MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION
REPUBLIC OF UZBEKISTAN
ANDIZHAN STATE UNIVERSITY

THE DEPARTMENT OF ENGLISH PHONETICS AND LEXICOLOGY

QUALIFICATION WORK ON SPECIALTY ENGLISH PHILOLOGY
ON THE THEME:

"The nature of English syllable codas"

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Graduate paper has been passed preliminary defense.

Protocol № _____ 2015

Andizhan 2015

Theme: The nature of English syllable codas

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INTRODUCTION

Let me begin my qualification paper with simple words about importance of education. Human beings today need to have a specific set of skills to survive in this competitive world as well as progress. This set of skills can be referred to as education.

Education is important for a country to grow. Whether it is economically or socially, education plays a vital role in the growth of these two important factors. Here are some important ways in which education helps in a country's progress.

Education helps people become better citizens. Educated people are aware of the socio-economic scenario of the country and can help in the progress of the country. Whether it is a simple thing like using water sparingly or taking a bus to work instead of using the bike or car in order to save fuel, the educated mass somehow or the other knows how to contribute towards the country's well-being. One of the reasons for their awareness is because they have been taught these values in school, colleges and work places.

People who aren't educated don't have clues about these facts as they haven't been in a learning environment.

Education shows the importance of voting. Education helps to decide whom to vote in order to make a difference in the economy of a country positively. Being educated helps in deciding why to vote for a particular party over the other. Uneducated people are unaware of the importance of choosing the right people to vote for. Hence, being educated shows us the importance of voting.

Education helps in getting jobs: It goes without saying that unless a person is educated, he or she cannot get a worthwhile job. Unemployment is a serious obstacle in the development and progress in a country's economic status, thus posing a hindrance to the growth of the nation. The economic status of so many countries in the world is pathetic, due to the lack of educated people who do

not possess adequate skills and thus are unemployed.

During independence years, nurturing an extensively advanced younger generation has become the most vital priority of state policy. In the course of the execution of the National Program for Training Specialists elaborated under the leadership of President Islam Karimov, a unique mechanism of ensuring uninterrupted education has been created in Uzbekistan.

Professional colleges and academic lyceums have been erected throughout the country, including remote areas. New universities, institutes and academies have been founded with the establishment of training specialists in all professions in demand.

As a result, the demand for highly qualified cadres is being met in all spheres. Today, a physically robust and spiritually mature younger generation with firm beliefs, modern knowledge and vocations, perfect foreign languages is being fostered at all levels of education: secondary general, secondary special and higher education. [2]

The Uzbek youths have been proving at the most prominent international competitions across a diversity of areas of knowledge and creativity that they are inferior to no one in any thing. Notably, a team of schoolchildren from Uzbekistan came first at this year's 47th International Mendeleev Olympiad in chemistry.

With achieving independence at transition on the market relation of economic reforms the large job is conducted. The main aspect of the development of the national economy should be viewed from both economic and social point of view. The all kinds of reinforcement of material and technical bases of the social sphere are one of the most important problems in transition to market relations. The transformation to the market economy positively influence on socio-economic development.

An important question for every society—and most particularly for emerging as well as established democracies—is how to educate the young so that they become competent, responsible, and knowledgeable citizens. That is a

challenge of overriding importance. Not only does the quality of life in a democracy depend upon how well that challenge is met. So, too, does the stability—indeed, the endurance of democracy itself is contingent on the competence, commitment, and caring of its citizens.

Raising Uzbekistan's educational system to match the international standards Education at any age is encouraged in Uzbekistan. New methods and technologies are created based on the national needs. The basic principals of Education in Uzbekistan are democratization and humanization. Education of Uzbekistan helps the Government to solve many economical and social problems. The teachers of Uzbekistan have tremendously contributed towards Uzbekistan Education.

The essence of educational reform in Uzbekistan is to preserve the present intellectual potential of the educational system and to modify our goals and activities in order to develop individuals who are capable to build and live in a democratic civil society and a free market economy. These reforms, however, do not only reflect nationalistic aspiration. Since securing independence, the Uzbekistan nation realized its great responsibility as citizens of the international community and as citizens of our planet. Therefore one of our main goals is to educate a healthy generation, both physically and mentally. The main principals of our new educational policy support this endeavour. Our goals are determined as the following: humanistic, democratic methods of teaching and socialization, priority to human values, national and cultural traditions, and the separation of educational institutions from the influence of political parties and social and political movements. [1]

An infant may be born a citizen in the eyes of the law, but transforming a human being into a citizen who can participate effectively and responsibly in a democratic society is a lengthy and demanding task. That's why great attention is paid to the improvement of educational system and training of qualified specialists.

During the last year the most important documents aimed at creation of

favorable condition to form a new highly educated generation and to support gifted children and the youth were adopted. Among these important documents are: the Law of the Republic of Uzbekistan " On the National program of training specialists" "Law on education", the Resolution of the Cabinet of Ministers " On the organization of general secondary education in the Republic of Uzbekistan" , "On measure of organization on special secondary education in the Republic of development and financing the material and technical lyceums and professional colleges for the years of 1999 - 2003".

Among listed the document "The National program of training specialists" stipulates formation of many-sided individual educated thought the system of continuous education organically connected with intellectual, cultural and moral education of a citizen.

That's why today we attached special attention to this issue. That is why our society is so much interested in these draft laws , intended the achievement of this objective , and reforms in the field of education is becoming more urgent problem , the solution of which will determine our future. So we realized that the achievement of the great objectives we have noble intentions, such as renewal of society, efficiency of our reforms being carried out for the sake of progress and the future, and the results of our intentions are closely connected , first of all , with the problem of training highly qualified personnel, specialists who meet the requirements of the time.

On December 10, 2012 President of the Republic of Uzbekistan Islam Karimov signed a decree **"On measures to further improve foreign language learning system".[3; 1-2]**

It is noted that in the framework of the Law of the Republic of Uzbekistan "On education" and the National Programme for Training in the country, a comprehensive foreign languages' teaching system, aimed at creating harmoniously developed, highly educated, modern-thinking young generation,

further integration of the country to the world community, has been created. During the years of independence, over 51.7 thousand teachers of foreign languages graduated from universities, English, German and French multimedia tutorials and textbooks for 5-9 grades of secondary schools, electronic resources for learning English in primary schools were created, more than 5000 secondary schools, professional colleges and academic lyceums were equipped with language laboratories.

However, analysis of the current system of organizing language learning shows that learning standards, curricula and textbooks do not fully meet the current requirements, particularly in the use of advanced information and media technologies. Education is mainly conducted in traditional methods. Further development of a continuum of foreign languages learning at all levels of education; improving skills of teachers and provision of modern teaching materials are required.

According to the decree, starting from 2013/2014 school year foreign languages, mainly English, gradually throughout the country will be taught from the first year of schooling in the form of lesson-games and speaking games, continuing to learning the alphabet, reading and spelling in the second year (grade).

Also it is envisaged that university modules, especially in technical and international areas, will be offered in English and other foreign languages at higher education institutions.

The State Testing Centre, along with other relevant agencies, is tasked with preparing draft proposals on introducing foreign languages testing to the entrance examinations for all higher educational institutions.

In order to increase teaching standards in distant rural areas, the higher

educational institutions are allowed targeted admission of people living in distant areas to foreign language programs on the condition that they will oblige themselves to work in the acquired specialty at their residence area for at least 5 years after graduation. The decree also envisages 30% salary increase for foreign language teachers in rural areas, 15% increase for those in other areas.

The National Teleradio Company, State Committee for communications, informatisation and telecommunication technologies, Agency for Press and Information of the Republic of Uzbekistan are tasked to prepare and broadcast language-learning programs, significantly increase access to international educational resources via "Ziyonet" educational network, promote publication of foreign language textbooks, magazines and other materials.

The government has been entrusted with developing a package of measures for development of science and supporting the young people in their scientific activities. And as our president mentioned: "*…the extremely important factor of the current reforms is the extremely qualified workforce.*"[2: 4]

More ever we are all becoming aware of one more truth. Only a well educated person is able to value human dignity, preserve national values, raise national awareness , fight self-sacrificingly the right to live in a free society , so that our independent stat could win a decent and respectable place in the world community.

 In the field of higher education it is necessary to draw your attention to the implementation of the test system , the reorganization of the pedagogical Institutes in regional centers into Universities, giving regional educational institutions higher status, sending students and specialists abroad to study and exchange experience on the account of newly established national organizations and international funds , carrying out concrete work intended to retrain specialists and teachers in the field of business and economics and economic training of more than 2000 students and specialists abroad in the transitional period , attracting more than 200 foreign

specialists to educational institution of our republic [3].

However, it is necessary to remember always that the study of foreign languages should not be carried out of the other important subjects like the theoretical phonetics.

In this work it is necessary to solve the following **primary objectives**:

1. Theoretically to comprehend and approve importance of knowledge on the nature of English syllable onset and codas.

2. To analyze the nature of English syllable.

3. To find out the last changes in given theme, and describe them.

During the work the following **methods of research** were applied:

1. The analysis of the scientific literature on a theme of graduation work;

2. The analysis of programs and internet resources such as official sites of foreign authors and websites of both domestic and foreign universities;

Practical value of the given theme is included in the formation of modern scientific resources for language learners and students of the Higher Education on the nature of English syllable onsets and codas.

Structure of my qualification paper is as follows: introduction, four chapters, conclusion and the list of used literature.

First chapter is dedicated to the tasks of modern phonetics and its role in teaching English.

Second chapter is about the nature of the English syllable, where the problems of theories on syllable formation and division and the structure and functions of syllables in English are disscused.

Third chapter is dedicated to the structure and functions of syllables in English: Orthographic features and orthoepic features of the English syllable.

Fourth chapter describes English syllable onsets and codas.   .

As methodological basis of my graduating qualification paper all laws and decrees dedicated to improving system of teaching foreign languages can be taken.

For **material of my graduation paper** I used scientific works and articles of many

well-known scientists, such as D. Jones, J.C. Wells, J. Gimson, S. Johnson, S. Jeffries, J. Maidment. D, A. Abduazizov, K. Vrubel and etc.

The main literature for this qualification work we use "English phonetics a theoretical course" compiled by A. A. Abduazizov and published in 2007, at Tashkent. This book includes description of the English pronunciation in Great Britain which compared with other literary pronunciations. The second main book is "English phonetics theoretical course" compiled by M. A. Sokolova, published by "ВЛАДОС", 1996, Moscow. Another book which helps us to fulfill this qualification work is Паращук В.Ю. "Theoretical phonetics of English language".

I English Phonetics as a branch of linguistics

Pronunciation seems to be sometimes a neglected part in our English lessons. Many teachers are not used to teaching it for many reasons. As most teachers in our schools are not native speakers, there is no need to set native-like pronunciation as one of our goals, moreover, most teachers themselves do not feel perfect in this language component and thus feel reluctant to show it. But we do not need to be perfect to enable our pupils to achieve their best. The next obstruction for teachers is the lack of pronunciation tests and general unfamiliarity with their assessment. Nevertheless, giving feedback on correct speaking to our students should be involved. Learning pronunciation will elevate their level of speaking and undoubtedly will improve their listening skills.[11; 339]

People learn languages for many different purposes. And therefore, the goals for individual learners may vary. From the teachers' point of view, the following aspects should be taken into account: the age, natural ability and motivation of the learners which is to be the base for answering the questions about how much time we will devote to teaching pronunciation and what level is needed for obtaining efficient communication. This is difficult, since, in contrast with e. g. grammar or vocabulary plans, pronunciation does not enable this particular progressive pace as all phonetic and phonological features occur from the very beginning.

To us, speaking and listening to speech comes so naturally. Have you ever consciously thought about what processes are involved in this? This is exactly what Phonetics aims to do. It aims to give a "systematic, conscious consideration of how speech sounds are made, what they sound like, and how they compare with each other".

Phonetics yields useful theoretical and practical information for everyone working with spoken language, including students of languages and logopedics. Areas of application of phonetic knowledge include teaching of pronunciation in

foreign language didactics, disorders of speech and language that are manifested in the speaking voice, clinical speech therapy in logopedics, and in technical subjects, speech signal processing. [10;443]

Phonetics has many interfaces with other disciplines investigating speech and linguistic behaviour, including general linguistics, the study of individual languages, logopedics, psychology, cognitive science, language technology (automatic speech recognition, speech synthesis), anatomy, physiology, forensic phonetics (speaker identification), etc.

Theoretical phonetics studies the sound system of the language that is segmental phonemes word stress syllabic structure and intonation. It is primarily concerned with expression level. It is important in the study of language. It is the most fundamental branch of linguistics; it occupies the equal importance with grammar and lexicology. Phonetics has two main divisions: on the one hand, phonology, the study of the sound patterns of the languages, of how a spoken language functions as a "code", and on the other, the study of substance, that carries the code. Before analyzing the linguistic function of phonetic units we need to know how the vocal mechanism acts in producing oral speech and what methods are applied in investigating the material form of the languages that is substance.

Human speech is the result of a highly complicated series of events. The formation of the concepts takes place at a linguistic level that is in the brain of the speaker; this stage may be called psychological. The message formed within the brain is transmitted along the nervous system to the speech organs. The human brain controls the behaviour of the articulating organs which effects in a particular pattern of speech sounds. This second stage may be called physiological. The third stage may be called physical or acoustic. Any communication requires a listener, as well as a speaker. So, the last stages are the reception of the sound waves by the listener's hearing apparatus, the transmission of the spoken message through the nervous system to the brain and the linguistic interpretation of the information conveyed.

