The Reduction of Interest among Elementary Students in the Field of Technical Education

Abstract—There are several factors that bring down student interest in technical education within Slovakia and other European Union countries. Authors of this article have now considered one effective method that could improve this situation. This new method is to change of teaching strategies by applying methods of creative thinking. The article further examines the demonstration of these methods applied in elementary schools and defines barriers to their application in educational practice.

Index Terms—changes in technical education, creativity, development, interest, skills, strategy, technical education.

I. INTRODUCTION

We now live in the 21st century and this is a time of significant technological breakthroughs, however, for several years we have observed a trend of reducing interest in technical education within all elementary school graduates within the European Union. These graduates tend to not continue their studies at secondary vocational schools with a technical focus. Teachers are now showing students a video on how a certain project is completed and never will be because students' ideas have been suppressed. Students do not have space for their own creativity. This is one of the many reasons children are beginning to lose complete interest in technical education. This problem can be resolved by improving conditions and teaching strategies in EU countries.

II. II. THE REASONS WHY TECHNICAL EDUCATION MIGHT NOT BE AS POPULAR IN ELEMENTARY SCHOOLS

Today it is very typical to see, not only in Slovakia, that students are taught too much information and they are forced to memorize it word for word. This approach to teaching technical education has not ever been effective and never will be because students' ideas have been suppressed. Students do not have space for their own creativity, and the danger here is that they will never be able to solve any problems at work or school. We support the idea, “if teachers of technical education keep it very informative and focus on theory, the technical education will keep its educative face,” however it will not help to increase the interest of elementary school students because of loading them with information and not giving them any space for their own creativity.

The authors see a solution in building a new curriculum that will dedicate parts to fun activities and interesting strategies in order to encourage students’ decision making.

It is essential for teachers to be supported by their supervisors and parents when promoting the progressive strategies into the educative process. If that will not come to practice, then there is a possibility that teachers of technical education will not feel any satisfaction. They will also feel underestimated and will not want to change their strategies. These teachers search for more available information related to their subject during their free time which is not perspective to the quality of education.

Technical education teachers in Slovakia feel an absence of needed textbook materials as well as technology tools and classrooms [2]-[3]. Surveys done within the last few years have shown that manual practice has been neglected.

Students shall train the skills acquired in technical education class in their every day lives, which will influence their personal value hierarchy [4].

III. III. TECHNICAL SKILLS OF TODAY’S YOUTH

The next reason why the interest in technology education has dropped is because of students’ lifestyles and hobbies. Parents, psychologists and education workers can see a change in behaviour when they compare the current youth with the youth from the past. Students and children have more options on how to gain knowledge today than their parents did. The digital era of today’s society offers a more comfortable and fast access to all the information.

The situation of technical education in elementary schools is not inspiring. OECD PISA 2009[5], a study done among 15 year old children showed a decline in interest. So what is influencing these teenage children in their lives? We looked into a book called *Dumbest Generation* (Bauerlein). The author of this book states that, “The technology that was supposed to make young adults more astute, diversify their tastes, and improve their minds has had the opposite effect.” [6]

Although Baurelein describes only young Americans in his book, it is happening all over the world to the youth in every country. Despite the fact that all Americans are growing up in an environment that is allowing them a better access to all the information such as, huge libraries, various fun activities and especially easy access to scientific information, they are not smarter than their ancestors.

Young people use networking not to gain knowledge but to connect with one another. The original idea was to share and offer more ways to get to free information, which as once the sae in the past but now has been abused by the youth - they find technology very entertaining and misuse it just to have fun, satisfying their own needs rather than intellectual growth.

“Thirst for knowledge should be met as well as yearning for fun” [6], this statement insinuates that all teachers should try to merge technical education with fun. Educators realize that children are influenced best through their leisure time activities. The goal here is make the tech-
IV. INCREASING INTEREST IN TECHNICAL EDUCATION

In the previous part of the article, we mapped out some reasons that have obvious influence on decreement of pupils’ interest in technical education from the point of view of a teacher. To realize changes that would lead to the change of pupils’ attitude towards technical education, it is needed to form an unambiguous answer to the question, “What can we do to improve the situation?” under contemporary educational conditions.

When judging the current state of technical education, we have decided to orientate our attention to the area of effectiveness of education. We agree that students should not only get knowledge in schools but also other precious values like morality, positive attitudes towards society, vocational skills and competencies. The interest is not an inborn human attribute, it is possible to develop it.

