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**MOTIVATION AS INSTRUMENT OF STUDENTS-BIOLOGISTS'  
BILINGUALISM FORMATION DURING FOREIGN LANGUAGE  
TEACHING**

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*Abstract*

The Russian Federation entry into the Bologna process has led to changes in the Russian education system generally and in the higher professional education in particular. Russian science has got a great impetus to create new methods and techniques of training students due to changing the higher professional education into the two-tier system of education. A lot of educators and scientists are looking for and developing the methods of foreign language training that can help students to use the acquired skills in their professional activity. As a rule, foreign language training at higher educational establishments takes place apart from the language environment due to a number of reasons, such as a low level of students' foreign language skills and impossibility to invite a native speaker to teach the foreign language. The paper studies motivation as the instrument of bilingualism formation in students of a biological department during the process of foreign language training. Therefore, the author studies some problems of the definition of a bilingualism phenomenon. Intrinsic and extrinsic types of motivation; some types of motives of forming bilingualism are investigated in the article. Some attempts of defining the orientation of learning motivation to study the foreign language have been undertaken by the example of the first year students at the beginning of the educational program and among the second year students at the end of the educational program.

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**Keywords:** Process of non-native language acquisition; intrinsic and extrinsic types of motivation; transformative motivation; test-questionnaire of educational motivation orientation.

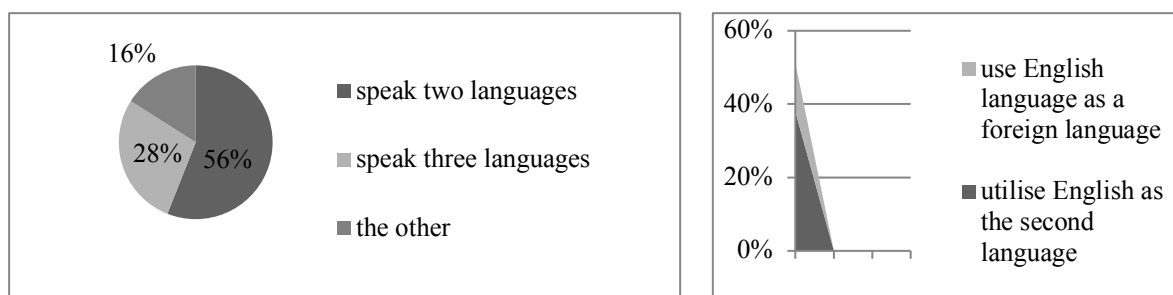


## 1. Introduction

The Russian Federation entry into the Bologna process has led to changes in the Russian education system generally and in the higher professional education in particular. Russian science has got a great impetus to create new methods and techniques of training students due to changing the higher professional education into the two-tier system of education. Any graduates of a higher professional institution should meet the requirements of native and foreign employers; he should be a competent and competitive professional. One of the graduate's advantages in employment is a fluent knowledge of a foreign language. Such specialists are in great demand in the labour market.

Many scientists are looking for and developing such methods of foreign language training that can help students to use the acquired skills in the professional activity. Currently, there is a great variety of training foreign language techniques and methodology and some of them are quite effective. (Ames, & Ames, 1984).

As a rule, foreign language training at higher educational establishments takes place apart from the language environment due to a number of reasons such as a low level of students' foreign language skills and impossibility to invite a native speaker to teach the foreign language. Nevertheless, the Russian state and society pose before the higher school the problem of training specialists who can manage a foreign language; they should be able to understand foreign language speech; carry on the negotiations, discussions; make contracts; communicate in various professional subjects; speak native and foreign languages fluently. Use of foreign language alternately with the native language is considered to be bilingualism. The English language has the status of the "global language" and it is being used in the international cooperation during last decades. Recent studies of bilingualism (Graddol, 2006) confirm that "a number of people learning the English language are increasing ..." and the English language growth in the world community "became one of the global factors of modern life" (Graddol, 2006).



**Figure 01.** The data on the bilinguals in Europe

According to the data, there are about 56% of bilingual Europeans; 38% of them utilizes the English language as the second one and about 100 million people use it as a foreign language (Babina, 2007) (see Figure 01). The number of bilinguals is constantly growing because bilingualism is the phenomenon existing all over the world, at every continent and in the majority of the world countries. Bilingualism occurrence is caused by a number of factors such as political, economic or religious migrations; political or linguistic alliances; education etc.

