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STUDENTS AND TEACHERS COMPUTER ACTIVITY IN VIEW OF INFORMATICS TEACHER

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Summary

The study surveyed 72 teachers of informatics. The survey results revealed that the structure of computer lessons predominate computer activity, which does not correspond to the hygienic requirements for the maximum duration of computer use during the lesson. According to the informatics teachers, children have attention and work better in mid-day and week. As a result of the long work with computer, teachers accused stinging, dryness, burning eyes, pain in the spine, headache, general fatigue, pain in hands.

Rezumat

Activitățile elevilor și profesorilor la computer în viziunea profesorului de informatică

În studiu au fost chestionați 72 profesori de informatică. Rezultatele chestionării evidențiază că în structura lecției de informatică predomină nemijlocit activitatea la computer, ceea ce nu corespunde cerințelor igiene pentru durata maximă de utilizare a computerului pe parcursul lecției. Conform profesorilor de informatică, elevii prezintă atenție și capacitate maximă de lucru la mijlocul zilei și săptămânii. În rezultatul activităților îndelungate la computer profesorii acuză înțepături, uscăciune, usturime a ochilor, dureri în regiunea coloanei vertebrale, cefalee, oboseală generală, dureri în mâini.

Introduction

Universal access to information is the key objective of the society and can be easily done through computers. Е. М. Краснянская (1998), Д. В. Денисова (2001), Д. Н. Котов (2005), believes that ICT open for children access to non-traditional sources of information, raise work efficiency by itself, offers new possibilities for creating, obtaining and strengthening professional skills, allow fundamental new forms and methods of training with the use of conceptual and mathematic modeling of phenomena and processes. In the general lessons, computer lessons reduce monotony, give lessons emotionality and increases work capacity and children success.

Using computers in training and education of children radically alters the usual forms of acquiring knowledge and entertainment. The curriculum more tiring action have disciplines involved in the process for the first time, such as 7th grade – Informatics discipline.

Work with video display terminals, electronic computing machines often worsens by the irrational organization of the training regime: overcoming instructive effort by 1-3 hours a week, 30% of children do not attend lessons of physical culture. The attempts to accomplish the task of computerization of school education institutions "at all costs" are in contradiction with expected results. Working with obsolete technology and poor conditions, lead to an increase in complaints in functional disorders of vision, which requires children to lose interest in work with computer.

To assess the role of emotional factor in appearance of asteno-neurotic symptoms of reaction during the computer activities were carried out research on children 'interest to these activities. Consequently, 25% of the children interest in acquiring the computing disciplines has

increased, at 32,4% - interest remained unchanged, at 42,7% - decreased. Asteno-autonomic effects appeared more frequently during the lesson (93,7%) at children that interest to the lesson decreased. If the interest grew, these symptoms occurred only in 29,5% of cases. Blame the headache, increased fatigue, and embezzlement while working with growing interest among children occurred in 29,4%, 23,5% and 5,8% of cases, while at the children with dropped interest the blame recorded in 48,2%, 48,2% and 34,4% of cases. It should be noted that recent complaints filed and dizziness (13,8%), somnolence (48,2%), unpleasant sensations in heart region (6.9%). Depending on the interest in computing children appreciated lessons with different training conditions in classrooms. The students, with increased lessons' interest, as negative factors, mentioned "foreign talk" in 58,8%, and less noise of display (in 17,6% of cases) and those whose interest has declined – in 20,6% and 37,9% of cases respectively. At the same time, unwillingness to work in the first group was identified in 17,6%, while those in the second group – in 65,5% of cases. Results "Льюнеп tests" showed that children in the first group dealt with mood, positive emotions, while children in the second group had indifferent attitude for lessons, were sometimes depressed.

Material and methods

The research included interviewing of 72 teachers of informatics. To query were used a specially prepared questionnaire that includes 17 questions with reference on the system of the computer activity of children and teachers of informatics.

Results and discussion

Informatics teachers were questioned with reference on the computer system activity of children and teachers, including their complaints. Among the respondents 35,3% were women and 74,7% - men aged 23-50 years, and have a computer training business in 1-30 years [4, 12].

Activity of 7th grade children in the informatics lesson provides occupation by the plan pre-established by the professor, with a frequency of one hour a week, for the 10th grade – once a week – double hours. Double times are separated by a pause of 10-15 min. Duration of children activity at the computer can be inferred on the base of two questions in the questionnaire: about the structure of lessons and duration of the work at the computer. Lesson's structure provides several stages, from which we used the explanation about the topic by the teacher, the computer base plus children's work independently on the computer. Looking both aspects have established that a large number of children are working at the computer more than half of the lesson time (Figures 1 and 2). According to the regulatory requirements is allowed finding at the computer not more than 50% of the lesson.

