Psychological factors of successful foreign language acquisition

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Abstract
The article is dedicated to the study of the internal determination of the effectiveness of teaching non-native languages and to the identification of psychological factors in a person’s success in the process of foreign language learning. As psychological determinants of foreign language acquisition, the following are pointed out: language ability, cognitive and emotional factors, motivation, and the subject’s personal qualities in a learning activity. The results of an empirical investigation broadening the concept of the structure of language ability are provided. Foreign-language abilities are seen as a complex structure, including the quality of mental processes (auditory comprehension, aural and eye memory, verbal and cognitive activity, imitating abilities) and students’ personal qualities (communicative and emotional). Abilities as specific qualities of cognitive processes that directly contribute to the acquisition of materials considerably determine the activity success. Psychological difficulties in the process of foreign language teaching, which are determined by motivational, emotional, cognitive, and personal factors, are defined in the article. Key words: internal determination, psychological determiners, cogitative perception, language acquisition, communication, prognostic ability

1. Introduction
The increase in the efficiency of teaching has been one of the central subjects of the comprehensive study of modern psychological-pedagogical science over the last decade. One of the most significant questions in pedagogical psychology concerns the definition of the psychological peculiarities of the learner appearing as the subject of the learning activity. Without question, from that point of view, the study of the subject’s abilities, determining his or her success in the learning activity, is of great importance.

The success of second language acquisition is determined by several factors: broadly-pedagogical, methodological, broadly-psychological, individual psychological factors. Broadly-pedagogical and methodological factors can be considered as external determinants of the learning activity; broadly-psychological and individual psychological factors create an internal determination of the learning activity.

The effectiveness of the learning activity is considered in the overall context of the determination and refraction of the external through the internal (Rubinstein, 2000), and the internal determination which is a consequence of the functioning of a complex of factors which can be presented in a certain structure is studied.

It is known that one of the major factors ensuring successful foreign language acquisition among school children and students is their foreign-language ability. Along these lines, Kabardov (1985) understands foreign-language abilities to mean individual psychological and psychophysiological features that define a high speed and a high level of language acquisition in corresponding conditions.

The problem of foreign-language abilities is one of the most difficult and still underinvestigated problems, in spite of being thoroughly studied in psychology (Artzishevskaya and Kabardov, 1996; Zimnyaya, 2001; Belyaev, 2005; Dörnyei, 2006; Robinson, 2001; Spolsky, 1995; Nazarenko, 1996; Tyletz, 2009; Shishova and Solobutina, 2013). Determining foreign language ability can be approached from three perspectives:
1) from the perspective of detecting abilities for various aspects of language, for
speech abilities, and for receptive and productive speech processes;
2) from the perspective of determining the features of speech processes: perception,
memory, cognition which constitute a kernel of the structure of abilities relating to a
language material acquisition;
3) from the perspective of determining the influence of individual psychological,
characterological and personal features of the person – will, emotions, temperament
type, extraversion-introversion type – on the success of foreign language acquisition
and skills.
The question of the factors leading to the successful acquisition of foreign language is
solved in different ways, depending on the author’s mindset, on a theoretical platform,
on a concrete methodological system within which foreign language abilities are
studied. The researchers studying the motivational and emotional sphere of a person
suggest the overwhelming importance of forming a positive motivation for foreign
language learning. Researchers studying psychological approaches to foreign
language teaching suggest the importance of cognitive and speech processes in speech
activity. Others claim that processes of memorizing and storing information serve as a
basis in the process of foreign language acquisition.