## 2. Problem Statement

Despite the fact that the problem of bilingualism is not innovative in the scientific literature, there are many definitions of this phenomenon. The analysis of the scientific sources shows that there is no universal definition of the term “bilingualism” (Vechter, Lapkin, & Argue, 1990). This contradiction is explained by the fact that bilingualism is studied from the point of view of various scientific approaches. A bilingualism problem is investigated as a part of such disciplines as linguistics, sociolinguistics, sociology, philosophy, psychology, pedagogy, sociopsycholinguistics, ethnology, literature, history and others. Some researchers conclude that “in spite of the variety of bilingualism definitions recommended in the science, some of them intersect or are identical. This is due to the fact that the bilingualism phenomenon is studied from points of various approaches and methods of non-native language acquirement” (Kushnyr, 2015).

Being based on one’s proficiency of foreign language training at the high institution and observations of the students’ behavior during English classes, the author concludes that one of the most important circumstances of bilingualism forming is the motivation to foreign language study.

Many scientists, researchers and educators (Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières, 1992; Rossi, 2010) consider motivation as one of the main variables defining the level of success of foreign language acquirement. As Dornyei (2001) notes “teacher skills in motivating learners should be seen as central with regard to teaching effectiveness”. The author thinks that motivated students perceive enthusiastically the process of non-native language acquisition; they want to study, concentrate attention and efforts on the stated challenges. Such students do not demand continuous encourages; they overcome difficulties and can motivate other students.

Our proficiency in foreign language training at the high institution shows that students-biologists’ motivation affects their readiness to participate in the process of second language acquisition. Results of numerous research works point out the necessity to consider motivation as a multifaceted phenomenon. Oxford. R. and Shearin. J. investigated a number of motivational theories and determined six variables that have the impact on the motivation when studying a foreign language:

- Attitude (feelings, experienced for the purpose achievement).
- Self-belief in one’s own efforts and abilities (expectation of one’s own success results).
- Goals (understanding the accuracy and relevance of the learning goals and objectives as the motives of education).
- Participation in various foreign language activities (the level of the active and conscious participation in the process of education).
- Maintenance of convenient environment for foreign language activity (permanent support of a teacher and those around him).
- Personal traits (ability to master a non-native language and a foreign language training experience)” (Oxford & Shearin, 1994).

Some researchers in the field of motivation differ internal from external motivation (Clement, Dörnyei & Noels, 1994). Internal motivation is thought as something happening inside an individual. Internal motivation is supposed to influence more successful results achievement in the process of any activity, especially in foreign language communication as it is a natural process. On the other hand, attempts directed to the stimulating of internal motivation can slowly influence the result achievement. Besides, special and continuous background is necessary for this goal. We think that students are individuals; therefore, the development of a wide range of bilingualism formation approaches is essential to motivate students at various levels of motivation. A teacher should inquire students' interests to combine their interests with the bilingualism formation in the process of foreign language training.

External motivation is expected to stimulate various activities which can be unpleasant and undesirable, but it can benefit when used for achievement of some potential results. External motivators can be parents, friends, a possibility to have higher income, travelling, study placement with foreign corporations. On the one hand, external motivation can direct students' activity and, as a rule, a few efforts and preparation for the foreign language activity are characteristics in external motivation. On the other hand, external motives can often divert students from foreign language activity. To achieve desirable results, formation of an encouragement and punishment system is brought to the fore. To maintain the level of students' interests in foreign language activity, a teacher-motivator has to find out various ways to widen and strengthen the encouragement and punishment system. As a rule, external motives do not work in a long-term perspective; as soon as a teacher gives up of the encouragement and punishment system to achieve desired result, students lose their motivation.

Our proficiency of foreign language training at Surgut State University proves that both types of motivation (internal and external) are not closely related but they are interrelated. In addition, the increasing or decreasing of internal and external motivation is affected by personal, psychological and social factors. The author thinks that a teacher should know and define the prevalent type of motivation in his students; what motives is it based on, what the students are interested in and so on. Both types of motivation can be divided into two subgroups that can activate students for the foreign language training. Internal motivation of students-extroverts is manifested in the fact that they feel satisfaction communicating with other people, while students-introverts use the language to think or to plan some activities.

