	/nju/	/nju:ˈməʊniə/	Lung inflammation caused by bacterial or viral infection.	Greek
137	Psalms	/s/	/sɑ:m/	A sacred song or hymn contained in the biblical Book of Psalms	Greek
138	Pseudonym	/sju:/	/sju:dənm/	Bearing a false name.	Greek
139	Psyche	/s/	/saɪki/	Animating spirit, the soul, mind, spirit; life.	Greek
140	Psychology	/sai, k, dʒ/	/saɪˈkɒlədʒi/	The scientific study of the human mind	Modern Latin
141	Pterodactyl	/t/	/tɛrəˈdaktɪl/	Extinct flying reptile	Greek
142	Pyjamas	/ə/	/pəˈdʒɑ:məz/	Loose trousers tied at the waist.	Persian
143	Pyorrhea	/aɪəˈ/	/paɪəˈri:ə/	Purulent inflammation of the teeth sockets.	Latin
144	Quagmire	/kw/	/kwægmɑiə/	An area of wet, boggy land that gives way under foot or quaking	English late 16c

				bog.	
145	Quail	/kw/	/kweil/	A small gallinaceous bird.	Medieval Latin
146	Quality	/kw/	/kwɔliti/	Of what kind.	Latin
147	Quay	/k/	/ki:/	A stone or metal platform lying alongside water for loading and unloading ships	Old French
148	Queen	/kw/	/kwi:n/	The female ruler of an independent state	Germanic
149	Queen	/kw/	/kwi:n/	Female ruler of a state.	Germanic
150	Quilt	/kw/	/kwilt/	Mattress, cushion	Latin
151	Quinine	/kw/	/kwini:n/	Alkaloid responsible for curative properties in the cinchona tree	French
152	Quorum	/kw/	/kwɔ:rəm/	Used in reference to certain justices of the peace of England.	Latin
153	Rapport	/r/	/ra'pɔ:/	A close and harmonious relationship	French
154	Reign	/n/	/rem/	Hold royal office	Latin
155	Rendezvous	/v,i/	/'rɒndivʊ:/	Present yourselves, surrender.	French
156	Repercussion	/k/	/ri:pə'kʊʃ(ə)n/	Cause to rebound, reflect, strike against.	Latin
157	Restaurant	/ə/	/rest(ə)rɒnt	To restore or to refresh.	French

158	Rheumatism	/z/	/'ru:mətɪz(ə)m	Any disease marked by inflammation of joints	Greek
159	Rhyme	/aɪ/	/raɪm/	Correspond of sound between words	Greek
160	Rythm	/ɪ/	/rɪð(ə)m	A strong, regular repeated pattern of movement or sound	Greek
161	Saccharine	/k/	/'səkərəɪn/	Of or like sugar.	Modern Latin
162	Sacrosanct	/k/	/'sakra(ʊ)sən(k)t/	Superlatively sacred or inviolable.	Latin
163	Sapphire	/f/	/səfʌɪə/	Precious stone.	Greek
164	Scent	/s/	/sɛnt/	To perceive, feel, smell, etc.	Latin
165	School	/k/	/sku:l/	A place of instruction.	Greek
166	Science	/s/	/saɪəns/	The intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment.	Latin
167	Sculpture	/k/	/skʌlptʃə/	The art of making abstract forms, especially by carving stone or	Latin

				wood	
168	Senate	/ɪ/	/sɛnɪt/	Legal and administrative body of ancient Rome.	Latin
169	Sentence	/s/	/ˈsɛnt(ə)ns	Court's declaration of punishment.	Latin
170	Shape	/ʃ/	/ʃeɪp/	External form.	Germanic
171	Sign	/aɪ/	/saɪn/	Gesture or motion of the hand, especially one meant to communicate something.	Latin
172	Signature	/ʃ/	/sɪɡnəʃə/	A handwritten depiction of someone's name.	Latin
173	Sincere	/s/	/sɪnˈsɪə/	Clean, pure.	Latin
174	Six	/ks/	/sɪks/	The natural number following 5 and preceding 7.	Germanic
175	Squad	/kw/	/skwɒd/	Small number of military men detailed for some purpose.	Italian
176	Statue	/ju:/	/statju:/	Graven image.	Latin
177	Student	/ju:/	/stju:d(ə)nt	One who is studying.	Latin
178	Subpoena	/ə/	/səˈpi:nə/	Under penalty	Latin
179	Subtract	/k/	/səbˈtrakt/	Drawn away.	Latin
180	Sword	/ɔ:/	/s ɔ:/	A weapon having a long, straight or slightly curved blade, sharp-edged.	Germanic