Views on individual differences in second language acquisition
Connecting foreign-language abilities with the peculiarities of mental processes,
psychologists, above all, have studied verbal memory (Robinson, 2003; Zimnyaya,
2001), verbal thinking (Robinson, 2001; Zimnyaya, 2001), and auditory
comprehension (Nazarenko, 1996).
Thus, in the research of Zimnaya, Venedyapina, and Tolkacheva (2000), it was
revealed that the peak at the initial grade of foreign language teaching initially falls at
the memory. Nevertheless, according to Alybina’s (1977) research, the connection
between the structure and different types of memory and foreign-language abilities is
rather controversial. Besides, mechanical and logical memory data are also of special
interest.
It is known that these types of memory differ in ways of memorizing: mechanical
memorizing is carried out by simple repetition, most commonly multiple times;
logical memorizing presupposes the use of special methods of comprehending the
material. It was discovered that students of two groups (capable and less capable
learners) do not differ in characteristics of mechanical memorizing, but with a
statistically reliable probability differ in logical memory indexes. At a later stage,
however, mechanical memory indexes among capable learners became higher, while
among less capable learners, they remained the same. Alybina (1977) explains this
fact by pointing out that older students who are good at language do not use purely
mechanical methods of memorizing new words but draw on language associations of
similarity, contrast, or semantic similarity that are peculiar to logical memorizing
(Alybina, 1977). Therefore, mechanical memory can be enriched with a system of
memorizing methods with a growing level of material comprehension. Those can be
called the highest forms of mechanical memory, which cannot be singly acquired by
less capable learners.
According to Kabardov’s (2013) research, mechanical memory develops among a
specific group of students in the process of foreign language learning. Therefore, it is
the essential mechanism of this activity and can enter the structure of foreign-
language abilities as an individual aspect; however, it is obvious that it is not the key
component in the structure under consideration and can be complemented with other
components, for example, with logical memory.
Investigation of the features of verbal thinking, carried out by Zimnyaya (1985) and
by Reshetnikova (1981), showed great differences between capable and less capable
learners; these distinctions were observed in mental flexibility, in-depth and efficiency of thinking, and in logical reasoning. It must be stressed that the cognitive component of foreign-language abilities, as well as logical memory, are the leading and irretrievable ones. (Reshetnikova, 1981; Zimnyaya, 1985).

Investigations of auditory comprehension were conducted by Zimnyaya (2001) and Nazarenko (1996), viewing it as a component of foreign-language abilities. Perception is a mental process underlying any cognition. Perception precedes teaching information processing and retention. As the results of Nazarenko’s (1996) research showed, the level of auditory comprehension among capable students is much higher than among less capable learners or average capable students. On the basis of these results, the author concluded that auditory comprehension, as well as cognition, is the leading and irretrievable component of the structure of foreign-language abilities.

The cognitive processes described above form a cognitive component of foreign-language abilities. Cognition, auditory comprehension, and memory constitute a complex that represents a kernel of foreign-language abilities. In the process of language acquisition, cognition contributes to its semantic organization, memory, that is, to its fixation. Accordingly, at the level of the speech activity on which language material is activated and carried to the conclusive acquisition, cognition provides generation of thoughts, their repertoire, depth and change, and memory, that is, the actualization of a linguistic form adequate to these thoughts. In the speech, the activity provides listening comprehension and self-control in the process of foreign language speaking.

When carrying out a methodic experiment Zimnyaya (2001) suggested assessing the learning ability of participants, first of all on the basis of their verbal memory characteristics, on the learner’s ability to distribute his or her attention between a linguistic form and content, and on the ease of transfer of acquired language units and intellectual actions into changed conditions. Zimnyaya (2001) considers that these mental qualities appearing in complex interrelations condition the level of foreign language acquisition abilities.

It is important to note the impossibility of cognition to exist in isolation from emotions. Thus, Vilyunas (2004) noted that emotions accomplish certain functions; evaluation and motivation are the most general of these, in that they emphasize the purposes in a cognitive image and motivate to a suitable action depending on the cognitive content of a mental image. The study of the interrelations among emotional and cognitive phenomena goes back to the works of Vygotsky, Leontyev, Rubenstein's. Vygotsky (2000) strongly advised against limited research only into operational components of thinking. He believed that the separation of thinking from affect, once and for all, blocks the way, leading to the explanation of the causes of thinking itself, as the deterministic analysis of thinking necessarily involves exposing the motives of thought, needs, and interests, motivations and tendencies that guide the movement of thought in one direction or another.

