# THE RELATIONSHIP OF INDIVIDUAL PSYCHOLOGICAL CHARACTERISTICS AND MOTIVATIONAL COMPONENT WITH THE LEVEL OF ABILITY TO MASTER FOREIGN LANGUAGES 

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#### Abstract

The article considers the main aspects of the relationship of individual psychological characteristics and motivational component with the level of ability to master foreign languages. It was found that the ability to learn a foreign language affects the level of overall academic performance. The following diagnostic parameters and factors for predicting academic success are identified: the level of language training; dominance of the left or right hemisphere of the brain; level of


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anxiety; properties of higher nervous activity; motivational component. In the course of the analysis it was established that the group of students with a low level of success is a risk group in mastering foreign languages. This group is characterized by a low motivational component, a high level of stress and anxiety. According to the obtained results it is possible to improve the organization of educational process at staffing of educational groups, with an even distribution of students with high and medium levels of projected performance. In addition, risk areas have been identified for the formation of special control groups that need additional pedagogical assistance and an individual approach to learning.


Key words: individual psychological features, motivation, abilities, foreign language, academic success

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## 1. INTRODUCTION

### 1.1. Relevance of the Topic and Problem Statement

The ability to master foreign languages is an element of human talent. The speed of mastering foreign languages, the formation of various components of communicative competence depend on the internal abilities of the brain, as well as on the effectiveness of external influences - teaching methods and motivational component.

Differences in the level of foreign language acquisition can be explained by a number of factors: quantity and quality of influence, duration and intensity of training, motivation and focus of teachers, their experience, skills and abilities, teaching methods, manuals and additional materials, etc. The environment (individual or group learning) also has an impact. In this sense, it is important to take into account the qualitative composition of the group, fullness, individual differences between students. Factors of age, abilities, motivation, positivity of relations, achievements - have a significant impact on foreign language acquisition (Robinson 2002; Doughty et al., 2015; Serafini \& Sanz, 2015).

Understanding the individual characteristics of students in learning a foreign language creates additional opportunities for: providing specific recommendations for the organization of work in the classroom (Sheen, 2007a; Singleton, 2014; Skehan, 2012), methodological support of the educational process (Skehan, 2015b), a differential approach to the organization of learning (Snow, 1987; Tsai, Au, J. \& Jaeggi, 2016) and as a result of students 'skills development (Prokopenko, O. et al., 2020).

Identifying the influence of certain individual characteristics, connections with psychology, the impact of the motivational component on learning outcomes will create a basis for improving the quality of the learning process and obtaining positive effects from the process. In addition, it will be possible to talk about individual variation of teachers to eliminate problems and difficulties with learning a foreign language.

In the framework of this study, the following problematic issues are identified:

- to determine the relationship of individual qualities of the student and the motivational component to the development of a foreign language;
- develop a methodology for assessing overall academic performance.


## 2. THEORETICAL SECTION

### 2.1. The essence and Classification of individual differences

To understand the impact of individual personality differences on the ability to learn a foreign language and the nature of teaching the subject, it is necessary to classify such qualities and, if possible, measure and adjust them. Individual differences are a set of such personality characteristics, which are usually common to all people, but there is a difference in the degree of expression of qualities. That is, these properties relate to the stability and systematic deviation from a standard (norm) (Dörnyei \& Skehan, 2003).

It is also important to take into account the degree of influence of genetic talent and environment, the cumulative or differentiated nature of the influence of these variables, the degree of their stability and dependence on external manipulative influences. In addition, it is necessary to identify the probability of the manifestation of opposite values of the same features in different contexts or assumptions about the role of identifiers, depending on the aspect of foreign language proficiency.

Researchers have different approaches to identifying the properties and factors influencing the ability to learn a foreign language. So, Biedroń (2012) identifies styles and strategies, personal factors and socio-cultural aspects as crucial factors for successful foreign language learning. The author singles out such important aspects as age, ability and intelligence as crucial in the success of human learning. In addition, the author as a cognitive learning style, considers motivation as a variable of personality.

