



## Miroslav Gejdoš

Doc.PhD.PaedDr.PhDr., Catholic University in Ruzomberok  
Department of Pedagogy and Special Pedagogy  
(Ružomberok, Slovakia)

\* Corresponding author: e-mail: [miroslav.gejdos@ku.sk](mailto:miroslav.gejdos@ku.sk)  
ORCID: <https://orcid.org/0000-0003-2471-3024>

## MODERN TRENDS IN EDUCATION

## NOWOCZESNE TRENDY W EDUKACJI

### Abstract

*The author of the study explores new trends and technologies in the education process. This suggests the suitability of introducing innovations not only to teaching methods and forms, but also to change the concept of teaching content, and to change students' approach to learning, to teach them (Petlák E., 2012, pp. 18-19).*

*Of the many approaches to innovative teaching, humanistic principles are considered as a key. They try to present the view on neuropedagogy and neurodidactics, their common feature is the desire to increase the level of progress and the results of the educational process.*

*Keywords: education, didactic methods, student, neuropedagogy, humanism*

### Streszczenie

*Autor badania bada nowe trendy i technologie w procesie edukacji. Sugeruje to stosowność wprowadzania innowacji nie tylko do metod i form nauczania, ale także do zmiany koncepcji treści nauczania, zmiany podejścia uczniów do nauki, do uczenia ich (Petlák E., 2012, pp. 18-19).*

*Spośród wielu podejść do innowacyjnego nauczania humanistyczne zasady są traktowane jako kluczowe, starają się one przedstawić pogląd na temat neuropedagogii i neurodydaktyki, ich wspólną cechą jest dążenie do podniesienia poziomu postępu i wyników procesu edukacyjnego.*

*Słowa kluczowe: edukacja, metody dydaktyczne, uczeń, neuropedagogika, humanizm*


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## **Statement of the problem in general outlook and its connection with important scientific and practical tasks.**

Today, more and more attention is being paid to new trends in the educational process. In addition to modern teaching approaches, modern technologies are playing an increasing role.

At present, it is beyond thinking for a school to operate without the use of computers or the Internet. Other technologies that improve the educational process – e. g. interactive whiteboards – have become a trend, too.

The main goal of this work was to describe modern trends in the educational process,

modern didactic methods, and modern didactic techniques.

Educating to values is mainly done through dialogue and authenticity. Dialogue in pedagogical personalism is both a value to which one should be brought up, and the best way to introduce values. It is based on the mutual exchange, on the sharing of ones innermost self, on shaping in the atmosphere of truth (dialogos - truth "between") interpersonal friendship (Łujaniuk J., 2018).

## **Analysis of latest research where the solution of the problem was initiated.**

Neuropedagogy is a new scientific discipline that focuses on the structure and functions of the brain, sensory preferences, differences in the functioning of brain hemispheres in conjunction with eye and ear dominance. It also examines the effects of stress on memory, learning effectiveness, etc. (J. P. Sawiński, *Neurodydaktyka - móda alebo potreba?*, School, 2005, n. 7/8). Its aim is to transfer neurological discoveries to the field of pedagogical practice.

This plan comes with two basic functions: learning should be “quick” and “easy”. (See G. Dryden, J. Vos., *Revolution in Learning*, Poznań 2000).

Bio-paidia focuses on the method, which proposes to introduce a separate subject, answering the question of “how to learn” based on the latest findings.

Apart from scattered ideas for education, theoretically and practically developed directions approach learning in a multilateral way.

These include the theory of multiple intelligences (Howard Gardner) and educational kinesiology (Paul E. Dennison), which are considered to be the “flagships” of “the pedagogy of 21st century”.

## **Aims of paper. Methods**

The following methods were used in the study: analysis, synthesis, induction, deduction, and comparison.

Gradually, we used various authors’ literature, but the key sources were works of Turek (*Inovácie v didaktike, Didaktika*, eng.