In the works of Leontyev (1975), thinking is viewed as an activity that has its affective regulation, directly expressing its bias. A deeper reason for the partiality of activity is the occurrence of “personal meanings” in its structure. A connection is established between the concepts of “emotion” and “personal meaning”. The function of emotions is to bring the subject to their actual source. They indicate the personal meaning of events happening in the subject’s life. However, there exists no complete similarity between these concepts, but a complex relationship, conditioned by the development of the human motivational sphere.

Rubinstein’s thesis (2000) states that thinking, as a real mental process, is a unity of intellectual and emotional elements, while emotion is a unity of emotional and intellectual elements.
A semantic theory of thinking (Tikhomirov, 2002) emerged within the framework of the system-activity approach. Based on this theory, research is conducted in the field of emotional regulation of mental activity. In particular, the studies focus on the emotional regulation of thinking activity under conditions of different motivations - external and internal. The findings demonstrate that there exist different types of emotional regulations, characterized by a different place and role of emotions in the system regulating mental activity. The role of emotional processes in regulating an activity increases with the transition from the activity determined by the external motivation to the activity with internal motivation.

Thus, the two main functions attributed to emotions are informational and motivational functions. Two principal ways of their influence on thinking are: emotions can change the information on which mental processes are based. They can influence the methods and ways of processing information. In the last 20 years, the hypothesis that emotions fulfill the information function has been developing in two main directions: the information theory of emotions (Ortoni, 1988, Damasio, 1994) and the theory of emotional readiness for action (Schwartz, 1997).

The influence of emotions on an activity obeys the well-known rule of Yerkes-Dodson (1908), postulating the optimal level of stress for each particular type of work. The decrease in emotional tones, as a result of the subjects’ reduced interest in the matter or their complete awareness of it, leads to drowsiness, loss of vigilance, the omission of significant signals, and slow reactions. On the other hand, an excessively high level of emotional tension disorganizes activity, complicates it, increases response to extraneous, insignificant signals, leads to primitive actions such as a blind search by trial and error method.

Above all, emotions condition a dynamic aspect of cognitive functions, the tone, and tempo of activity, its "mood" towards this or that level of activity. For this reason, an emotional component of the cognitive process is included in the structure of the successful foreign language acquisition (MacIntyre, 2002). However, an emotional component can play both a constructive and a destructive role in the cognitive process, expressing the person’s emotional and evaluative attitude to the process of language acquisition and to the acquired information (Vilyunas (2004), Rubenstein (2000), etc.). Hebbu experimentally demonstrated the dependence of a person’s activity success on his emotional excitement (Nemov, 1999). Thus, both too weak and too strong emotional excitement is undesirable for achieving the highest results in the process of foreign language acquisition. There is an optimal level of emotional excitement for each person that provides the maximum efficiency. Foreign language learners’ emotional state influences their attention, perception, memory, and cognitive processes, which are the core of foreign-language abilities in different ways.

Emotionally colored information provides motivation and better acquisition of material; on the other hand, a condition of hyper excitement, despondence, and lack of interest disorganize the activity and weaken the work of all cognitive processes. As Isard rightly notes (1993), the emotional system rarely functions independently of other systems. Certain emotions or sets of emotions almost always manifest themselves in interactions with the perceptual, cognitive, and motor systems. Consequently, the person’s effective functioning depends on how balanced and integrated the activities of various systems are.

Apart from mental and emotional processes, the success structure also includes the personal qualities of the individual. The works of such researchers as Artzishevskaya and Kabardov (1996), Asmolov (2002), Nazarenko (1996), Dörnyei (2006), Robinson (2001), etc. point out the necessity of studying abilities in a broad personal context. Foreign languages teaching is directly connected with verbal and cognitive activity and the mechanisms of speech. Zhinkin's (1998) research showed that the speech activity is based not only on the functioning of elementary physiological mechanisms.
of the “stimulus-response” type but presupposes the participation of special mechanisms providing the semantic composition of a speech act.