Language is the immediate actuality of thought and the most important means of communication. It exists in two main speech forms: oral and written. In oral speech the substance is phonic, in written speech the substance is graphic. The sound substance forms units of the phonetic system of a language. The phonetic system of a language is a set of phonetic units arranged in an orderly way to replace each other in a given framework. It contains two systems – segmental and suprasegmental. Segmental units are: elementary sounds, vowels, consonants. Suprasegmental units are: syllables, rhythmical units, intonation groups, utterances.[8]

Phonetics as a science. Phonetics as a branch of linguistics studies sounds in the broad sense, investigating vowels and consonants. It studies the acoustic properties of sounds, the physiological basis of sound production, it occupies itself with the study of the ways in which the sounds are organized into a system of different units. In the 18th century it was considered as a part of grammar. Now phonetics is an independent science with its own theories, methods of investigation, it is closely connected with physiology, biology, physics and other sciences. It is also connected with grammar, lexicology, The history of the language.[14; 707]

Branches of phonetics. The branch of phonetics that studies the way in which the air is set in motion, the movements of the speech organs and the coordination of these movements in the production of single sounds and trains of sounds is called articulatory phonetics. Acoustic phonetics studies the way in which the air vibrates between the speaker's mouth and the listener's ear. It presents special interest for research work and applied linguistics. The branch of phonetics investigating the hearing process is known as auditory phonetics. Its interests lie in the sensation of hearing, which is brain activity The means by which we discriminate sounds – quality ,sensations of pitch, loudness, length, are relevant here. Instrumental phonetics were introduced into phonetics in the second half of the last century in order to supplement and to rectify the impressions deriving from

the human senses , since these are affected by the limitations of the perceptual mechanism, and in general are rather subjective. Phoneticians cannot act only as describers and classifiers of the material form of phonetic units. They are also interested in the way in which sound phenomena function in a particular language, how they are utilized in that language and what part they play in manifesting the meaningful distinctions of the language The branch of phonetics that studies the linguistic function of consonant and vowel sounds, syllabic structure, word accent and prosodic features, such as pitch, stress and tempo is called phonology. The phonetic system of a language is a set of phonetic units arranged in an orderly way to replace each other in a given framework. It contains two systems, or levels – segmental and suprasegmental, or prosodic, each of which is a specially organized language system with a certain number of its units. Segmental units are elementary sounds, vowels and consonants, which form the vocalic and consonantal subsystems. Prosodic units are syllables, rhythmic units, and intonation groups, utterances, which form subsystems of pitch, stress, rhythm, tempo, and pauses. Segmental and prosodic units serve to form and differentiate units of other subsystems of language, the lexical and grammatical units. [30: 24]

General and special phonetics. General phonetics is based on the extensive material that a great number of languages give. The method of studies is linguistic. Special phonetics studies the phonetic system of a particular language. It is subdivided into historical and special. The first studies the development of the phonetic system within the historical development of the language. (the approach is diachronic). The second studies the development of the phonetic system of the language in its static form, as it functions in its present stage (the approach is synchronic). *Experimental phonetics* is based on the use of different apparators and instruments. The originator of this method is Rousellot, the French phonetician. Besides these branches we can mention comparative , theoretical, practical, socio-phonetics(the ways in which pronunciation interacts with society).

The phonetics of a particular language studies the contemporary phonetic

system of the particular language, i.e. the system of its pronunciation, and gives a description of all the phonetic units of the language. Descriptive phonetics is based on general phonetics.

Linguists distinguish also historical phonetics whose aim is to trace and establish the successive changes in the phonetic system of a given language (or a language family) at different stages of its development. Historical phonetics is a part of the history of language.

Closely connected with historical phonetics is comparative phonetics whose aims are to study the correlation between the phonetic systems of two or more languages and find out the correspondences between the speech sounds of hindred languages.

Phonetics can also be theoretical and practical. At the faculties of Foreign Languages in this country, two courses are introduced:

1. Practical, or normative, phonetics that studies the substance, the material form of phonetic phenomena in relation to meaning.

2. Theoretical phonetics, which is mainly concerned with the functioning of phonetic units in language.

This dichotomy is that which holds between theoretical and applied linguists. Briefly, theoretical linguistics studies language with a view to constructing theory of its structure and functions and without regard to any practical applications that the investigation of language might have. Applied linguistics has as its concerns the application of the concepts and findings of linguistics to a variety of practical tasks, including language teaching.

All the branches of phonetics are closely connected not only with one another but also with other branches of linguistics. This connection is determined by the fact that language is a system whose components are inseparably connected with one another.

Phonetics is also connected with many other sciences. Acoustic phonetics is connected with physics and mathematics. Articulatory phonetics is connected with

physiology, anatomy, and anthropology. Historical phonetics is connected with general history of the people whose language is studied; it is also connected with archaeology. Phonology is connected with communication (information) theory, mathematics, and statistics.[4;20]

Methods of phonetic analysis

We distinguish between subjective, introspective methods of phonetic investigation and objective methods.

The oldest, simplest and most readily available method is the method of direct observation. This method consists in observing the movements and positions of one's own or other people's organs of speech in pronouncing various speech sounds, as well as in analyzing one's own kinaesthetic sensations during the articulation of speech sound in comparing them with auditory impressions.

Objective methods involve the use of various instrumental techniques (palatography, laryngoscopy, photography, cinematography, X-ray photography and cinematography and electromyography). This type of investigation together with direct observation is widely used in experimental phonetics. The objective methods and the subjective ones are complementary and not opposite to one another. Nowadays we may use the up-to-date complex set to fix the articulatory parameters of speech - so called articulograph.

Acoustic phonetics comes close to studying physics and the tools used in this field enable the investigator to measure and analyze the movement of the air in the terms of acoustics. This generally means introducing a microphone into the speech chain, converting the air movement into corresponding electrical activity and analyzing the result in terms of frequency of vibration and the amplitude of vibration in relation to time. The spectra of speech sounds are investigated by means of the apparatus called the sound spectrograph. Pitch as a component of intonation can be investigated by intonograph.

The acoustic aspect of speech sounds is investigated not only with the help of sound-analyzing techniques, but also by means of speech-synthesizing devices.

II Syllable in English phonology
2.1 Phoneticians about syllable

Speech can be broken into minimal pronounceable units into which sounds show a tendency to cluster or group. These smallest phonetic groups arc generally given the name of syllables. Being the smallest pronounceable units, syllables form morphemes, words and phrases. Each of these units is characterized by a certain syllabic structure. Thus a meaningful language unit phonetically may be considered from the point of view of syllable formation and syllable division.

A syllable is a unit of pronunciation uttered without interruption, loosely, a single sound. All words are made from at least one syllable.

Monosyllables have only one vowel sound; polysyllables have more than one. If a syllable ends with a consonant, it is called a closed syllable. If a syllable ends with a vowel, it is called an open syllable. Patterns of syllables can be shown with C and V (C for 'consonant', V for 'vowel'). Closed syllables are shown as CVC, open syllables CV. Some languages like English have many kinds of closed syllables. Some languages like Japanese have few kinds of closed syllables.[6:428]

Notice that the consonant (C) and vowel (V) notation does NOT match the letters of English spelling in a one-to-one relationship. (e.g. 'th' is one sound)

There are many words in English that have only one syllable.

Cat (CVC)

House (CVC)

The (CV)

Like (CVC)

Run (CVC)

There are many more words that have two or more syllables.

Basket (2 Bas-ket; CVC-CVC)

Doctor (2 Doc-tor; CVC-CVC)

Happy (2 Hap-py; CV-CV)

Computer (3 Com-pu-ter; CVC-CCV-CVC) [-pu- is pronounced "pyuu'

or CCV]

Merciful (3 Mer-ci-ful; CVC-CV-CVC)

Pronunciation (5 Pro-nun-ci-a-tion; CCV-CVC-CV-V-CVC)

Some languages do not use an alphabet with letters. Instead, each sign may stand for a syllable. For example: Japanese can be written using Kana. A writing system based on syllables is called a syllabary.

The syllable is a complicated phenomenon and like a phoneme it can be studied on four levels - articulatory, acoustic, auditory and functional. The complexity of the phenomenon gave rise to many theories.

We could start with the so-called expiratory (chest pulse or pressure) theory by R.H. Stetson. This theory is based on the assumption that expiration in speech is a pulsating process and each syllable should correspond to a single expiration. So the number of syllables in an utterance is determined by the number of expirations made in the production of the utterance. This theory was strongly criticized by Russian and foreign linguists. G.P. Torsuyev, for example, wrote that in a phrase a number of words and consequently a number of syllables can be pronounced with a single expiration. This fact makes the validity of the theory doubtful.

Another theory of syllable put forward by O. Jespersen is generally called the sonority theory. According to O. Jespersen, each sound is characterized by a certain degree of sonority which is understood us acoustic property of a sound that determines its perceptibility. According to this sound property a ranking of speech sounds could be established: <the least sonorous> voiceless plosives □ voiced fricatives □voiced plosives □ voiced fricatives □ sonorants □ close vowels □open vowels <the most sonorous>. In the word plant for example we may use the following wave of sonority: [pla:nt]. According to V.A. Vasssilyev the most serious drawback of this theory is that it fails to explain the actual mechanism of syllable formation and syllable division. Besides, the concept of sonority is not very clearly defined.[31; 240]

Further experimental work aimed to description of the syllable resulted in lot

of other theories. However the question of articulatory mechanism of syllable in a still an open question in phonetics. We might suppose that this mechanism is similar in all languages and could be regarded as phonetic universal.

In Russian linguistics there has been adopted the theory of syllable by LV Shcherba. It is called the theory of muscular tension. In most languages there is the syllabic phoneme in the centre of the syllable which is usually a vowel phoneme or, in some languages, a sonorant. The phonemes preceding or following the syllabic peak are called marginal. The tense of articulation increases within the range of prevocalic consonants and then decreases within the range of postvocalic consonants.

Russian linguist and psychologist N.I. Zhinkin has suggested the so-called loudness theory which seems to combine both production and perception levels. The experiments carried out by N.I. Zhinkin showed that the arc of loudness of perception level is formed due to variations of the volume pharyngeal passage which is modified by contractions of its walls. The narrowing of the passage and the increase in muscular tension which results from it reinforce the actual loudness of a vowel thus forming the peak of the syllabic. So the syllable is the arc of loudness which correlates with the arc of articulatory effort on the speed production level since variations in loudness are due to the work of all speech mechanisms.

It is perfectly obvious that no phonetician has succeeded so far in giving an adequate explanation of what the syllable is. The difficulties seem to arise from the various possibilities of approach to the unit. There exist two points of view:

1. Some linguists consider the syllable to be a purely articulatory unit which lacks any functional value. This point of view is defended on the ground that the boundaries of syllables do not always coincide with those of morphemes.

2. However the majority of linguists treat the syllable as the smallest pronounceable unit which can reveal some linguistic function.

Trying to define the syllable from articulatory point of view we may talk

about universals. When we mean the functional aspect of the syllable it should be defined with the reference to the structure of one particular language.[31:241]

The definition of the syllable from the functional point of view tends to single out the following features of the syllable:

a) a syllable is a chain of phonemes of varying length;

b) a syllable is constructed on the basis of contrast of its constituents (which is usually of vowel - consonant type);

c) the nucleus of a syllable is a vowel, the presence of consonants is optional; there are no languages in which vowels are not used as syllable nuclei, however, there are languages in which this function is performed by consonants;

d) the distribution of phonemes in the syllabic structure follows by the rules which are specific enough for a particular language.

2.2 Syllable formation and its functions

Syllable formation in English is based on the phonological opposition vowel - consonant. Vowels are usually syllabic while consonants are not with the exceptions of [l], [m], [n], which become syllabic in a final position preceded by a noise consonant: bottle [bσtl], bottom [bσtm], button [b/\tn] and [r] (in those accents which pronounce [r]) perhaps [præps].

The structure of English syllables can be summarized as follows:

• Many syllables have one or more consonants preceding the nucleus. These make up the syllable onset: me, so, plow.

• Many syllables have one or more consonants, following the nucleus. They make up the syllable coda. They are traditionally known as closed syllables: cat, jump.

• The combination of nucleus and coda has a special significance, making up the rhyming property of a syllable.
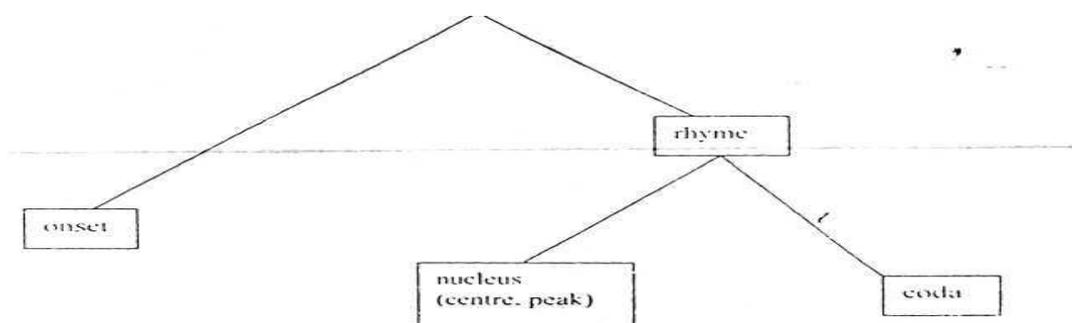
The English language has developed the closed type of syllable as the fundamental one while in Russian it is the open type that forms the basis of syllable formation.