*Innovations in Didactics, Didactics*) and of Petlák (*Inovácie v edukačnom procese*, eng. *Innovation in Educational Process*).

**Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.**

**Current Trends in the Educational Process**

The present-day is characterized by the rapid development of science and technology. In this dynamic era, information and modern technologies, which affect all aspects of life, play a major role in society.

Modernization is increasingly affecting education and partly transforming it. Nowadays, it is difficult to imagine a school without a computer and the Internet as an important source of information. More and more modern technologies, such as interactive whiteboards, are still being promoted in more schools.

We will continue to discuss it in this work later. The world's leading forecasters identify a number of changes and trends that are happening in our society. These are so-called megatrends of the development of society:

The transition from the industrial society to informational and learning society (developing interest in learning, learning throughout life and flexibly adapting to the rapidly changing life conditions).

Rapid scientific and technological development in which the dominant position of the physical sciences will replace the widespread application of biology, biotechnology, and ecology.

The more sophisticated the technology, the more sophisticated the preparation of man must be. However, it requires longer schooling, particularly in the form of higher education and lifelong learning.

The current world is characterized by rapid changes, an explosion of information and a rapid pace of innovations, especially informational innovations; and this trend is constantly accelerating.

The present is characterized by an explosion of information.

The aim of schools will no longer be to provide factual information to students; schools will have to focus on more lasting values such as attitudes, interests, motivation, value systems, developed skills.

School ceases to be the main source of information.

The transition from the primary and secondary sectors of the economy to the tertiary (quaternary, quinary) sectors implies the need for better and higher education ensuring computer literacy, active foreign language skills, communication, and interpersonal competences, as well as the need for lifelong learning.

Joining of Slovakia to the European Union and the emergence of a united Europe requires the upbringing of future citizens of Europe, who, in addition to their homeland, will regard Europe or EU as their second country.

The transition from national to world economy – globalization of the world.

If Slovakia wants to succeed in a competitive global economic struggle, it must have a quality education system that will compete with the most advanced countries. Quality education is a crucial mean of Slovakia's future development, prosperity, and competitiveness.

Globalization also brings global issues such as environmental problems, human rights violations, poverty, hunger in some regions of the world, widening the gap between rich and poor nations, ethnic, racial and religious intolerance, etc. Therefore, it is necessary to develop higher motives and to form noble values such as love, respect, regard, equality, fraternity, freedom, tolerance, honesty and the like (Turek I., 2005, pp. 6-9).

According to Petlák, there is plenty of diverse literature discussing the needs as well

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as the possibilities of improving the educational process. However, in the concrete, despite the good elaboration of many aspects of education, but also the further education of teachers, the level and effectiveness of education are not what it could be (Petlák E., 2011, p. 11).

The only way to keep up with the developed countries is to constantly try to innovate the educational process.

Innovations are necessary to increase the efficiency of the teaching process and also to ensure that the educational process is in line with the latest knowledge about it (Petlák E., 2012, p. 7).

Innovation in the educational process focuses mainly on:

- choosing educational goals (what to choose from the ever-expanding knowledge of humanity and how to sort it),
- formulation of educational objectives (selection and arrangement in school documents), formulation of teaching and learning objectives for students (what they should acquire, what they should know, while the aim of teaching and learning cannot only be to gain knowledge);
- the formulation and application of didactic principles in changing teaching conditions, but also the search for new teaching principles (current and future multimedia aids and techniques will have a significant impact on current didactic principles such as clarity, linking theory with practice, etc.);
- Elimination of mediatory, transmissive teaching methods and development of activating methods and forms of teaching (problem teaching, group teaching, project teaching, etc.);
- seeking methods and forms of educational work leading to respect for the individuality of the personality, but at the same time creating all prerequisites for its universal realization.

### **Traditional teaching**

The main problem is that in our schools it prevails so-called traditional teaching that meets no longer the requirements of the present and not at all the requirements of the future.

