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The Development of Anticipatory Abilities in the Foreign Language Learning

Evgeniya O. Shishova
Kazan (Volga region) Federal University, Kazan, RUSSIA.

Marina M. Solobutina
Kazan (Volga region) Federal University, Kazan, RUSSIA.

Aygerim K. Mynbaeva
Al-Farabi Kazakh National University, Almaty, KAZAKHSTAN.

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The objective of the research is to study prognostic abilities in the process of foreign language learning with regard to a multi-level anticipation system. The main method is comparative analysis of anticipation studied at three levels: during actualization of particular words, during cogitative perception of speech, in the conditions of communication. Empirical research results demonstrated the increase of foreign language learning efficiency in the development of prognostic efficiency in the speech activity. Comparative analysis of speech anticipation specific features of students with different levels of foreign language abilities afforded to define how violations of probabilistic anticipation in the speech appear when a statement in a foreign language is generated and they can cause inadequacy of a communicative situation. Successful foreign language learning requires a high level of prognostic abilities which appears in cause-and-effect relations establishment, flexibility of cogitation, reconstruction and transformation of concepts and planning.

Keywords: English language, teaching, probable prediction, anticipation, bilingual education

INTRODUCTION

The increase in the efficiency of teaching has been one of the central subjects of comprehensive studying of the modern psychological-pedagogical science over the last decade. The change in the nature of teaching also means the change of the main approach to this process in general and as well as to teaching each educational subject, a foreign language among other things (Ribakova, Parfilova, Karimova & Karimova, 2015). One of the main factors which ensure success in learning a foreign language by school children and students is that they have foreign language abilities (Panfilova, Panfilov & Merzon, 2015). Most researchers agree that foreign language

Correspondence: Evgeniya O. Shishova,
Kazan (Volga region) Federal University, Russia, 420008, Kazan, Kremlyovskaya Street, 18.
E-mail: evgshishova@yandex.ru, solomarina29@gmail.com
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abilities are a set of psycho-physiological and individual psychological features which contribute to easier learning of a foreign language.

The problem of foreign language abilities is one of the most difficult but yet understudied, although comprehensively examined by psychology (Barvenko, 2004; Belyaev, 2005; Maldonado, 1994; Shohamy, 2000; Yusupova, Podgorecki & Markova, 2015; Lopatina et al., 2015; Grigoryeva et al., 2015). There are three approaches to the definition of foreign language abilities:

1) From the position of revealing abilities for various aspects of the language, verbal skills, verbal processes of reception and production;

2) From the position of determining peculiarities of cognitive processes (perception, memory, thinking, attention) which are the core of the abilities structure in respect of language material learning;

3) From the position of determining the influence of individual-psychological, characterological, personal characteristics of the human being – will, emotions, type of temperament, extraversion-introversion on the success of foreign language learning and competence.

Relating foreign language abilities to the peculiarities of mental processes, psychologists primarily studied verbal memory, verbal thinking, auditory perception (Zimnyaya, 2001; Nazarenko, 1996; Wimmer et al., 2014). Nevertheless, when the components of foreign language psychological and pedagogical teaching are discussed (Ortiz, Robertson, Wilkinson, 2011), special attention is also paid to the issues of communicative competency which is a complicated and multi-level system (Cheatham et al., 2014; Baker, 2011; Orazbayeva, 1996; Karabaeva, 2007; Mukhametzyanova & Shayakhmetova, 2014; Shishova, 2007; Muldabekova, 2014; Fahrutdinova, Yarmakeev & Fakhrutdinov, 2014; Chiknaverova, 2012). The works of V.D. Mendelevich (1996) show that achievement of the high level of communicative abilities assumes "situational adaptivity and fluency in verbal and non-verbal behavioral mechanisms, the ability to quickly and adequately orientate in numerous and various communicative situations, learning effective communication technique". It is necessary to add such properties to this definition as a high level of language competence, dynamism of verbal and cogitative processes and ability to predict verbal behavior in order to select adequate lexical units. As rightfully noted by E.V. Artzishevskaya& M.K. Kabardov (1996), V.G. Tyletz (2009), foreign language verbal activity can be a factor of development and self-realization of a verbal personality.