Motivation sometimes can be not only a teacher's tool of training, but it can be a students' tool either. Within this framework, students put their learning to fulfill their wish. Actually, a teacher should realize the fact that acquiring a foreign language is an important experience as the tool of forming a bilingual personality.

The teacher's aim in this case is to motivate students with prevailed instrumental motivation. Therefore, students realize and understand that acquiring a second language is a tool of goal-oriented achievement, e.g. getting credit or an excellent mark at the exam. It is worth noting that internal motivation can result in disappointment due to the fact that students come to the point of incompetence to study a second language or they do not oversee the functional value of their foreign language activity; and they finally become disillusioned and give up the foreign language study.

Hashi (2001) offers such type of motivation in the second language study as a transformative one. Hashi takes up the position that “unlike the traditional motivational types in Second Language Learning, L2 Learners may be driven by a desire in which the learner transcends survival goal and seeks to learn and use the language as an empowerment tool in order to transform some aspects of his life, his own community as well as that of the host community” (Hashi, 2001).

Gardner and Lambert (1972) think that motivation includes three elements:

- a motivated person is trying to study a foreign language;
- a motivated person gets pleasure acquiring a foreign language;
- a motivated person wants to achieve the goal.

The author of the article supports Naiman’s opinion (1978), who thinks the most successful and effective students are not those who study language easy, but those who have certain peculiarities; and most of them are undoubtedly motivated. The researcher gives the following characteristics of motivated students:

- Positive task orientation
- Ego involvement
- Need for achievement
- High aspirations
- Goal orientation
- Perseverance

Tolerance of ambiguity (Naiman, 1978).

According to the author’s of the article experience, more significant motives have been defined to form bilingualism in students in the field of program 020400.62 “Biology” in the process of foreign language study:

- cognitive, i.e. creating such circumstances when they become the major principle of the development and professional orientation of students-biologists;
- communicative motives – the desire to communicate both with a native speaker and with the group-mates, friends, and perhaps with parents in a variety of everyday situations using a foreign language.
- reading professional literature, writing something in a foreign language (e.g. making the professional practice reports, writing letters, summarizing abstracts for papers and so on);
- participation in some international seminars and conferences;
- professional motives motivate students-biologists to the educational activity; professional motives encourage students’ academic achievement and insistence in overcoming difficulties.

### **3. Research Methods**

To define the motives of students-biologists’ bilingualism forming in the process of foreign language training, we used Dubovitskaya’s method “Test-questionnaire of educational motivation orientation” (Dubovitskaya, 2002).

The survey was conducted among the first- and the second-year students of the field of program 020400.62 “Biology” of Surgut State University. The total sampling of the questionnaire numbered 52 respondents; they demonstrated their attitude to foreign language study. The research was held at two stages. To define the orientation of learning motivation to the foreign language studying, the test-questionnaire was conducted for the first-year students at the beginning of the educational program; and it was made for the second-year students at the end of the educational program.

The questionnaire consisted of 20 statements and suggested variants of answers (see Table 01). The content of the test-questionnaire has included the following instruction: according to the aim of efficiency enhancement of teaching, you are asked to take part in our survey. Read every statement and express your opinion about the studying subjects giving the appropriate answer. Use the denotations indicated in brackets: true - (++) ; probably true – (+); probably false – (-); false – (--).

**Table 01.** Test-questionnaire of educational motivation orientation.

Statements	Answers
1. Studying this subject gives me the opportunity to know much significant for me; to demonstrate my abilities	
2. Studied subject is interesting to me; I want to know as much as possible	
3. I have enough knowledge to study this subject	
4. Tasks of this subject are uninteresting to me, but I do them because the teacher requires	
5. Originated difficulties during this subject study make it more attractive to me	
6. I read original and recommended literature during studying this subject	
7. I think some complex theoretical issues of this subject should not be studied	
8. I try to understand this subject if something does not work out	
9. I often have such statement as “when I do not want to study at all” at this subject classes	
10. I study and do the tasks actively only under the teacher`s control	
11. I discuss the studied material with my groupmates (friends) in my spare time	
12. I try to do this subject tasks independently; I do not like when I am directed and helped	
13. When it is possible, I try to copy down or ask somebody to do the task for me	
14. I believe the knowledge of this subject is valuable and if it is possible, one should know this subject as much as possible	
15. Assessment in this subject is more important than the knowledge of it	
16. If I am poorly ready for this subject, I do not worry	
17. My interests and hobby are connected to this subject in my spare time	
18. I have to force myself to do the tasks because this subject is difficult to understand to me	
19. I am sad when I miss my classes because of my disease	
20. If it were possible, I would exclude this item from the schedule	

Calculation of the indications is made according to the key, where “Yes” is meant positive answers (true - (++) ; probably true – (+) and negative answers (probably false – (-); false – (--)) are meant as “No”.