Amonašvili characterizes traditional teaching in this way:

“The formally-logical position of a teacher is as follows:

‘I will explain, speak, show, prove, dictate, practice, ask, demand, test and evaluate. So what is left to do for the students? You must listen to me carefully, observe, remember, perform, answer...’

And do not forget to understand what is learned and to think independently – this is very important!’

And what if students shall not want to follow this scheme?

‘I don’t even take it to account. For the sake of your own good, I will compel you all to do it. For that matter, I have the marks.’”

The main feature of traditional teaching is transmissivity – passing the curriculum from the one who knows (the teacher) to the one who does not know (the students) in a finished, comprehensive, final form.

The role of innovation in education is to gradually replace this “outdated type” of teaching with a modern type of teaching process. The core of the modern type of teaching is the principle that students’ knowledge and skills should be the result of their own thinking, their active teacher-led activity (Turek I., 2010, pp. 22-23).

In the future, it will be necessary to move from memory didactics to thought didactics and creativity (Petlák E., 2005, p. 10).

Opinions differ on the question of how the school of the future will look. These views can be summarized as follows:

- the school with its current methods and forms of teaching will continue for years to come;

- the school will fundamentally change over the next few years; creative methods and forms of educational work will prevail;
- the school will change and the media will play an important role in it;
- the school will be changed so that it will provide only basic knowledge and its activities will be complemented by other educational centers;
- the school will gradually disappear, its tasks and functions will be gradually taken over by the family and other (e.g. private) educational institutions;
- education will be provided mainly by multimedia techniques (Petlák E., 2012, pp. 11-12). It is questionable to what extent these views on the school of the future will prevail in the future. It is almost certain that there will be a change, but whether this change will be fundamental, it can no longer be said with certainty.

At present, even the discrepancy between the real and the desired one cannot be solved satisfactorily. The reality, according to several educationalists, is that the school “walks its own path” and “live its own way”. What the school does not give students, it completes in the next life of the individual in some other way. However, the problem is that such completion is often lengthy, it reaches only a portion of the population and it is at the expense of developing other capabilities or activities of the individual (Petlák E., 2005, p. 5).

Petlák sees the problem of the school's progress in the fact that the content of its education only slowly reflects new scientific and technical knowledge.

Last but not least, he also sees that the change in the preparation of future teachers is necessary: it has to emphasize more the acquisition of new knowledge, the connection between theory and practice and also systematic self-education.

There are more suggestions on how „the better school” might look like. The only question is how this school could work in practice.

Some suggestions, what could be “the better school”:

- A school that will place emphasis not on quantity and system of knowledge, but on the development of skills, which are necessary for gaining new knowledge?
- A school that will prefer pupils' attitudes towards self-education?
- A school that puts the same emphasis on the cognitive, affective and psychomotor aspects of an individual?
- A school that will prefer upbringing over education?

We can only gradually build “the better school” once we overcome the current situation in our school system. The truth is that classical teaching is uninteresting, boring and tedious for students.

Today's students have a great outlook, do not want to follow only the commands and listen, they want to talk, explore to compare, express their opinions and so on. If the present school would be capable to innovate itself – at least in part –, some of the negatives could be certainly weakened, if not eliminated at all.

That is why it would be appropriate to innovate not only methods and forms of teaching but also to change the design of educational content, transform students' attitudes to learning and to teach them to learn (Petlák E., 2012, pp. 18-19).

Among the many approaches to innovation in teaching, the humanistic principles of teaching are of key importance.

### **Humanistic principles of education**

Humanization of education is well described in a message from the concentration camp (Kašová J., 1995):

“Dear teacher, I survived the concentration camp. My eyes saw what no one should witness:

Gas chambers built by studied engineers.

Children poisoned by educated doctors.

Toddlers killed by trained sisters.

Women and children shot and burned by high school graduates.

I don't trust education.