According to L.A. Regush (2003), the success of various kinds of human activity is related to the manifestation of prognostic abilities or requires it. In order to prove it, the researcher states that prognostics have become an independent science and there are physiological preconditions which act as the potential for the development of prognostic abilities. Anticipation is included into cognitive processes of various levels where, due to anticipation, prearrangement and rearrangement of movements, actions, thoughts or their time anticipation take place.

Considering the fact that efficiency of foreign language teaching is ensured first of all by the peculiarities of a cogitative process and the main mechanisms of a speech act execution are the mechanisms of understanding, memory and outrunning reflection, then positive dynamics in foreign language learning is attributable to the development of meaning perception, memory and cogitative anticipation (Zhinkin, 1998). There is a widely known concept of probabilistic order of text elements according to which verbal experience of a native speaker characterized by certain subjective ideas of probabilistic hierarchy of speech elements allows him to predict a forthcoming speech situation and construct speech activity in accordance with this prediction (Linsker, 1990).

The development of organizational and pedagogical conditions of foreign language teaching has to be executed with regard to all components of communicative competency. However, the analysis of scientific works in this field

allowed us to reveal the contradiction which is as follows: while studying the system of communicative qualities and skills, researchers didn't consider one of its main components, that is, anticipatory (prognostic) ability. Accordingly, the problem of consideration of speech activity anticipatory mechanisms in the structure of foreign language abilities is obtaining scientific and practical interest. Considering probabilistic nature of verbal and cogitative processes, we have conducted an empirical research of the role of a prognostic component on the structure of foreign language abilities.

The purpose of the research is to study prognostic abilities in the process of foreign language teaching with regard to a multi-level system of anticipation.

The objectives of the research are as follows:

1) Analysis of speech prognosis at the level of particular lexical units excluding their combination and concordance;
2) Studying anticipatory activity in the process of meaning formation and meaning formulation;
3) Studying a communicative level of communication.

MATERIALS AND METHODS

The theoretical base of the research is formed supported by the statement about levels of anticipation identified by B.F. Lomov and E.N. Surkov. Prognostic ability appears at different levels of cognitive activity: sensory and perceptional level, level of concepts, verbal and cogitative level, communicative level. The Methodology of subjective evaluations of word frequencies, Methodology of Ebbinghaus, Methodology called "Prognostic ability" (Regush, 2003), Test of anticipatory efficiency (Mendelevich, 1996) were applied as research methods. Processing of initial empirical data was conducted using methods of statistical and correlation analyses.

The sample was comprised by 100 senior students of the Institute of Pedagogy and Psychology and Institute of Languages of Kazan (Volga Region) Federal University. Based on the expert evaluation of the English language teachers and results of LAB foreign language ability "test battery" (language aptitude battery) developed by P. Pimsleur, there were formed the samples of "successful" and "less successful" students (up to 50 students under testing in each sample) depending on the level of language proficiency. The author points out three factors which characterize the success of a foreign language competence: the level of a native language vocabulary competence and ability to apply verbal material analytically; the motivation for learning a foreign language; auditory analysis for differentiation of sounds and connection of sounds and signs.

RESULTS

The analysis of subjective speech prognosis at the level of particular lexical units out of contextual causality is conducted by means of the Methodology of word frequencies subjective evaluations. The students under testing were offered to evaluate the frequency of using 40 stimulus words in their foreign language verbal experience. The words were selected in such a way that the list contains high-frequency and low-frequency words.

Comparing probabilistic organization of a foreign language idiolexicon of "successful" and "unsuccessful" students, it was found out that in the first group of the students subjective probabilities of speech elements correspond to their objective probabilities in speech practice. Qualitative analysis of the answers of the students under testing allowed us to explain the content of the revealed changes in

the internal structure of idiolexicon. In general, in both groups the students under testing correctly defined which class (common or uncommon words) a particular stimulus is included into and indicated the degree of the difference between the stimuli inside one class. For example, most students under testing differentiated the words «Water» and «Earth» as common. But comparing these words inside the "commonly used words" class, "successful" students were able to identify that the first word was the most frequent. In the answers of the second group of students many of the words were characterized by wide scatter of individual evaluations.