Doughty (2014) identifies individual differences as cognitive, affective, and personality variables. Kormos (2013) focuses on such variables as motivation, attitude, inclination and age, considering these characteristics to be decisive in learning a foreign language. Masgoret \& Gardner (2003) consider age, gender, and the propensity to respond to learning outcomes to be dominant: motivation, learning styles, and strategies for students. Factors such as intelligence, personality are ignored, and age, gender, ability, cognitive style are mentioned superficially. The possibility of the influence of external manipulations on the acquisition of a foreign language is also ignored.

Ellis (2004) divides factors according to whether they represent:
(1) abilities (constant cognitive abilities to learn a foreign language), such as intelligence, ability or memory;
(2) tendencies (variable cognitive and affective qualities - readiness or orientation to learn a foreign language), such as learning style, motivation, anxiety, personality and willingness to communicate;
(3) students' knowledge of L2 learning (beliefs, expectations, learning and teaching preferences);
(4) student actions (learning strategies).

The SLA study (Ellis \& Shintani, 2013) separately considers age as a very important factor in learning a foreign language. Dörnyei (2005) considers, that age and gender to be demographic variables that have a significant impact on every aspect of the SLA process.

Thus, the literature review showed the existence of a tendency to highlight individual, psychological differences in the choice of variables that must be taken into account when assessing the effects and results of foreign language learning. Of course, it is possible to create classifications of various factors influencing the acquisition of foreign languages by categories. However, it is necessary to take into account the synergetic effect as a result of the complex interaction of cognition, emotions and social influences. This approach is professed by Skehan (1982), when some factors are ignored or discussed in the context of others, and
individual variables are considered individually. The same approach is supported Dörnyei \& Skehan (2003),which focus on the variables that have the most effective impact on predicting L2 learning success: skills, cognitive and learning styles, learning strategies and motivation. Ehrman \& Oxford (1995) limit their discussion to learning styles, learning strategies, and affective variables as dominant influences on foreign language learning. Granena (2015) among the factors influencing the acquisition of a foreign language are affects, social distance, age, ability, motivation, personality, learning styles and learning strategies.

Thus, another trend can be identified - most researchers ignore the impact of learning shortages, do not single out individual differences in foreign language teacher-teacher, most of whom are not native speakers, and therefore students themselves. They must make appropriate guidance decisions on their personal qualities.

Robinson (2002) indicates in his study the impact of shortcomings in his native language on the acquisition of L2. Erlam (2005) notes the differentiation of both students and teachers on the following grounds: motivation, general ability, teacher self-efficacy, teaching / learning styles and desired strategies.

## 3. METHODOLOGY

The methodological basis of this study - are approaches to individual psychological differences McLaughlin (1987) and Skehan (1989): hierarchical and concatenative approaches. The hierarchical approach makes it possible to predict the impact of a particular variable on the study of a foreign language. The concatenative approach makes it possible to combine selected factors of influence on the influence of specific variables on the study of a foreign language. This makes it possible to understand the real contribution of specific variables and to explain the nature of their relationships. To form a holistic system of variables of influence on the study of a foreign language, it is advisable to combine these two approaches - hierarchical and concatenated.

Questionnaires, surveys, testing, self-analysis were used to collect and analyze research data. Taking into account the results of the Carrol J.B. (1981) method for assessing the level of formation of components dominant for foreign language acquisition (short-term verbal memory, functional-linguistic generalizations, associative connections, probabilistic verbal prediction, etc.), qualitative research addressed issues such as motivation, anxiety, beliefs, learning strategies.

The study combined quantitative and qualitative approaches using several data collection tools (diaries, interviews, test results, surveys). Such a hybrid approach in research can provide a more perfect and personalized account of the factors influencing the learning of a foreign language, taking into account individual psychological features, motivational component and individual abilities to master foreign languages.