181	Symbiosis	/i/	/sɪmbr'əʊsɪs/	Interaction between two different organisms	Greek
182	Though	/əʊ/	/ðəʊ/	A word used in introducing a subordinate clause.	Germanic
183	Through	/u:/	/θru:/	To cross over	Germanic
184	Tissue	/ʃ/	/tʃu:/	To weave or make; connective sac enclosing the heart.	Latin
183	Tough	/f/	/tʌf/	Strong enough to withstand adverse conditions.	Germanic
185	Tough	/f/	/tʌf/	Hard to endure.	Germanic
186	Tsunami	/s/	/tsu:'nɑ:mi/	Wave.	Japanese
187	Unique	/j, k/	/ju:ni:k/	Alone of its kind.	Latin
188	Universe	/ju:/	/ju:nɪvɜ:s/	The whole world, cosmos, the totality of existing things.	Latin
189	University	/ju:/	/ju:nɪ'vɜ:sɪti/	Institution of higher learning.	Late Latin
190	Vehicle	/i/	/vi:k(ə)l	Any means of conveying or transmitting... carriage.	Latin
191	Virtue	/ʃ/	/'vɜ:ʃu:/	Moral life and conduct; a particular moral excellence.	Latin
192	Wire	/aɪ/	/waɪə/	A slender, string-like piece or filament of relatively rigid or	Latin

				flexible metal, usually circular in section.	
193	Wisdom	/z/	/'wɪzdəm/	The quality or state of being wise.	Old English
194	Wrestle	/r/	/rɛs(ə)l	Take part in a fight	Old English
195	Writ	/r/	/rɪt/	Something written.	Germanic
196	Write	/r/	/raɪt/	Mark on a surface	Germanic
197	Xhenophobia	/z/	/zɛnə'fəʊbiə/	Dislike of or prejudice against people	Ancient Greek
198	Xhosa	/k/	/'kəʊsə, 'kɔ:sə/	A Bantu language closely related to Zulu.	South Africa
199	Xylophone	/zai/	/zaɪləfəʊn/	A musical instrument	Greek
200	Yacht	/j/	/jɒt/	Hunting ship.	Dutch

From the above table, one can see the lexical analysis on irregularities, inconsistencies, correlation and disparity in spelling and pronunciation. The analysis shows that spelling and pronunciation are deeply connected than was previously accepted, and both are important in understanding how spellings are formed, because word formation is somewhat dependent on phonology and the two systems cannot be entirely divorced.

Notable also is the fact that ambiguities in the decoding of a spelling can lead to two or more pronunciations being used for one word. Thus, it is shown that variant pronunciations can be predicted from a word's spelling.

The study of the above words shows that there is little or no correspondence between their spelling and pronunciation. The

spellings of the words are quite different from the phonetic transcriptions which accounts for their mispronunciations. This could be traced from the etymological basis.

It would not be wrong to argue that these types of words are very hard and knowledge of grapho-phonemic connections and orthographic rules are often inadequate to spell these words correctly because borrowed words from Latin, Greek, and French do not follow the regularities of the spelling system of English. This is demonstrated using the word “sign”, from the selected English words under study, where /g/ is considered to be a silent letter, with no phonemic mapping, and /i/=/ai/ with phonemic mapping. While this letter alone is not the default correspondence for /ai/ in this position, the correspondence is relatively a common word – and a syllable final.

Areas of spelling and pronunciation irregularities

The irregularities contained in spelling and pronunciation in English as seen in Table 1 above, can be classified as follows:

- One letter with different sounds.
- One sound with different letters.
- Silent letters
- Infused sounds without letters
- The case of Homonyms (Homographs and homophones) and so on.

