UDC: 378.147.808.111
DOI: https://doi.org/10.24195/2414-4665-2018-2-11

Liliya Morska,
Doctor of Pedagogy, professor,
Department of Foreign Languages for Science Faculties,
Ivan Franko National University of Lviv,
1, Universytetska Str., Lviv, Ukraine,
The University of Bielsko-Biala,
2, Willowa Str., Bielsko-Biala, Poland,
Tetiana Horpinich,
PhD (Candidate of Pedagogical Sciences), associate professor,
Department of Foreign Languages,
I. Horbachevsky Ternopil State Medical University,
1, Maidan Voli, Ternopil, Ukraine
Tetiana Olendr,
PhD (Candidate of Pedagogical Sciences), associate professor,
Department of Foreign Languages,
Ternopil Volodymyr Hnatiuk National Pedagogical University,
2, Kryvonosa Str., Ternopil, Ukraine

TEACHING MEDICAL STUDENTS' PROFESSIONAL ENGLISH READING ON THE BASIS OF INDIVIDUAL COGNITIVE LEARNING STYLES

The article deals with the issue of developing future doctors' reading competency in professional English on the basis of individual cognitive learning styles. The notion "individual cognitive learning style" in the context of medical students' professional training has been defined; the influence of the given notion on the efficiency of professional communicative competency development has been studied; the advantages of considering right and left hemispheres dominance as individual learning styles in the process of developing medical students' reading competency in professional English have been grounded. The effectiveness of the suggested methodology has been verified and confirmed in the course of experimental teaching.

Keywords: *reading competency in professional English, individual cognitive learning style, medical students training.*

Introduction

Under the current conditions of globalization and international relations expansion, there is an urgent need for the training highly qualified specialists with such a level of foreign language proficiency, which allows direct communication with foreign partners in professional activities and the use of foreign sources of information for self-education and self-improvement. In the context of teaching English for students of non-philological specialties of higher education institutions, the relevant task is to master the knowledge of the terminology system within the specialty and to acquire skills and abilities to use specialized vocabulary to carry out educational and professional tasks aimed at further communication and mastering new material in professional activity.

Aim and Tasks

Medicine as a branch of healthcare delivery system, which carries out measures for the medical services of the population, has a distinct system of scientific knowledge about the causes and symptoms of the diseases, methods for their diagnosis, prevention, and treatment. It is clear that in addition to direct professional skills and the ability to transfer professionally relevant information to colleagues, patients, junior medical personnel, the prerequisite for effective work is constant self-education, ability to independently receive professional information, in particular from foreign sources and to reflect on and apply it in practice. Thus, for the effective understanding and interpretation of foreign scientific literature, it is necessary to form reading competence in future medical workers. The research of specificity of the formation of such competence is **the goal of the article**.

Research tasks: 1) to substantiate and experimentally check the methodology of the formation of future doctors' reading competence in English; 2) to verify the influence of individual and cognitive learning styles of students on the level of the formation of the reading competence as suggested by the given methodology.

Theoretical Study Results

Working with the information presented in various types of professional sources is very important for any specialist. That is why methodology of teaching foreign languages to non-linguistic students focuses much attention on the problems of reading and understanding professionally relevant information. In spite of this, within this context there are problems related to the specificity of taking into account individual differences of students in the teaching professional reading. Opportunities for differentiated teaching in higher education are deeply analysed in modern scientific literature. However, the peculi-

arities of the teaching future doctors with the account of their individual psychological peculiarities have not been described. Consequently, the social and pedagogical necessity, theoretical value and the lack of development of the problem determined the relevance of the research.

The problem of individual psychological differences between people is one of the most urgent problems of psychology and pedagogy. Mind is a complex abstract formation, which can be described by means of common patterns of organization and functioning. Nevertheless, the phenomenon of the individuality consists in the fact that individual patterns of behaviour are not identical at all. Accordingly, the concepts created within general psychology cannot be mechanically transferred to the mental understanding of the mechanisms of a particular individual. That is why the concepts and approaches, that have characterized the mechanism of individual mental activity, have always presented special interest to scientists.