The other aspect of this component is syllable division. The problem of syllable division in case of intervocalic consonants and their clusters, like in such words as city, extra, standing and others.

Let us consider the first word ['sit.i]. There exist two possibilities:

a) the point of syllable division is after the intervocalic consonant:

b) the point of syllable division is inside the consonant.

In both cases the first syllable remains closed because the shot vowel should remains check The result of instrumentally analyses show, that the point of syllable division in such words is inside the intervocalic consonant. EPD indicates the point of division after the consonant.[26]

The second case. There are two syllables in the word extra but where should the boundary between them fall?

1) [e - kstrə]. It is unlike that people would opt for a division between [e] and [kstrə] because there are no syllables in English which begin with consonant sequence [kstr].

2) Similarly, a division between [ekstr] and [ə] would be unnatural.

3) [ek - strə], [eks - trə], [ekst - rə] are possible. People usually prefer either of the first two options here, but there no obvious way of deciding between them.

In some cases we may take into account the morphemic structure of words. For example, standing consists of two syllables; on phonetic grounds [stæn - diŋ). on grammatical grounds [stænd - iŋ].

Now we shall consider two functions of the syllable.

The first is constitutive function. It lies in its ability to be a part of a word itself. The syllables form language units of greater magnitude that is words, morphemes, and utterances. It this respect two things should be emphasized. First, the syllable is the unit within which the relations between distinctive features of phonemes and their acoustic correlates are revealed. Second, within a syllable (or syllables) prosodic characteristics of speech are realized, which form the stress pattern of a word and the intonation structure of an utterance. In sum, the syllable is a specific minimal structure of both segmental and suprasegmental features.

The other function is distinctive one. In this respect the syllable is characterized by its ability to differentiate words and word-forms. One minimal pare has been found in English to illustrate the word distinctive function in the

syllabic: nitrate — night-rate. There analogical distinction between word combinations can be illustrated by many more examples: an aim - a name; an ice house - a nice house, etc. Sometimes the difference in syllable division may be the basic ground for differentiation in such pairs as I saw her rise.- I saw her eyes; I saw the meat — I saw them eat.

Syllabication is the process of analyzing the patterns of vowels and consonants in a word to determine where the word breaks into syllables. This enables readers and spellers to identify syllable types and their vowel sounds, recognize consonant diagraphs and blends, and thus arrive at an approximate pronunciation and spelling of the word.

In English, syllables have a great deal of regularity both in type of syllable and pattern of syllable breaks. These syllabication generalizations provide insight into the way many English words are structured. Although there are exceptions, learning some important generalizations will greatly support students' word attack skills. [23]

Types of Syllables

There are six different types of syllables in the English language.

1   Closed: ends in a consonant, has a short vowel sound

2   Open: does not end in a consonant, has a long vowel sound

3   Vowel-consonant-"E": This syllable is only found at the end of a word. The final "e" is silent and makes next vowel before it long.

4   Diphthong: two vowels next to each other that together create a new sound and Vowel team: two pronounced vowels next to each other

5   Consonant-"LE":

6   Power-"R": a syllable where a vowel is followed by the letter "r". The "r" takes control of the vowel and changes the way that it is pronounced.

Schwa: This can end in a consonant or not, and is an unemphasized syllable whose vowel is somewhat swallowed and pronounced like "uh". Other syllable types can be reclassified as a schwa based on experience of how a word is regionally

pronounced.

In a dictionary, the schwa sound is written like an upside-down, lower case "e".

Closed	A syllable in which a single vowel is followed by a consonant. The vowel sound is usually short. (rab*bit, cam*el, ham*ster)
Open	A syllable ending with a single vowel. The vowel is usually long. (me, ve*to)
r-controlled	A syllable in which the vowel(s) is followed by the single letter r. The vowel sound is neither long nor short and when heard, sounds like it is controlled by the r. (chart, fern, pour, tar*get, whisp*er)
Vowel Team	A syllable containing two letters that together make one vowel sound. The vowel sound can be long, short, or a diphthong. (plain, show, heav*y, boy, cow, cloud*y, boil*ing)

Syllable Patterns

Pattern	Division	Key Word	Definition
VVCCV	VC/CV	Rab*bit	If a word has two consonants in the middle, divide between them. When a consonant digraph stands between two vowels, divide the syllables before or after the digraph.
VCV	V/CV	Mu*sic	If a word has one consonant between two

VCV	VC/V	Cam*el	vowels, divide the word before or after the consonant. The V/CV division is the most common. If the pattern is V/CV the vowel will most always say its long sound. If the pattern is VC/V the vowel will say its short sound. Try it both ways and determine which pronunciation sounds best.
VCCCV	VC/CCV	Ham*ster	Words with three or more consonants in the medial position always contain a blend, and almost always have a closed first syllable.
VCCCCV	VC/CCCV	Ham*ster	Words with four or more consonants in the medial position always contain a blend, and almost always have a closed first syllable.
VV	V/V	Li*on	If a word has two or more vowels together that make two different sounds, divide between the two vowels.

Just as phonograms are useful chunks, prefixes and suffixes also help students recognize and pronounce multisyllabic words. To decode big words, students need to recognize common suffixed and prefixes, use as logical syllable breaks, and pronounce them as whole units. Most of the time, a prefix or a suffix will make its own syllable. Long vowels are the same sound as the name of the vowel, "a", "e", "i", "o", and "u".

Short vowels are the hardest vowel sounds to pronounce in English. "ah" as in cat, "eh" as in pet, "ih" as in sit, "oo" as in not, "uh" as in nut.[21;133]

III Orthographic and orthoepic features of the English syllable

A phonemic orthography is an orthography (system for writing a language) in which the graphemes (written symbols) correspond to the phonemes (significant spoken sounds) of the language. Languages rarely have perfectly phonemic orthographies; a high degree of grapheme-phoneme correspondence can be expected in orthographies based on alphabetic writing systems, but these orthographies differ in the degree to which they are in fact fully phonemic. English orthography, for example, though alphabetic, is highly non-phonemic, whereas Italian and Finnish orthographic systems come much closer to being consistent phonemic representations.

In less formal terms, a language with a highly phonemic orthography may be described as having regular spelling. Another terminology is that of deep and shallow orthographies, where the depth of an orthography is the degree to which it diverges from being truly phonemic (this concept can also be applied to non-alphabetic writing systems like syllabaries).

In an ideal phonemic orthography, there would be a complete one-to-one correspondence (bijection) between the graphemes (letters) and the phonemes of the language, and each phoneme would invariably be represented by its corresponding grapheme. This would mean that the spelling of a word would unambiguously and transparently indicate its pronunciation; and conversely that a speaker knowing the pronunciation of a word would be able to infer its spelling

without any doubt. This ideal situation is rarely if ever achieved in practice – it seems that nearly all alphabetic orthographies deviate from it to some degree or other.[12]

There are two distinct types of deviation from this phonemic ideal. In the first case, the exact one-to-one correspondence may be lost (for example, some phoneme may be represented by a digraph instead of a single letter), but the "regularity" is retained, in that there is still an algorithm (though a more complex one) for predicting the spelling from the pronunciation and vice versa. In the second case true irregularity is introduced, as certain words come to be spelled according to different rules than others, and prediction is no longer possible without knowledge about the orthography of individual words. Common cases of both of these types of deviation from the ideal are discussed in the following section.

Deviations from phonemic orthography

Some ways in which orthographies may deviate from the ideal of one-to-one grapheme-phoneme correspondence are listed below. The first list contains deviations that tend only to make the relation between spelling and pronunciation more complex, without affecting its predictability (see above paragraph).

A phoneme may be represented by a sequence of letters – called a multigraph – rather than by a single letter (as in the case of the digraph ch in English and French, and the trigraph sch in German). (This only retains predictability if the multigraph cannot be broken down into smaller units, for example some languages require diacritics to distinguish between "sch" and "s" + "ch"; cf e.g. goatherd in English.) This is often due to the use of an alphabet that was originally used for a different language (the Latin alphabet in these examples) and thus does not have single letters available for all phonemes in the language currently being written (although some orthographies use devices such as diacritics to increase the number of available letters).[17]

Sometimes, conversely, a single letter may represent a sequence of more

than one phoneme (as x can represent the sequence /ks/ in English and other languages).

Sometimes the rules of correspondence are more complex and depend on adjacent letters, often as a result of historical sound changes (as with the rules for the pronunciation of c and ci in Italian, and the silent e in English).

An orthography mainly affected only by the above types of deviation, with only minor instances of other types of deviation, may still be described as phonemic, or regular, since pronunciation and spelling still correspond in a predictable way. However the deviations listed below are more "serious", as they reduce this predictability (in at least one direction), thus introducing irregularity.

Sometimes different letters correspond to the same phoneme (as u and ó in Polish are both pronounced as the phoneme /u/). This is often for historical reasons (these Polish letters originally stood for different phonemes, which merged later). This affects the predictability of spelling from pronunciation, though not necessarily vice versa. Another example is found in modern Greek, where the phoneme /i/ can be written in six different ways: ι, η, υ, ει, οι and υι.

Conversely, a letter or group of letters can correspond to different phonemes in different contexts (as th does in English; originally this stood for a single phoneme, which then split).

Spelling may otherwise represent a historical pronunciation; orthography does not necessarily keep up with sound changes in the spoken language. For example, the sounds once represented by both the k and the digraph gh of English knight are no longer part of the word's phonemic structure or its pronunciation.

Spelling may represent the pronunciation of a different dialect from the one being considered. Orthographies tend to reflect a standard variety of the language; however for an international language with wide variations in its dialects, such as English, it would be impossible to represent even the major varieties of the language with a single phonemic orthography.[24;489]

Spellings of loanwords often adhere to, or are influenced by, the

orthography of the source language (as with the English words ballet and fajita, from French and Spanish respectively). With some loanwords, though, regularity is retained – either by nativizing the pronunciation to match the spelling (as with the Russian word шофёр, from French chauffeur, but pronounced [ʂɐˈfʲor] in accordance with the normal rules of Russian vowel reduction; see also spelling pronunciation), or by nativizing the spelling (for example, football is spelt fútbol in Spanish and futebol in Portuguese).

Spelling may reflect false etymology (as in the English words hiccough, island, so spelt because of an imagined connection with the words cough and isle), or distant etymology (as in the English word debt, where the b was added under the influence of Latin).

Spelling may reflect morphophonemic structure rather than the purely phonemic, although this is often also a reflection of historical pronunciation.

Most orthographies do not reflect the changes in pronunciation known as sandhi, where pronunciation is affected by adjacent sounds in neighboring words (however written Sanskrit and other Indian languages do reflect such changes). A language may also use different sets of symbols or different rules for distinct sets of vocabulary items, such as the Japanese hiragana and katakana syllabaries (and the different treatment in English orthography of words derived from Latin and Greek).[28;19]

Morphophonemic features

Alphabetic orthographies often have features that are morphophonemic rather than purely phonemic. This means that the spelling reflects to some extent the underlying morphological structure of the words, not only their pronunciation. Hence different forms of a morpheme (minimum meaningful unit of language) are often spelt identically or similarly in spite of differences in their pronunciation. This is often for historical reasons; the morphophonemic spelling reflects a previous pronunciation from before historical sound changes that caused the

variation in pronunciation of a given morpheme. Such spellings can assist in the recognition of words when reading.

Some examples of morphophonemic features in orthography are described below.

The English plural morpheme is written -s regardless of whether it is pronounced as /s/ or /z/; it is cats and dogs, not dogz. This is because the [s] and [z] sounds are forms of the same underlying morphophoneme, automatically pronounced differently depending on its environment. (However when this morpheme takes the form /ɪz/, the addition of the vowel is reflected in the spelling: churches, masses.)

Similarly the English past tense morpheme is written -ed regardless of whether it is pronounced as /d/, /t/ or /ɪd/.

Many English words retain spellings that reflect their etymology and morphology rather than their present-day pronunciation. For example, sign and signature include the spelling <sign>, which means the same, but is pronounced differently, in the two words. Other examples are "science /saɪ/ vs. unconscious /ʃ/, prejudice /prɛ/ vs. prequel /pri:/, nation /neɪ/ vs. nationalism /næ/, and special /spɛ/ vs. species /spi:/.

Phonological assimilation is often not reflected in spelling, even in otherwise phonemic orthographies such as Spanish, where obtener "obtain" and optimista "optimist" are written with b and p respectively, even though both are pronounced /p/ by assimilation with the following /t/. On the other hand, Serbo-Croatian (Serbian, Croatian and Bosnian) spelling reflects assimilation, thus one writes Србија/Srbija "Serbia" but српски/srpski "Serbian".

The final-obstruent devoicing that occurs in many languages (such as German, Polish, Russian and Welsh) is not normally reflected in the spelling. For example, in German, Bad "bath" is spelt with a final d, even though it is pronounced /t/, thus corresponding to other morphologically related forms

such as the verb baden, where the d is pronounced /d/. (Compare Rat, raten, where the t is pronounced /t/ in both positions.) Turkish orthography, however, is more strictly phonemic: for example, the imperative of eder "does" is spelled et, as it is pronounced (and the same as the word for "meat"), not *ed as it would be if the German approach were followed.

