

MULTIMEDIA EDUCATIONAL CD AND WORK WITH GIFTED AND TALENTED STUDENTS

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Abstract: *Multimedia educational CD allows acquiring knowledge in a different way rather than in the traditional, oral way. CD contains a didactically elaborated text about Monocotyledonous plants – especially plants, which are very frequent, venomous, simple, important for trade. The main panel of this educational CD has several sections – Terms, Galery of Species, Test, Notes, Music. Furthermore, the Program was created for sight disabled students who are able to work with it, too. They can also listen some parts of the text, so they do not have to read the text in written form. In this article, you can find examples of multimedia educational CD for biological and other science competitions.*

Keywords: *multimedia educational CD, gifted and talented Students*

Introduction

The aim of new Public educative programme is to change educational process. New information and communication technology are an inseparable part of educational process. An integration of educational methods and forms is coming to the fore. The school subject biology is the part of the sphere of education *Man and Nature*. One of the priorities is to teach learners how to take care of health, prefer healthy life style.

Today, the issue how to care about talents is coming to the whole world. Investment needed for discovering and educating will be multiple back. Recently accepted law 245/2008 collection of laws about education (school act) in § 103 concerns with gifted children's or gifted learners' education in Slovak republic. The gift of children can be intellectual (general and specific), art and sports. Future teachers of biology are prepared for the work with talented and gifted learners by teachers from the Department of Zoology and Anthropology FPV UKF in Nitra.

Who are gifted learners?

The founder of international company ECHA J. Freeman (1998) defines gifted learners as these who spend extra high level of their activity in the whole spectrum or in the limited area or as these whose potential has not been recognized yet neither by the help of tests nor experiments.

The gift of children is reflected in rapid evolution in comparison with their equal in age. For education it is very important to judge success in the context of dynamic interactions between individual and educative opportunities which the individual got in his life.

In many cases, gifted children need specific educational conditions for their activity and also development.

Faculties preparing the future teachers should instruct how:

- to recognize the gifted child in the classroom;
- to prepare the teacher for the work with gifted learners methodically, didactically, pedagogically and psychologically.

Typical features of cognitive abilities of gifted children:

- ability to work with an abstract symbols;
- popularity of the divergent, abstract and creative tasks;
- finding of unusual task solutions, understanding of meaning of the words and terms in the foreign language, too;
- thinking flexibility, originality of the ideas;
- motivation – the child likes learning regardless of good marks;
- ability of long-term attention;
- very good logical-visual and auditory memory;
- a rich vocabulary, popularity of reading;
- curiosity;
- preferring independent work;
- own and usually rapid rate of work;
- deep and many times universal interests;
- popularity of using new educational technologies (computers, internet, education programmes).

Except the hereditary factors, gift is affected by upbringing and environment, in which the child is brought up.

The important role in educational process is individual access of the teacher towards the gifted learner. The Act 245/2008 about Education (School Act) in paragraph 104 defines maximal numbers of learners in the classes for gifted children and learners (for instance, 22 learners in class of grammar school).

The school promotes the development of gift of learners through after-school activities, competitions and olympiads. The task of the teacher is to help the learner to evolve his talents in right way. The whole activity and the desire for to be the first are expressed in gifted children. By the natural activity of the children, we can develop non-violently logical and creative skills of the children and learners.

Using of the educational CD for preparation of the learners for biological olympiad and the other biological competitions.

Some advantages in using of the educational programs:

- teaching can motivate the learners and also can be interesting for them;
- they can acquire new knowledge by modern approach;
- the teacher's work becomes more effective;
- visualization of the new knowledge enables the learners to understand it better;
- the using of the educational programs is reflex of development of science and technology;
- the teacher is able to make up the simple educational programs;
- the learner can select his own tempo in process of teaching.

Project

We created multimedia educational CD from botany, the part of *Liliopsida*.

Educational CD contains:

- definition and characterization of the plant;
- the place of occurrence;
- medicinal and toxic effects;
- economic purport;
- the gallery of species – the photos of the best-known species of the plants ;
- technical terms – explanation of the technical terms;
- definition and taxonomical classification of the best-known species of *Liliopsida*, especially medicinal, toxic and economic important plants.