It should be noted that within existing approaches to classification of ways of perceiving and processing information, the neurophysiologic mental mechanisms that regulate processes of information perception, processing, transformation and its use in practical activity are rarely taken into account. Many authors express the idea that individual differences in information perception and processing are caused by the existence of a certain superformation, poles of which can be interpreted in terms of functional asymmetry of cerebral hemispheres. Thus, one of its poles corresponds to the right-hemispheric style of thinking and learning (information processing is carried out in the form of simultaneous synthesis and integration of different influences), while the other one corresponds to the left-hemispheric learning style (logical, linear and consistent forms of information processing) (Miller,1987).

The process of information perception and processing is caused by complex neurophysiologic mechanisms. The idea of the so-called brain "duality" (different role of cerebral hemispheres in ensuring human mental activity) emerged at the beginning of the last century. Most of the scientific findings of that time were based on the description of mental disorders caused by the injuries of the right and left hemispheres. In particular, V. Bekhterev described preservation of musical ability in people with aphasia (language impairment as a result of damage to cerebral cortex), which led to the idea of "verbal" and "music" centres of the brain (Akimenko, 2004).

As it was proved, brain "duality" causes polarization of human intellectual apparatus which manifests itself in cognitive functions of the left and right hemispheres. This idea also served as the basis for singling out right- and left-hemispheric cognitive styles.

Most people have left hemisphere dominance and thus, the left-hemispheric individual cognitive learning style. It is responsible for a consistent analytical information processing. The right hemisphere provides intuitive and simultaneous processing of a material that is perceived. The left hemisphere performs better recognition of temporal relationships, whereas the right one is responsible for the recognition of spatial relationships. The latter is also responsible for verbal operations, for example, it has a highly developed ability to perform speech functions. The right hemisphere interprets visual signals, such as recognizing people and sound images (intonation and voice recognition, "understanding" music). Finally, the left hemisphere is important when performing precise logical operations, including mathematical calculations, interpreting symbolic concepts.

Following S. Rubinstein, we will consider teaching material acquisition as a complex process of forming the student's individual experience. Its main stages are perception, comprehension, memorization of information and its application in practice. We shall characterize the peculiarities of these stages in people with different dominant hemispheres (Kholodnaya, 2002.).

At the stage of perception, the main difference between people with the right and left-handed individual cognitive learning styles is that the former tend to discrete, analytical information perception, and the second one to the simultaneous, synthetic perception of information. People with the left hemisphere dominance are intolerant to changes in previously established conceptual schemes; they are characterized by closeness to conflicting information, "analyticity". When teaching a foreign language to such students, presenting new material should begin with an explanation of the rules, laws, and be followed by concluding the material with the corresponding rules. On the contrary, students with a dominant right hemisphere feel the desire to seek the essence of the situation at the level of deep organizational patterns; they are characterized by the ability of simultaneous handling a large volume of comparative data, "syntheticity". While teaching such students, it would be more effective to suggest the examples first, then compare them, and eventually generalize the material as a consequent rule. Since separating parts of the whole is a difficult task for them, while working with the text they should be offered exercises for the coherent perception of the material, for example, finding endings to paragraphs.

People with left-hemispheric individual cognitive learning style resist cognitive experience, if its original data contradict their factual knowledge. On the other hand, right-hemispheric people perceive data that do not meet or even contradict their existing ideas as correct and clear. So, when working with left-hemispheric students, we should avoid ambiguity and contradictions in the analysis of linguistic phenomena or text information (Hellige, 2001).

Processes of comprehension also differ in students with different individual-cognitive learning styles. Thus, people with the left hemisphere dominance are characterized by a high degree of integration of verbal-linguistic and sensory-perceptual methods of information processing, high personal autonomy, little interest in other people, so these students are able to learn a language

anywhere and they have enough internal motivation to continue their studies. While teaching such students reading, we should provide tasks which involve restructuring the text, dividing it into parts, singling out certain elements of the keywords. These students should be suggested individual forms of work.

For people with the left-hemispheric individual cognitive learning style, it is typical to slowly respond to new situations; they check the hypotheses several times, make their own decisions on the basis of careful prior analysis of alternative options. Right-hemispheric students are characterized by the responsiveness to the situation of multiple choice, they suggest the hypothesis without analysing all possible alternatives. These parameters determine the choice of ways to monitor the achievements of students in the study of foreign languages. Left-hemispheric students should be offered the questions of "closed" type, while right-hemispheric ones efficiently perform tasks that require detailed answers.