A defective orthography is one that is not capable of representing all the phonemes or phonemic distinctions in a language. An example of such a deficiency in English orthography is the lack of distinction between the voiced and voiceless "th" phonemes, occurring in words like then and thin respectively (both have to be written th). More systematic deficiency is found in orthographies based on abjadic writing systems like the Arabic and Hebrew scripts, which do not normally represent the short vowels (although methods are available for doing so in special situations).

English orthography is highly non-phonemic. It would in any case be hard to construct an orthography that reflected all of the main dialects of English, because of differences in phonological systems (such as between standard British and American English, and between these and Australian English with its bad–lad split). The irregularity of English spelling is partly because the Great Vowel Shift occurred after the orthography was established, and because English has acquired a large number of loanwords at different times, retaining their original spelling at varying levels. However even English has general, albeit complex, rules that predict pronunciation from spelling, and several of these rules are successful most of the time; rules to predict spelling from the pronunciation have a higher failure rate.

With time, pronunciations change and spellings become out of date, as has happened to English and French. In order to maintain a phonemic orthography such a system would need periodic updating, as has been attempted by various language regulators and proposed by other spelling reformers.[7;8-10]

Sometimes the pronunciation of a word changes to match its spelling;

this is called a spelling pronunciation. This is most common with loanwords, but occasionally occurs in the case of established native words too. In some English personal names and place names, the relationship between the spelling of the name and the pronunciation is so distant that associations among phonemes and graphemes cannot be readily identified. Moreover, in many other words, the pronunciation has subsequently evolved from a fixed spelling, so that it has to be said that the phonemes represent the graphemes rather than vice versa. And in much technical jargon, the primary medium of communication is the written language rather than the spoken language, so the phonemes represent the graphemes, and it is unimportant how the word is pronounced. The sounds which literate people perceive being heard in a word are largely influenced by the actual spelling of the word.[12]

Methods for phonetic transcription such as the International Phonetic Alphabet (IPA) aim to describe pronunciation in a standard form. They are often used to solve ambiguities in the spelling of written language. They may also be used to write languages with no previous written form. Systems like IPA can be used for phonemic representation or for showing more detailed phonetic information.

Phonemic orthographies are different from phonetic transcription; whereas in a phonemic orthography, allophones will usually be represented by the same grapheme, a purely phonetic script would demand that phonetically distinct allophones be distinguished. To take an example from American English: the /t/ sound in the words "table" and "cat" would, in a phonemic orthography, be written with the same character; however, a strictly phonetic script would make a distinction between the aspirated "t" in "table", the flap in "butter", the unaspirated "t" in "stop" and the glottalized "t" in "cat" (not all these allophones exist in all English dialects). In other words, the sound that most English speakers think of as /t/ is really a group of sounds, all pronounced slightly differently depending on where they occur in a word. A perfect phonemic orthography has one letter per

group of sounds (phoneme), with different letters only where the sounds distinguish words (so "bed" is spelled differently from "bet").

A narrow phonetic transcription represents phones, the atomic sounds humans are capable of producing, many of which will often be grouped together as a single phoneme in any given natural language, though the groupings vary across languages. English, for example, does not distinguish between aspirated and unaspirated consonants, but other languages, like Korean, Bengali and Hindi, do. On the other hand, Korean does not distinguish between voiced and voiceless consonants unlike a number of other languages.

The sounds of speech of all languages of the world can be written by a rather small universal phonetic alphabet. A standard for this is the International Phonetic Alphabet.

As we said before words can be cut up into units called syllables. Humans seem to need syllables as a way of segmenting the stream of speech and giving it a rhythm of strong and weak beats, as we hear in music. Syllables don't serve any meaning-signalling function in language; they exist only to make speech easier for the brain to process. A word contains at least one syllable.

Most speakers of English have no trouble dividing a word up into its component syllables. Sometimes how a particular word is divided might vary from one individual to another, but a division is always easy and always possible. Here are some words divided into their component syllables (a period is used to mark the end of a syllable):

tomato = to.ma.to

window = win.dow

supercalifragilisticexpialidocious: su.per.ca.li.fra.gi.lis.ti.cex.pi.a.li.do.cious (some people might put some of the periods in different places in this word).

Syllables have internal structure: they can be divided into parts. The parts are onset and rhyme; within the rhyme we find the nucleus and coda. Not all syllables have all parts; the smallest possible syllable contains a nucleus only. A

syllable may or may not have an onset and a coda.

Onset: the beginning sounds of the syllable; the ones preceding the nucleus. These are always consonants in English. The nucleus is a vowel in most cases, although the consonants [r], [l], [m], [n], and the velar nasal (the 'ng' sound) can also be the nucleus of a syllable. In the following words, the onset is in bold; the rest underlined.

read

flop

strap

If a word contains more than one syllable, each syllable will have the usual syllable parts:

win.dow

to.ma.to

pre.pos.te.rous

fun.da.men.tal

Rhyme (or rime): the rest of the syllable, after the onset (the underlined portions of the words above). The rhyme can also be divided up:

Rhyme = nucleus + coda

The nucleus, as the term suggests, is the core or essential part of a syllable. A nucleus must be present in order for a syllable to be present. Syllable nuclei are most often highly 'sonorant' or resonant sounds, that can be relatively loud and carry a clear pitch level. In English and most other languages, most syllable nuclei are vowels. In English, in certain cases, the liquids [l r] and nasals [m n] and the velar nasal usually spelled 'ng' can also be syllable nuclei. [11;339]

The syllable structure analysis of the words 'read', 'flop', 'strap' and 'window' are as follows (IPA symbols are used to show the sounds in the word/syllable):

read = one syllable

Onset = [r]

Rhyme = [id]   (within the rhyme:)

Nucleus = [i]

Coda = [d]

flop = one syllable

Onset = [f l]

Rhyme = [a p]

Nucleus = [a]

Coda = [p]

window = 2 syllables

First syllable: [wIn]

Onset = [w]

Rhyme = [I n]

Nucleus = [I]

Coda = [n]

Second syllable: [d o]

Onset = [d]

Rhyme = [o]

Nucleus = [o]

(This syllable has no coda)

Linguists often use tree diagrams to illustrate syllable structure. 'Flop', for example, would look like this (the word appears in IPA symbols, not English spelling). 's' = 'syllable'; 'O' = 'onset'; 'R' = 'rhyme'; 'N' = 'nucleus'; 'C' = 'coda'. (The tree may not come out well-aligned on your screen, because your computer may show this page in a different font). The syllable node at the top of the tree branches into Onset and Rhyme; the Onset node branches because it contains two consonants, [f] and [l]. The Rhyme node branches because this syllable has both a nucleus and a coda.

[f l a p]

The hourglass illustrates the chronology or sequence in which students learn about both spoken and written syllables. Segmenting and blending spoken

syllables is an early phonological awareness skill; reading syllable patterns is a more advanced decoding skill, reliant on student mastery of phoneme awareness and phoneme-grapheme correspondences.

Liquids and nasals as syllable nuclei

The English liquids [r l] and the nasals [m n] can be the nuclei of syllables under certain conditions. [r] can be a nucleus as easily as a vowel, in any position: the words 'bird', 'word', 'her', 'fur', the first syllable of 'perceive' and 'surname' and the final syllables of 'mother', 'actor' (in casual pronunciation) all have [r] as the nucleus; in other words, there is no vowel in the pronunciation of these syllables, even though they have one in the spelling.

[l] and the nasals [m n] become syllable nuclei when they follow an alveolar consonant in the last syllable of a word. This happens in the relaxed or casual rather than very formal articulation of the word. Compare casual vs. formal pronunciations of 'button', 'bottle', 'bottom'.

When one of these sounds is a syllable nucleus, this is shown in transcription by putting a very short vertical line under the IPA symbol

[r l m n].
 ˌ   ˌ   ˌ   ˌ

 A word with a syllabic [r] as nucleus is 'bird':

The phonological system of a language includes various units plus patterns which are used to combine theunits into larger units. The units of a phonological system are: features: aspects or characteristics of a speech sound that arise from the way the sound is articulated or the way it sounds to the ear. 'Voicing' is a feature that varies according to whether or not the vocal cords vibrate during the articulation of a sound; the sound [s] is voiceless, but the sound [z] is voiced, for example. Other features include 'manner', or what sort of gesture or position is used to make a consonant sound (a 'stop' involves blocking the airstream completely for a fraction of a second, as for [p], while a 'fricative' involves creating a narrow opening through which air escapes, as for [f]. There are also

suprasegmental features, which are 'overlaid' on syllables or words. One such feature is stress, known outside linguistics as 'where the accent is in a word'. In 'potato', the stress falls on the second syllable; in 'promise' on the first.[32]

Segments: a segment is a speech sound such as [m] or [i]. Speech sounds are made by putting several features together. [m], for example, is created by vibrating the vocal cords (feature: voiced), closing the mouth at the lips (feature: bilabial), and lowering the soft palate so that air can escape through the nose (feature: nasal). These three gestures occur simultaneously. The result is a voiced bilabial nasal, [m]. Thus, segments are units that are built up from features; features are the building blocks for segments.

Syllables: a syllable is a rhythmic unit of speech. Syllables exist to make the speech stream easier for the human mind to process. A syllable comprises one or more segments; segments are the building blocks for syllables. Details on the syllable are found below.

Words: words are made of syllables.
The patterns or rule systems of a phonological system include:

Phonotactics, also known as sequence constraints. These are restrictions on the number and type of segments that can combine to form syllables and words; they vary greatly from one language to another. In English, for example, a word may begin with up to three consonants, but no more than three. If a word does begin with three consonants, the first will always be [s], the second must be chosen from among the voiceless stops [p t k] and the third from among the liquids [l r] or glides [w y]. Thus we get words such as 'squeeze' [s k w i z] in English, but not words such as [p s t a p].

Phonological processes, including coarticulation processes, are modifications of the feature structure of a sound that occur for one of two reasons: to make sounds that are near each other more alike, thus make articulation easier (assimilation), or to make sounds more different from each other (for instance, aspiration makes voiceless stops such as [p] and [k] more different from

voiced ones such as [b] and [g].

Closed syllables

The closed syllable is the most common spelling unit in English; it accounts for just under 50 percent of the syllables in running text. When the vowel of a syllable is short, the syllable will be closed off by one or more consonants. Therefore, if a closed syllable is connected to another syllable that begins with a consonant, two consonant letters will come between the syllables (com-mon, but-ter).

Two or more consonant letters often follow short vowels in closed syllables (dodge, stretch, back, stuff, doll, mess, jazz). This is a spelling convention; the extra letters do not represent extra sounds. Each of these example words has only one consonant phoneme at the end of the word. The letters give the short vowel extra protection against the unwanted influence of vowel suffixes (backing; stuffed; messy).

Vowel-Consonant-e (VCe) syllables

Also known as "magic e" syllable patterns, VCe syllables contain long vowels spelled with a single letter, followed by a single consonant, and a silent e. Examples of VCe syllables are found in wake, whale, while, yoke, yore, rude, and hare. Every long vowel can be spelled with a VCe pattern, although spelling "long e" with VCe is unusual.

Open syllables

If a syllable is open, it will end with a long vowel sound spelled with one vowel letter; there will be no consonant to close it and protect the vowel (to-tal, ri-val, bi-ble, mo-tor). Therefore, when syllables are combined, there will be no doubled consonant between an open syllable and one that follows.

A few single-syllable words in English are also open syllables. They include me, she, he and no, so, go. In Romance languages — especially Spanish, Portuguese, and Italian — open syllables predominate.

Vowel team syllables

A vowel team may be two, three, or four letters; thus, the term vowel digraph is not used. A vowel team can represent a long, short, or diphthong vowel sound. Vowel teams occur most often in old Anglo-Saxon words whose pronunciations have changed over hundreds of years. They must be learned gradually through word sorting and systematic practice. Examples of vowel teams are found in thief, boil, hay, suit, boat, and straw.

Sometimes, consonant letters are used in vowel teams. The letter y is found in ey, ay, oy, and uy, and the letter w is found in ew, aw, and ow. It is not accurate to say that "w can be a vowel," because the letter is working as part of a vowel team to represent a single vowel sound. Other vowel teams that use consonant letters are -augh, -ough, -igh, and the silent -al spelling for /aw/, as in walk.

Vowel-r syllables

We have chosen the term "vowel-r" over "r-controlled" because the sequence of letters in this type of syllable is a vowel followed by r (er, ir, ur, ar, or). Vowel-r syllables are numerous, variable, and difficult for students to master; they require continuous review. The /r/ phoneme is elusive for students whose phonological awareness is underdeveloped. Examples of vowel-r syllables are found in perform, ardor, mirror, further, worth, and wart.

Consonant-le (C-le) syllables

Also known as the stable final syllable, C-le combinations are found only at the ends of words. If a C-le syllable is combined with an open syllable — as in cable, bugle, or title — there is no doubled consonant. If one is combined with a closed syllable — as in dabble, topple, or little — a double consonant results.

Not every consonant is found in a C-le syllable. These are the ones that are used in English:

-	-	-stle	-
ble (bubble)	fle (rifle)	(whistle)	cle (cycle)
-	-	-ckle	-

gle (bugle)   tle (whittle) (trickle)   kle (tinkle)

-              -   -ple

zle (puzzle) dle (riddle)   (quadruple)

Simple and complex syllables

Closed, open, vowel team, vowel-r, and VCe syllables can be either simple or complex. A complex syllable is any syllable containing a consonant cluster (i.e., a sequence of two or three consonant phonemes) spelled with a consonant blend before and/or after the vowel. Simple syllables have no consonant clusters.

imple	omplex
ate	late
ack	tack
ick	hrink
ee	ree
ide	lind

Complex syllables are more difficult for students than simple syllables. Introduce complex syllables after students can handle simple syllables. [32]

Table 5.1. Summary of Six Types of Syllables in English Orthography

Syllable Type	Examples	Definition

Closed	ap-ple hos-tel bev-er- age	A syllable with a short vowel, spelled with a single vowel letter ending in one or more consonants.
Vowel- Consonant-e (VCe)	om-pete des-pite	A syllable with a long vowel, spelled with one vowel + one consonant + silent e.

