Preliminary results of introducing the new program are presented. It is necessary to discuss some considerations as to the pros-
pects of teaching academic writing, which are potentially applicable to similar intercultural and educational situations.
For this reason there is a necessity of implementation in the system of pedagogical education the special integrated courses
developing of the educational literature which would combine achievements of philosophical, psychology-linguistic and philo-

cultural disciplines for improving the preparation of students for intercultural communication.

The main goal of the future projects is to improve the present system of education of the residents and students by creating a
Master program in «Foreign Languages and Intercultural communication teaching», revising relevant curricula, existing relevant
modules of teaching courses and approximating them to the European educational standards, developing and implementing training
and retraining programs.

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COGNITIVE GROUND OF PHONETIC PRIMING IN MONO- AND BILINGUALISM

The article views the phonetic priming as a cognitive linguistic phenomenon that optimizes and inhibits speech recogni-
tions and production embracing simulation, working and long-term memory, interference, restoration capacity, and auditory
modality. The phonetic priming is defined as an implicit form of memory embodied in residual activation of previously expe-
rienced stimuli in particular L1 or L2 exposure.

Keywords: phonetic priming, simulation, working and long-term memory, interference, restoration, audition, stimulus.

КОГНІТИВНА ОСНОВА ФОНЕТИЧНОГО ПРАЙМІНГУ В МОНО- І БІЛІНГВІЗМІ

У статті розглядається фонетичний праймінг як когнітивно-лінгвістичний феномен, який оптимізує або при-
гінчує розпізнавання та породження мовлення та охоплює моделювання, короткострокову і довгострокову пам’ять,
інтерференцію, розпізнавальну здатність, а також слухову модальність. Фонетичний праймінг визначається як імпlicitна форма пам’яті, втілена в залишковій активації раніше пережитих стимулів в конкретному досвіді род-
ної або іноземної мови.

Ключові слова: фонетичний праймінг, моделювання, короткострокова і довгострокова пам’ять, інтерференція,
відновлення, слухове сприйняття, подразник.

КОГНІТИВНА АСНОВА ФОНЕТИЧНОГО ПРАЙМІНГУ В МОНО- І БІЛІНГВІЗМІ

В статті розглядається фонетичний праймінг як когнітивно-лінгвістичний феномен, який оптимізує або при-
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Evidently, all current models of spoken word recognition share the assumption [2; 3; 4; 5; 9; 10; 11] that the perception and
production of speech involve two fundamental processes: activation and competition. In such activation-competition models, the
hallmark of the discrimination process is competition among multiple representations of words activated in memory. As a result,
the role of competition has been a primary focus of research and theory on spoken word recognition in the last few years.

In bilingualism, L2 learner’s speech recognition is firmly grounded on the persistence of the phonetic priming further enclosing
simulation, working and long-term memory, phonetic and prosodic interferences, auditory modality, etc. In recent years, priming is
viewed as an implicit, or non-conscious, form of memory. When a bilingual encounters a stimulus of a given type, he activates its
mental representation, but searching for the unique mental representation for the stimulus, he activates associate for that stimulus,
as well. Priming, then, consists in residual activation from previously experienced stimuli. Here, in both cases of L1 and L2 speech
recognition, congruency as well compatibility are mediated by priming preserving particular specificity in each of the processes.
These processes rely upon general cognitive abilities, and the set of units or constructions eventually building up the inventory
that represents the speaker’s language system or knowledge of the language. Accordingly, in our study we aim to synthesise the
cognitive background of priming effect, namely phonetic, embracing cognitive processes responsible for phonetic perception,
articulation and introspection.

