FLASH ANIMATIONS AND THEIR APPLICATION IN TEACHING

BERNÁT Milan, SK

Resumé

The paper reports the aspects related to creation and their application in teaching technical subjects. The authors of the paper also present the Flash animation himself created and applied in the natural and technical teaching process. At the same time he emphasises the irreplaceability of didactic and professional mastership of a teacher in the teaching process using flash animation programs.

Keywords: teaching technical and natural subjects, interactive whiteboard, Flash animation.

VYBRANÉ FLASH ANIMÁCIE A ICH APLIKÁCIA VO VÝUČBE

Abstract

Príspevok prezentuje základné aspekty tvorby Flash animácií a ich aplikáciu vo výučbe technicky orientovaných tém učiva. Autori v príspevku prezentujú predovšetkým vlastnú tvorbu, ktorú aplikovali vo výučbe technických predmetov prednosťou ktorá dáva predpoklad pre zúžitkovanie didaktického i odborného majstrovstva vyučujúceho.

Kľúčové slová: výučba odborných predmetov, interaktívna tabuľa, Flash animácia.

Introduction

The main goal of our research was to create Flash animations for improving natural and technical subject teaching. Our objective was not only to create an innovative system of teaching natural and technical subject but also to verify it in the conditions of real school.

For this purpose we created Flash animations in the Flash environment. The applets were created, i.e. the individual static pictures and figures from the traditional printed text books or schemes included in the instructions for use in pupils' model electro construction kits were animated (or simulated).

Moreover, on one of the Flash animations we demonstrated the technique of the Flash animations creation and its didactic application. The creation principles, strategies and tactics of the other Flash animations are analogical. In general, the key point of the application of visualization may be articulated as follows: those phenomena, processes and objects that can be visualized in a traditional, it means static way (a picture or a figure in a textbook, a plastic model or other three-dimensional models such as a model construction kit, etc.) are to be visualized traditionally. Those phenomena, processes and objects which go beyond the possibilities of the traditional and conventional ways of visualization are to be realized by means of Java applets Flash animations ('enlargement of a hand of knowledge').

1 Set of Selected Flash Animations Designed for Teaching in Thematic Unit - Production and distribution of electricity

On the contrary, the visualisation by means of a computer model may be improved by a practical and real attribute that is contained in a textbook or a model construction kit but not in an computer model. The created collection of computer models was called (Figure 1).

The world of natural and technical sciences (of younger pupils) in computer models. In order to strengthen the didactic application of the computer model the names of the individual computer models begin with the words. The individual applets of the packet start with the following words: How does itwork/function? or Do you know why/Do you know how…? Ako fungujú digitálne hodiny?