**Table 02.** Key to the test-questionnaire of educational motivation orientation.

Yes	1	2	5	6	8	11	12	14	17	19
No	3	4	7	9	10	13	15	16	18	20

One point is counted for every match with the key. The higher total scores are, the higher the intrinsic motivation to activity is. The external motivation is predominated in the lower total scores.

In the data analysis, the obtained results of the answers processing are interpreted as:

- 0 – 10 scores - intrinsic motivation;
- 11 – 20 scores - external motivation.
- The following standard boundaries can be also used to determine the level of intrinsic motivation:
  - 0 -5 scores – low level of intrinsic motivation;
  - 6 – 14 – mid level of intrinsic motivation;
  - 15 -20 – high level of intrinsic motivation.

To make the qualitative analysis of results, the questions are divided into the following groups:

1. Knowledge value – positive answers: 1, 11, 14, 17 (maximum score is 8);
2. Activity independence – positive answers: 6, 8, 12 (maximum score is 6);
3. Passive attitude – positive answers: 7, 10, 13 (maximum score is 6);
4. Difficulty in learning activity – positive answer: 18 (maximum score is 2);
5. The interest in activity - positive answers: 2, 5, 19 (maximum score is 6);
6. Negative attitude to the classes - positive answers: 3, 4, 9 (maximum score is 6);
7. Negative attitude to a type of activity – positive answers: 15, 16, 20 (maximum score is 6).

Measures of these manifestations are:

- 0 – 25% - low;
- 30% - 70% - mid;
- 75% - 100% - high.

Meaning of the results, obtained by summing up the scores, shows the presence or absence of these manifestations.

**Table 03.** Sample of the answer form. Answer Form

(Name, Surname, № of the group \_\_\_\_\_)

Question number	Title of the subject: “Foreign language”
1	
2	
.....	
18	
20	

#### **4. Findings**

First-year students of the field of program 020400.62 “Biology” of Surgut State University took part in the test-questionnaire of educational motivation orientation. They showed the following results (see Table 04):

**Table 04.** Results of the orientation of the internal motivation level of learning activity in the first-year students of the field of program 020400.62 “Biology”.

<b>Scores</b>	<b>0 -5</b>	<b>6 -14</b>	<b>15 -20</b>
Number of students	30 (58%)	10 (19%)	12 (23%)

Results of the elaboration have pointed that 58% of the first-year students showed a low level of motivation; 19% - middle level; 23% - high level of motivation.

The same students but of the second-year of foreign language training of the field of program 020400.62 “Biology” were asked to answer the same test-questionnaire to find out the level of educational motivation orientation (see Table 05).

**Table 05.** Results of the orientation of the internal motivation level of learning activity in the second-year students of the field of program 020400.62 “Biology”.

<b>Scores</b>	<b>0 -5</b>	<b>6 -14</b>	<b>15 -20</b>
Number of students	14 (27%)	18 (35%)	20 (38%)

The second-year students of the field of program 020400.62 “Biology” showed the following results: 27% - low level of motivation; 35% - middle level; 38% - high level of motivation.

The comparison of the test-questionnaire results allows drawing the conclusion: the level of motivation of the first-year students of the field of program 020400.62 “Biology” is rather low (about 58%) at the beginning of the foreign language course, but it has raised (about 38%) by the end of the training course.

#### **5. Conclusion**

Motivation in bilingualism forming is a very multidisciplinary phenomenon. The author thinks that motivation is one of the most important tools of increasing students` interest in a foreign language study.

The author believes that the high level of students` motivation encourages an effective process of bilingualism forming of the students of the field of program 020400.62 “Biology”; their self-education and cognitive activity during the process of foreign language training. Students realize the need of acquiring a non-native language to become competitive and highly trained professionals.

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