The priming effect in L1 and L2 processing relies on the basic cognitive mechanisms. In priming, the roles of simulation
focuses on grounded cognizance as well as representation system of cognitive mechanisms. Here, simulation is the reenactment of

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perceptual (audition), motor (articulation), and introspective (interference detection and fluency) states acquired in the exposure and all referred to the phonetic processing. For instance, we figured out that namely the motor (articulatory) ground for the priming effect in voice quality settings for English and Ukrainian lies in antagonising loosely closed vs. closed jaw gestures, spread and moderately active vs. neutral and intermittently rounded lip position, nasal voice vs. absence of nasality, lip-rounding vs. lip protrusion, etc. It is proved [3, p. 618] that the brain captures categories and states across the modalities and integrates them with a multimodal representation stored in memory related to every speech activation. Later in speech processing, when previously acquired knowledge is needed to represent a novelty category, multimodal representations experienced within particular instances are reactivated to simulate relevant perception, action, and introspection represented in mind. In this account, the spectrum of diverse cognitive processes is supported by the variability of simulation mechanisms, sharing a common representational system.

Divergences between these cognitive processes reflect differences in the mechanisms that capture multimodal states and simulate them later. In high-level perception and implicit memory, association areas in a modality capture representations and later trigger simulations that produce perceptual completion, repetition priming, etc. Working memory utilizes the same representation system but controls it differently during simulation, using frontal mechanisms to keep a modal representation active temporarily [2; 3]. In phonological sense, working memory temporarily processes and retains the phonological information and relies on phonological store holding the information, and a phonological loop recycling the information back through the store to extend its life. Here, the primary function of the phonological loop is to mediate language learning by providing a temporary storage of unfamiliar phonological forms (novel words) while more permanent memory representations are constructed. Specifically, learning language may arise from an excellent phonological loop function as well as working memory capacity [8, p. 20].

Long-term memory again utilizes the same representation system to simulate episodic events but controls it via medial temporal systems and different frontal areas [3, p. 622]. The results show a strong influence of short-term memory capacity on the encoding of phonetic detail within phonetic categories. They also suggest that long-term memory representations regulate the capacity of short-term memory to preserve information for subsequent encoding. For instance [8, p. 19], subvocal rehearsal of the L2 activates phonological codes, and that mature learners in particular benefit from using phonological information in learning novel L2 categories. In particular, experienced L2 learners not only may have better phonological memory skills, but also may possess more refined long-term knowledge of phonological structures.

Finally, conceptual knowledge uses the same representational system to simulate knowledge but controls it via association areas (e.g., temporal and frontal lobes) [3, p. 622]. In phonetic processing, the articulatory control process converts written material into an articulatory code and transfers it to the phonological store.

These processes render the L2 phonetic system resulting in further priming effects [13, p. 18-19]. First, underdifferenciation of phonetic categories occurs when two L2 whose counterparts are not distinguished in the L1 system are confused. Second, overdifferentiation of phonetic categories involves the imposition of the units’ distinctions from L1 to the units of L2. Third, reinterpretation of distinctions occurs when the bilingual distinguishes L2 phonetic categories by features redundant in the L1 system. Four, substitution applies to the phonetic categories identically defined in both languages, but differs in particular phonetic properties. In the research of the Ukrainian’s English speech processing, the above processes predominantly concern palatalization, duration, reduction, aspiration, accentuation, syntagmatic division, etc.

The simulation process central to accounts of grounded cognition evidently plays ubiquitous roles in perception (namely, audition). During perception, states of perceptual systems become stored in memory. Similar stimuli perceived later trigger these memories, simulating the perceptual states they contain. For instance, in the phoneme restoration effect, listeners use auditory knowledge about a word to simulate a missing phoneme showed that these simulations utilize early auditory systems [3, p. 624].

Such a capacity necessitates phonetic as well as prosodic activation and competition processes. Noticeably, this effect is commonly observed in a conversation with heavy background noise (e.g., L1 interference as white noise), making it difficult to properly recognize every phoneme being spoken. As for the prosodic activation and competition, prosodic information is also supplied by the mental representation of a sentence based on the syntactic structure of the sentence. This namely includes information about which words in the sentence will receive prosodic prominence.

