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INNOVATIVE EDUCATIONAL TECHNOLOGIES IN LANGUAGE EDUCATION

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Abstract: *During the last couple of years a number of researches into the innovative technologies find greater application in the native and foreign language education. In the article the innovative technologies of the education in Bulgarian language are examined in two dimensions: as a reflection of theoretic concepts of interaction with methodological value for the theory of native language education; as technological tools, which help the processes of coding, co-ordination and transformation of the flows of information. The resources of innovative technologies are shown to improve the education in Bulgarian language in the modern multicultural context.*

Key words: *innovative technologies, native language education, foreign language education, meta-cognitive skills*

1. Introduction

Does school nowadays prepare[2] adolescents for the labor market requirements in the coming years? The World Bank has conducted a survey on the skills employed Bulgarians have and how they affect their income. This survey predominantly addressed the investigation of the cognitive and the soft (social emotional) skills. It was found out that 23 % of the companies in Bulgaria have a problem with the so-called soft skills, namely the ability to participate in teamwork, the willingness to acquire new knowledge, the ability to make decisions and to anticipate their consequences, as well as the ability to change one's own attitudes. Cognitive skills were tested in a number of ways. One of them was a memory test in which the subjects had to recall series of numbers. The other test was, so to say, of a semantic nature – the subjects had to distinguish between synonyms and homonyms in texts. One of the tests was a reading comprehension test, the other tested the understanding of tables, graphs, etc.

The survey among Bulgarian students shows that 50 % of the students in vocational schools are functionally illiterate. They are unable to understand and interpret the texts, and are also unable to interpret the data they have. 40 percent of the 15-year-old Bulgarian teenagers have low grades in Mathematics.

The aim is through the adoption of new educational technologies in the teaching process to overcome this deficit of competencies at school. It is a deficit related to the social emotional and the cognitive skills which are crucial to the future social realization of the students.

2. Description

The development of a wide range of competencies is a task for the whole of our educational system. The greater interest in interactive methods and techniques in recent years has addressed the needs of the "digital" generation of students, to whom the traditional educational materials seem unattractive. Interactive methods are part of the teaching technology which "renovates" the subject content and creates positive attitudes towards learning. The article presents several *original interactive techniques* which are designed to stimulate the development of the soft and the cognitive skills of the students during Bulgarian

language lessons. They are applicable when teaching Bulgarian, as they are compliant with the specific subject content[3]of Bulgarian language teaching in 5th - 12th grades.

The most fundamental characteristics of the interactive techniques presented in this paper is the intentionally sought collaboration with the knowledge acquired in other school subjects. These techniques aim to stimulate the cognitive activities of the students through guided inference of re-discovery of common inter-dependencies and correlations between the facts presented in various school subject on the one hand, and the language phenomena on the other. Here the interactivity is predominantly connected with the development of the students' meta-cognitive skills through the subject content of Bulgarian as it is taught at school and corresponds with our conviction that knowledge is located not on a vertical, but on a horizontal plane. Bearing this in mind the best way for its personalization is through revealing the interconnections between its different "cores." Knowledge acquired in one school subject is correlated to knowledge acquired in another school subject and this process can be made more interesting, easier and productive with the inclusion of interactive methods and techniques. Another advantage is that teamwork (group work and pair work) facilitates the development of social emotional skills.

The functionality of the techniques suggested by our team determines their classification as mixed-type techniques. They simultaneously develop:

- cognitive skills (reading comprehension, utilizing semantic guessing, discovering common correlations between language and the specific subject content of Mathematics, Nature Studies, Geography, foreign languages),

- social emotional skills (teamwork, the ability to work without constant reminders, decision making skills, attitude change).

Due to their classification characteristics they belong to the groups of interactive methods for stimulating the cognitive, reflexive and creative activity.

The techniques we created and approbated in real-life school practice can be divided on the basis of two criteria.

A) The first criterion deals with the nature of the subject content as defined in the curriculum – here the defining aspect is whether the students are predominantly taught grammar or textlinguistics problems.

Б) The second criterion deals with the age characteristics of the students – whether they are in junior high or secondary school, as the techniques difficulty level is different.

Description and characterization of the interactive techniques approbated in the teaching process in lessons of Bulgarian language (5th-12th grade).