The 1 st type of syllable is open syllable and vowels in it are pronounced as an alphabet.

Aa[e ɪ] *O'zbek tilida "ey" harf birikmasi orqali ifodalanadi.*

Kate   [keit]   date   [deit]

blame [bleim]   pale   [peil]

same   [seim]   hate   [heit]

make [meik]   plate [pleit]

Kate, don't take the cake from the plate, it's for Mr.Blake.

[keit| dount teik ðə keik frɔm ðə pleit| its fə mistə bleik||]

Oo[ou]   *O'zbek   tilida   bunday   tovush   mavjud   emas,   u   **o**   hamda   **u** harflarini birga qo'shib talaffuz bilan hosil bo'ladi.*

tone [toun]   rose   [rouz]

bone [boun]   phone [foun]

home [houm]   nose   [nous]

hope [houp]   note   [nout]

Oh, no, don't go home alone.

[ou| nou| dount gou houm əloun||]

Ee[i:] *O'zbek tilidagi **I** harfiga o'xshaydi, lekin biroz cho'zib talaffuz qilinadi.*

she   [ʃi:]   Pete [pi:t]

these [ði:s]   Peter [pi:tə]

scene [si:n]   Steve [sti:f]

meter [mi:tə]   We   [wi:]

Pete and Peter, look at the meter.

[pi:t ən pi:tə| luk ət ðə mi:tə||]

Ii[ai] *O'zbek tilida bu tovush **ay** harf birikmasi orqali ifodalanadi.*

kite [kait]   bride [braid]

like [laik]   mine [main]

fine [fain]   pipe [paip]

nice [nais]   tide [taid]

Mike is nine, the kite is fine.

[maik iz nain| ðə kait iz fain||]

Uu[ju:] *Bu harf o'zbek tilidagi **yu** harfining biroz cho'zib talaffuz etilgan variantidir.*

tube [tju:b]   student [stju:dənt]

tuner [tju:nə]   unit   [ju:nit]

use   [ju:z]   tulip [tju:lip]

super [sju:pə]   tune [tju:n]

Sue used the tuner and tuned the radio to the music.

[sju: ju:st ðə tju:nə ən tju:nət ðə reidjou tə ðə mju:zik||]

Yy[wai] *Bu harf ham **ay** harf birikmasi kabi talaffuz etiladi, ma'nolar esa kontekstga qarab aniqlanadi.*

cry   [krai]   fly [flai]

fry   [frai]   try [trai]

sky [skai]   type [taip]

why [way]   my [mai]

The little fly is in the sky, why not try to catch the fly.

[ðə litl flai iz in ðə skai| wai nɔt trai tə kǣʧ ðə flai||]

The 2ⁿᵈ type of syllable is closed syllable and vowels in it are pronounced as short.

Aa[ǣ] *Qisqa tovush, o'zbek tilidagi **e** harfini **a** harfiga biroz yaqinlashtirib qisqa*

talaffuz qilinadi.

map [mæp]	sat [sæt]	catch [kæʧ]
cap [kæp]	that [ðæt]	match [mæʧ]
hat [kæp]	cat [kæt]	black [blæk]

That black cat sat on a hat.

[ðæt blæk kæt sæt on ə hæt]

Oo[ɔ] *Qisqa unli tovush. O'zbek tilidagi **o** unli harfiga o'xshaydi, lekin biroz qisqaroq talaffuz etiladi.*

hot [hɔt]	not [nɔt]	clock [klɔk]
pot [pɔt]	spot [spɔt]	frost [frɔst]
dog [dɔg]	cost [kɔst]	knok [nɔk]

Tom has got a clock but not a spotty dog.

[tɔm həz gɔt ə klɔk bət nɔt ə spɔti dɔg‖]

Ee[e] *Qisqa unli tovush. O'zbek tilidagi **e** harfiga juda o'xshaydi, lekin u ham qisqa talaffuz qilinadi..*

pen [pen]	best [best]	Betty [beti]
ten [ten]	well [wel]	Benn [ben]
men [men]	help [help]	pencil [pensil]

Ben sent ten men to mr.Den   [ben sent ten men tə mistə den‖]

Ii[i] *Qisqa unli tovush.*

still [stil]	hill [hil]	bring [briŋ]
milk [milk]	will [wil]	silk [silk]
ink [iŋk]	kill [kil]	kick [kik]

Little Bill sit still if you sit still, little Bill, Jimmy, Nill will bring you to a big hill. [litl bil sit stil if ju: sit stil‖ litl bil‖ ʤimi‖ nil wil briŋ ju: tu ə big hil‖]

Uu[ʌ] *Qisqa unli tovush. O'zbek tilidagi **a** harfiga juda o'xshaydi, u ham qisqa talaffuz qilinadi.*

nut [nʌt]	much [mʌʧ]	busket [bʌskit]
cut [kʌt]	must [mʌst]	mud [mʌd]

cup [kʌp]　　　　　　　such　[sʌʧ]　　　　　　　structure [strʌkʧə]

Judd, you mustn't strike the busket

[tʌd‖ ju: mʌsnt straik ðə bʌskit‖‖]

Yy[i] *Qisqa unli tovush. I harfi kabi u ham qisqa talaffuz qilinadi.*

system　[sistəm]　　　symphony　[simfəni]

synonym [sinənim]　　syllable　[siləbl]

mystery　[mistəri]　　myth　[miɵ]

Syd, Symphony and syndicate are not synonyms of system and symbol.

[sid‖ simfəni ənd sindikit ɑ: nɔt sinənimz əv sistəm ənd simbəl‖‖]

The 3ʳᵈ type of syllable is formed with **vowel+r** or   **vowel+r + consonant** and vowels in it are pronounced as long.

> vowel + r + consonant

Aa[ɑ:] *Cho'ziq unli tovush. O'zbek tilida bunday tovush mavjud emas.*

car [kɑ:]　　　　　　spark [spɑ:k]

bar [bɑ:]　　　　　　mark [mɑ:k]

art [ɑ:t]　　　　　　dark [dɑ:k]

far [fɑ:]　　　　　　card [kɑ:d]

Mark, don't park your car near the bar.

[mɑ:k‖ dount pɑ:k jɔ kɑ: niə ðə bɑ:‖‖]

Oo[ɔ:] *Cho'ziq unli tovush. **o'rmon o'** harfining talaffuziga yaqin, lekin cho'ziq talaffuz qilinadi.*

form [fɔ:m]　　　port [pɔ:t]　　　formal [fɔ:ml]

norm [nɔ:m]　　　horn [hɔ:n]　　　born [bɔ:n]

forty [fɔ:ti]　　　North [nɔ:ɵ]　　　sport [spɔ:t]

George Forest wasn't born in the North of Norway.

[ʤɔ:ʤ fɔ:rəst wɔznt bɔ:n in ðə nɔ:ɵ əv nɔ:wei‖‖]

Uu[ə:] *Cho'ziq unli tovush bo'lib, o'zbek tilida bunday tovush mavjud emas.*

turn [tə:n]	sur [sə:]
purple [pə:pl]	burst [bə:st]
burn [bə:n]	turkey [tə:ki]
turnip[tə:nip]	fur [fə:]

Turkman turner turned and went down to his turnery.

[tə:kmən tə:nə tə:nd ənd went daun tə hiz tə:nəri‖]

Ee[ə:] *Bu ham cho'ziq unli tovush.*

her [hə:]	Bert [bə:t]
ferm [fə:n]	mercy [mə:si]
stern [stə:n]	herd [hə:d]

The herd and bert didn't see her pearl.

[ðə hə:d ənd bə:t didnt si: hə: pə:l‖]

Ii[ə:] *Cho'ziq unli tovush.*

sir [**s**ə:]	first [fə:st]
bird [bə:d]	girl [gə:l]
fir [fə:]	firm [fə:m]
thirty [Ɵə:ti]	thirsty [Ɵə:sti]

Yy[ə:] *Cho'ziq unli tovush.*

myrtle [mə:tl]

myrmidon [mə:midən]

 The 4th type of syllable is **vowel + r + only vowel e** and vowels in it are pronounced differently.

```
 ┌──────────────·····▶──────────────────┐
 │  vowel + r + e        унли + r +e     │
 └───────────────────────────────────────┘
```

 Aa[ɛə] *O'zbek tilidagi eye xarf birikmasining talaffuziga o'shaydi.*

care [kɛə]	spare [spɛə]
fare [fɛə]	hare [hɛə]

dare [dɛə]   ware [wɛə]

farewell [fɛəwel]

Miss Clare carefully looked at the hare.

[mis klɛə kɛəfuli lukt ət ðə hɛə‖]

Oo[ɔ:] *Bu harf III va IV tur bo'g'inlarida bir xil [ɔ:] tovushni ifodalaydi.*

more [mɔ:]   forecast [fɔ:kɑ:st]

core [kɔ:]   pore [pɔ:]

sore [sɔ:]   fore [fɔ:]

Core has a sore forefinger and moreover, she looked more and more at her sore forefinger. **[kɔ: hæz ə sɔ: fɔ:fiŋgə** ənd **mɔ:(r)**əuvə‖ ʃi: lukt **mɔ:r**ənd **mɔ:r**ət hə: **sɔ:**

fɔ:fiŋgə‖]

Ee[ɪə] *Bu tovush o'zbek tilidagi **ie** harf birikmasining talaffuziga o'xshaydi, lekin juda qisqa talaffuz qilinadi.*

here [hɪə]   interfere **[ɪntəfɪə]**

Mere [mɪə]   interference **[ɪntəfɪərəns]**

Merely [mɪəli]

Uu[juə] *O'bek tilidagi **yue** harf birikmasining talaffuziga o'xshash, lekin juda qisqa talaffuz qilinadi.*

pure [p**juə**]

cure **[kjuə]**

Ii[aɪə] *O'zbek tilida bunday tovush mavjud emas.*

fire [fɪə]   admire [**ədmaɪə**]

wire [waɪə]   require **[rɪkwaɪə]**

 tire [taɪə]

Yy[aɪə] IV tur bog'inda ham Ii va Yy harflari bir xil tovushni ifodalaydi.

tyre [taɪə]

IV Onsets and codas of English syllable

Phonotactic Constraints

We have seen in the preceding chapter that all languages build their words from a finite set of phonemic units. It is also true that in all languages there are constraints on the way in which these phonemes can be arranged to form syllables. These constraints are sometimes known as phonotactic or phoneme sequence constraints and they severely limit the number of syllables that would be theoretically possible if phonemes could be combined in an unconstrained way. Some simple examples of phonotactic constraints in English include: all three-consonant clusters at the beginning of a word start with /s/ ('sprint', 'squire', 'stew' etc); nasal consonants cannot occur as the second consonant in word-initial consonant clusters unless the first consonant is /s/ (e.g. there are no words in English than begin with /bm dn/ etc), although this is certainly possible in other languages (e.g. German which allows /kn/ in words like 'Knoten', meaning 'knot' -

we can see from the spelling that English used to allow this sequence as well). Another important point about phonotactic constraints is that they vary from language to language, as this example of English and German has just shown.[35]

We will consider firstly why languages have phonotactic constraints. The main reason is to do with the limits on the talker's ability to pronounce sequences of sounds as one syllable, and the listener's perception of how many syllables he or she hears from a given sequence of phonemes. Consider for example a sequence like /pʁ/ i.e. a voiceless bilabial followed by a voiced uvular fricative. Most of us with some training can produce this sequence (e.g. /pʁa pʁit/ etc.) as a monosyllabic word even though it doesn't occur in English. Now try reversing the order of the cluster. With some phonetics training, you could almost certainly produce /ʁp/, but what is much harder (even for a trained phonetician) is to produce the sequence before a vowel such that the resulting sequence is monosyllabic. For example, try /ʁpi/ -- even your best attempts at producing the /ʁ/ followed by the /p/ will probably still lead to a percept of two syllables when /ʁp/ precedes a vowel.
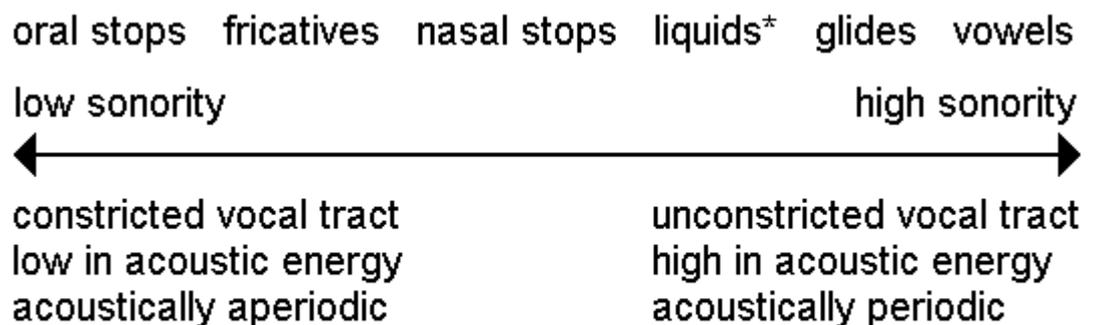
One of the main reasons, then, why languages have phonotactic constraints is because their sequential arrangement is itself a cue to the number of syllables in a word. When we produce an English word like 'print' for example, we want to convey to the listener not only that this word is composed of a certain number and type of phonemes, but also that the word happens to be monosyllabic: and the listeners' perception of how many syllables there are in a word depends to a certain extent on the arrangement of phonemes in sequence, as we saw from the example of /pʁ/ and /ʁp/ that has just been given.[35]

In order to explain why listeners hear e.g. /pʁi/ as one syllable, but /ʁpi/ as two, we need to appeal to what has been called the syllable's sonority profile.