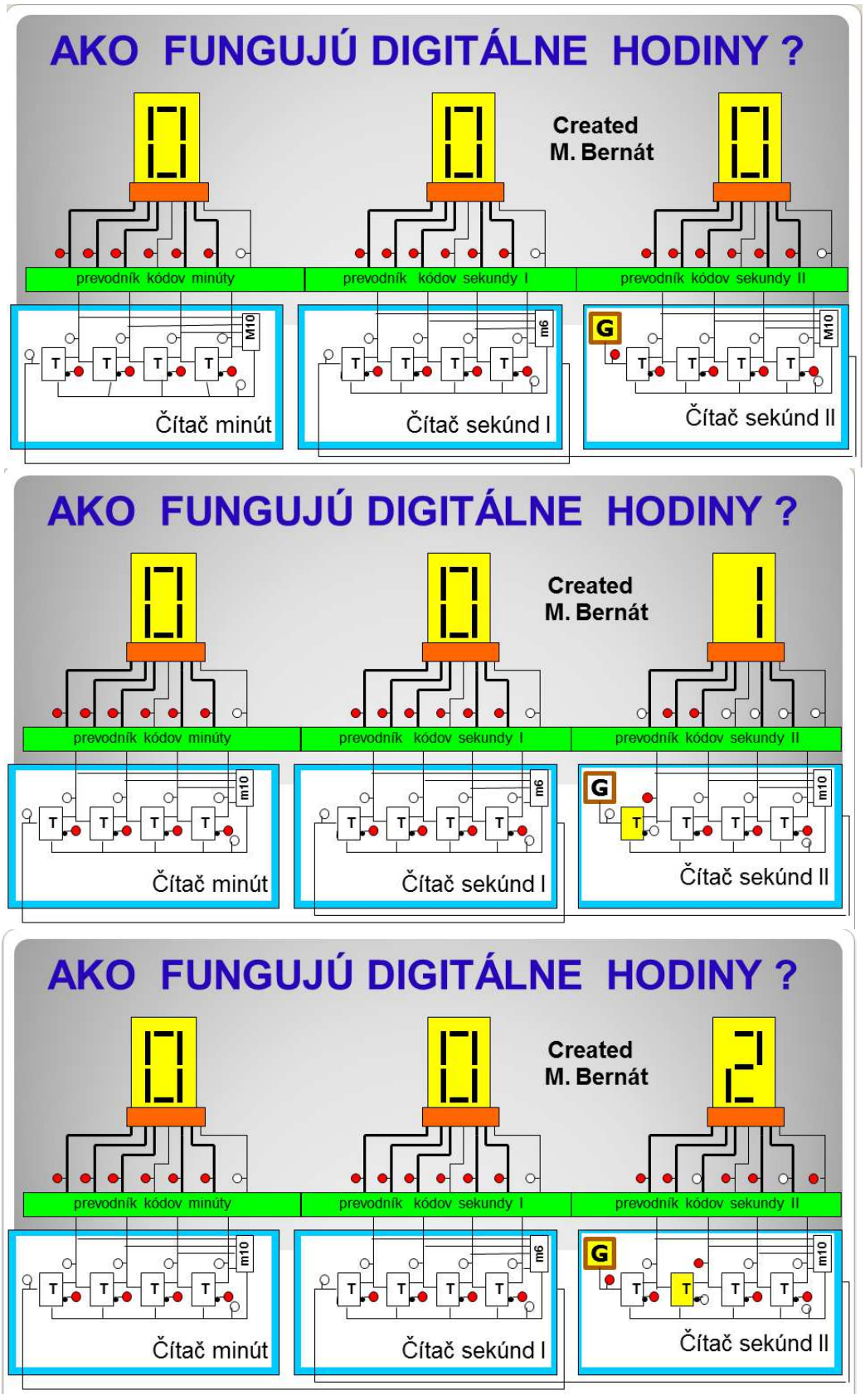

Figure 1.1 *The Flash animation - Ako fungujú digitálne hodiny ?*
(from the process of "slowed" animation")