In implicit memory, simulations increase perceptual fluency and the likelihood that perceptions are categorized correctly (i.e., repetition priming). Perceptual processing is crucial for establishing robust implicit learning and perceptual memories activation. In turn, repetition priming is strongest when the modalities of the memory and the perceived stimulus are congruent, for example, when an auditory memory exists to help process an auditory stimulus. Next, repetition priming is strongest when perceptual details of the memory and perceived stimulus are congruent. Finally, imagining a stimulus produces repetition priming similar to actually perceiving it, suggesting that shared perceptual representations prime both. For all these reasons, the simulation of perceptual states appears central to implicit memory [3, p. 625].

Different sensory features, such as the pitch, loudness, and timing of sounds, must be processed in order to recognize specific auditory data. This need to represent various features of the stimulus is constructed by the brain from elemental inputs coded by sensory receptors (e.g., sound waves stimulating the hair cells in the inner ear in case of audition) [1, p. 165]. The hair cells in the cochlea of the ear are differentially sensitive to sounds of different frequencies, which we perceive as tones of different pitch. Thus, the fundamental frequency turns to be the attribute of auditory information coded by the nervous system. The sensitivity of the sensory receptors to frequency is reflected in the organization of primary auditory cortex, in that some regions are active when high tones are heard and other regions are active when low tones are heard. Notably, in the auditory modality, the response to speech sounds is better when the sounds are presented to the right ear, whereas response to nonverbal sounds, such as various environmental sounds or musical tones is more accurate when presented to the left ear [1, p. 16, 96].

Most importantly for our purposes, sound vibrations of different frequencies cause stimulation of different subsets of hair cells within the cochlea. That is, high frequencies stimulate a different set of hair cells than low frequencies. If you could unravel the cochlea, you would find that hair cells that are sensitive to high-frequency sound are located near the base of the cochlea, whereas those sensitive to low-frequency sound are located near the apex (tip) of the cochlea. Therefore, by knowing which sets of hair cells were stimulated, the brain can determine which frequencies are present in the sound. This organization creates a tonotopic map, much the way that the pattern of light across the retina forms a retinotopic map. In the case of audition, the map represents sound frequencies. Auditory information passes through several stopover points on its way from the ear to the auditory cortex. Two of these locations are in the brainstem. First, the auditory nerve synapses in the cochlear nucleus in the medulla, and from there a pathway sends the information onward to the superior olivary nucleus, also in the medulla. Note that between the cochlear nucleus and the olivary nucleus, the pathway extends both contralaterally and ipsilaterally, such that information from both ears is shared with both left and right olivary nuclei. From there, the information goes to the inferior colliculus in the midbrain, and then onward to the
medial geniculate nucleus of the thalamus. From there, the information is finally sent to the primary auditory cortex [1, p. 166, 167].

The neurological roots of the bilingual advantage extend to subcortical brain areas more traditionally associated with sensory processing. When monolingual and bilingual adolescents listen to simple speech sounds without any intervening background noise, they show highly similar brain stem responses to the auditory information. When researchers play the same sound to both groups in the presence of background noise, the bilingual listeners’ neural response is considerably larger, reflecting better encoding of the sound’s fundamental frequency, a feature of sound closely related to pitch perception. To put it another way, in bilinguals, blood flow (a marker for neuronal activity) is greater in the brain stem in response to the sound. Intriguingly, this boost in sound encoding appears to be related to advantages in auditory attention. The cognitive control required to manage multiple languages appears to have broad effects on neurological function, fine-tuning both cognitive control mechanisms and sensory processes.

The most relevant for the priming effect, namely phonetic, is bilingual’s age. A study by [7] on early and late bilinguals is a case in point. The researchers investigated how multiple languages are represented in a human brain. They conducted a functional MRI study of fluent early bilinguals who learned their L2s early in their development and fluent late bilinguals who learned their L2s in early adulthood. As it was figured out, the late bilinguals’ L1 grammar and phonology motor maps had developed in close proximity, as if their extent were limited by some factor like an inhibitory radius. Their L2s developed in a separate area, as if the L1 area were already fully connected.

