

LITERACIES INNOVATIVELY

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Abstract

The article focuses on improving the quality of life and making the educational process of functional literacy accessible for students with special educational needs and students with socioeconomically disadvantaged and/or culturally diverse background. Suggested are innovations of teaching methods by reinforcing competencies and introducing functional literacy for better teacher education and their new approaches to motivating and making education accessible to all pupils. On the output are expected improvement in key competencies in the courses of Czech Language, Mathematics and Financial Literacy. The combination of computer technology and the innovation of teaching methods raises interest, self-confidence and self-esteem in all levels of personality. Students will receive support for training on machines in leisure activities by offered cultural or sporting events and hobby groups, which strengthens their social relationships and cultural outlook. Employers of 'Podorlicko' region welcome top professionals who understand the value system and are able to develop themselves and self-educate.

Keywords: Good practice examples, key competencies, single-parent family, developmental disorders, teaching methods, financial literacy.

1 INTRODUCTION

The main objective of the project Literacies Innovatively is to reinforce different literacy skills at Střední škola – Podorlické vzdělávací centrum, Dobruška. Our endeavour is to provide assistance and support for students with special education needs and students with socioeconomically disadvantaged and/or culturally diverse background.

Czech School Inspectorate publishes the final summary publication of the activity 'Overcoming School Failures in the Czech Republic', which was issued as a planned output of the Competence III project co-financed by the European Social Fund and the Czech Republic Government Budget. Its objective is to provide a comprehensive, objective view of the impacts of current education policy and its possible changes in terms of fulfilling the principle of equality, this means righteousness and inclusion in education. The summary publication describes the current situation in the Czech Republic and the possibilities of its development in areas that are considered the main problems for the Czech Republic from the point of view of equality. Proposals to achieve better education for all children respond to the issues of international research towards the Czech Republic, but primarily respond to the challenges of our educational system and Czech society. For each of the key topics, there are examples of good practice that can be followed up, or just show that a greater confidence in investing in all children's education pays off. [1]

Education is a complex process and it has to adjust accordingly to the needs of society. The education methods currently used are not efficient enough. The problem lies in the declining literacy of pupils at all levels of schools. What contributes to these problems, of course, is the difficult environment of pupils, and the atmosphere in families, especially if the families do not have enough funds to finance basic living conditions.

The family also often misses one of the parents [the average birth rate of children born to non-married couples in 2013 is 56% [2] (see Fig. 1). 85% of students do not have the same residence with both parents (research in SŠ-PVC, Dobruška 2016; see Fig. 2) and therefore lacking patterns and attitudes, access to work, and to raising money.

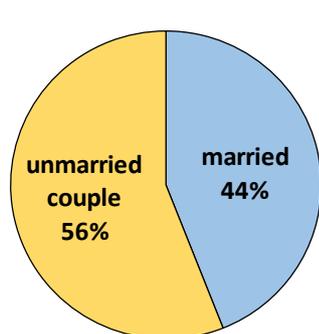


Figure 1. Type of cohabitation of the child's parents at the time of their birth (2013).

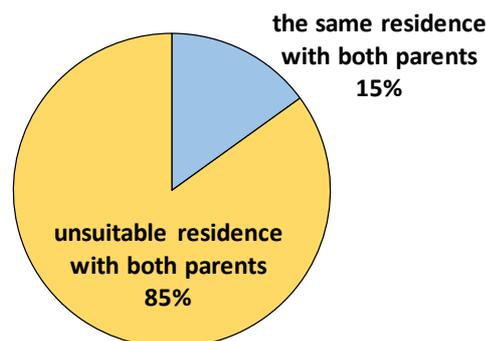


Figure 2. Conformity of the residence of students of SŠ-PVC Dobruška and their parents (2016).

The amount of problems in families increases with decreasing revenues [3], but also in the case of family illnesses or unemployment. Also, the incidence of developmental disorders is mostly influenced by the family situation and related to education methods [3].