I ask you: Help your pupils become more human. Your efforts must not spawn learned monsters, trained psychopaths, educated Eichmanns. Reading, writing, and math are important only if they serve to humanize our children.”

We define humanism as a thought, cultural, moral and political movement, an endeavor towards respect, a higher evaluation of human, a more versatile development of human abilities and qualities, better, nobler interrelationships and connections between people (*Pedagogical Encyclopedia of Slovakia*, 1984 p. 323).

The humanization of education has the following aspects:

- philosophical – to return man to his human nature;
- ethical – spiritual and moral revival of man and society;
- psychological – natural venting of man without harm to his psyche;
- pedagogical – better formation of a person, more effective ways of their upbringing and education;
- sociological – change of society to a better lifestyle and coexistence of people without social pathologies,
- legal – more respect for human rights (children's rights);
- ecological – preservation of life on Earth, better coexistence of man with nature;
- medical – improving the physical, but especially mental health of a person;

• political science – the birth of new democratic citizenship capable of responsible and moral management of society.

Humanistic teaching is based on trust in the strength and ability of the students, respect for his/her personality, recognition of his/her value as a human being, regardless of his/her current state, on the partnership between teacher and student.

It emphasizes own activity, self-education, self-evaluation, self-regulation, self-realization of a child. The teacher is in the role of facilitator (who supports and facilitates the learning of students).

The aim of humanistic teaching is to educate and upbringing people, which will be then emotionally balanced, motivated and social; people, which will have a positive value orientation and which will be constantly self-improving.

Emphasis is placed on non-intellectual components of personality and on non-cognitive functions. Justice, equality, humanity should be the norms of the relationships between those, who educate, and those, who are educated (Turek I., 2010, pp. 25-27).

According to Petlák, the essence of humanization from a didactic point of view is not only that “we try to understand the students”; “we do not cause stressful situations”, “we have understanding for the students”, “we sometimes forgive the students”, “we encourage the students”, „we do not overburden them with too many homework”. The real humanization lies in a symbiosis between teachers and students. Such humanization can be achieved by:

**Planning of activities of teacher and students** – It arises from ever-deepening knowing and systematic observing of students.

The teacher should have reasonable demands on the student, be tolerant, and allow him/her to have a learning style that is ap-



appropriate for him/her. Such work with students is not easy; it requires systematic preparation of the teacher, creation of a positive climate in the classroom, informal cooperation with students, etc.

**Realization** – The essence of that matter is that the student can realize himself/herself so that – under the guidance of the teacher and with the teacher – he or she can informally and with interest develop new knowledge.

**Evaluation** – Evaluation is more than just an assessment. While the assessment expresses the current status, the evaluation focuses not only on the description of the achieved results but also on the possibilities of their further improvement. Evaluation speaks not only about, what they are, but what they could be if... The teacher's task is not only to assess his/her students but also to eliminate their mistakes and deficiencies and lead them to self-control and their own initiative in improving their activities.

**Forecasting** – the task of the teacher is not only to fulfill and evaluate what he/she has planned but a good teacher — depending on the achievements of the students – constantly creates (plans and forecasts) his complex activities and also activities of students (Petlák E., 2012, pp. 22-23).

### **Neuropedagogy**

Certainly, the most recent trends in learning include areas of neuropedagogy, neurodidactics, and brain-friendly learning.