1) Language waterfall - 5th grade. The technique was employed in a lesson entitled Choice and Combination of the Words in Sentences and Texts, and the lesson was of the type: *lesson for acquiring new knowledge*. The technique belongs to the group of the interactive methods for reflexive and creative activities. The essence of the technique is for the students to find out the common semantic characteristics (the idea of movement) in words belonging to different categories: verbs, gerunds, adverbs for movement, participles, present participles. Juxtaposition and comparison are utilized and the children's real life and geography knowledge are used as a basis for doing the exercise .Information about the language phenomena is extracted and summarized. Geography knowledge is used to support the search for visual connections and associations.

2) Language mathematics - 6th grade. The technique was employed in a lesson entitled Compound Sentences ,and the lesson was of the type: *exercises lesson*. The technique belongs to the group of the interactive methods stimulating cognitive activity. The essence of the technique: deduction is used as a method to do the exercise. The aim is to use the already familiar mathematical formulas in the formal description of linguistic relationships and phenomena and to deduce general rules, inter-dependencies, and correlations between language and mathematical phenomena being studied within the scope of the two school subjects. Discovering language phenomena to which mathematical formulas can be applied develops the six graders' logical thinking. They discover correlations that make the language processes "visible" through the use of mathematical formulas. For instance, the formula
$a + в = c$ is illustrated with the example
prefix + radical = word;
$a + a_{1=} a$ is related to
a (simple sentence) + a_1(non-essential clause or phrase) = a (simple sentence).
The technique activates mathematical knowledge and stimulates the students' interest in being "discoverers."

3) In the eye of the storm - 7th grade. The technique was employed in a lesson entitled The

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[3]With a few modifications these techniques can be adapted for use in other school subjects, predominantly those within the humanities domain.

Text in Media and Aesthetic Communication, and the lesson was of the type : *revision lesson in the 7th grade*. The technique belongs to the group of the interactive methods stimulating cognitive and reflexive activity. It employs logical operations such as juxtaposition and comparison of familiar linguistic knowledge and rules which are supposed to be made sense of at a higher level. It supports the reconstruction of the important characteristics of the language phenomena (the text) through the active involvement of the students in the process of their synthesis as a personal experience.

4) Language kaleidoscope - 9th grade. The technique was employed in a lesson entitled Usage of Terms in Informative Texts Belonging to the Same Thematic Area in Bulgarian and in a Foreign Language Being Studied (*specialist training)*. The technique belongs to the group of interactive methods stimulating reflexive activity. The essence and application of the technique: through juxtaposition and comparison to discover international word-formation elements (prefixes) with common meaning: anti-, vice-, disco-, euro-, ex-, inter-, super-, co-, Afro-, mega-, macro-, mini-, mono-, meta-, multi-, neo-, poli-, psycho-, para-, sub-, hyper-, ultra-, photo-, re-(for repetition), pre-(for precedence), post- etc. Comparing the word formation structure of classes of words such as adjectives and nouns the students discover the commonality in meaning of international prefixes. The principle of relevant methodical commonalities[3]as well as the technique of "the seven sieves"[1, 2] is utilized.The technique is aimed at developing intercomprehension skills.

5) Language parallels - 11th grade. The technique was employed in a lesson entitled Bulgarian as an Indo-European Language. Relations between Bulgarian and the other Indo-European Languages in the 11th grade, and the lesson was of the type *lesson for acquiring new knowledge (compulsory elective subjects for non-specialist training and compulsory elective subjects for specialist training)*. Lesson type -*for acquiring new knowledge.* The technique belongs to the group of interactive methods stimulating reflexive activity. The essence and application of the technique: through reading of written texts in an unfamiliar language to infer the meaning of the text using semantic guessing. The vocabulary that assists the comprehension of the text written in an unfamiliar language is identified. The students make language parallels between the words of semantic significance in three languages: English, French and Russian. English is used as a language intermediary. Through their active involvement in the process of language experience synthesis the students are motivated to study various foreign languages. Conditions conductive to the development of inter-language comprehension are created.