Sonority Profile

Sonority is an acoustic-perceptual term that depends on the ratio of energy in the low to the high part of the spectrum, but it is also closely linked with the extent to which the vocal tract is constricted. In general terms, open vowels like [a] have the highest sonority because the vocal tract is open and a large amount of acoustic energy radiates from the vocal tract. At the other extreme, voiceless oral stops have least sonority because there is no acoustic energy during the closure in which the vocal tract is constricted.

Languages prefer to build syllables with the most vowel-like sounds nearer the middle, and the least vowel like sounds (=oral stops, voiceless fricatives) near the edge(s). Syllable structured in this way are said to conform to the sonority profile.

oral stops   fricatives   nasal stops   liquids*   glides   vowels

low sonority   high sonority

←——→

constricted vocal tract   unconstricted vocal tract
low in acoustic energy   high in acoustic energy
acoustically aperiodic   acoustically periodic

* liquid = /l/ and /r/ sounds

i.e. oral stops are less sonorous than fricatives which are less sonorous than nasals etc.

If they conform to the sonority profile, consonants sequences in syllable onsets increase in sonority from left to right and consonant sequences in syllable codas decrease in sonority from left to right. From this we can predict which consonant sequences are more probable for syllable onsets and codas.

probable	less probable
/pla fni lju sma pfle/	/lpa nfi jlu lfpe/
/alp ims ort/	/apl ism otr/

Why? The syllables on the right have two sonority peaks -- and so it's much more difficult to produce them so that they sound like one syllable…for example:

So a language is more likely to build monosyllabic words from the combination of phonemes on the left than on the right.
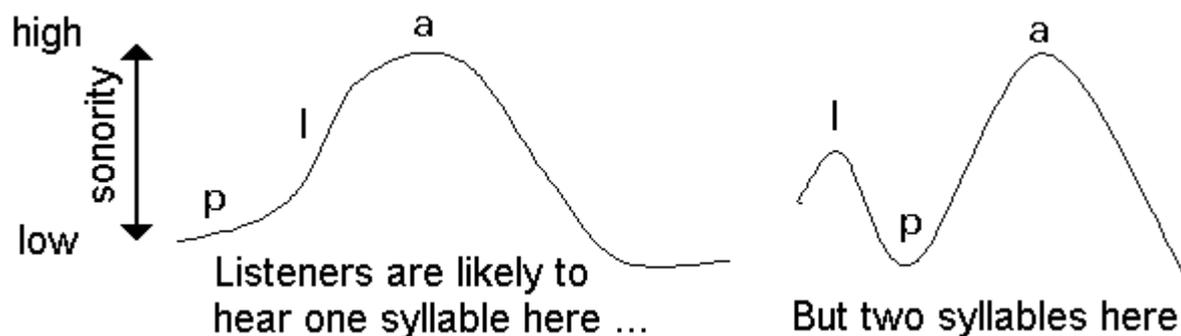
Languages prefer to build syllables from phonemes such that the sonority rises from the left syllable edge, then reaches a peak (at the vowel), and then falls. Therefore, a language is more likely to have a syllable like /pla/ than /lpa/, because in /pla/ the sonority rises from its lowest value for /p/, increasing for /l/, and reaching a peak with /a/. Similarly, a language is more likely to have /amp/ than /apm/. We can now see why listeners might hear two syllables in /ʁpa/ even if a talker intends only one: because the sonority is higher for /ʁ/ (since it is a fricative), then falls for /p/, then rises again for /a/ (and the condition to hear one syllable would be that there is a progressive rise in sonority from the syllable's left edge).

It must be recognised that there is only a tendency for syllables to conform to the sonority profile. So while most syllables do conform to the sonority profile in English, many syllables that contain a consonantal cluster with /s/ do not. An example of a syllable that does conform to the sonority profile is 'flounce', phonemically /flæɔns/ in (Australian) English. In the initial consonant cluster, /f/ is less sonorous than /l/ which is less sonorous than the diphthong; in the final consonant cluster, the diphthong is more sonorous than /n/ which is more sonorous than /s/ and so the sonority rises from the left edge of the syllable, reaches a peak at the diphthong, and then falls over the final cluster. But a word like 'spin' violates the sonority profile (because /s/ is more sonorous than /p/) and so does 'act'

(because /k/ and /t/ are equally sonorous). The sonority profile is therefore a general tendency which determines many, but by no means, all phonotactic constraints.[35]

When discussing phonotactic constraints, it is helpful to structure the syllable hierarchically in terms of an onset and a rhyme, and sometimes also the syllable coda. See the section on "[Syllable Structure](#)" for more details.

The most extreme phonotactic constraints (extreme in terms of the greatest restrictions in the sequential arrangement of phonemes) are in the onset. For example, in English: /f/ can only be followed by approximants (as in 'fly'), there are no consonant phonemes that can follow affricates etc.

The phonotactic restrictions in the coda in English are often (but not always) a mirror-image of those in the onset (as you'd expect if the syllable's legal phoneme sequences are strongly influenced by the sonority profile). For example, English allows /pl/ in the onset ('play') and /lp/ in the coda ('help'); it allows /fr/ in the onset ('free') and, for rhotic dialects (e.g. Gen. American English), /rf/ in the coda ('surf'). But there are also many permissible coda sequences that are allowed whose mirror-image is disallowed in the onset (e.g. /mp/ as in 'lamp', but no /pm/ in the onset).

Finally, there are far fewer restrictions in the rhyme -- these are to do with the restrictions on nucleus-coda combinations. But as an example of a rhyme constraint, there are no long vowel + /ŋ/ sequences (no words like 'seeng', 'flowng', although the onomatopoeic 'boing!' is allowed).

Language-specific constraints

Languages differ in the kinds of onsets they allow:

	/kn/	/skw/	/sb/	/vr/
	E	N	ye	n	n
nglish	o	s	o	o
	G	Y	n	n	n

erman	es	o	o	o
Fr	N	n	n	ye
ench	o	o	o	s
It	N	n	ye	n
alian	o	o	s	o

In English the maximum number of consonants that can make up the syllabic onset at the beginning of an isolated word is three. The first can only be /s/, the second has to be /p, t, k/, and the third has to be an approximant /w, j, r, l/.

	spla	Stra	scra
g. yed	yed	pe	
spe	Ste	ske	
w	wed	wed	
squi	Squ	sque	
sh	awk	al	

These are all CCCVC

When the third consonant is /w/ then the first two must be /sk/

Whilst /spr/ and /str/ are permitted syllable-initially, /spw/ and /stw/ are not permitted syllable-initially in English.

Most languages do not allow as many as three consonants in the syllabic onset however there are some that allow up to six.

Restrictions in the coda are often the mirror image of those in the onset, eg pl ~ lp due to the sonority principle. However there are many exceptions eg /nd/ in "end" but not /dn/.

The number of final consonants in an English rhyme can range from one to four. eg. /sɪk/ sick, /sɪks/ six, /siksθ/ sixth, /siksθs/ sixths

Languages differ in the structures that they permit. English permits complex codas and onsets. Languages like Hawaiian, for instance, only allow a single consonant in the onset and none in the coda, so every syllable ends in a

vowel. Standard Chinese allows only nasal consonants in the coda, so syllables are either open or closed with a nasal.

Some Combinatory Constraints in English

/ŋ/ cannot be preceded by long vowels or diphthongs

/tʃ, dʒ, ð, z/ do not cluster

/r, w, l/ only occur alone or as non initial elements in clusters

/r, h, w, j/ do not occur in final position in Australian English, but /r/ can occur in final position in rhotic dialects such as American English.

in final position only /l/ can occur before non-syllabic /m/ and /n/.

Some Distributional Constraints in English

/ŋ/ cannot occur word initially

/e, æ, ɐ, ʊ, ɔ/ cannot occur word finally

/ʊ/ cannot occur initially

/ʒ/ only occurs initially before /ɪ, iː, æ, ɔ/ in foreign words such as genre.

Defining non-words using phonotactic constraints

We can define two kinds of nonword monosyllables

Accidental gaps

These are phonotactically legal word-like sequences, but happen not to occur in that language

eg. /stremp/ in English is an accidental gap because /str/ is legal (as in "string"), /emp/ is legal (as in "hemp"), but /stremp/ happens not to be a word.

Illegal Syllables

These violate a phonotactic constraint in that language.

eg. /knep/ is illegal in English because no words can start with /kn/. In German, this would be an accidental gap since /kn/ does occur ('Knoten', 'Kneipe' etc.).

Phonotactic constraints in the onset are sometimes used to syllabify polysyllabic words under an algorithm known as the maximum onset

principle. The problem is as follows. If we have a word like 'athlete', which we know consists of two syllables, where does the syllable boundary occur? The maximum onset principle algorithm works on the basis that as many consonants should be syllabified with a following vowel, providing that the resulting sequence is phonotactically legal. In this case, we have to decide whether /θl/ belongs with the first syllable, the second, or whether /θ/ goes with the first, and /l/ with the second etc.

Based on the maximum onset principle, we would ask:-

(i) Are there any words in English that can begin with /l/? Yes, e.g. 'leaf', 'lot' etc. Then assign /l/ to the second syllable.

(ii) Now move one slot to the left: are there any syllables that can begin with /θl/? No. Therefore, the syllable boundary goes after /θ/ i.e. the word has two syllables, the first of which is /æθ/, and the second of which is /liːt/.

Another example. Syllabify 'constrain' based on the maximum onset principle. Here we have to decide how to break up the medial consonantal cluster /nstr/.

(i) Are there any words that begin with /r/? Yes, 'red', 'range' etc.

(ii) Are there any words that begin with /tr/? Yes, 'train', 'try' etc.

(iii) Are there any words that can begin with /str/? Yes, 'string', 'strike' etc.

(iv) Are there any words that can begin with /nstr/? No. Therefore, syllabify the word as /kən.streɪn/, where the full stop marks the syllable boundary.

It must be understood that syllable structure is required to satisfy the maximum onset principle only within the limits set by the syntactic, morphological and phonotactic constraints of the language.

Summing this chapter we came to the following conclusions:
There are six different types of syllables in the English language.

7   Closed: ends in a consonant, has a short vowel sound

8   Open: does not end in a consonant, has a long vowel sound

9 Vowel-consonant-"E": This syllable is only found at the end of a word. The final "e" is silent and makes next vowel before it long.

10 Diphthong: two vowels next to each other that together create a new sound and Vowel team: two pronounced vowels next to each other

11 Consonant-"LE":

12 Power-"R": a syllable where a vowel is followed by the letter "r". The "r" takes control of the vowel and changes the way that it is pronounced.

Coda is the segment of a syllable following the nucleus, as the d sound in good

Syllable formation in English is based on the phonological opposition vowel – consonant. In English the syllable is formed:

 1. by any vowel alone or in combination with one or more consonants – not more than 3 preceding and not more than 4 following it, e.g. are [a:], we [wi:], it [it], sixths [siksθs].

2. by a word final sonorants [n], [l], [m] immediately preceded by a consonant: rhythm, garden

Every English syllable has a center or peak – a vowel or a sonorant. The peak may be preceded by one or more non-syllabic elements which constitute the onset of the syllable, and it maybe followed by one or more non-syllabic elements which constitute the coda, e.g. cat [kжt], tree [tri:], ice [ais]

Every language has its own common patterns in which phonemes are arranged to form syllables. rhythm ['rIpEm], garden ['ga:dEn].

The English sonorants [w], [j] are never syllabic as they are always syllable-initial. Thus vowels and sonorants are syllable-forming elements and every word, phrase or sentence has as many syllables as it has syllabic elements.

Conclusion

Speech is the most important means or medium of human communication.

The signifigance of speech is self-evident in that it is hard to imagine life without speech. Unfortunately, the moments when we become aware of speech often relate to problems and disorders in speech communication: we may experience voice problems and, occasionally, difficulties even in the production of certain speech sounds and also hearing problems may have an effect on our ability to understand speech.

If you are interested in languages – native or foreign – and you are leaning towards a research oriented profession or work, Phonetics presents itself as an extremely useful linguistic subject. Of course, studies in Phonetics in no way

prevent you from entering a more teaching oriented work, since the focus of Phonetics is very much present and meaningful in almost all areas of teaching.

Phonetic research offers several possible areas of specialization in that the research motives can be as varied as linguistic (linguistic theory and language teaching), logopedic (disorders of speech communication), medical (physiology of speech and hearing) and psychological (speech perception) as well as technical (speech signal processing).

Speech can be broken into minimal pronounceable units into which sounds show a tendency to cluster or group. These smallest phonetic groups arc generally given the name of syllables. Being the smallest pronounceable units, syllables form morphemes, words and phrases. Each of these units is characterized by a certain syllabic structure. Thus a meaningful language unit phonetically may be considered from the point of view of syllable formation and syllable division.