## 4. ANALYSIS OF RESULTS

### 4.1. Description of an Experiment to Study the Relationship between individual Psychological Characteristics and the Motivational Component in Mastering Foreign Languages

The study was conducted on the basis of Ukrainian universities:

- South Ukrainian National Pedagogical University named K.D. Ushynskyi, Odessa;
- Sumy State University, Sumy;
- Odessa I. I. Mechnikov National University, Odessa;
- Pavel Tychyna Uman State Pedagogical University, Uman;
- Donbas State Pedagogical University, Slavyansk;
- National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv.
The total sample size of the study - 600 people, age range - 18-20 years. All students studied in the program of a 2 -year language training course, studied English, German or French.

Based on the obtained data on the success of foreign language students, three experimental groups were formed:
(1) A group with a high level of success. This group included students with a high level of ability to learn foreign languages (effectiveness of test tasks>70\%). The total number of this group (n) was 274 people, including 155 girls and 119 boys;
(2) A group with a low level of success. This group included students with a low level of ability to learn foreign languages (effectiveness of test tasks $<30 \%$ ). The total number of this group (n) was 230 people, including 105 girls and 125 boys;
(3) Control group. This group includes students with an average level of ability to learn foreign languages - in the range from $30 \%$ to $70 \%$ of the effectiveness of test tasks. The total number of this group ( n ) was 96 people, including 45 girls and 51 boys.

The study was conducted in two stages: at the beginning of the first and at the end of the second year of study. Evaluations of students' performance based on the result of passing a foreign language exam were used for the analysis.

The study included blocks of techniques aimed at identifying:

- individual and personal abilities to master foreign languages;
- the level of formation of abilities to cognitive and mental processes;
- a set of qualitative characteristics of psychophysiological states of personality;
- qualitative composition of individual psychological characteristics;
- the level of abilities and the formation of the adequacy of the individual's reaction to the influence of regulatory (motivational) mechanisms;
- composition of individual emotional reactions.


### 4.2. Identifying the Impact of individual Psychological characteristics on Ability to Master Foreign Languages

To identify the impact of individual psychological characteristics on the ability to master foreign languages, a set of tests was used to diagnose the creativity of students' thinking (Lemons, 2011).

Abilities for foreign languages are directly related to the peculiarities of the activities of the left and right hemispheres of the brain, as well as their integrative activity.

According to their abilities to learn, think and perceive information, all subjects can be divided into right-hemispheric and left-hemispheric (Table 1).

Table 1. Characteristics of the activities of the left and right hemispheres of the brain in relation to individual psychological abilities to learn a foreign language

| Left hemisphere of the brain | Right hemisphere of the brain |
| :--- | :--- |
| Verbal information processing. | Nonverbal information. |
| Language skills: language, writing, reading. | Information - in images and symbols. |
| Memorizing facts, dates, names, their | Fantasies and dreams. |
| spelling. Analysis and logic. Recognition. | Ability to fine arts and music. A holistic <br> view of the situation. |

The Relationship of Individual Psychological Characteristics and Motivational Component with the Level of Ability to Master Foreign Languages

The condition for successful mastering of a foreign language is the dominance of the activity of the left hemisphere of the brain. In this case, the right hemisphere of the brain is responsible for the creativity of thinking. Therefore, for more successful mastery of a foreign language is also important and integrative interaction of both hemispheres of the brain.

In this study, the Torrance survey method was used to assess cerebral hemispheres $(\mathrm{CH})$. This questionnaire includes 40 questions. This test is based on the concept of divergent thinking of J. Gilford.