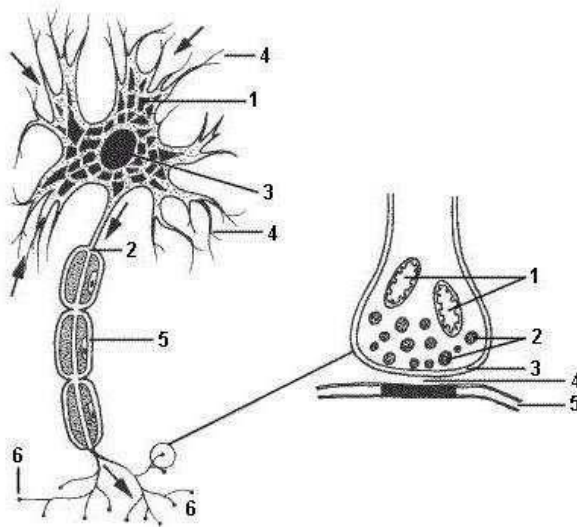
Neuropedagogy and neurodidactics deal with the impact of neuroscience on pedagogy and didactics and with the fact how learning and teaching can be adapted to these new findings (Petlák E., 2012, p. 35). Brain-friendly learning is based on current knowledge of brain research (neuroscience and cognitive science) on how the human brain learns naturally (Turek I., 2005, p. 173). Neuropedagogy and neurodidactics

contribute to increasing the efficiency of the procedural side of education. Neuropedagogy is understood as a more comprehensive educational approach (educational approach), neurodidactic refers to processes concerning mainly the teaching and learning of pupils (Petlák E., 2012, p. 35). According to Sawiński, the novelty of neuropedagogy and neurodidactics compared to previous approaches to teaching consists of:

- knowledge of patterns, mechanisms, and possibilities of human development,
- knowledge of the real denser of the human brain and learning preferences,
- the need for self-improvement and the possibility of success in life;
- the personality of diverse intelligence and large individual differences in human personality;
- “alchemy” of development and career opportunities in school and in life, individual development of man through his self-improvement.

There are several perspectives on neuropedagogy and neurodidactics but their common feature is aiming to increase the level of progress and outcomes of the educational process by lining them up with the new findings of brain research (Petlák E., 2011, p. 17). Neuropedagogy and neurodidactics build on brain research or rather on research of the nervous system. The brain consists of about 86 – 100 billions of neurons. The neuron is the basic building and functional unit of the nervous system that is capable of transmitting neural excitation (information). Each neuron can also be associated with several thousand neurons by synapses (Pančík P., 2014). Neuron forms a body with dendrites. The connection of the neurite of one cell with the dendrite of the other creates a button-like connection (synapse) (Pančík, P., 2014) The more synapses, the more dense the neural network.

**Picture 1. The structure of neuron and synapses.**



**Picture of the structure of neuron** (on the left)

1. Cell body
2. Axon
3. Nucleus
4. Dendrites
5. Axon sheath
6. Synaptic terminals

**Picture of the structure of synapse** (on the right)

1. Mitochondria
2. Synaptic vesicles with neurotransmitters
3. Presynaptic membrane
4. Synaptic cleft
5. The postsynaptic density with receptors

Source: Pančík P., *Nervové riadenie činnosti organizmu*. [cit. 2019.01.10]. Dostupné na internete: <http://www.biopedia.sk/?cat=clovek&file=nervova>

Passive listening, mechanical learning and memorizing do not contribute to learning and neural networking. Neural networking is stimulated above all by the dynamic activity of the learner. Therefore, the stimuli must be strong enough during the classes. The brain is dynamically changing from the cradle to the grave. However, only in the stimulating environment does it change positively (Petlák E., 2012, pp. 41-42). If certain skills do not develop in the relevant critical period, they will never reach their full potential. Thus, the first years of life (from birth to puberty, and especially the

pre-school years and the first years of elementary school) are decisive for the future of man (and his abilities).

If what one learns is new and coherent, a new connection is established. If the subject matter is already known, it only repeats and applies it; the existing connection is then strengthened. If the new curriculum is not coherent, the connection will not take place: there will be no learning at all. Connections between neurons can only be temporary: human forgets in the course of time. In learning, connections are being established between neurons (neural networks) or the existing ones become stronger.