2 METHODS EFFECTIVITY

Pupils are mostly affected by the peer environment in school because families usually consist of a few members, and receiving the peer-to-peer experience only in school is not satisfactory.

Teaching methods change only slowly and do not reflect the situation of the family environment. The methods should reflect the difficult situation of the pupils and help them, and support the educational process.

By monitoring students in the project, we analyse the possibilities of support. We process a thorough analysis of the needs of the pupils and the attitudes of the teachers. We also try to direct the need for innovations in methods towards supporting individual literacies.

The educational content according to the School Educational Programme is aiming towards changing according to the needs of professions themselves, individual employers, and according to the practice. And the needs of society are what a School Educational Programme should reflect.

2.1 Czech language

In particular, the needs for literacies within the Czech language are often not updated very often. Knowledge escalation in the context of employment is also not intensified. The course is very extensive, comprehensive and stable. Czech language is considered very difficult [4] and among pupils, the lessons are not very popular. The course is very extensive, comprehensive and stable. In the survey, none of the 9th grade boys answered the question of whether they like the Czech language positively [5]. All the basics of grammar are the content of the primary school. The SEP at the middle level for language education in Czech language educates the pupils to communicate a prolific, cultivated speech. It participates in the development of their spiritual life. Education aims to make students apply their mother tongue at the level of reception, reproduction and interpretation [6]. Pupils can use language skills and knowledge in practical life. The educational content of the language learning is divided into three components: improving language skills and knowledge, communication and style education, and working with text and gathering information. The subject of Czech language and literature forms an important part of general education. It significantly affects the integration of the young person into society and his/her further personal and professional life. The course aims to create basic core competencies.

We know that students at the secondary level of education have difficulties in the Czech language. The courses of Czech language form the value orientation of pupils in artistic, cultural, social and interpersonal areas. The teaching process builds on the knowledge and skills of pupils from elementary schools and develops them with regard to the social and professional focus of pupils. The aim is to deepen these skills and knowledge, to develop communication skills, and to improve writing skills. In literary teaching, the reading and interpretation of works of art prevails, supplemented by the necessary knowledge from literary history and the theory of literature. Pupils will get acquainted with the author's basic work in the form of a sample and will classify the author in a literary historical

context. Literary lessons can be used for short speech exercises, presentations, discussions. Pupils work with examples of artistic texts, recordings, the Internet. Each year there are two control essays. For this control work, students are prepared by a set of training exercises. In oral examination, the subject matter is assessed, but also the level of expression.

The subject of Czech language and literature is defined in all years of study, by the SEP. The area of the basic methods and forms of work is especially focused on frontal education, working with verbal text, controlled interviews, group work using the Internet or worksheets. Teaching process is complemented by the means of lectures, excursions, visits to theatre and film performances.

The frontal method is always referred to as basic, it is considered to be a complete basic effective method. The research confirms that this method is used most often. Lecturer can adjust the depth of the topic and the time. Finally, students are instructed to read the subject in the textbook. This is the core of the problem, because pupils are tired of the procedure being always the same, the motivation is missing. PISA's research [7], [8] found that, over the effort of our schools, half of the Czech pupils surveyed were bored at school. [9]

Working with verbal text is a very common practice not only in the Czech language, but also whenever using texts to teach lessons in all other fields. Thus, the Czech language ensures intellectual growth and affects human thinking. It allows for more complex forms of cooperation, organization of society and, in particular, gathering and transfer of knowledge, ideas and techniques.

A controlled interview is conducted as a preparation for communication at work. This method is often problematic for students with little experience in interviewing in everyday life. A pupil in the position of an only child does not train conversations with peers, in the school process is led to stillness and silence and the idea of relaxation is not "talking out" but listening to music that the pupil brings with him in his mobile phone and resting during breaks. A controlled interview tempts to lead the pupil to communicate on the job and is also necessary for finding a job when they are assessed by the means of an interview.