The Spielberger test was used to assess personal properties (PP) in situational anxiety. Spielberger's test consists of 20 statements related to anxiety, as a state (state of anxiety, reactive or situational anxiety) and 20 statements to define anxiety as a disposition, as a personal quality (property of anxiety). The results were evaluated taking into account the recommendations of the test. Anxiety levels up to 30 points are considered low, from 30 to 45 points - moderate, from 46 points and above - high. The minimum score on each scale is 20 points, the maximum is 80 points.

Studies of the type of higher nervous activity in relation to the degree of activity (nervous activity - NA) were performed using the Strelau test, which reflects the regulatory qualities of temperament. This questionnaire provides an opportunity to explore the following main characteristics of the type of nervous activity by levels of manifestation: excitation, inhibition, mobility of nervous processes, balance of excitation and inhibition processes. The test contains three scales, which are implemented in the form of a list of 134 questions, which provide one of three possible answers: "yes", "?" (difficult to answer), "no". Each property was evaluated by summing the scores for answering the questions.

According to the results of Gerbachevsky's survey, the peculiarities of the manifestation of students' volitional efforts, cognitive motive and motive of avoiding failures were studied. The level of volitional efforts of the individual is a manifestation of the desire to achieve the goal of the degree of complexity to which a person considers himself capable - an indicator of motivation (indicator of motivation - IM).

According to the theory of motivation (Bondarenko et al, 2018), people motivated to succeed set goals, the achievement of which is clearly regarded by them as success.

Such people are characterized by the mobilization of all their resources and focus on achieving goals. Success-oriented people are able to properly assess their abilities, successes and failures, to adequately assess themselves. They show a realistic level of claims.

Gerbachevsky's questionnaire is designed to identify the levels of claims of the subject by diagnosing the components of the motivational structure of personality. The evaluation of the survey results is based on points.

To predict academic performance (AP), a questionnaire on grammar tasks in a foreign language and 50 questions - psychological and psychophysiological orientation - are used to diagnose the personal characteristics of the surveyed students, on which to some extent depends on the success of foreign language learning. As a result of the conducted grammatical testing, the indicator - the level of language training (LLT) is determined. Score - 1 point for the correct answer.

The formula is used to calculate the Academic Performance Index:

$$
\begin{equation*}
A P=\frac{C H x P P x N A x I M}{L L T} \tag{1}
\end{equation*}
$$

where - AP - an indicator of academic performance;
CH - indicator of the cerebral hemispheres of students;

PP - an indicator of personal properties;
NA - an indicator of nervous activity;
IM - an indicator of motivation;
LLT - level of language training.
If, according to the results of the study, the AP score is 5 points or less, it indicates a favorable prognosis for academic performance; 7 points and more - for probabilistic problems in the organization of the learning process; more than 10 points - risk group.

Comparison of quantitative data of the studied groups of students was performed according to the Student's criterion at a significance level of $95 \%$ ( $p<0.05$ ).

Analysis of the results of the study showed that among students with a low level of success and ability to master foreign languages, the largest percentage - with the dominance of the right hemisphere of the brain. The psychological characteristics are more pronounced in students of group 1, which indicates their high resistance to stress and willingness to learn. Indicators of PP and NA in group 1 "successful students" were $34.0 \pm 12.2$ and $23.8 \pm 13.1$, respectively.

Students of group 2 with a low level of success have increased levels of anxiety. They are characterized by a very low level of language training, as shown by the answers to the grammar test (table 2).

Table 2. Diagnosis of individual psychological characteristics of students in relation to the ability to master foreign languages

| Indicators | Group 1 | Group 2 |  |
| :--- | :---: | :---: | :---: |
| $\mathbf{n = 2 7 4}$ | Group 3 |  |  |
| $\mathbf{n = 2 3 0}$ | $\mathbf{n = 9 6}$ |  |  |
| LLT - level of language training, points | $42-47$ | $15-17$ | $27-35$ |
| Activity of the cerebral hemispheres, \% | right / left |  |  |
|  | $21 / 89$ | right $/ \mathrm{left}$ |  |
| $65 / 35$ | right $/ \mathrm{left}$ <br> $58 / 42$ |  |  |
| PP - an indicator of personal properties, points | $34.0 \pm 12.2$ | $42.0 \pm 1.2$ | $38.0 \pm 4.5$ |
| NA - an indicator of nervous activity, points | $58.8 \pm 2.1$ | $48.8 \pm 2.2$ | $51.1 \pm 1.1$ |
| IM - an indicator of motivation, points | 20 | 8 | 11 |