A syllable is a unit of pronunciation uttered without interruption, loosely, a single sound. All words are made from at least one syllable.

The syllable is a complicated phenomenon and like a phoneme it can be studied on four levels - articulatory, acoustic, auditory and functional. The complexity of the phenomenon gave rise to many theories.

We could start with the so-called expiratory (chest pulse or pressure) theory by R.H. Stetson. This theory is based on the assumption that expiration in speech is a pulsating process and each syllable should correspond to a single expiration. So the number of syllables in an utterance is determined by the number of expirations made in the production of the utterance.

Another theory of syllable put forward by O. Jespersen is generally called the sonority theory. According to O. Jespersen, each sound is characterized by a certain degree of sonority which is understood us acoustic property of a sound that determines its perceptibility.

According to V.A. Vasssilyev the most serious drawback of this theory is that it fails to explain the actual mechanism of syllable formation and syllable

division. Besides, the concept of sonority is not very clearly defined.

Further experimental work aimed to description of the syllable resulted in lot of other theories. However the question of articulatory mechanism of syllable in a still an open question in phonetics. We might suppose that this mechanism is similar in all languages and could be regarded as phonetic universal.

In Russian linguistics there has been adopted the theory of syllable by LV Shcherba. It is called the theory of muscular tension. In most languages there is the syllabic phoneme in the centre of the syllable which is usually a vowel phoneme or, in some languages, a sonorant. The phonemes preceding or following the syllabic peak are called marginal. The tense of articulation increases within the range of prevocalic consonants and then decreases within the range of postvocalic consonants.

Russian linguist and psychologist N.I. Zhinkin has suggested the so-called loudness theory which seems to combine both production and perception levels. The experiments carried out by N.I. Zhinkin showed that the arc of loudness of perception level is formed due to variations of the volume pharyngeal passage which is modified by contractions of its walls. The narrowing of the passage and the increase in muscular tension which results from it reinforce the actual loudness of a vowel thus forming the peak of the syllabic. So the syllable is the arc of loudness which correlates with the arc of articulatory effort on the speed production level since variations in loudness are due to the work of all speech mechanisms.

It is perfectly obvious that no phonetician has succeeded so far in giving an adequate explanation of what the syllable is. The difficulties seem to arise from the various possibilities of approach to the unit. There exist two points of view:

1. Some linguists consider the syllable to be a purely articulatory unit which lacks any functional value. This point of view is defended on the ground that the boundaries of syllables do not always coincide with those of morphemes.

2. However the majority of linguists treat the syllable as the smallest

pronounceable unit which can reveal some linguistic function.

Trying to define the syllable from articulatory point of view we may talk about universals. When we mean the functional aspect of the syllable it should be defined with the reference to the structure of one particular language.

The definition of the syllable from the functional point of view tends to single out the following features of the syllable:

a) a syllable is a chain of phonemes of varying length;

b) a syllable is constructed on the basis of contrast of its constituents (which is usually of vowel - consonant type);

c) the nucleus of a syllable is a vowel, the presence of consonants is optional; there are no languages in which vowels are not used as syllable nuclei, however, there are languages in which this function is performed by consonants;

d) the distribution of phonemes in the syllabic structure follows by the rules which are specific enough for a particular language.

Methods for phonetic transcription such as the International Phonetic Alphabet (IPA) aim to describe pronunciation in a standard form. They are often used to solve ambiguities in the spelling of written language. They may also be used to write languages with no previous written form. Systems like IPA can be used for phonemic representation or for showing more detailed phonetic information (see Narrow vs. broad transcription).

Phonemic orthographies are different from phonetic transcription; whereas in a phonemic orthography, allophones will usually be represented by the same grapheme, a purely phonetic script would demand that phonetically distinct allophones be distinguished.

There are six different types of syllables in the English language.
1   Closed: ends in a consonant, has a short vowel sound
2   Open: does not end in a consonant, has a long vowel sound
3   Vowel-consonant-"E": This syllable is only found at the end of a word. The

final "e" is silent and makes next vowel before it long.

4 Diphthong: two vowels next to each other that together create a new sound and Vowel team: two pronounced vowels next to each other

5 Consonant-"LE":

6 Power-"R": a syllable where a vowel is followed by the letter "r". The "r" takes control of the vowel and changes the way that it is pronounced.

Coda is the segment of a syllable following the nucleus, as the d sound in good Syllable formation in English is based on the phonological opposition vowel – consonant. In English the syllable is formed:

1. by any vowel alone or in combination with one or more consonants – not more than 3 preceding and not more than 4 following it, e.g. are [a:], we [wi:], it [it], sixths [siksθs].

2. by a word final sonorants [n], [l], [m] immediately preceded by a consonant: rhythm, garden

Every English syllable has a center or peak – a vowel or a sonorant. The peak may be preceded by one or more non-syllabic elements which constitute the onset of the syllable, and it maybe followed by one or more non-syllabic elements which constitute the coda, e.g. cat [kжt], tree [tri:], ice [ais]

Every language has its own common patterns in which phonemes are arranged to form syllables. rhythm ['rIpEm], garden ['ga:dEn].

The English sonorants [w], [j] are never syllabic as they are always syllable-initial. Thus vowels and sonorants are syllable-forming elements and every word, phrase or sentence has as many syllables as it has syllabic elements.

Methodological recommendations

Teaching pronunciation involves a variety of challenges. To begin with, teachers find that they do not have enough time in class to give proper attention to this aspect of English instruction. When they do find the time to address pronunciation, the instruction often amounts to the presentation and practice of a series of tedious and seemingly unrelated topics. Drilling sounds over and over again (e.g., minimal pair work) often leads to discouraging results, and discouraged students and teachers end up wanting to avoid pronunciation altogether.

There are also psychological factors that affect the learning of pronunciation in ways that are not so true of studying grammar or vocabulary. For one thing, the most basic elements of speaking are deeply personal. Our sense of self and community are bound up in the speech-rhythms of our first language (L1). These rhythms were learned in the first year of life and are deeply rooted in the minds of students. Therefore, it is common for students to feel uneasy when they hear themselves speak with the rhythm of a second language (L2). They find that they "sound foreign" to themselves, and this is troubling for them. Although the uneasiness is usually unconscious, it can be a major barrier to improved intelligibility in the L2.

A teacher can help overcome this psychological barrier and other challenges by thinking of the goal of pronunciation instruction not as helping students to sound like native speakers but as helping them to learn the core elements of spoken English so that they can be easily understood by others. In other words, teachers and students can overcome the frustrations, difficulties, and boredom often associated with pronunciation by focusing their attention on the development of

pronunciation that is "listener friendly."

Pronunciation seems to be sometimes a neglected part in our English lessons. Many teachers are not used to teaching it for many reasons. As most teachers in our schools are not native speakers, there is no need to set native-like pronunciation as one of our goals, moreover, most teachers themselves do not feel perfect in this language component and thus feel reluctant to show it. But we do not need to be perfect to enable our pupils to achieve their best. The next obstruction for teachers is the lack of pronunciation tests and general unfamiliarity with their assessment. Nevertheless, giving feedback on correct speaking to our students should be involved. Learning pronunciation will elevate their level of speaking and undoubtedly will improve their listening skills.

People learn languages for many different purposes. And therefore, the goals for individual learners may vary. From the teachers' point of view, the following aspects should be taken into account: the age, natural ability and motivation of the learners which is to be the base for answering the questions about how much time we will devote to teaching pronunciation and what level is needed for obtaining efficient communication. This is difficult, since, in contrast with e. g. grammar or vocabulary plans, pronunciation does not enable this particular progressive pace as all phonetic and phonological features occur from the very beginning. Nevertheless, we can count on the subconscious acquisition of the sound of English which will be beneficial for both, teachers and learners, later on.

We can delimit two extreme targets in learning pronunciation. On the one hand, some learners aim to obtain native-like pronunciation, on the other hand, many learners' purposes are more practical in the way that as long as their speaking is comprehensible, they do not have the need to improve. Both these opinions have their advantages and disadvantages. In practice, many learners do not achieve native-like pronunciation and the question is, if its obtaining is necessary. At the same time, learning pronunciation does not only improve speaking, but has a great influence on our listening skills, so its practice is useful.

According to Gimson (1994, p. 273), the first extreme target is achieving just such a level of pronunciation which enables understanding. Gimson mentions so called Minimal General Intelligibility as the lowest requirement. This Minimal General Intelligibility: possesses a set of distinctive elements which correspond in some measure to the inventory of the RP phonemic system and which is capable of conveying a message efficiently from a native English listener's standpoint, given that the context of the message is known and that the listener has had time to "tune in" to the speaker's pronunciation. (p. 273)

In its opposition, Gimson describes High Acceptability as: a form of speech which the native listener may not identify as non-native, which conveys information as readily as would a native's and which arrives at this result through precision in the phonetic realization of phonemes and by confident handling of accentual and intonational patterns. (p. 273)

As the previously mentioned statements were the extremes in attitude to pronunciation learning, our aim should be somewhere in between, which means that we should aim to reduce the time to "tune in" for the listener as well as to put down the strain for the speaker in order to make the conversation comfortable for both sides.

What affects pronunciation learning?

Like in other subjects, there are many factors which affect pronunciation learning, but some of them are specific to this language section as well as to learning foreign language as a whole. It involves both learning as an organized and intentional process, and the unintentional language acquisition, which proceeds subconsciously and intuitively, however, is not less beneficial. Both, learning and the language acquisition, are dependable on the inner and outer factors, which the teachers should be aware of when setting out goals and preparing methods and materials.

The factors which cannot be influenced neither by the learner, nor his or her

surroundings are the native language, the age and to a certain extent the phonetic ability of the learner. In contrast, the amount of exposure to English, the attitude and motivation may be supported and changed a lot either by the teacher, or the learner, but usually in cooperation and support from both sides.

The influence of the native language is unquestioned. It involves the individual sounds as well as combinations of sounds and features such as rhythm and intonation. The more differences there are between the native and the target language, the more difficulties will be encountered by the learner. The learner's errors derive from various sources. When a particular sound does not exist in the mother tongue, the learners tend to substitute it by the nearest equivalent from their native language. For example, the sound [ð] will often be substituted by [d] or [z] as these are the nearest. This first language application affects the rhythm and the intonation too. Still, the influence of the native language is only one of the factors and does not need to be crucial.

Why teach syllables?

Without a strategy for chunking longer words into manageable parts, students may look at a longer word and simply resort to guessing what it is — or altogether skipping it. Familiarity with syllable-spelling conventions helps readers know whether a vowel is long, short, a diphthong, r-controlled, or whether endings have been added. Familiarity with syllable patterns helps students to read longer words accurately and fluently and to solve spelling problems — although knowledge of syllables alone is not sufficient for being a good speller.

Spoken and written syllables are different

Say these word pairs aloud and listen to where the syllable breaks occur:

bridle – riddle   table – tatter   even – ever

Spoken syllables are organized around a vowel sound. Each word above has two syllables. The jaw drops open when a vowel in a syllable is spoken. Syllables can be counted by putting your hand under your chin and feeling the number of times the jaw drops for a vowel sound.

Spoken syllable divisions often do not coincide with or give the rationale for the conventions of written syllables. In the first word pair above, you may naturally divide the spoken syllables of bridle between bri and dle and the spoken syllables of riddle between ri and ddle. Nevertheless, the syllable rid is "closed" because it has a short vowel; therefore, it must end with consonant. The first syllable bri is "open," because the syllable ends with a long vowel sound. The result of the syllable-combining process leaves a double d in riddle (a closed syllable plus consonant-le) but not in bridle (open syllable plus consonant-le). These spelling conventions are among many that were invented to help readers decide how to pronounce and spell a printed word.

Closed syllables

The closed syllable is the most common spelling unit in English; it accounts for just under 50 percent of the syllables in running text. When the vowel of a syllable is short, the syllable will be closed off by one or more consonants. Therefore, if a closed syllable is connected to another syllable that begins with a consonant, two consonant letters will come between the syllables (com-mon, but-ter).

Two or more consonant letters often follow short vowels in closed syllables (dodge, stretch, back, stuff, doll, mess, jazz). This is a spelling convention; the extra letters do not represent extra sounds. Each of these example words has only one consonant phoneme at the end of the word. The letters give the short vowel extra protection against the unwanted influence of vowel suffixes (backing; stuffed; messy).

Vowel-Consonant-e (VCe) syllables

Also known as "magic e" syllable patterns, VCe syllables contain long vowels spelled with a single letter, followed by a single consonant, and a silent e. Examples of VCe syllables are found in wake, whale, while, yoke, yore, rude, and hare. Every long vowel can be spelled with a VCe pattern, although spelling "long e" with VCe is unusual.

Open syllables

If a syllable is open, it will end with a long vowel sound spelled with one vowel letter; there will be no consonant to close it and protect the vowel (to-tal, ri-val, bi-ble, mo-tor). Therefore, when syllables are combined, there will be no doubled consonant between an open syllable and one that follows.

A few single-syllable words in English are also open syllables. They include me, she, he and no, so, go. In Romance languages — especially Spanish, Portuguese, and Italian — open syllables predominate.

Vowel team syllables

A vowel team may be two, three, or four letters; thus, the term vowel digraph is not used. A vowel team can represent a long, short, or diphthong vowel sound. Vowel teams occur most often in old Anglo-Saxon words whose pronunciations have changed over hundreds of years. They must be learned gradually through word sorting and systematic practice. Examples of vowel teams are found in thief, boil, hay, suit, boat, and straw.