Peculiarities of memory functioning, and, consequently, memorization in students with different individual cognitive learning styles differ as well. Left-hemispheric individual cognitive learning style is characterized by the persistence of the material in memory along with its simplification, omission of details and certain fragments, while right-hemispheric learning style is characterized by emphasising certain specific details of the material. These characteristics should be considered while explaining new material, discussing controversial issues, since bright elements of the material can be used as reinforcements for memorization.

Furthermore, it should be remembered that left-hemispheric people have well-developed auditory memory, and memorization occurs through persistent repetition, and the fixation of new material happens by means of learning rules, grammatical constructions. Right-hemispheric students are characterised by high level of visual memory, and memorization occurs through the vivid presentation of the material, and the fixation of new material is achieved by means of combining imaginative representations and specific situations.

In addition, students with the left hemisphere dominance experience difficulties in the transition from verbal operations to sensory-perceptual ones due to the low degree of automation. People with the right hemisphere specialization relatively easy switch from verbal operations to sensory-perceptual ones because of the high degree of automation. That is why it should be borne in mind that it has a direct impact on the process of memorization, as long as the dominance of the right hemisphere is associated with low rates of involuntary and voluntary memory. Thus, while teaching such students, we should give them more time to reflect on new material.

The final stage of assimilation, application into practice, is not only the result of learning, but also a way of knowledge consolidation and developing proper skills and abilities. In essence, it is a real context in which knowledge, skills and abilities are actualized in practice. Depending on the dominant individual cognitive learning style, this stage in different students will occur in different ways. Thus, left-hemispheric people are characterized by the dependence on the status and authority, intolerance to uncertainty, stereotypical solutions, situational behaviour, less pronounced ability to think in terms of hypothetical situations. Right-hemispheric students' judgments do not depend on the actual properties of the situation, they focus on internal experience while explaining the physical and social world, they tend to risk, independence, flexibility, creativity, the ability to use many alternative ways to interpret the situation. This results from the structure of students' conceptual sphere. The right hemisphere correlates with high verbal intelligence and creativity. While learning a foreign language, students of this type perform creative tasks and projects easily, while their left-hemispheric peers demonstrate their abilities in solving exercises on accuracy.

Students with the right-hemispheric individual cognitive learning style are significantly influenced in the course of acquired information application by the team and the environment. Students with the right hemisphere dominance are characterized by sociability, cheerfulness, dependence on the group. They are strongly dependent on the learning environment. Thus, they are best of all trained in verbal environment, where the need to express their thoughts is the best motivation. These students work effectively in a group where they can use their social skills (Sims, 1995.). People with the left hemisphere dominance are characterized by high personal autonomy, little interest in others, so these students are able to learn a language anywhere and they have enough internal motivation to continue their studies. Furthermore, it should be remembered that the typical left-hemispheric students lack a sense of competition and are characterized by certain passivity. That is why these students should be provided with the tasks that aim at achieving a positive result, but without limiting them in time.

It is obvious that hemispheric asymmetry is a key factor in the singling out individual differences of personality (Bohomaz, 1998; John, 2007; Sonnier, 1991). Thus, in people with the right-hemispheric individual cognitive learning style, information processing is carried out in the form of synthesis and simultaneous integration of different influences, whereas people with the left-hemispheric style are characterized by logical, linear and consistent forms of information processing. Due to the fact that the processes of perception, comprehension, memorization and application of information are different in students with different individual cognitive styles, the traditional methodology, which does not take into account these individual differences, is less effective in achieving the goals set. This actualized the necessity of the development of the suggested model and experimental methodology for the formation of professional English competence in reading of future doctors on the basis of individual cognitive learning styles.

Research Methods

Experimental verification of the suggested methodology of the development of medical students' reading competency in professional English was carried out in accordance with all requirements for the organization of methodical experiment: 1) the exact limited time; 2) the presence of pre-formulated hypotheses; 3) plan and organizational structure which correspond to the hypothesis; 4) the possibility of isolated methodical consideration of factors; 5) measuring the initial and final levels of knowledge, skills, according to the criteria that confront the specificity and purpose of the experiment (Shtulman, 1971).

Let us describe the main stages of the experiment. The purpose of the experiment was to verify the efficiency of the suggested methodology.