A number of general-functional and specific mechanisms related to the three phases of the speech activity are emphasized in the works of Zimnyaya (2001): motivational-initiating-orientational-investigative and executive. In relation to the first phase of the speech activity, a mechanism of motivation, which is initial, is observed. Two other phases coincide with such mechanisms as advanced reflection, comprehension, short term and permanent memory, and also specific speech mechanisms among which Zimnyaya (2001) considers the mechanisms of logic sense, the mechanisms of the internal arrangement of a statement (a complex of selection, comparison, compilation, combination, structuring etc. operations). A mechanism of probable prognosis (advanced reflections), which belongs to a group of analytico-synthetic mechanisms, is responsible for an individual’s verbal field, advance, prognosis, accuracy, and speed of speech actions and for the ability to evaluate the linguistic probability of a word’s or statement’s appearance. It supports the growth of the ability to perceive speech in advance.

According to Regush (2003), the success of different types of human activity is connected with a demonstration of prognostic abilities or possibly even demands them. As evidence of that, the researcher refers to a separation of prognostics into an independent science and the existence of physiological prerequisites that act as analogs of prognostic ability development. Prognostic ability appears at different levels of cognitive activity: at a sensory-perceptive level, at the level of conceptualization, and at the verbal and cogitative level (Lomov, Surkov, 1980).

Speech prognosis became a special object of study in a series of studies conducted by Granik and Bondarenko. The results of these investigations revealed that anticipation (prognostic ability) is included in the cognitive processes of different levels where, due to reconstruction of movements, actions, and thoughts or their temporary advance is preceded.

It should be kept in mind that the motivation for foreign language study is one of the core aspects of a foreign language teaching methodology (Dörnyei, 2001, 2006; MacIntyre, 2002). For many years, researchers have been speaking about the learning activity and its success, implying above all the leading role of an individual’s intellectual level. Doubtless, the value of this aspect should not be underestimated. Thus, having tested a group of students–teachers to be on a general IQ scale and having compared the testing data with the level of learning achievements data, it was discovered that there is no significant connection between IQ and learning achievements, neither in special subjects, nor in the general education discipline block. (Rean, 2002). Another essential regularity became apparent: after all it turned out that "capable" and "incapable" students differ from each other, not in I.Q., but rather in the strength quality and type of motivation for learning activity. Internal motivation is typical for capable students (Yakunin and Meshkov, 1980, 1995): they need to master a profession at a high level; they target on receiving lasting professional knowledge and practical skills. As for less capable students, their motives are generally external, situational: it is important to avoid condemnation and punishment for poor study and not to forfeit grants for such students. The results of the investigation allow claiming that a high positive motivation can compensate for a lack of special abilities or poor knowledge and skills. However, this compensation does not work in reverse. In other words, no matter how capable and erudite a student is, he would not achieve learning success without a desire to study.

**Learner strategies in second language acquisition**

The concepts "types of teaching" and "types of acquisition" (strategy, style) certainly have shared roots; they are the stable psychophysiological complexes of symptoms providing a specific way of information processing (verbal and logical, grammatical,
formal, abstract, on the one hand, figurative-effective, semantic, concrete, on the other). "Type of teaching" is an external factor representing a system of influence, "type of acquisition" is an internal one, providing information processing (reaction).

The investigations of Kabardova (1996) showed that the individually stable characteristics of learners that define foreign language acquisition as successful or non-successful appear, at least, in three dimensions:

a) in communication behavior during the learning process;
b) in the main characteristics of cognitive processes (qualitative-quantitative correlation of activity results, speed parameters of the flow of verbal and thought processes, the volume of perception and types of memory);
c) in the natural prerequisites of ability bioelectric indicators of nervous system properties, the acoustic and visual analyzers, and interhemispheric brain asymmetry characteristics).

Two main types of foreign language acquisition were emphasized (Kabardov, 2013) on the basis of the obtained data: "communicative and speech" and "cognitive and linguistic". The mixed third type combines the elements of both types of foreign language acquisition.