Arturo E. Hernandez et al. [6] examined morphosyntactic strategies that govern bilinguals’ sentence processing, which suggests that language comprehension is a process during which a set of linguistic forms competes to yield a particular interpretation. A.E. Hernandez et al. suggested that bilingual adults predominantly use an “amalgamation” strategy of combining morphosyntactic forms taken from the two languages, rather than a “differentiated” strategy of using language-specific forms for each of their languages. Another suggestion is that bilinguals might be capable of processing two languages independently, yet in parallel, making it even more challenging for researchers to determine which instances of a bilingual’s language production are examples of “amalgamation,” “dominance,” or “parallel” processing of two “differentiated” linguistic systems. Thus, lively debate continues as to whether adult bilinguals fully define their linguistic systems and can ever achieve monolingual-like language competence in two systems.

Infants can detect the contrasts that define the phonological system for all human languages almost from birth. Still, their ability to perceive these contrasts in languages that are not heard in their native environment begins to decline at about 6 months of age. Until about 6 months old, there is an advantage in the perception of phonetic contrasts by infants in monolingual and bilingual environments. Diverging patterns appear as bilingual babies maintain the categorical distinctions for the phonetic system in both languages and monolingual infants lose the ability to detect contrasts that are not part of the language they are about to learn. By about 14 months old, infants being raised in bilingual environments have established a clearly demarcated phonological representation for both languages. Therefore, bilingual infants develop the phonological basis for both languages on roughly the same schedule as monolingual children do for their only language [12].

During the first year of life, as infants are busy figuring out which sounds are meaningful in their language, they are also engaged in discovering the patterns that occur over multiple sound units. Many of the patterns that are the initial focus of infants’ attention are patterns of sounds. One pattern found in many language that is accessible to infant listeners is an alternation between stressed (strong) and unstressed (weak) syllables, which creates an audible rhythm in many languages, including English. These stress differences are carried by the pitch, amplitude (loudness), duration, and vowel quality of the syllables. If one is familiar with this pattern of correlations between a syllable’s position within a word and the likelihood that a syllable will receive stress, these lexical stress cues can be used to segment words from fluent speech. By nine months of age, infants have already learned something about the predominant stress pattern of their native language. Moreover, infants can use this information: When given a stream of fluent speech made up of nonsense words, nine-month-old infants can use stress patterns alone to segment words, and can integrate stress patterns with other distributitional information.

Infants are able to exploit the differences between particular patterns of phonemes that are likely to occur in a language and patterns that are not when attempting to segment words from fluent speech. To do so, infants make use of sequential statistics in the speech stream. Infants are also sensitive to regularities that occur in specific sound combinations. By nine months of age, infants have learned enough about the phonotactic regularities of their native language to discriminate legal from illegal sequences [11, p. 47–48]. They are able to rapidly use the newly acquired phonotactic regularities as cues to word boundaries in fluent speech. Training studies like these demonstrate that infants’ strategies based on native language regularities are flexible, allowing learners to take advantage of new patterns in the speech stream following very brief exposures. These findings, along with many others, suggest that language learning is a highly dynamic process, with subsequent learning shaped by prior learning.