Sometimes, consonant letters are used in vowel teams. The letter y is found in ey, ay, oy, and uy, and the letter w is found in ew, aw, and ow. It is not accurate to say that "w can be a vowel," because the letter is working as part of a vowel team to represent a single vowel sound. Other vowel teams that use consonant letters are -augh, -ough, -igh, and the silent -al spelling for /aw/, as in walk.

Vowel-r syllables

We have chosen the term "vowel-r" over "r-controlled" because the sequence of letters in this type of syllable is a vowel followed by r (er, ir, ur, ar, or). Vowel-r syllables are numerous, variable, and difficult for students to master; they require continuous review. The /r/ phoneme is elusive for students whose phonological awareness is underdeveloped. Examples of vowel-r syllables are found in perform, ardor, mirror, further, worth, and wart.

Consonant-le (C-le) syllables

Also known as the stable final syllable, C-le combinations are found only at the ends of words. If a C-le syllable is combined with an open syllable — as in cable, bugle, or title — there is no doubled consonant. If one is combined with a closed syllable — as in dabble, topple, or little — a double consonant results.

Not every consonant is found in a C-le syllable. These are the ones that are used in English:

-	-	-stle	-
ble (bubble)	fle (rifle)	(whistle)	cle (cycle)
-	-	-ckle	-
gle (bugle)	tle (whittle)	(trickle)	kle (tinkle)
-	-	-ple	
zle (puzzle)	dle (riddle)	(quadruple)	

Simple and complex syllables

Closed, open, vowel team, vowel-r, and VCe syllables can be either simple or complex. A complex syllable is any syllable containing a consonant cluster (i.e., a sequence of two or three consonant phonemes) spelled with a consonant blend before and/or after the vowel. Simple syllables have no consonant clusters.

imple	omplex
ate	late
ack	tack
ick	hrink

ee ree

ide lind

Complex syllables are more difficult for students than simple syllables. Introduce complex syllables after students can handle simple syllables.

Table 5.1. Summary of Six Types of Syllables in English Orthography

Syllable Type	Examples	Definition
Closed	c ap-ple hos-tel bev-er-age	A syllable with a short vowel, spelled with a single vowel letter ending in one or more consonants.
Vowel-Consonant-e (VCe)	c om-pete des-pite	A syllable with a long vowel, spelled with one vowel + one consonant + silent e.
Open	p ro-gram ta-ble re-cent	A syllable that ends with a long vowel sound, spelled with a single vowel letter.
Vowel Team (including diphthongs)	a w-ful train-er con-geal spoil-age	Syllables with long or short vowel spellings that use two to four letters to spell the vowel. Diphthongs ou/ow and oi/oy are included in this category.

Vowel-r (r-controlled)	i n-jur-i-ous con-sort char-ter	A syllable with er, ir, or, ar, or ur. Vowel pronunciation often changes before /r/.
Consonant-le (C-le)	c rib-ble bea-gle lit-tle	An unaccented final syllable that contains a consonant before /l/, followed by a silent e.
Leftovers: Odd and Schwa syllables	c am-age act-ive na-tion	Usually final, unaccented syllables with odd spellings.

Moats, L, & Tolman, C (2009). Excerpted from Language Essentials for Teachers of Reading and Spelling (LETRS): Spellography for Teachers: How English Spelling Works (Module 3). Boston: Sopris West.

For more information on Language Essentials for Teachers of Reading and Spelling (LETRS) visit the [Sopris West LETRS website](#).

METHODOLOGICAL RECOMMENDATIONS

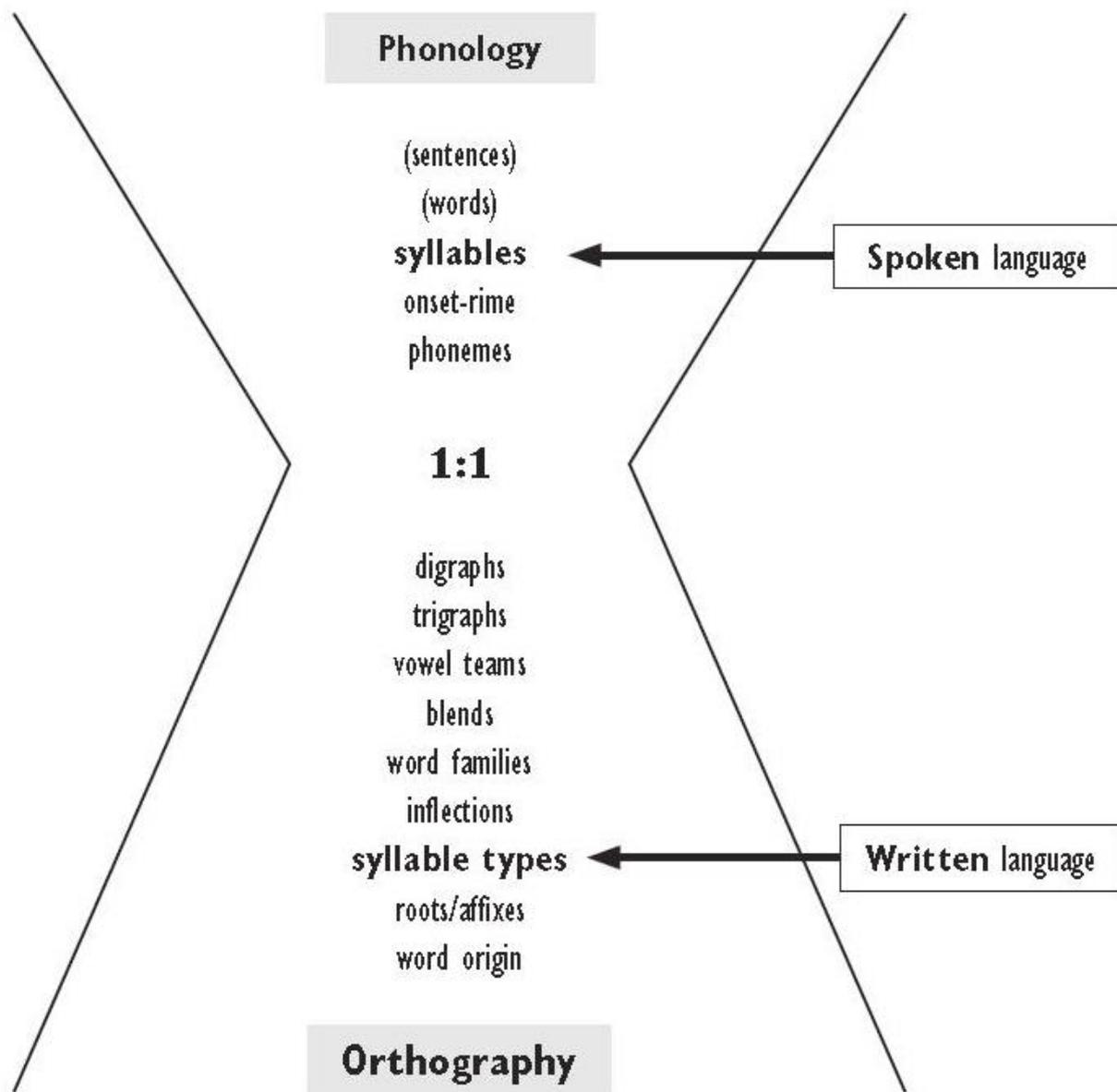Without a strategy for chunking longer words into manageable parts,

students may look at a longer word and simply resort to guessing what it is — or altogether skipping it. Familiarity with syllable-spelling conventions helps readers know whether a vowel is long, short, a diphthong, **r**-controlled, or whether endings have been added. Familiarity with syllable patterns helps students to read longer words accurately and fluently and to solve spelling problems — although knowledge of syllables alone is not sufficient for being a good speller. Spoken and written syllables are different.

Say these word pairs aloud and listen to where the syllable breaks occur:

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Spoken syllable divisions often do not coincide with or give the rationale for the conventions of *written* syllables. In the first word pair above, you may naturally divide the spoken syllables of **bridle** between **bri** and **dle** and the spoken syllables of **riddle** between **ri** and **ddle**. Nevertheless, the syllable **rid** is "closed" because it has a short vowel; therefore, it must end with consonant. The first syllable **bri** is "open," because the syllable ends with a long vowel sound. The result of the syllable-combining process leaves a double **d** in **riddle** (a closed syllable plus consonant-**le**) but not in **bridle** (open syllable plus consonant-**le**). These spelling conventions are among many that were invented to help readers decide how to pronounce and spell a printed word.

Phonology

(sentences)
(words)
syllables ⟵ **Spoken** language
onset-rime
phonemes

1:1

digraphs
trigraphs
vowel teams
blends
word families
inflections
syllable types ⟵ **Written** language
roots/affixes
word origin

Orthography

BIBLIOGRAPHY

1. Karimov I.A. Decree "On measures to further improve foreign language learning system". www.un.int

2. Karimov I.A. Resolution on " 2015 - The Year of Care for the Senior Generation".

3. Каримов И. А. Постановление о совершенствовании системы обучения английскому языку Народное Слово 11 декабря 2012 г. № 240

4. Abduazizov A. A. "English phonetics theoretical course" Tashkent Musiqa 2007.

5. Barber Ch. Linguistic Change in Present Day English. – London, 1964.

6. Celce-Murcia M., Brinton D., Goodwin J. Teaching Pronunciation: A Reference for Teachers of English to Speakers of Other Languages. – Cambridge: Cambridge University Press, 196. – 428p.

7. Coggle P. The Changing Sound of English // Sunday Times. – London, 1994, 28 August 10. 8-10.

8. Crystal D. Linguistics. – Penguin Books, 1977.

9. Esling J.H., Wong R.F. Voice Quality Settings and the Teaching of Pronunciation // TESOL Quarterly. – Alexandria, VA: TESOL, 1983. – Vol. 17. – No. 1. – P. 89-96.

10. Flege J.E. The Phonological Basis of Foreign Accent: A Hypothesis // TESOL Quarterly. – Vol. 15. – No. 4. – December 1981. – P. 443-455.

11. Gimson A.C. Gimson's Pronunciation of English. Sixth ed. / Revised by Alan Cruttenden. London, New York: Edward Arnold, 2001. – 339p.

12. Gimson A.C. An Introduction to the Pronunciation of English. – London: Edward Arnold, 1981. – 312p.

13. Gimson A.C. Jones and Standards of English Pronunciation // English Studies. – Vol. 58. – No. 2. – 1977. – P. 152-157. Hughes A. and Trudgill P.E. Accents and Dialects. – London, 1980.

14. Laver J. Principles of Phonetics. – Cambridge: Cambridge University Press,

1995. – 707p.

15. Leitner G. The Consolidation of "Educated Southern English" as a Model in the Early 20th Century // IRAL. Vol. 20. – 1982. – P. 94-95.

16. Macanalay K. Language, Social Class and Education. – Edinburgh, 1977.

17. MacArthur T. The Oxford Companion to the English Language. – Oxford: Oxford University Press, 1992.

18. Maidment J.A. Estuary English: Hybrid or Hype? // Paper Presented at the 4th New Zealand Conference on language and Society. – Cristchurch: Lincoln University, 1994.

19. Pennington M. Phonology in English Language Teaching: An International Approach. – London and New York: Longman, 1996.

20. Pride J. New Englishes. – Rowley, MA: Newburg House, 1982. – 357p.

21. Roach P.E. Phonetics and Phonology: A Practical Course. – Cambridge: Cambridge University Press, 1995. – P. 133-178.

22. Rosewarne D. Estuary English: Tomorrow's RP? // English Today. – No. 37. 101.– January 1994. – P. 3-8.

23. Shakhbagova D.A. Varieties of English Pronunciation. – M., 1982.

24. The Cambridge Encyclopaedia of the English Language / David Crystal. – Cambridge: Cambridge University Press, 1995. – 489p.

25. Trudgill P., Hannah J. International English: A Guide to varieties of Standard English. –– Third ed. – London, New York: Edward Arnold, 1994. – 156p.

26. Vrubel T.T. Lectures on theoretical phonetics on the English language and methods guides for seminars Poli Print Ungvar 2009

27. Wells J. Longman Pronunciation Dictionary. – Harlow: Pearson Education Limited, 2000. – 1827p.

28. Wells J. Whatever Happened to Received Pronunciation // Il Jornadas de Estudios Ingleses. – Universidad de Jaen, 1997. – P. 19-28.

29. Yule G. The Study of Language. – Cambridge: Cambridge University Press,

30. Теоретическая фонетика английского языка: Учебник для студентов институтов и факультетов иностранных языков/ М.А. Соколова, К.П. Гинтовт, С. Тихонова, Р.М. Тихонова. – М.: Гуманитарный издательский центр ВЛАДОС, 1996. – 266с.

31. Паращук В.Ю. Теоретична фонетика англійської мови: Навчальний посібник для студентів факультетів іноземних мов. – Вінниця, НОВА КНИГА, 2005. – 240с.

32. Расторгуева Т.А. Варьирование и историческое изменение языка // Лингвистика и методика в высшей школе. – Вып. 8. – М., 1978.

33. www.phon.ucl.ac.uk/home/wells/whytranscription.htm

34. www.teachingenglish.org.uk/article/developing-pronunciation-through-songs

35. http://clas.mq.edu.au/speech/phonetics/phonology/syllable/syll_phonotactic.html