Another interesting area for us is group work using the Internet. Here, the student is motivated to lead communication in a group while searching for information on the Internet, composing, classifying, and commenting on the argumentation of phenomena. Worksheets often replace internet information, help manage procedures. Teacher prepares worksheets mostly as a support for pupils, especially when looking for background information, lack of source information or also for orientation in a large amount of information on the Internet.

The method of lecture by the teacher is popular and at the same time lectures of various experts from seminars and conferences are used thanks to the Internet. The area of direct contact is most effective, be it excursions to companies, also to nature, to chateaus or to the headquarters of prominent personalities, exhibitions, open-air museums, meetings with prominent personalities, and writers. These activities are often underestimated especially for organizational and financial difficulty. More often than not, a visit to theatrical and film performances, as well as a discussion in the library, is being offered. This is another possibility to stimulate the teaching of the Czech language.

2.2 Mathematics

Mathematics is a general educational subject and has a preparatory function for the follow-up education, especially of vocational subjects. It leads the pupil to use mathematical knowledge in practical life in math-related situations.

TIMSS¹ research showed very good results of our 4th and 8th grade pupils, especially in 1995. Then our pupils were among the most successful! A worse situation was in the TIMSS 2007 measurement, when the deterioration in mathematics of 4th grade pupils was the largest of all European states and OECD member countries! The survey revealed the 8th grade pupils' third largest determination at mathematics at that time out of all countries where the survey was conducted. Only less than one fifth of Czech pupils of the 4th year showed a high degree of mathematical learning, which puts the Czech Republic in a last but second place among the European countries! There were 12% of 4th grade students and 8% of 8th grade students who did not reach even the lowest level in mathematics. [10]

¹ TIMSS – Trends of International Mathematics and Science Study

The general aim of mathematical education is to educate a thoughtful person who will be able to use the acquired knowledge of mathematics in various life situations. Each pupil has his/her own professional component of education, plans for further lifelong learning, pursues his/her goals in personal life, future employment, leisure time and seeks motivation here. Develops logical thinking, judgment, abstraction, spatial imagination. [11]

It is an opportunity for educators to look for ways how to motivate pupils and how to provide them with lessons they will use in practice that they are not aware of yet in the best way. To lead pupils to plan the need to efficiently numerically count, use and convert units (length, weight, time, volume, surface, plane angle, speed, currency, etc.).

Methodology, however, requires a much wider range of methods than frontal instruction with the need to set certain level of motivation due to declining mathematical results. In mathematical literacy, 15-year-old pupils were slightly below the OECD average in the last survey in 2009, with the difference not statistically significant, so we can talk about an average. However, what should be drawn to our attention is the fact that from 2003 to 2009, the Czech pupils experienced the worst deterioration of the 40 countries that participated in the two surveys! [9]

It is good to recall the still valid principles of Jan Amos Komensky from his theory of teaching, which means to control certain methods of teaching and with this support to bring (the pupils) promptly, tastefully and thoroughly to the knowledge. [12]

It is most effective to teach the pupil to use the knowledge promptly. In mathematics, the use of this principle is absolutely desirable, everyone knows from their own practice that what is not being used, tends to be forgotten.

Thus, the foundation stone lies in pupils' practice and it is necessary to mathematicise simple real situations, use the mathematical model and evaluate the outcome of the solution in relation to reality, also to examine and solve problems.

We guide pupils to orientate themselves in mathematical text and understand the assignment of a mathematical task, critically evaluate quantitative information obtained from various sources – charts, diagrams and tables. In all subjects that use mathematics terms also applies correctly to mathematically express.

The enterprise training practice in firms also provides students with problem solving, planning, performing and controlling activities, understanding tasks, and identifying the core of a problem. Simply put, applying basic mathematical procedures to solving practical tasks - choosing appropriate mathematical techniques and procedures, using different forms of graphical representation, unit transfers, estimation of results. Such words are spoken by the employers when discussing with our pupils.

Mathematics is closely related to the subjects of physics, information and communication technology, civic education, vocational training.

The methods are therefore general tools and procedures for teaching, teaching for practice and constant knowledge. Methods support pupils' motivation, follow the practical use of knowledge to memorize new knowledge.