The study suggests that students in groups 2 and 3 are completely satisfied with their results. At the same time, they do not intend to change anything and make any additional efforts to increase their success. This is indicated by the results of a study on willpower and personal motivation.

Success criteria for students in groups 2 and 3 are satisfactory passing of tests and exams. Such students, for the most part, show little initiative, are poorly organized, and rely heavily on "luck." They are characterized by a pronounced motive for avoiding failure. Along with rather low rates of willpower, students in groups 2 and 3 are still afraid to show a bad result and be expelled for failure. High levels of fear cause chronic stressful situations, which, in turn, leads to increased anxiety, which negatively affects the learning process and outcomes.

Regarding the relationship between success in mastering foreign languages with the characteristics of the types of higher nervous activity, the study shows that the strength of the nervous system helps to increase success and stress.

Thus, the results of the study indicate a significant influence of certain personal characteristics of students on the ability to learn a foreign language. First, the level of language training and motivation to learn a foreign language is important. In addition, genetic physiological properties (features of interhemispheric asymmetry, properties of higher nervous activity, level of anxiety and volitional qualities), which have a high level of influence on the ability to learn a foreign language, must be taken into account in the
educational process. It is recommended to apply a differential approach to teaching a foreign language in groups with different abilities to learn a foreign language. Table 3 presents the forecast of academic success of this study sample.

Table 3. Predicting academic success in mastering foreign languages

| Indicators | Group 1 <br> $\mathbf{n}=\mathbf{2 7 4}$ | Group 2 <br> $\mathbf{n}=\mathbf{2 3 0}$ | Group 3 <br> $\mathbf{n}=\mathbf{9 6}$ |
| :--- | :---: | :---: | :---: |
| Indicators of psychodiagnostics, points | $67-72$ | $95-98$ | $86-94$ |
| LLT - level of language training, points | $42-47$ | $15-17$ | $27-35$ |
| AP - an indicator of academic performance | 4.6 | 11.4 | 8.1 |

Group 1 students score 4.6 points, which gives a favorable prognosis for learning a foreign language. Accordingly, group 3 - has the value of academic performance, which corresponds to the problem state of the group, and group 2 - risk.

## 5. CONCLUSION

In this study the main aspects of the relationship of individual psychological characteristics and motivational component with the level of abilities to master foreign languages are considered. It is established that the ability to learn a foreign language affects the level of overall academic success. Such abilities are due to the relevant mental and physiological properties of the individual.

The study revealed a set of individual psychological characteristics of the cognitive and personal spheres of the studied groups of students. Such individual psychological qualities of the studied students are factors influencing the success of learning foreign languages.

The results of the study indicate a significant impact on the success of learning a foreign language by students - a low level of motivational component, high levels of anxiety and a high rate of motivation to avoid failure.

The following diagnostic parameters and factors for predicting academic success are identified: the level of language training; dominance of the left or right hemisphere of the brain; level of anxiety; properties of higher nervous activity; motivational component. In the course of the analysis it was established that the group of students with a low level of success is a risk group in mastering foreign languages. This group is characterized by a low motivational component, a high level of stress and anxiety. According to the obtained results, it is possible to improve the organization of the educational process when completing study groups, with an even distribution of students with a high and medium level of predicted success. In addition, the identification of risk areas is a very useful acquisition in terms of forming special control groups that require additional pedagogical assistance and an individual approach to learning.

The creative component of successful foreign language learning is the direction of further research.

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