1. One letter with different sounds

Situations abound where the same letter does not always stand for the same sound in English. Some of the letters can represent almost four different speech sounds, as shown in Table 1. For instance,

- (a) The letter 'c' has no sound equivalent as /c/ in English. It can be realized as
- i. /k/ as in colonel, anarchy, lactate, critique, castle, etc.
 - ii. /s/ as in ascend, science, scissors, etc.
- (b) The letter 'g' is pronounced
- i. /g/ as in ghetto, ghost, aghast, etc.
 - ii. /ʒ/ as in hemorrhage, archaeology, gynaecology, etc.
- (c) The letter 's' is realized as
- i. /s/ as in sword, psalm, ghost, wrestle, etc.
 - ii. /z/ as in rheumatism, etc.
- (d) The letter 'u' is realized as
- i. /u/ as in parachute, bouquet,
 - ii. /ʌ/ as in plumber,
 - iv. /ou/ as in plough, doubt, etc
 - v. /i/ as in queen, quay, etc.
- (e) The letter 'a' is pronounced
- i. /æ/ in rheumatism, rapport, banquet, etc
 - ii. /ɑ: / as in anarchy, gnarly, parachute, etc

2. Same sound with different letters

As also shown in Table 1, another area of disparity between spelling and pronunciation in English is a situation where the same sound is not always represented by the same letter. Such examples are:

- (a) The velar plosive /k/ has different spelling forms as
- i. /c/ colonel, comb, critique, castle
 - ii. /ch/ archaeology, cheque,
 - iii. /cch/ saccharine
- (b) The velar Plosive /g/ is spelt
- i. /g/ gynaecology, photograph, etc
 - ii. /gh/ ghost, ghetto, aghast, ghaſtly,

(c) The alveolar nasal /n/ has the following spelling realizations:

- i. /n/ banquet, colonel, listen, reign
- ii. /gn/ gnat, gnarly, gnash
- iii. /kn/knight, knife, knot
- iv. /pn/ pneumonia, Pneumathology
- v. /mn/ mnemonics

(d) The Labio- dental fricative /f/ is also spelt

- i. /f/ knife, chief, life, etc.
- ii. /ph/ phobia, philanthropist, philosophy, xenophobia, etc
- iii. /gh/ plough, ghetto, ghost, knight,
- iv. /ough/ plough, enough, thorough, through, hiccough, cough, tough, etc

This does not affect only consonant sounds. A vowel sound can be represented by different sounds as in:

(e) The sound /e/ is realized in the following spellings:

- i. /a/ castle, hemorrhage, gynaecology, etc
- ii. /ai/ sign, benign, psychology, write, knife, knight, etc
- iii. /e/ cheque, bdellium, xenophobia, heir, reign, debt, etc
- iv. /ea/ European, pageant, beauty, etc
- v. /ue/ banquet, bouquet, queen, etc

(f) The sound /u:/ is found in these spellings:

- i. /ou/ bouquet, doubt, bounty, bourgeois, etc
- ii. /u/ pneumonia, parachute, rheumatism, etc

The diphthongs also have the same chaotic spelling realization.

E.g. /ai/ is spelt:

- i. /ai/ sign, psychology, gynaecology, knight, etc
- ii. /ei/ reign, heir, etc
- iii. /rh/ rhyme, myrrh, catarrh, etc

The above examples are to mention but a few.

2. Silent letters

Most English words contain silent letters that are written but not meant to be pronounced. Such words when represented as uttered may produce incorrect spellings. For example, as shown in Table 1, they are: Silent B as in: debt, doubt, plumber, comb, etc Silent C as in: ascend, science, scent, scene, descend, abscess, etc Silent G as in: gnat, reign, plough, gnarly, knight, etc Silent H as in: heir, ghetto, yacht, ghost, rheumatism, etc Silent K as in: knight, knife, knot, knowledge, etc Silent L as in: psalm, realm, palm, calm, etc Silent M as in: mnemonics.

Silent P as in: psalm, psychology, pneumonia, pneumatology, etc. Silent T as in: listen, castle, wrestle, rapport, etc Silent U as in: cheque, quay, queen, banquet, critique, etc Silent W as in: write, wrestle, sword, etc

3. Infused sounds without letters

Another sound/spelling disparity in English is the insertion of a sound where there is no spelling to represent that sound.

Examples given in Table 1 are:

/j/ is pronounced before /u/ in the following words:

European /ju[r][pi:ən/

You /ju:/

Ewe /ju:/

The case of homophones, homographs, etc and other sets of English words are pronounced alike but spelt differently as in the case of homophones heir/air, cheque/check, Psalm/Sam, scent/saint, quay/key/queue, reign/rain, write/right, etc; homographs such as the following pairs: stalk (part of a plant) and stalk (follow/harass a person); left (past tense of leave) and left (opposite of right).The words row (propel with oars) and row (argument) and row (a linear arrangement of seating), and so on.