Currently, a combined classification of teaching methods is the most widely used in pedagogy. Classical methods, activating methods and complex methods, proven so far, should be presented in an innovative form. The most effective is the combination of feedback-enabled methods so that the teacher has a report on the acquisition of new knowledge and skills at every stage of the process. Effective self-control of the pupil is necessary. This is primarily a computer-aided teaching allowing peer learning and peer group education as a preparation for team work. [13]

Obtaining basic prerequisites for developing own business activities and common orientation in business regulation. The area of education is linked to the topic of 'Člověk a svět práce' ('Man and the world of work') and also to the standard of financial literacy for secondary education.

2.3 Financial literacy

Last but not least, competencies for work and entrepreneurial activities are also implemented by the inclusion of financial literacy topics in teaching by both external professional trainers and teachers of economics and civics and mathematics. Pupils receive information on the real consequences of handling funds in the form of discussion and the production of fictitious activities of pupils. The

educational area is connected with the cross-curricular topic man and the world of work and the standard of financial literacy for high school education. [11]

Teachers search for the financial literacy and financial education methods online and teaching is most effective with the use of computers, laptops or tablets (see Fig. 3).



Figure 3. Teaching with tablets on SŠ PVC.

Financial literacy is a set of knowledge, skills, and value attitudes that a citizen needs to finance himself and his family in the current society and perform actively on the market of financial products and services. A financially literate citizen focuses on money and pricing issues and is able to responsibly manage a personal/family budget, including the management of financial assets and financial commitments in view of the changing life situation. [14]

Methodological recommendations intended for primary and secondary school teachers. The document explains the concept of financial literacy, encourages cooperation with parents and colleagues, and analyses methods and forms of work in financial education. [15]

The issue of innovating methods is very lengthy, if the methods are to be used in other schools, pilot testing of methods leading to a change of approach, both by teachers and pupils in particular, is necessary. The methods used so far can be described as inefficient, poorly organized and not adapted to the modern way of communication. These are the main reasons and the main direction in the project to design and innovate teaching methods to improve motivation. Motivation of pupils is the most important for teaching effectively and it enables pupils to orient themselves in education through good teaching methods. Particularly, pupils with special educational needs and socio-economically disadvantaged and with culturally diverse backgrounds come from primary schools with poor grades, low self-esteem and mistrust.

The materials available for education are available in sufficient quantities among NUV materials. Because financial literacy is a young discipline, it is given sufficient attention by teachers who teach this literacy mostly with interest and attention.

Teachers should search for methods and examples in pupils' current environments to improve motivation, and use the methods already developed to build their own stack of methods recovery. Motivated pupils will appreciate such an approach and their approach in turn will increase the effectiveness of learning.

3 CONCLUSIONS

By launching project activities, pupils gain new opportunities both in teaching and leisure time and are encouraged in quality activities. Support conditions in teaching mostly understanding of the world youth, their ways of communication and a new vision of the world surrounded by advertising TV the internet, a new revolutionary technology. It is a necessary and indispensable contribution to the

convergence school as preparation for life and a world full of technology, which are always surrounded by.

The school, through the preparation of innovative teaching methods, seeks ways to motivate pupils and gain their interest in knowledge, interest in results, self-education, provides them with a lifelong learning program. Pupils come from elementary schools with very different levels of knowledge and are very often very reluctant to learn, self-educate, form and grow professionally. Thanks to the project, educators' access to pupils will be enhanced by adopting their view of the world and strengthening their interest in education, as well as the quality of spending leisure time with sport, culture and leisure activities. Pupils gain new attitudes and a new perspective on the planning of their lives.

Promoting innovation in teaching methods is currently most needed for shifting and responding to the social environment and revolutionary advances in industry and technology in particular. Production development, the development of computer technology has shifted communication to new dimensions. Without education innovations, schools would be excluded from life and not preparing for life. The school as a preparation for life needs to reflect life in learning, in practices, using technology and dignified communication.

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