The initial stage of the experiment was pre-experimental survey. Its aim was to group students according to their individual cognitive learning styles. To fulfil this task, students were asked to fill in a questionnaire for determining functional asymmetry of cerebral hemispheres and their individual cognitive learning style. The pre-experiment survey was started in January of 2015-2016 academic year at Ternopil State Medical University. In general, 88 students of the Medical Faculty participated in the survey.

According to the results of the questionnaire, students were divided into left- and right-hemispheric groups which during the experimental teaching worked with different exercises and tasks for teaching reading. Determining the dominant hemisphere of the brain was based on the method of defining a functional hemispheric asymmetry coefficient proposed by Ye. Nevedomska (Nevedomska, 2010). Today, there are many methods aimed at determining the dominant hemisphere. In general, they can be divided into two groups: 1) experimental psychological methods aimed at analysing choices in performing certain behavioural actions with the use of special equipment or without it; 2) physiological methods, which are based on various bioelectric parameters of asymmetry. The advantage of the chosen method is economical determining functional specialization of cerebral hemispheres, including all of its manifestations, relevant for foreign language acquisition. Out of 88 students, who participated in the experiment, most students appeared to have left hemisphere dominance of various degrees (68 students). 2 students were ambidextrous, 18 students had right hemisphere dominance (see Table 1).

Taking into consideration the results of psychological and pedagogical research (Miasoiid, 2000; Maktvilisker, 1986; Kholodnaya, 2002; Sonnier, 1991), and with the account of the nature of left- and right-hemisphere dominance, when working with the students with low, medium, higher than medium, high and very high coefficients of functional hemispheric asymmetry, we used teaching methods appropriate for left-hemispheric thinking style. While working with the students with negative coefficient (dominance of the right cerebral hemisphere) and ambidextrous students we used teaching methods appropriate for right-hemispheric people.

Table 1.

Distribution of Students According to Functional Hemispheric Asymmetry Coefficient

Types of functional asymmetry	Number of students
ambidextrous students	2
low coefficient	14
medium coefficient	17
coefficient higher than medium	12
high coefficient	8
very high coefficient	17
negative coefficient (right hemisphere dominance)	18
Total	88

After the pre-experimental survey, the main experiment was conducted. It consisted of the three stages: ascertaining experiment, formative pedagogical experiment and final experiment. It involved 88 students (44 students in experimental group (EG) and 44 students in control group (CG)) given that the minimum number of participants of the methodological experiment in which the results can be considered reliable, is 30-40 people. Right-hemispheric students were enrolled to EG1, EG2, EG3, CG1, CG2, CG3, and left-hemispheric students were included to EG4 and CG4.

The experiment encompassed 3 semesters (second semester of 2015-16 academic year and first and second semester of 2016-17 academic year) with 108 hours of classroom activity and 188 hours of independent work. The experiment was conducted in Ternopil State Medical University at the Faculty of Medicine.

Experimental teaching of future doctors was carried out according to the developed model and system of exercises that differ depending on the individual cognitive learning styles of the students. To achieve the purpose of the experiment, we compared two methodologies: experimental one (methodology of the development of medical students' reading competency in professional English on the basis of individual cognitive learning styles) and a traditional one. As it was mentioned, the stage of imple-

mentation of the experiment consisted of three main parts: ascertaining experiment (pre-experimental assessment), formative pedagogical experiment (experimental teaching), and final experiment (post-experimental assessment). Let us consider each of these stages in details.

The experiment was started with a pre-experimental assessment to determine the initial level of the development of the skills of professionally-oriented reading. For this purpose, students of the 4 experimental and 4 control groups were suggested to read medical case history and a scientific article in English and do exercises on the basis of the information from the texts. The students had 2 academic hours to perform the tasks for the pre-experimental assessment.

The tasks for the pre-experimental assessment maximally resembled real-life professional situations. This allowed, on the one hand, creating the context necessary for effective reading activity, and, on the other, to test students' ability to consider speech situation.

For objective evaluation, the results of pre-experimental assessment were presented by means of learning coefficient formula by V. Bespalko: K = Q / n, where K is learning coefficient, Q is the number of points obtained by a student, n is the maximum number of points for the test (Bespalko, 1968.). According to the results of pre-experimental assessment, the average learning coefficient in four experimental and four control groups was defined. Coefficient equal to 0.7 (70 %) was taken as the lowest satisfactory level. Within our experiment the maximum number of points was 100, so the lower satisfactory level was 70 points.