Prognostic errors were observed in the process of actualization of the verbal experience probabilistic structure in the group of "unsuccessful" students when they couldn't evaluate the frequency of use of a presented word in the speech. They over-evaluated the frequency of most common words use and under-evaluated the probability of occurrence of rare words in the speech. Erroneous subjective concepts of foreign words probabilistic hierarchy didn't allow "unsuccessful" students to effectively anticipate a forthcoming speech situation and construct their speech activity in accordance with this anticipation.

The analysis of prognosis in the process of cogitative perception of the speech was carried out by means of Ebbinghaus methodology which consists of two texts with phrasal gaps in each sentence. The student under testing was offered to complete the gaps to make a coherent story. The criteria used in the processing of the obtained results are as follows: total number of answer choices used in each group of the students under testing; speed of word selection; adequacy of lexical units choice (frequency distribution for each gap); difficulties that occurred during selection of necessary words.

Meaning perception of the speech is a perceptual-cogitative-mnemic activity which results from the execution of a number of complicated logical operations. General meaning of a statement influences on the speech prognosis because a language tradition and the system of the language restricts combinations of lexical units by their combinability and grammatical regularity. Learning words in certain combinations with one another, the human being reproduces those speech reactions which were the most frequent in his experience. Probabilistic prognosis in the process of cogitative perception of the speech is fulfilled according to the logics of the thought and system of the language. At the level of the sense, speech prognosis considerably depends on the system of hypotheses developed on the basis of the speech unit combinability "linguistic probability" law. Being the expression of the meaning connection, the development of the meaning hypothesis is implemented in certain syntactical, attributive, additional and adverbial connections of words.

An important statement within the studying of speech prognosis peculiarities is the concept of the two-level structure of prognosis which is given in detail in the works of I.A. Zimnyaya (2001). The first level implies prognosis at the level of meaning when the speaker's flow of thoughts is predicted, the development of meaning connections is the level of meaning hypotheses. At the second level the specific implementation of these meaning connections takes place, this is the level of verbal hypotheses. If there is no meaning hypothesis in the process of speech reception, then a verbal hypothesis is implemented using the method of all possible characters or method of random samples and mistakes, which results in a big number of attempts.

Ebbinghaus methodology allows us to process the results only using methods of qualitative analysis, for that reason, in order to compare speech anticipation data, it needs to be converted into quantitative evaluation. Having compared the lists of possible completions for each phrasal gap typical for a normative sample, we distributed all the multiplicity of answers according to a frequency criterion into high-frequency and low-frequency. When we were performing the task, for the quantitative evaluation of the tested student's behavior, we chose S "standard

coefficient" which revealed the ratio of manifestation degree of the studied characteristic which belongs to a particular student under testing to the maximum possible degree of this characteristic. In this case S "standard coefficient" revealed the ratio of the number of answers the use frequency of which in the group of "successful" students was higher than the average one, to the total number of answers. S coefficient is changing from 0 to 1; $S = 1$ corresponds to "the best" possible behavior, when the student under testing completed all the gaps with highly probable answers.

Analysis of the hypotheses developed by the tested students of compared groups has shown that in comparison with "less successful" students, "successful" students chose more common (high-frequency) words. The share of the tested students of this group who mostly responded using rare (low-frequency) words generally in the text, was much lower ($p \leq 0{,}01$). One more regularity was the use of non-logical and hardly probable answers which practically were not found in the sample of "successful" students and which were observed in the sample of most students under testing from the group of "less successful" students. Therefore, it may be concluded that "successful" students in the process of the meaning perception of the speech actualized speech hypotheses by establishing the most probable connections between lexical units and, consequently, preferred highly probable answers.

The obtained experimental data allows us to point out an insufficient level of prognostic activity development during meaning perception of the speech in the sample of "less successful" students. At the level of meaning hypotheses they are characterized by the multiplicity of presumable answers, in this case adequate variants of prognosis disperse in the multiplicity of hardly probable prognoses. Most of these students under testing are characterized by non-productiveness and discontinuity of verbal and cogitative processes.