The communicative type is characterized by the following features:

- the communicative activity (under observation);
- the general success in learning by an intensive method (according to the teacher's estimates);
- an attention orientation to the speech activity (speech) (on pupils' self-evaluation);
- a relative balance of voluntary and involuntary memorization, a higher efficiency of auditory comprehension, more detailed material reproduction;
- the ability to recognize a visual object at a short-term presentation;
- a high nonverbal score (on Wechsler's scale);
- lability in the second-signal system, higher speed parameters of cognitive and speech activity, the speed of perception of a verbal instruction presented aurally;
- a relatively high volume of language and speech production (speech fluency), an existence of poor answers, stereotypes, repetitions, failed word phrases, etc.;
- an unsuccessful solution of tasks aimed at detection of language regularities;
- activity is generally characterized by involuntariness, impetuosity, and contracted actions (brevity of approximate actions, lesser self-control).

For the non-communicative (linguistic) type, the following is typical:

- a monotony of communicative actions (passivity in foreign language communication, length speech actions, difficulties with aural speech perception) (under a teacher's observation);
- a relatively successful foreign language acquisition in comparison to foreign-language speech skills and abilities (according to a teacher's estimates);
- a focus of attention on the language system (language) (on pupils' self-evaluation);
- a prevalence of a voluntary type of memory, a higher visual memory for graphics and expression of simply verbalized images (a double reinforcement) (experimental data);
- the ability for verbal description (analysis) of a standard’s distinctive features distinguishing it from other similar images at a longer exposition (10 sec.) with an occasional inability to identify it;
- a higher level of verbal intelligence, a comparatively high degree of verbal logical activity style expressiveness;
- an inertness in the second-signal system, a slow verbal instruction perception, and aural processing;
- a comparatively small volume of language and speech production in the presence of better performance of certain linguistic tasks (in the absence of stereotypic answers, failed word phrases, repetitions), high quality of resolving linguistic tasks in language.
analysis, a comparatively high speed on the solution of analytical solutions and on obtaining sought-for answers.

**Conclusion**

From our point of view, success in foreign language acquisition represents a system of interconnected components that has a certain developmental thrust and undergoes certain changes. Motivational, cognitive, emotional, and personal components are possible to be included among the key components of a successful acquisition. Thus, foreign language learning is determined by a system of motives for language acquisition and use based on a conscious need for foreign language acquisition. Motivation as the systemic component integrates cognitive (cognitive motives), emotional (the emotional attitude to a learned language), and personal (personal orientation) characteristics of foreign language learners’ motivational sphere.

The cognitive component in the success system unites attention, perception, cognition, and memory and substantially defines the level of foreign language acquisition success. The effective foreign language acquisition process is provided primarily with cognitive process features and such cognitive activity qualities as depth, flexibility, conclusiveness, perspective, analyticity, sensibleness development level. The positive dynamic in foreign language acquisition is provided through the development of semantic (visual and acoustic) perceptions and through a verbal-subject, auditory and visual memory. Their unity is considered to be a psychological mechanism whereby all types of speech activity are carried out.

The emotional component of foreign language acquisition is revealed through an individual’s emotional and evaluative attitude toward the foreign language learning process and an emotional experience of this process.

The personal component is presented by a foreign language learner’s personal features, included in the process of teaching. They are: self-evaluation, level of aspiration, personal orientation, success/failure experience, extra-introversion aspect, level of anxiety (language and speech), confidence – lack of confidence aspect, installation type, and others. The level of a foreign language acquisition success depends on a system of a subject’s personal operation.

Taking into consideration that success in foreign language acquisition represents a system of interconnected components, interruptions in the interrelations of various components of the success structure lead to psychological difficulties in the process of foreign language acquisition caused by motivational, cognitive, emotional, personal factors which reduce foreign language learning efficiency and lead to difficulties in foreign-language communication.

In summary, the process of teaching a foreign language demands the consideration of a whole complex of factors that are reflected in the success ratio, in opportunities of mutual compensation and stimulation of various components while maintaining the demanded success level. It means, first, that foreign language acquisition success depends on the cumulative impact of psychological factors, and secondly, that the study of success has to be carried out in the totality of its interconnected and interdependent characteristics.

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