The obtained data allowed determining the average learning coefficient in EG and CG: EG1 – 0.53, EG2 – 0.55, EG3 – 0.55, EG4 – 0.56; CG1 – 0.58, CG2 – 0.59, CG3 – 0.55, CG4 – 0.57 (see Table 2).

Table 2.

Students' Results According to Pre-Experimental Assessment

Criterion of assessment	Max. points	EG1	EG2	EG3	EG4	CG1	CG2	CG3	CG4
Receptive	30	16.8	17.3	17.9	17.9	18.7	18.7	17.6	17,8
Reproductive	30	17	16.7	16.8	17.3	17.5	17.8	15.9	16,3
Productive	40	19.5	21.4	20.2	21	21.6	22.4	21.1	22,7
Average level		53.3	55.4	54.9	56.2	57.8	58.9	54.6	56.8
Learning coefficient		0.53	0.55	0.55	0.56	0.58	0.59	0.55	0.57

The results of the pre-experimental assessment showed approximately the same level of development of medical students' reading competency, which was below the lower satisfactory level (0.7). For example, out of 88 students of experimental and control groups, only 3 students demonstrated a sufficient level of development of reading skills, while other students showed a low level of formation of reading competency, which gave the basis for experiential teaching.

The Suggested Methodolody

The next component of the methodical experiment was formative pedagogical experiment, which consisted in *experimental teaching*. As it was mentioned above, experimental teaching of medical students was carried out according to the suggested methodology and system of exercises on the basis of individual cognitive learning styles. Individual cognitive learning styles were the parameter which was taken as a basis for the model of development of medical students' reading competency in professional English. Experimental teaching encompassed two phases, covering the second semester of the first year and the first and second semesters of the second year, respectively.

As long as teaching reading always begins with the work on authentic texts of different genres, we faced the problem of selection of teaching material for work. The selection of the texts for teaching students reading specialized medical literature should not only be professionally-oriented, but also it should take into account highly specialized medical fields. While selecting teaching material, we were guided by the following principles (Torrance, 1988): 1) a principle of professional orientation; 2) a principle of scientific basis; 3) a principle of continuity; 4) a principle of theory and practice unity; 5) a principle of availability.

The suggested linguodidactic model assumed that the formation of the English competency in reading takes place in three stages: pre-text stage (familiarization with new material, training exercises), in-text stage (practice in reading scientific and popular texts), post-text stage (using information from texts in professional communication).

The pre-text stage was aimed at the development of phonetic, lexical and grammatical competency: activation of background knowledge on the topic under study, as well as overcoming phonetic, lexical and grammatical difficulties, which at a later stage provide the full attention of students to the content of the texts.

The purpose of the in-text stage was the development of receptive-reproductive language skills of reading foreign literature in future medical specialists that ensure the understanding of the information from the texts of all main genres of medical literature.

The post-text stage was dedicated to the development of productive skills of reading professional literature, which are necessary to meet the professional and

educational needs (interpretation of the obtained information, evaluation of the meaningfulness of the gained knowledge by the students for their future professional activity, reasoning of the opinions concerning contradictory questions with support from the obtained information etc.).

Taking into account students' differences in the perception of the text, left-hemispheric students were suggested to reproduce incomplete text with some transformations, while their right-hemispheric peers reproduced the whole text with additional interpretation of its certain parts. Specifically, the right-hemispheric students were asked to perform the task of synthesizing the proposed texts of the parts, to answer the questions of the "open" type. The left-hemispheric students were suggested to perform the tasks for matching parts and segmentation of texts, the questions of the "closed" type. Right-hemispheric students worked in groups, their left-hemispheric peers worked individually.

Results

Comparative data of the levels of medical students' reading competency maturity on the basis of the results of pre-experimental and intermediate assessments showed that the increase in the learning coefficient according to the receptive criterion was 3.5, according to the reproductive criterion – 4.5, according to the productive criterion – 5.5, and the total increase was 13.5. In the control group no significant changes occurred: the increase according to the receptive criterion was 1.8, according to the reproductive criterion – 2.5, according to the productive criterion – 2.9, and the total increase was 7.2 points.

The second part of the experimental teaching according to the suggested methodology and system of exercises was conducted during the I-II semesters of the second year of study. After the experiment was completed, post-experimental assessment was conducted. Its purpose was to determine the level of medical students' reading competency maturity.