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Synaptic connections are created in two ways:

1. by the overproduction of the required number of synapses and their subsequent selection – this is typical for the first years of human life (the brain of a child from 3- to 8-year-old has twice as many neurons and twice the number of synapses as his/her brain in adulthood).
2. Adding new synapses as a result of experience – research suggests that nervous system activity induced by learning forces neurons to create new synapses (Turek I., 2005, pp. 184-186).

The view on memory has also changed. Memory is no longer viewed as a “knowledge store”, but above all as a place of “reconstruction of information blocks” that are stored at various points in the brain and connected by a neural network (Petlák E., 2012, p. 43). Memory is not permanent but is decaying because the brain forgets what is not important for the survival of man. The process of forgetting can be slowed down by repeating the learned one, applying it, explaining the subject matter to another person and thereby strengthening the synapses (Turek I., 2005, pp. 186-187). Synapses are more stable if memorized and maintained information was received by several senses. An interesting view is provided by neurodidactics for the consolidation of curriculum (examination). In the classical procedure it is recommended to test the subject matter as soon as possible. Neurodidactics recommends a certain time lag between the taking of the curriculum (subject matter) and its repetition, but especially between teaching and testing. Examinations from the new curriculum should not be followed at the next lesson, but later; the priority should be given to more frequent and systematic repetitions. Failure to appreciate systematic repetition causes some information to be forgotten, or a

wealth of information creates a chaotic mix of isolated and unrelated knowledge, ultimately leading to misunderstanding of the new (Petlák E., 2012, pp.43-44).

Based on several pieces of research, neuroscientists have shown that:

1. Learning changes the physical structure of the brain.
2. These structural changes also cause a change in the functional organization of the brain (learning organizes and reorganizes the brain).
3. Different areas of the brain are ready for learning at different times (Turek I., 2005, p. 187).

According to Klimentová, each teacher should use the following brain-friendly components in the teaching process (Klimentová emphasizes that brain-friendly components are not only suitable for brain-friendly teaching but they are also suitable for classical teaching):

- **Absence of danger** – It is important that the teacher creates a pleasant or at least non-threatening environment (Klimentová A., 2011. pp. 62-63). According to Petlák, the teacher should create a suitable climate in the classroom; he/she should also know the cause of the student’s (students’) fear of something and should also try to eliminate this fear, which inhibits the learning process (Petlák E., 2000, p. 41). The pupil resists uncomfortable feelings and therefore teaching and learning are not very effective there, where is fear.
- **Meaningful content** – Our brain seeks to find meaning in everything that surrounds us, always looking for patterns and schemes to give meaning to the received information. We perform sorting and categorization within these exemplary schemes in an effort to make sense of our complex world; we are doing it through our whole life. Learning occurs when, on

the basis of past experience, the brain classifies pattern and schemes and make sense of new information that flows into the brain every minute through the senses. According to Messier, when the brain recognizes information as “meaningful”, it immediately “boosts”. Therefore, it is necessary to present a meaningful curriculum to the students, otherwise, they will become distracted and disturbed.

- **Choice** – Each brain is different, so each person prefers another way of learning – such that is more effective and reliable for him. There are 8 types of intelligence - logical-mathematical, linguistic, spatial, physical-movement, musical, intrapersonal, interpersonal and natural. Based on these types of intelligence, it is appropriate to allow students to choose the best way to learn. This is beneficial not only for the pupil but also for the teacher, because the learning will be the same, but they will both benefit from how it will be taught.
- **Adequate time** – It allows students to fully concentrate on the curriculum. It can be e.g. a two-hour block, the whole morning or all day devoted to a larger topic and its use in real life. It is important to remove the “classic timetable” with all time-limited subjects.
- **Enhanced environment** – The contact with an enhanced environment causes electrical or chemical excitation in the brain, which stimulates the brain to act. We can only activate the brain to the maximum if we engage all our senses in teaching. In the lesson we can use e.g. contact of students with real things and real nature; we can also use books, films or documentaries to supplement and enhance the curriculum.
- **Collaboration** – It means working together to achieve a common goal. The

common goal of collaboration or “group work” is to achieve excellence and the ability to master the skills and knowledge that can be used in the real world.