Educational CD contains also test, it generates tasks casually and verifies the knowledge of learners. Success of answer of the tasks is displayed not only graphically but also percentually. One of the advantage is that the learners can see the right answer. The tasks in the test, which are generated accidentally, were centered on development of creative thinking, application and problem tasks. We consulted with the teachers from practice about educational CD.

Results

We verified effectivity of teaching by means of CD at 4 grammar – schools: in Gymnasium in Šurany, at Párovská Street in Nitra, in Zlaté Moravce and finally in ecclesiastic Gymnasium in Nitra. The first group of learners, who were preparing to biological olympiad, used educational CD for home preparation. The second one used coursebooks, encyclopaedia and another educational material. The students were writing the test on school biological olympiad after repetition of the theme *Liliopsida*. Success of answer in the test includes the followed table:

School	Success of learners who were preparing by the help of CD (in %)	Success of learners who were preparing without CD (in %)	Difference in success (in %)
Gymnasium in Šurany	83,5	81,3	2,2
Gymnasium in Nitra, Párovská Street	85,4	82,9	2,5
Gymnasium in Zlaté Moravce	86,3	84,2	2,1
Ecclesiastic Gymnasium in Nitra	82,6	79,8	2,8

Table 1. Success of answer of the tasks in the test

We found out that the learners had biggest problems with two-level tasks. The same detection published in the work from Čížková (2002), Švecová (2001) and Lengyelfalussy (2005). In the chart, we can see that educational teaching could influence success of answer of the tasks. After month of additional preparing the learners, who were observing by us, took part in school biological olympiad.

School	Success of learners who were preparing by the help of CD (in %)	Success of learners who were preparing without CD (in %)	Difference in success (in %)
Gymnasium in Šurany	81,6	77,3	4,3
Gymnasium in Nitra, Párovská Street	85,6	81,9	3,7
Gymnasium in Zlaté Moravce	82,4	79,8	2,6
Ecclesiastic Gymnasium in Nitra	84,9	81,7	3,2

The results of theoretical and practical part are included in Table 2

It results from the chart that the learners who were preparing by the help of educational CD fit in place better and they were more successful in answering of theoretical and practical part of the school biological olympiad. It would be interesting to observe how often and how long the learners used the materials during the home preparation. This is one of the factors, which belongs to successful answering of the tasks of the olympiad.

The learners who used materials provided by us progressed to higher (regional and national) biological olympiad. All learners who became successful solutionists in regional biological olympiad used educational CD, too.

The learners from Gymnasium in Nitra, Párovská Street and from ecclesiastic Gymnasium in Nitra became successful solutionists in national biological olympiad.

Based on this detection we plan to continue in generation of educational CD also from the other topics from biology and to offer these materials to the teachers of this subject at the grammar schools in Nitra region.



Fig. 1 : Educational CD

Conclusion

The role of care for gifted and talented children and young is not so easy. Jomová, Jenisová, Musilová and Tóth (2007) and Švecová, Pumpr, Blažová, Matějka, Beneš, Horychová (2007) mention that it is very important to learners acquire competence in the sphere of solution to practical tasks, implementation of simple experiments and also they could use their knowledge from terrain exercises and specialized excursions during the preparation on biological competitions.

The results of many researches and studies show that the children should be tough so that their independence, resourcefulness, creativity, excellent communicative skills will develop. The children and the learners need to express their interests and activities, it is necessary to support their own visions and evaluation of the world.

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MULTIMEDIÁLNE VÝUČBOVÉ CD A PRÁCA S NADANÝMI A TALENTOVANÝMI ŽIAKMI

Abstrakt: Multimediálne výučbové CD umožňuje žiakom získať vedomosti inou formou ako ústnym podaním. CD obsahuje didakticky spracovaný text o jednoklíčnolistových rastlinách – najčastejšie sa vyskytujúcich, jedovatých, liečivých, hospodársky významných. Hlavný panel má niekoľko častí – Termíny, Galéria druhov, Test, Poznámky, Hudba. Okrem toho program nezabúda ani na zrakovo hendikepova-

ných študentov a umožňuje im niektoré časti textu prehrať vo zvukovej podobe, taktiež umožňuje zväčšovať a zmenšovať písmo textu. V príspevku uvádzame príklady využitia multimediálneho výučbového CD v príprave talentovaných študentov na biologické a iné prírodovedné súťaže.

Kľúčové slová: multimediálne výučbové CD, nadaní a talentovaní žiaci