3. Results
The tools for analyzing the effectiveness of the developed original techniques includes:
– questionnaires to survey the students' attitudes;
–an analysis of students' texts written during Bulgarian language lessons;
–an analysis of videotaped lessons employing the techniques.
Each technique has been approbated in two classes. The following indicators have been used to assess groups of skills:
I. Cognitive skills related to the cognitive processes according to PISA standards[4]
1) skills for finding and selecting certain information (the language phenomena discovered – formula illustrations, common international prefixes, international vocabulary, etc);
2) skills for interpreting the meaning of the text (determining the topic, the keywords, the aim of the text, utilizing semantic guessing);
3) skills for relating one's own experience with knowledge in other school subjects and with other sources (discovering the formal textual characteristics, the structure, the types of text; discovering the logical relation between language and non-language phenomena; critical assessment of specific situations; proving one's own hypotheses; critical analysis of data; utilizing everyday and scientific knowledge when assessing certain problems, etc).
II. Social emotional skills – soft skills
1) participation in teamwork (actively or passively participates in discussing the assignment given to the group);
2) expression of one's own opinion and justifying one's own point of view (gives ideas and makes suggestions and supplies argumentation)

3) change in personal viewpoint when presented with differing ideas or well-grounded suggestions for the problem solution (willingness to adjust)

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[4]A programme for international student assessment of the students' reading skills which tests three basic cognitive processes: finding and extracting information, summarizing and interpretation, making sense of information and assessing it.

Interactive Technique	Grade, Number of Students	COGNITIVE SKILLS (CS) AVERAGE RESULT FOR THE GROUP	SOCIAL-EMOTIONAL SKILLS (SES) AVERAGE RESULT FOR THE GROUP	AGGREGATE AVERAGE RESULT FOR THE SKILLS
LANGUAGE WATERFALL	5TH grade, 46 students	1. – 4 2. – 3,5 3. – 3	1. –5 2. – 3,8 3. – 4	CS–3,5 SES–4,27
LANGUAGE MATHEMATICS	6TH grade, 43 students	1. – 4 2. – 4 3. – 3,5	1. –5 2. –4,2 3. –4,5	CS–3,83 SES–4,57
IN THE EYE OF THE STORM	7TH grade, 52 students	1. –5 2. – 4,2 3. –4,2	1. –4,8 2. –4 3. –4,2	CS- 4,46 SES–4,33
LANGUAGE KALEIDOSCOPE	9TH grade, 45 students	1. –3,5 2. –3 3. –3	1. –4,5 2. –3,5 3. –3,5	CS–3,16 SES–3,83
LANGUAGE PARALLELS	11TH grade, 41 students	1. –4,3 2. –4 3. –3,8	1. –4 2. –3,3 3. – 3,5	CS–4,03 SES –3,6
AVERAGE FOR THE WHOLE GROUP	227 students	3,78	4,12	

Grading scale - from 1 to 5 points : 1 – Poor, 2- Insufficient, 3 - Satisfactory , 4 – Good, 5 – Very good

The results analysis demonstrates the level of development of cognitive and social emotional skills in students. The data for the various grades shows that the highest results when it comes to cognitive and social emotional skills have been obtained by the seventh graders. The lowest results belong to the ninth graders.

When age is concerned what becomes evident is that the students in junior high school (5th, 6th and 7th grades) score higher than the students in secondary school (9th and 11th grade). When cognitive skills are considered the aggregate average result is 3,93 for the junior high school students and 3,595 for the students in secondary school. As a whole both groups fall into the range between average and good level of cognitive skill development. The results for social emotional skills are similar: 4,39 for the students in junior high school and 3,715 for the students in secondary school. What seems significant is the greater difference between the two groups when it comes to the soft skills indicator. It shows that the younger students are more active in teamwork, whereas the older students prefer to be more passive when participating in group assignments. Bearing in mind the survey the World Bank conducted on the level of soft skills employed Bulgarians have, more teamwork assignments should be given to the secondary school students.

The adoption of interactive methods and techniques (similar to the ones mentioned above) is crucial for the improvement of the students' cognitive and social emotional skills.

4. Conclusions

The emerging new realities of life determine the new requirements for the school system. The challenge facing the educational system is a great one, as it work in a framework characterized by accelerated student development, a need to overcome the deficits of educational competencies of the teachers and parents, and a search for new educational technologies. The adoption of alternative pedagogical practices diversifies the teaching and learning process and creates conditions conductive to the development of a wide range of skills necessary for the students' success in their chosen career paths.

References
1.Doyé, Peter L'intercompréhension, Conseil de l'Europe, Strasbourg, 2005
2.Шопов, **Т**. Педагогика на езика. УИ „Св. Климент Охридски", София, 2013.
3.**Юсупов У.К.** Сопоставительная лингвистика как самостоятельная дисциплина // Методы сопоставительного изучения языков. Наука, Москва, 1988.

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