- **Immediate Feedback** – Accurate and immediate feedback is needed when a learner develops his or her mental program to ensure that the program is correct. It is important to react immediately to the students’ suggestions (or questions) and to correct them if it is necessary (if the statements of students are wrong). Especially, any stimulus that interest students in a topic should be explained.

Perfect mastery is defined by three criteria:

- **Fulfillment** – It means that the work required by the task has met all requirements, including the time limit.
- **Accuracy** – It means that the work required by the task contains accurate information while the information used is up-to-date and comes from multiple sources.
- **Complexity** – It means that it is possible to see in the work consists of thinking and finding solutions, that the answer does not follow only one direction of thinking and it does not consist of a view based only on one aspect of the matter.

Intentional movement – there are assumptions that deliberate movement keeps thinking more flexible over the hour. According to Gardner, it is advisable for students, especially for the pupils the in the first (junior/elementary) school, to experience a so-called deliberate movement: at the teacher’s instruction, they either go to the cabinet for something or they show a poem, song or action by movement. It is certainly better and more encouraging for pupils than order them to sit for an hour without being able to move (Klimentová A., 2011. pp. 62-63).

## Conclusions.

Modernization of education and modern technologies used in the educational process demonstrably contribute to the improvement of the educational process. The modern technologies, modern trends, such as the results of neuropedagogy and the increasing promotion of humanistic principles in teaching but also the use of modern activating didactic methods have a great importance in this modernization process.

## References:

1. Dryden G., (2000). *J. Vos, Revolution in Learning*, Poznań 2000
2. Klimentová A., (2011). *Stratégie úspešného vyučovania*. In Kapitoly zo súčasnej edukácie. Bratislava, IRIS, ISBN 978-80-89256-62-4. s. 55-72.
3. Łukjaniuk J., (2018). *Master in Personalistic Education* [in]: International Journal of New Economics and Social Sciences (IJONESS), Warsaw, Number 8 (2), pp. 465-472. International Institute of Innovation Science-Education-Development in Warsaw.
4. Petlák E., (1997). *Všeobecná didaktika. 1. vydanie*. Bratislava, IRIS, s. 270, ISBN 80-88778-49-2.
5. Petlák E., (2000). *Pedagogicko-didaktická práca učiteľa. 1. vydanie*. Bratislava, IRIS, s. 118, ISBN 80-89018-05-X.
6. Petlák E., (2005). *Didaktika súčasnosti a budúcnosti*. In Kapitoly zo súčasnej didaktiky. Bratislava : IRIS, ISBN 80-89018-89-0. s. 9-37.
7. Petlák E., (2011). *Vybrané pohľady na edukáciu*. In Kapitoly zo súčasnej edukácie. Bratislava, IRIS, ISBN 978-80-89256-62-4. s. 11-31.
8. Petlák E., (2012). *Inovácie v edukačnom procese. 1. vydanie*. Dubnica nad Váhom, Dubnický technologický inštitút v Dubnici nad Váhom, s. 158, ISBN 97880-89400-39-3.
9. Sawinnski J.P., (2005). Neurodydaktyka – moda czy potrzeba?, “Kierowanie szkołą” 2005, nr 7/8.)
10. Turek I., (2005). *Inovácie v didaktike. 2. vydanie*. Bratislava, Metodickopedagogické centrum Bratislava, s. 360, ISBN 80-8052-230-8.
11. Turek I., (2010). *Didaktika. 2. vydanie*. Bratislava, Iura Edition, s. 598, ISBN 978-80-8078-322-8.

## Source of Internet:

12. PANČÍK P., (2014). Nervové riadenie činnosti organizmu. Dostupné na internete: <http://www.biopedia.sk/?cat=clovek&file=nervova>.