Similarly, attention-getting features of language assist learners. For example, infants in segmentation tasks are able to take advantage of the infant-directed speech that adults use when speaking to them. A recent study showed that seven-month-old infants found it easier to segment words from infant-directed nonsense speech than adult-directed nonsense speech. Infants heard sentences of nonsense speech that contained pitch contours characteristic of either infant-directed or adult-directed speech. In both conditions, the only cue to word boundaries was the transitional probabilities between syllables, which were uncoupled with the pitch contours. While six to seven-month-old infants appear to weight transitional probability cues over lexical stress cues, eight-month-old infants weight coarticulation and stress cues over transitional probability cues, and nine-month-old infants weight stress cues over phonotactic cues. In addition to cognitive competitive processes, regularities in natural languages may overlap and agree much of the time. For example [11, p. 48–49], the perception of lexical stress is carried by a combination of multiple dynamic properties in the acoustic signal, including increased duration, fundamental frequency (perceived as pitch), and amplitude (loudness). While nine-month-old infants are willing to rely on any one of these properties of stress as a marker of word boundaries, older infants and adults will not, suggesting that infants eventually learn how these various cues covary. The discovery of this rich correlation of acoustic information likely enhances the status of lexical stress as a word boundary cue in languages such as English. More generally, the presence and use of multiple converging cues may enhance infants’ success in language learning.

In summary, we have shown that phonetically related primes have demonstrable effects on the phonetic processes. Hence, we approach priming effect, namely phonetic, as a cognitive linguistic phenomenon optimizing or inhibiting speech recognitions and production embracing grounded cognition, simulation, working and long-term memory, interference, restoration capacity, and auditory modality. This is an implicit, or non-conscious, form of memory embodied in residual activation of previously experienced stimuli in particular L1 or L2 exposure.
ПОСВІДЧАННЯ ПЕДАГОГІЧНИХ ТА ІНФОРМАЦІЙНІ ТЕХНОЛОГІЙ У ПРОЦЕСІ ПРОФІЛЬНОГО НАВЧАННЯ ІНОЗЕМНОМОВИ

Сьогодення присвячено висвітленню значення i способів використання інформаційно-комунікаційних технологій в освітньому процесі, підготовці майбутніх перекладачів, розкриттю їх проблем та засобів для ефективності своєї підготовки та інтенсифікації процесу формування професійної компетентності перекладача за рахунок активного використання засобів інформаційно-комунікаційних технологій із застосуванням різних форм i методів організації навчально-вихідної діяльності.

Ключові слова: інформаційно-комунікаційні технології, професійна компетентність, мова підготовка, навчально-вихідна діяльність, майбутні перекладачі, освітній процес.

THE COMBINATION OF TEACHING AND INFORMATION TECHNOLOGY IN THE PROCESS OF LEARNING A FOREIGN LANGUAGE PROFILE

The article reveals the significance and methods of the information and communications technologies use in the educational process in the course of the future translators training, relevant ways and means of acquiring efficient linguistic skills and enhancing the competence of the translator’s professional competence forming by means of active application of information and communications technologies using various forms and methods of the educational process organization, combination of methods and individual teaching methods depending on possibilities of the students. Classification of the software which can be used in the process of professional training and education of the specialists in the sphere of foreign communication and translators has also been carried out.

Keywords: information and communication technology, professional competence, language training, educational activities, future translators, educational process.

СОЧЕТАНИЕ ПЕДАГОГИЧЕСКИХ И ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В ПРОЦЕССЕ ПРОФИЛИЧНОГО ОБУЧЕНИЯ ИНОСТРАННОМУ ЯЗЫКУ

Статья посвящена освещению значения и способов использования информационно-коммуникационных технологий в образовательном процессе во время подготовки будущих переводчиков, раскрытию актуальных путей и средств для эффективности языковой подготовки и интенсификации процесса формирования профессиональной компетентности переводчика за счет активного использования средств информационно-коммуникационных технологий с применением разных форм и методов организации учебно-воспитательной деятельности.

Ключевые слова: информационно-коммуникационные технологии, профессиональная компетентность, языковая подготовка, учебно-воспитательная деятельность, будущие переводчики, образовательный процесс.

Постановка проблеми у загальному вигляді. Практика застосування інформаційно-комунікаційних технологій (ІКТ) у всіх сферах людської діяльності доводить, що інформатизація суспільства є закономірним процесом розвитку цивілізації, котрий переходить на якісно новий рівень. Саме тому М. Карпенко вважає, що «найближчим часом інформація в

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