Discussion, conclusion and recommendations

Discussion

Irregularities that exist in the English spelling system and pronunciation are on the increase following the historical development of the language and its application in almost all spheres of life, due to its adoption as either a first language, second language, official or national language by so many nations of the world. It has continued to lose its value in this process. The contributing factors include gradual changes in pronunciation, such as the Great Vowel Shift which brought great changes to the language, loan words that found their entry into the language from other languages through conquests, processes of assimilation, invasions and the Romanization of the language.

The Norman conquest pushed out the regular spelling system of Old English, and for three centuries the Norman French was operational in some spheres of the language (Chaucer, 1987). Irregular and inconsistent spellings dominated the spelling system of Middle English. Admittedly, these provided handy and better guides to pronunciation than what is experienced today in the modern English spelling. The English language has been taken to operate the worst spelling system among other major languages (Pinckert, 1986).

The mastery of the English sound system requires a very careful study and total concentration. This task requires phonological awareness on part of the language user. The obvious concern still lies in the fact that the alphabets meant to appropriately stand for the speech sounds do not correspond. There is a lack and this adversely affects the grapheme-phoneme correspondence. For instance, there are many different sounds realized from the letter 'a' such as '*mat, lane, calm, any, tall,* and

watch'.

Furthermore, one letter or a combination of letters can stand for more than one sound because of the irregular nature of the English spelling system with its complexity and complicated history. The good news is that linguists have provided us with the International Phonetic Alphabet (IPA) symbols with special notations, to facilitate the understanding of the inner workings or mechanism of both the spelling design and pronunciation of the English words. This point foregrounds the links between the sounds found in the words and the graphemes with which those sounds are represented. The mode of operation therefore shows that the letter 't' represents the /t/ sound. It also means that the /s/ sound can have the following realizations when represented by more than one letter, 's' as in soft and 'c' as in city. The identification of these relationships creates problems for many L2 users.

It is profitable for a language user to be aware that in the operation of the alphabetic principle, a speech can be changed into print, and that print can be changed into speech, and that sounds are represented by these in English language. A study of the etymology of the words would go a long way to establishing the relationship between the modern English spelling and pronunciation. English history is very rich in different types of contacts with other countries. The English language has experienced some kind of interrelation of words as part of its characteristic nature concerning borrowing words from other languages. These loanwords are mostly traced to the Romanic origin (Latin, French, Italian, Spanish). The difference between borrowed words and the native words are observed in their phonetic structure, their morphological structure and also in their grammatical forms. All these varieties of pronunciation are to be

learnt only by practice, observation, and a dictionary.

Spelling of words still remains the fundamental element in the learning of English. The effective use of English language cannot be properly done as long as the spelling system remains a poor reflection of the pronunciation of words in the language. Regrettably, language researchers are almost completely ignoring this all-important aspect of the English language. Therefore, the researcher sees this study as an opportunity to explore the irregularities in the relationship between spelling and pronunciation as spelling measures the intelligibility of any given write-up.

Conclusion

English spelling can be chaotic, arbitrary and irregular and bears no logical relation to speech. There is a history underlying every word in English, therefore, English language cannot be exempted from this situation. Many of the modern English words fail to have similar spelling or pronunciation as was obtainable in the Anglo Saxon period almost two thousand years ago. The spoken form of the English language is realized from its written form. The abnormalities experienced in the English Language, are: sometimes one sound is represented by one single letter, sometimes more than one letter stands for one sound, and sometimes more than one sound represent only one letter. At other times some letters do not represent any sound (silent letters). Other times there are infused sounds without letters.

The present study highlights the point that there exists no perfect correspondence between the spelling (letters) and the pronunciation (sounds) of the selected English words. The onus lies on devising the means to provide a lasting solution to these problems to ease the difficulty encountered by the users caused

by the irregularities in spelling and pronunciation of the selected words and English generally. The analysis and results of the data generated for this study provide clear and vivid evidence that grapheme-phoneme relation is really a challenge to both learners and those who use the language.

Recommendations

To effectively tackle the apparent bizarre and multiple challenges of irregularities between spelling and pronunciation, the researchers suggest the following recommendations:

- ❖ There is need to have an effective spelling system that will adequately reflect the sounds of the English language, if possible, because this may to be the core problem of the system. Writing systems which use only one spelling per sound bestow an enormous educational advantage.
- ❖ Based on Carney's (1994) Bi-directional analysis, phonology should be taken into consideration during word formation, since word formation is somewhat dependent on phonology and the two systems cannot be entirely divorced.
- ❖ There is a need for experts in English language studies to resume spelling reform for simplification, rationalization and uniformity.
- ❖ The symbolic and etymological nature of English spelling often aligns it in the status of a language that does not depend on pronunciation. Therefore, it is always helpful to trace the etymology of words in the study of spelling and pronunciation.
- ❖ The English alphabets can always be substituted with the international phonetic symbols. Since the abnormalities are on the increase by the day, English may be amended where possible until it produces a workable result that will be of benefit to all speakers of the language.