Post-experimental assessment lasted 2 academic hours. The students were suggested to read a medical case history and a scientific article which differed in their lexical and grammatical content from the texts selected for pre-experimental and intermediate assessment. However, to ensure the correct comparison of results of pre- and post-experimental assessments, structure and number of the tasks for post-experimental assessment were the same.

For objective evaluation of the final level of the maturity of the medical students' reading competency in professional English, we determined the average level by means of learning coefficient formula by V. Bespalko. On the basis of the obtained data, the average learning coefficient in four experimental and four control groups was determined: EG1 – 0.87, EG2 – 0.86, EG3 – 0.87 EG4 – 0.88, CG1 – 0.74, CG2 – 0 72, CG3 – 0.7, CG4 – 0.7.

The results of the post-experimental assessment showed significant progress. In particular, the increase in EG according to the receptive criterion was 8.6, according to the reproductive criterion – 7.9, according to the productive criterion – 15.4. The control group showed no significant changes. Thus, the increase according to the receptive criterion was 3.3, according to the reproductive criterion – 3.5, according to the productive criterion – 7.6. The total increase in CG was 14.4, while in EG it was 31.9.

Thus, after the experimental teaching out of 44 students of the experimental group 10 students achieved high level of the maturity of reading competency in professional English, 30 – medium, and only 4 students achieved a sufficient level. In the control group, 30 students reached a sufficient level, 14 students achieved a low level (see Table 3).

Table 3.

Distribution of Students in Experimental and Control Groups According to the Level of Development of Medical Students' Reading Competency in Professional English

Group	Level of competency development			
	Low (0-69 points)	Sufficient (70-80 points)	Medium (81-90 points)	High (91-100 points)
EG	–	4	30	10
CG	14	30	–	–

In order to test the reliability of experimental results, statistical methods of data processing were used. The reliability and objectivity of empirical data were tested by means of *Mann-Whitney U*-test. The difference between the data before and after the experimental teaching is statistically significant for all 8 groups that participated in the experiment, with a probability of 99.95 %.

Conclusions

Thus, the analysis of the results obtained after the experimental teaching of medical students proves the effectiveness of the suggested methodology of the development of medical students' reading competency in professional English on the basis of individual cognitive learning styles.

The study does not cover all aspects of the development of foreign language competency in reading in medical students. The prospects for further study consist in the development of methodologies of the formation of competencies in other types of speech activity which would take into account individual cognitive learning styles.

REFERENCES

1. Akimenko, M. A. (2004). Psikhonevrologiya – nauchnoye napravleniye, sozdannoye [Psychoneurology as a scientific trend created by V. M. Bekhterev]. *Obozreniye psikhiatriyi i meditsinskoy psikhologiyi im. V. M. Bekhtereva – Survey on psychiatry and medical psychology named after V. M. Bekhterev, 1*, 20-22 [in Russian].

2. Bespalko, V. P. (1968). Opyt razrabotki i ispolzovaniya kriteriyev kachestva usvoyeniya znaniy [Experience in the development and use of criteria for the quality of knowledge acquisition]. *Sovetskaya pedagogika – Soviet pedagogy, 4,* 52–69 [in Russian].

3. Bohomaz, S. A. (1998). Psychophysiological examination of the project "Teaching differentiation of younger schoolchildren with regard to their functional brain asymmetry" [Psikhofiziologicheskaya ekspertiza proekta «Differentsiatsiya obucheniya mladshikh shkolnikov s uchetom ikh funktsionalnoy asimmetriyi mozga»]. *Sibirskiy psikhologicheskiy zhurnal Siberian Psychological Journal, 8/9,* 35–41 [in Russian].

4. Miasoiid, P. A. (2000). *Zagalna psikhologiya [General psychology]*. Kyiv: Vyshcha shkola [in Ukrainian].

5. Maktvilisker, E. I. (1986). O meste kognitivnogo stilya v strukture individualnosti

[On the place of cognitive style in the structure of individuality]. *Kognitivnyye stili: tezisy nauchno-prakticheskogo seminara – Cognitive styles: theses of the scientific and practical seminar,* (pp. 47-50). Tallinn [in Russian].