At the next stage we researched a prognostic component of thinking by means of "Prognostic ability" methodology (Regush, 2003). The students under testing were offered to choose the most appropriate statement out of 20 pairs of statements. Prognostic ability was characterized by such thinking qualities as analyticity, depth, awareness, flexibility, potential and substantiation. The methodology generally contains 16 characteristics for 6 cogitation qualities, they are depth of thinking, analyticity of thinking, awareness of thinking, flexibility of thinking, potential of thinking and substantiation of thinking. As is known, each of these qualities has a lot of sides, that's exactly why the author of this methodology identified from two to four qualities in each of them.

As far as foreign language teaching is directly related to verbal and cogitative activity and mechanisms of speech production, the prognostic component of thinking is one of the key components. Prognostic component research results have demonstrated reliable differences between capable and incapable students ($p \leq 0{,}01$).

Based on the results of share correlation of prognostic ability development levels in the speech activity, a half of "successful" students have high level of this characteristic development (57%). The results of "less successful" students sample show that the level of prognostic ability development of most students under testing is average (80%). Consequently, more successful students have the whole spectrum of prognostic abilities in the speech activity: implementation of contextual guess, ability to evaluate linguistic probability of the word appearance, perceive the speech with anticipation. Based on the obtained results, "successful" students have predominance over "less successful" students by a number of parameters: depth of thinking, analyticity, awareness, potential and substantiation.

The group of "successful" students is characterized by the predominance of the generalized form of effects and determination of substantial cause-and-effect relations in the process of learning new language material. In contrast, "less successful" students are prone to a certain form of verbal generalization of effects

which negatively influences the ability to penetrate into the essence, reveal the cause of events, anticipate consequences.

Table 1. Analysis of differences by prognostic abilities in groups of students under testing

Indices	Average value in the group of successful students	Less Average value in the group of successful students в	t – empirical	Level of reliability
1. Depth of thinking	2,48	2,20	10,8	0,05
2. Analyticity	3,68	3,13	13,4	0,01
3. Flexibility	6,68	6,83	1,3	-
4. Awareness	3,36	3,21	3,21	0,01
5. Potential	4,96	4,47	7,19	0,05
6. Substantiation	5,12	4,31	13,9	0,01
7. Thinking qualities integrated index	11,3	9,49	3,98	0,01
8. Anticipation at the level of particular words	1,32	1,1	1,9	0,1
9. Anticipation at the level of meaning hypotheses	0,85	0,57	3,8	0,01
10. Communicative level of anticipation	171	135	4,6	0,01

A high level of analyticity development as the main component of an ability to theorize and find cause-and-effect relations between events allows the students to successfully learn a foreign language. Thinking awareness of the students under testing is also complete if compared to “less successful” students and it appears in their ability to verbally formulate a discourse, analyze their actions, detect a mistakes, find a new method of a solution. Differences by the potential of thinking of the students under testing for the compared groups have a high level of reliability and indicate the ability of “successful” students to project cause-and-effect relations more productively if compared to “less successful” students who are focused on the formation of close causal relations. Interesting is the result which demonstrates a higher level of thinking flexibility of the students who demonstrate inefficiency when they are learning a foreign language. It is probably attributable to the fact that no foreign language learning techniques which are aimed at the development of thinking flexibility are available, it is also caused by plasticity and variability of hypotheses under the conditions of uncertainty. Nevertheless, a low level of thinking substantiation of this category of people does not allow them to substantiate identified effects and hypotheses to the full extent, and it reduces the logic of reasoning to individual facts. On the contrary, “successful” students identify effects on the basis of regularities and substantiate identified hypotheses with several facts.

Individual psychological “successful” students’ qualities of thinking are characterized by productivity, that is, by larger depth, analyticity, potential and substantiation of thinking. It is important to accentuate that a cogitative component of foreign language abilities is principal and non-compensated.

The next parameter to be studied is a communicative level of prognostic abilities. In order to identify the level of communicative prognostic abilities development, we

used an anticipatory efficiency test (Mendelevich, 1996). As demonstrated by the results of the psychological test, anticipation indices of "successful" students in the process of communication were considerably different from the indices of "less successful" students. Evaluation of anticipatory activity of 84% of students under testing from the "successful" group identified general prognostic efficiency with a regulatory type of probabilistic prognosis. Most "less successful" students (57%) were characterized by a monovariant type of anticipation.