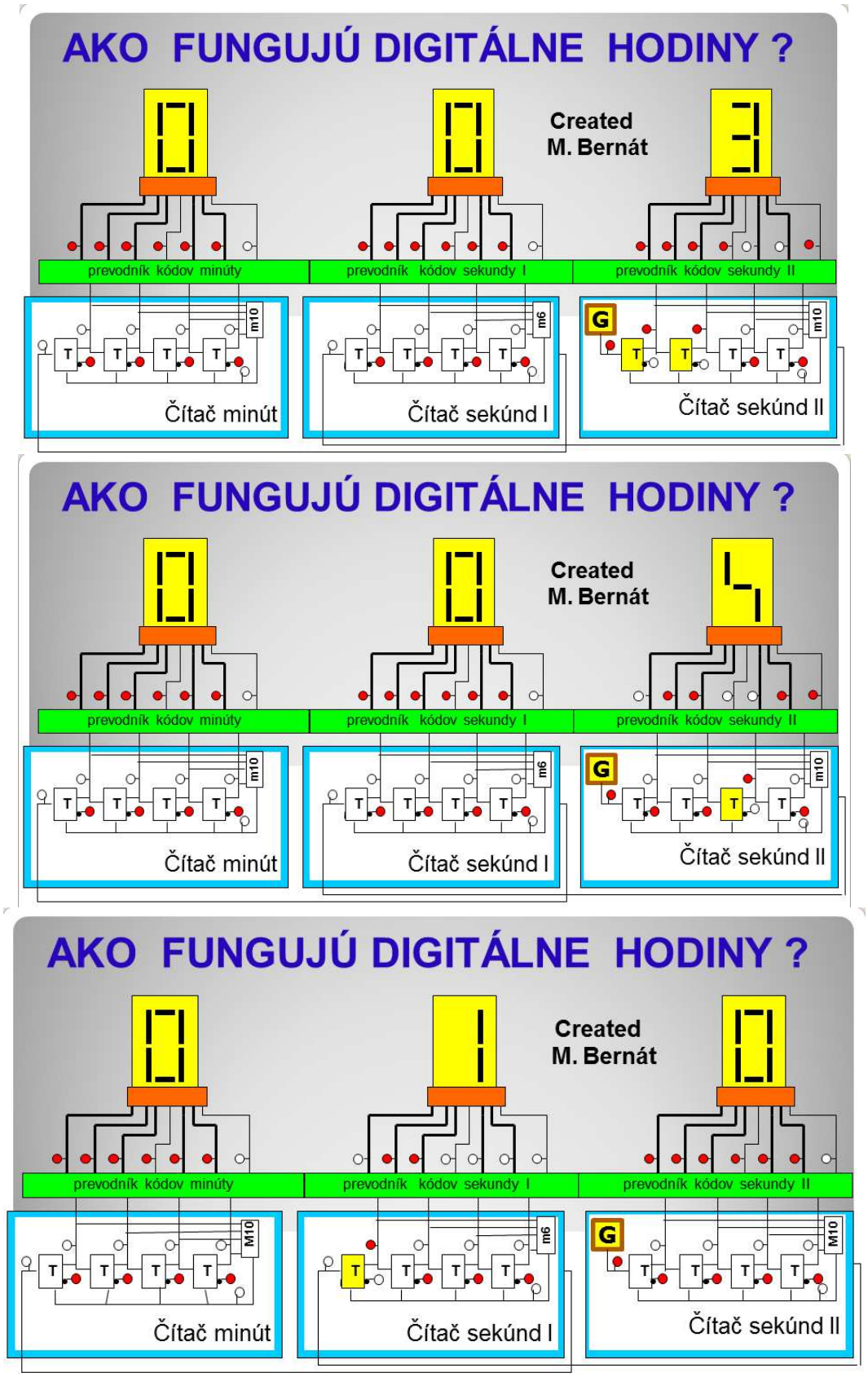

Figure 1.2 *The Flash animation - Ako fungujú digitálne hodiny?*
(from the process of "slowed" animation")

2 Empirical Research Conducted into Flash Animations Application in Teaching Process

The arrival of computer technology has offered unprecedented opportunities for the application of computer simulation and animation in the teaching process. It has raised our awareness of the necessity of a new quality platform creation for visualisation of objects, processes and phenomena in teaching technical subjects

We made a database of Flash animations that served as a platform for the creation of the experimental innovative teaching system called NIESV. It was designed for visualisation of teaching processes and phenomena through applets. In the process of our research the NIESV system **(**in the form of concrete models designed for teaching selected thematic sections in teaching was also experimentally verified. The method of pedagogical experiment was used to compare the two teaching systems in the experimental group (the NIESV system) and the control group (traditional teaching system). The principle of the pedagogical experiment is demonstrated in Fig 2. The concrete teaching system (How do the digital clock? is demonstrated in Figure 1.

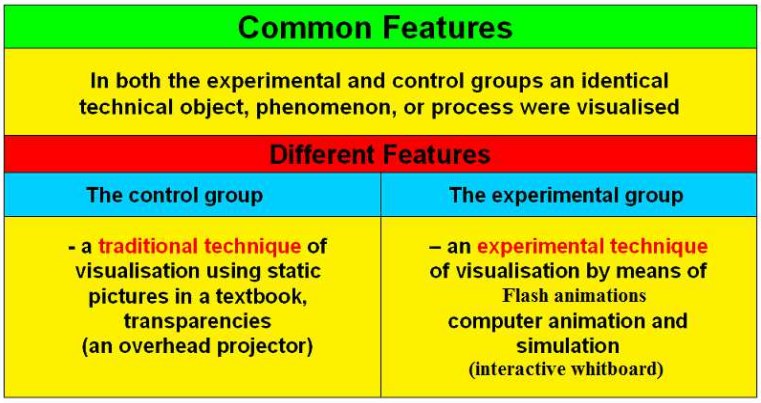

Figure 2 *The principle of the pedagogical experiment*

The main aim of the experimental research was to investigate the possibilities of the NIESV system application in order to increase the effectiveness of the teaching process.

Conclusion

In conclusion, we would like to say that we present only partial results of the continuous pedagogical experiment in the article, which we implement in the second, third and fourth grade of technical school in the curriculum of technical science subjects. The current results - of technical school has a positive impact on the acquisition of the educational contents of the technical sciences by school pupils. This work was supported by KEGA-002 UMB – 4/2015.

Bibliography

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Contact:

Milan Bernát, doc.Ing. PhD,
Katedra fyziky, matematiky, techniky, Fakulta humanitných a prírodných vied PU,
Ul. 17. novembra 15, 080 01 Prešov, SR Tel.: +421517570771, e-mail:bernatt@centrum.sk,