6. Nevedomska, Ye. O. (2010). Vplyv koefitsientu funktsionalnoii asymetrii mozku uchniv na yikhnii temperament [Influence of students' functional hemispheric asymmetry coefficient on their temperament]. *Visnyk psikholohiii i sotsialnoii pedahohiky: elektronnyi zbirnyk naukovykh prats – Journal of Psychology and Social Pedagogy: electronic collection of research papers, 2.* Kyiv; Moscow. Retrieved from: http://www.psyh.kiev.ua/ [in Ukrainian].

7. Potapov, A. S. (2002). Psikhologicheskoye obosnovaniye sistemy obucheniya s uchetom lateralnoy asimmetrii polushariy golovnogo mozga [Psychological substantiation of the teaching system with the account of lateral asymmetry of cerebral hemispheres]. *Candidate's thesis.* Moscow [in Russian].

8. Kholodnaya, M. A. (2002). *Kognitivnyye stili: o prirode individualnogo uma : uchebnoye posobiye dlya vysshikh uchebnykh zavedeniy [Cognitive styles: on the nature of individual mind: a textbook for higher educational institutions]*. Moscow: PER SE [in Russian].

9. Shtulman, E. A. (1971). *Osnovy eksperimenta v metodike obucheniya inostrannym yazykam (dlya metodistov, prepodavateley inostrannykh yazykov i dr.) [The basis of the experiment in the methodology of foreign languages teaching (for methodologists, teachers of foreign languages etc.)]*. Voronezh: Voronezh University Publishing House [in Russian].

10. Hellige, J. B. (2001). *Hemispheric Asymmetry: What's Right and What's Left: Perspectives in Cognitive Neuroscience*. Cambridge: Harvard University Press [in English].

11. John, W. (2007). *Educational Psychology*. 2nd ed. New York: Mcgraw-Hill College [in English].

12. Miller, A. (1987). Cognitive styles: an integrated model. *Educational Psychology: An International Journal of Experimental Educational Psychology, 7,* 251-268 [in English].

13. Sims, R. R. (1995). *The Importance of Learning Styles: Understanding the Implications for Learning, Course Design, and Education*. Westport, Connecticut: Praeger [in English].

14. Sonnier, I. L. (1991). Hemisphericity: A key to understanding individual differences among teachers and learners. *Journal of Instructional Psychology*, (pp. 17-22) [in English].

15. Torrance, E. P. (1988). Styles of thinking and creativity. *Learning strategies and learning styles*. New York [in English].

ЛІТЕРАТУРА

1. Акименко М. А. Психоневрология – научное направление, созданное В. М. Бехтеревым / М. А. Акименко // Обозрение психиатрии и медицинской психологии им. В. М. Бехтерева. – 2004. – № 1. – С. 20–22.

2. Беспалько В. П. Опыт разработки и использования критериев качества усвоения знаний / В. П. Беспалько // Советская педагогика. – 1968. – № 4. – С. 52–69.

3. Богомаз С. А. Психофизиологическая экспертиза проекта «Дифференциация обучения младших школьников с учетом их функциональной асимметрии мозга» / С. А. Богомаз, Т. Е. Левицкая, А. Б. Ковалева // Сибирский психологический журнал. – 1998. – Вып. 8/9. – С. 35–41.

4. М'ясоїд П. А. Загальна психологія / П. А. М'ясоїд. – К. : Вища школа, 2000. – 480 с.

5. Мактвилискер Э. И. О месте когнитивного стиля в структуре индивидуальности / Э. И. Мактвилискер // Когнитивные стили : тезисы научно-практического семинара. – Таллинн, 1986. – С. 47–50.

6. Неведомська Є. О. Вплив коефіцієнту функціональної асиметрії мозку учнів на їхній темперамент [Електронний ресурс] / Є. О. Неведомська // Вісник психології і соціальної педагогіки : електронний збірник наукових праць / Інститут психології і соціальної педагогіки Київського університету імені

Бориса Грінченка ; Московський гуманітарний педагогічний інститут. – К. ; М., 2010. – Вип. 2. – Режим доступу: http://www.psyh.kiev.ua/

7. Потапов А. С. Психологическое обоснование системы обучения с учетом латеральной асимметрии полушарий головного мозга : дис. … д-ра психол. наук : 19.00.07 / А. С. Потапов. – М., 2002. – 403 с.

8. Холодная М. А. Когнитивные стили: о природе индивидуального ума : учебное пособие для высших учебных заведений / М. А. Холодная. – М. : ПЕР СЭ, 2002. – 304 с.