DISCUSSION

According to the results of diagnostics of anticipatory abilities of the students under testing from the compared groups, we can conclude as follows. The level of successful students' anticipatory ability development is higher. Foreign language speech practice requires immersion and evaluation of all possible consequences of a certain verbal action and, consequently, affects the orientation to predict the development of a speech situation.

Following the results of the answers given by the students under testing, we have found some similar common peculiarities in compared groups. For example, most tested students state that the behavior in verbal situations with strangers is quite difficult for them. But for a lot of tested students it is not very difficult to predict the actions of close people and people who they know, course of everyday life situations, everyday life event, which is indicative of quite good results of personal anticipation.

Communicative causality of a speech situation complicates the process of anticipation and requires more delicate work of prognosis blocks. Coordination of a forthcoming speech situation with the present one depends not only on the content of speech communication and development of the meaning hypothesis. Anticipation of speech behavior of an interlocutor in regard to his personal features and conditions of the situation is very important.

Correlation analysis results allowed us to make conclusions about availability of interrelation between success in foreign language learning and anticipatory abilities at idiolexical, verbal and cogitative and communicative levels. In the process of foreign language learning it is important to use the whole spectrum of prognostic abilities in the speech activity: implementation of contextual guess, ability to evaluate linguistic probability of a word appearance, perception of verbal communication with anticipation. The students who have a well-developed prognostic ability are more successful in all types of speech activity, they can perform not only prearrangement, rearrangement of thoughts but also their time anticipation.

Success of the speech activity is interrelated with the level of verbal generalization, form of organization and completeness of cause-and-effect relations as well as with the ability to realize probabilistic nature of effects and ability to construct and project cause-and-effect relations. "Less successful" students shift to new hypotheses and new types of activity faster because there is no existing system of concepts and sound knowledge. "Successful" students require a bit more time to rearrange concepts and coordination of new knowledge or hypotheses with already existing concepts, in this case insignificant time consumption is compensated by other properties of cogitation, for example, depth and substantiation.

CONCLUSION

It is found that the students of higher education institutes with high indices of foreign language learning in the process of teaching are characterized by communicative anticipatory efficiency. The results of anticipation peculiarities

comparison of students with different levels of foreign language ability development demonstrate that mistakes of probabilistic prognosis in the speech appear when the speech act is generated and they can cause inadequacy of a communicative situation. A high level of communicative anticipation development implies an ability to understand and evaluate behavior of surrounding people, anticipate the statements of the communicator and be ready for multi-probability response, choose the most efficient method of interaction with them.

It has been found that students successful in foreign language learning have a higher level of cogitation flexibility if compared to "less successful" students. They are prone to anticipate each of their actions to achieve correct results, they have wider range of search when they develop hypotheses. Reliable differences at the level of verbal communication and awareness of probabilistic nature of consequences have been identified. "Successful" students have considerably higher productivity of anticipation process stages during establishment of cause-and-effect relations.

It has been determined that actualization of particular lexical units of higher education institute students is at the sufficient level of development, verbal anticipation process is characterized by adequacy, that is, if the information in a speech situation is insufficient, high-frequency or middle-frequency words are chosen, they are generated better and faster than low-frequency words.

It has been found that the students of compared groups had some difficulties – violation of the meaning formation process, inadequate use of lexical units of a foreign language, "focusing" within one circle of concepts. Nevertheless, students form a "successful" group have more productive functioning of anticipatory mechanisms during notional perception of speech and actualization of speech connections due to larger number of adequate and high-frequency speech connections.

The results of comparing speech anticipation peculiarities of students who have different level of foreign language ability development demonstrate how violations of probabilistic anticipation in the speech appear when a statement in a foreign language is generated and they can cause inadequacy of a communicative situation. Successful foreign language learning requires a high level of prognostic abilities which appears in cause-and-effect relations establishment, flexibility of cogitation, reconstruction and transformation of concepts and planning. Based on the conclusions made, the necessity of consideration and developing anticipatory (prognostic) abilities in implementation of psychological-pedagogical conditions of teaching within an educational process at the higher school is becoming obvious.

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