- ❖ The spelling may be gradually revised to take care of the irregularities, inconsistencies as well as the elimination of double letters and silent letters without destroying the existing orthographical system, where etymology permits. By so doing, English would operate an institutionalized and conventional writing system.

References

- Al Jayousi, M. (2011). *“Spelling errors of Arab students: types, causes and teachers’ responses”* MA thesis, American University of Sharja. PDF file.
- Amakaeze, G. (2010). *“The inconsistency in English spelling and their implications on second language learners”*. MA thesis, Nnamdi Azikiwe University, Web. 11 April 2015.
- Anibueze, C. I. (2002). *“English spelling problems of students of Enugu state polytechnics”*. MA thesis University of Nigeria, Nsukka, Print.
- Beech, J. R. (2002). Individual differences in mature readers in reading, spelling, and grapheme-phoneme conversion. *Current psychology*, 21(2), 121.
- Burt, J.S. & Butterworth, P. (1996). Spelling in adults: Orthographic transparency, learning new letter strings, and reading accuracy. *European Journal of Cognitive Psychology*, 8, 3–43.
- Carney, E., (1994). *A survey of English spelling*. London: Routledge.
- Chaucer, G. (1987). *The Riverside Chaucer*, edited by Larry D, Benson, 3rd ed., Houghton.
- Crystal, D. (2012). *Spell it out: the singular story of English spelling*. London: Profile Books.
- Fichtner, E. G. (1976). *The pronunciation of the English: A case*

- study in phoneme...* TESOL Quarterly Vol. 10, No. 2 (June, 1976). Pp. 193-202.
- Fresch, M. J. (2000). What we learned from Josh: Sorting out word sorting. *Language Arts*, 77(2), 232–240.
- Hanna, P; Hanna, J; Hodges, Richard; & Rudorf, Edwin. (1966). *Phoneme – grapheme correspondences as cues to spelling improvement*. Washington, D.C.
<http://englishspellingproblems.blogspot.in/2012/12/history-of-english-spelling.html>
<http://spellingsociety.org/irregularities-of-english-spelling#/page/1>
<http://www.spellingdearest.com/page10.html><http://www.whitesmoke.com/historical-background-to-english-spelling>
<https://blog.tjtaylor.net/improve-your-pronunciation/>
<https://www.academia.edu>.
- Holmes, V. M., & Malone, N. (2004). Adult spelling strategies. *Reading and Writing: An Interdisciplinary Journal*, 17, 537-566.
- Jackson, H. and Etienne ZéAmvela, (2000). Words, meaning and vocabulary: *An introduction to modern English lexicology*, Continuum international publishing group.
- Onuigbo, S. (1999). Spelling-sound relations in English: problems and prospects for the second language learner. *Journal of Liberal Studies*. 5.1 (1999). 156- 65.
- Pinckert, R. (1986). *Pinckert's practical grammar*. www.amazon.com. Google books.
- Roach, P. (2009). *English phonetics and phonology*. 4th ed. Cambridge: Cambridge UP, Print.
- Ryan, D. (2017). *Principles of English spelling formation*. PhD thesis TARA – Trinity College: Dublin.
- Shankweiler, D., Lundquist, E., Dreyer, L. G., & Dickinson, C. C.

- (1996). *Reading and spelling difficulties in high school students: causes and consequences*. *Reading and writing*, 8(3), 267-294.
- Share, D.L. (1995). Phonological recoding and self-teaching: Sine qua non of reading acquisition. *Cognition*, 55(2), 151–218.
- Taylor, (1981). English spelling and pronunciation – A brief study. *Journal for research and professionals of English language teaching*. PDF file.
- Turkan, O. (2015). *A Spelling pronunciation strategy helps college students remember how to spell difficult words*. Graduate Centre. University of New York.
- Umbach, W. E. (1981). *Webster's third new international dictionary*.
- Yule, G. (2010). *The study of language* (4th ed). Cambridge: Cambridge UP.

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