That leads us to conclusion that teacher’s fundamental interest should lie in the forming of the pupils’ interest in the subject content, in a way so that pupils may acquire positive attitude towards the subject itself. Through this attitude they may also develop their other interests. One of the ways to encourage them is the approximation of the subject content towards pupils’ experience. Everything that teachers offer to his pupils, should be connected with their experiences and skills.

Every teacher should emphasize meaning of the lesson content. They need to deploy means and methods that support this educational experience. If we want to develop pupils creative thinking, we have to start involving them into the educational process. Justified methods of this process are those which allow the initiation of creative ideas from pupils and they even offer the possibility of obtaining theoretical knowledge and its deeper understanding in entertaining form. According to Turek in the monograph Didactics, methodical development of creative thinking may be considered as so called activating methods in education. They develop individual attributes and naturally extend areas of interests among all pupils, not only the best ones. According to Gardner (2005) suggestive methods represent great motivational elements in education.

Unfortunately, these strategies in education are often ignored by teachers, though they might be of great importance in pupils’ comprehension of scientific knowledge in the context.

Their application of this process creates brand new neural connections in the brain, this supports their creativity and helps to develop intelligence.

Methods for development of creative thinking greatly stimulate communication, cooperation and they teach pupils how to use obtained knowledge. Such education offers more space for using one’s own opinions and ideas. Other positives are readiness of pupils to solve tasks, originality in their thinking and stimulation of curiosity. Development of technical creativity at lower level elementary schools may be one of the ways to strengthen interest of pupils in further technical education and later in work in technical sphere.

A. Technical Creativity

Creativity of pupils may be trained and developed in various different ways. Recently, the emphasis is being put on programs that allow and support creative thinking. Research outcomes in [13]-[14] show that not every school subject offers ideal space for development of creative thinking. A group of technical subjects allow teachers to stimulate new ideas among pupils to lead them towards independent creative thinking via these activities: design of technical solution, construction creation and many other interesting activities. The key outcomes in this area are products in both material and non-material form (image, idea, new strategy of thinking, positive change in thinking style). The term “creative performance of pupils in technical education” may be represented by small improvement suggestions, small gadget corrections via improvisation, usage of old equipments in a new way or practical deployment of everyday items in a different and unusual way [15]. Presently, application and realization of programs dealing with development of creativity in technical subjects is on a minimal level. The research mentioned in [16] showed low percentage in use other than traditional approaches in teaching technology at elementary schools. 112 respondents (teachers of technology at elementary schools) confirmed a low ratio of used creative programs dealing with development of creativity in technical subjects is on a minimal level. The research mentioned in [16] showed low percentage in use other than traditional approaches in teaching technology at elementary schools. 112 respondents (teachers of technology at elementary schools) confirmed a low ratio of used creative
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VI. VI. WHAT ARE WE ABOUT TO FACE WHEN IGNORING NEEDED CHANGES IN TECHNICAL EDUCATION?

The low rate of interest in technical education at elementary schools directly influences pupils’ interest in further study of technical branches at secondary schools and universities. Unless we see social appreciation and support of technical education, it will gradually decline and vanish at the level of elementary school and what seems to be much worse, interest of aspirants to technical branches shall not be sufficient. Often we hear opinions that the content of technical education may be easily and almost naturally provided in the frame of some different subjects like Physics, Mathematics or Computer Science; nevertheless, we dare express serious doubts on correctness of this idea.

This era of information society brings and creates other dangers - it is benevolence in choice of hobbies and free
time activities of young people. Thanks to modernization of technical education, supported by Information Communication Technologies, we expect further intellectual decline of children and youth in the future. In future years, a new generation without any manual skills may substitute us!

If we keep the system of just teaching bare facts, our schools shall change into factories, where the main goal of education would lie in providing information without real and pure interest in the forming of pupils and preparing them for their future. Students will not be ready for practice nor able to think critically and independently. Schools remain labelled as institutions oppressing creativity of their own students. As a warning may serve this recommendation [21]; let the parents themselves develop creativity of their children.

VII. VII. CONCLUSION

Recommendations of the European Parliament and the Council of Europe on key competencies [22] that every member of the society should gain and develop in the frame of lifelong education, emphasize the creative competence that may be achieved by application of innovative forms of education. The ability to creatively solve problems is inevitable for life and practice. All human beings have a potential to display creativity from the very beginning and this attribute guides them in the course of all their lives. Every progressive educational system should be conceived to create space for improvement of the individuals in the area of technical creativity and forming of personal interests throughout the process of school education. To learn how to create is not an easy task. Training of creative thinking is a long-term process that requires suggestive environments and professional approaches. Deployment of creative elements in technical education is the way that to allow pupils’ interest to increase in the study of technical subjects and branches.

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