9. Штульман Э. А. Основы эксперимента в методике обучения иностранным языкам (для методистов, преподавателей иностранных языков и др.) / Э. А. Штульман. – Воронеж : Изд-во Воронежского ун-та, 1971. – 114 с.

10. Hellige J. B. Hemispheric Asymmetry: What's Right and What's Left: Perspectives in Cognitive Neuroscience / J. B. Hellige. – Cambridge : Harvard University Press, 2001. – 412 p.

11. John W. Educational Psychology / W. John, V. Woloshyn. – 2nd ed. – New York : Mcgraw-Hill College, 2007. – 592 p.

12. Miller A. Cognitive styles: an integrated model / A. Miller // Educational Psychology : An International Journal of Experimental Educational Psychology. – 1987. – Vol. 7. – P. 251–268.

13. Sims R. R. The Importance of Learning Styles: Understanding the Implications for Learning, Course Design, and Education / R. R. Sims, S. J. Sims. – Westport, Connecticut : Praeger, 1995. – 240 p.

14. Sonnier I. L. Hemisphericity : A key to understanding individual differences among teachers and learners / I. L. Sonnier // Journal of Instructional Psychology. – 1991. – P. 17–22.

15. Torrance E. P. Styles of thinking and creativity / E. P. Torrance, Z. L. Rockenstein // Learning strategies and learning styles. – New York, 1988. – P. 275-290.

Лілія Морська,
доктор педагогічних наук, професор, завідувач кафедри англійської філології,
Львівський національний університет імені Івана Франка,
вул. Університетська,1, м. Львів, Україна,
Техніко-гуманістична академія,
вул. Віллова, 2, м. Бєльсько-Бяла, Польща,
Тетяна Горпініч,
кандидат педагогічних наук, доцент кафедри іноземних мов,
Тернопільський державний медичний університет імені І. Я. Горбачевського,
майдан Волі, 1, м. Тернопіль, Україна,
Тетяна Олендр,
кандидат педагогічних наук, доцент кафедри іноземних мов,
Тернопільський національний педагогічний університет імені Володимира Гнатюка,
вул. М. Кривоноса, 2, м. Тернопіль, Україна

НАВЧАННЯ МАЙБУТНІХ ЛІКАРІВ АНГЛОМОВНОГО ПРОФЕСІЙНО-ОРІЄНТОВАНОГО ЧИТАННЯ НА ОСНОВІ ІНДИВІДУАЛЬНО-КОГНІТИВНИХ СТИЛІВ НАВЧАЛЬНОЇ ДІЯЛЬНОСТІ

У статті запропоновано вирішення однієї з важливих проблем сучасної методики навчання іноземних мов – формування професійної читацької компетентності у студентів медичного профілю з урахуванням індивідуальних психофізіологічних особливостей. Актуальність запропонованої розвідки зумовлена зростаючою потребою у підготовці компетентної особистості, здатної до постійної самоосвіти, професійного саморозвитку, насамперед, через звернення до іншомовних літературних джерел, та підсилюється відсутністю у методичній літературі спроб урахування індивідуальних психофізіологічних характеристик студентів при підготовці таких фахівців. Метою дослідження є обґрунтування та експериментальна перевірка методики формування у майбутніх лікарів англомовної компетентності у читанні на основі індивідуально-когнітивних стилів навчальної діяльності. Досягнення мети дослідження передбачало проведення методичного експерименту, який охоплював чотири етапи: пошуково-розвідувальний, констатувальний, формувальний, прикінцевий. Формувальний етап, тобто власне експериментальне навчання, тривав 3 семестри 2015-16 і 2016-17 навчальних років. Експериментальне навчання здійснено у Тернопільському державному медичному університеті імені І. Я. Горбачевського на медичному факультеті (спеціальності «Медицина», «Лікувальна справа»). Аналіз результатів, отриманих після експериментального навчання студентів медичного профілю, свідчить про ефективність розробленої методики формування у майбутніх лікарів професійної англомовної компетентності у читанні на основі індивідуально-когнітивних стилів навчальної діяльності.

Ключові слова: професійна англомовна компетентність у читанні, індивідуально-когнітивний стиль навчальної діяльності, підготовка майбутніх лікарів.

Submitted on January, 15, 2018