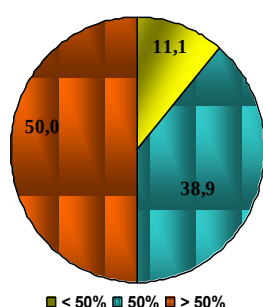


Fig. 1. Occupations at the computer during a lesson in terms of lesson structure

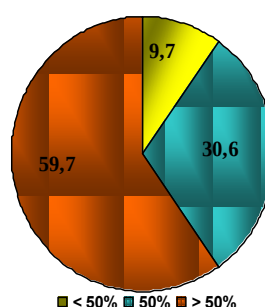


Fig. 2. Occupations at the computer during a lesson as a response to a direct question about how long you work on PC

In the questionnaire were investigated teachers views – the days of the week and the lessons of the day children are more attentive, more interested in the activity. 98,6% teachers said that in the dynamics of the week children are more available, careful - Wednesday. In the dynamics day, 100% of teachers think that on the third lesson children are most attentive and interested in computer work Voluntary lessons or circles in informatics are organized in 43,7% of surveyed primary and secondary education, which run from 14,00-15,00 pm, time when children are tired. Academic double lessons are divided by a break of 10-15 min. Occupation at the computer is 77,8 to 88,9% from the occupation time. Working time of teachers at the computer is 2-10 hours, about half of them (47,2%) working more than 6 hours. 48 of 72 surveyed teachers (66,7%) specified that feel some changes in the body. To 18,8% of teachers beginning of changes is after 30 min. – one hour of the start of work (most teachers have work experience of more than 15 years). Over 2 hours of activity changes occur in 14,6% of teachers, 3 hours – in 20,7%, over 4 hours – in 16,7%, over 5 hours and more – in 29,2% of teachers. Teachers presented the following allegations: stinging, dryness, burning eyes, pain in the back (spine), headache, general fatigue, pain in hands. A structure change is shown in Figure 3 (with reference to 48 teachers who mentioned the presence of changes).

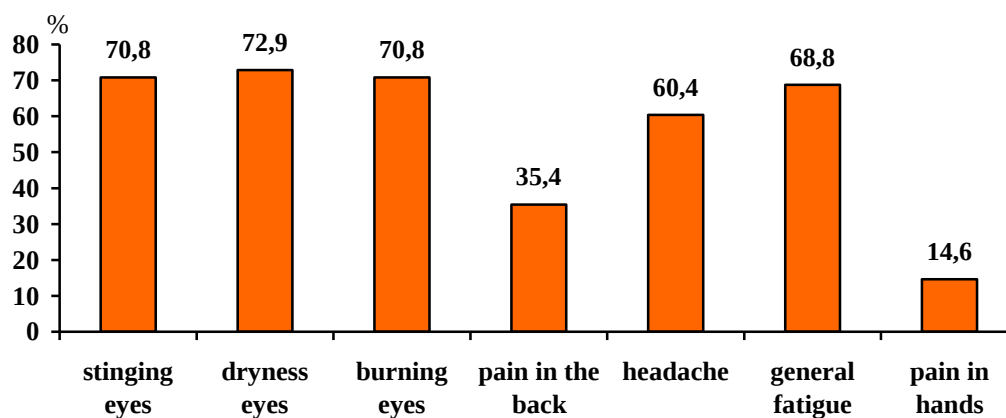


Fig. 3. Changes in health status specified by the teachers of informatics

In 32 of 48 (66,7%) of teachers changes disappear over 15-30 min. of rest, in 16,7% - over one hour, in 10,4% - over 2 hours, in 6,2% - 3 hours and more. The questionnaire provided the possibility of exposure opinions and proposals to improve work, work conditions and disease prevention. Teachers have submitted a wide range of proposals:

- ✓ to combine theoretical work with computer activities;
- ✓ to respect the distance between user and computer;
- ✓ to switch off the monitors, if students are not working on the computer;
- ✓ to ventilate regularly rooms;
- ✓ to organize breaks for exercise;
- ✓ to install air conditioning equipment;
- ✓ to equip the computer class-rooms with appropriate furniture;
- ✓ to divide children into classes with smaller numbers because currently are 25 children by 3-4 on a computer (mentioned by teachers in rural schools);
- ✓ to organize several rooms with computers and to equip with more computers, as one student to return to a computer (specified by teachers in urban schools);
- ✓ to reduce charge of work to 18 hours a week;
- ✓ education of adults (teachers, parents), so as to have the computer skills in organizing work, duration of activity, employment arrangement;

- ✓ distribution of information leaflets between students, teachers, parents, schools and public places;
- ✓ in lessons schedule – informatics lesson to not follow after mathematics, physics, chemistry, because students are more tired and less attentive;
- ✓ computer techniques to be upgraded to be less harmful to the health of children and teachers;
- ✓ to be increased the pay for maintenance of computers and for the degree of harm;
- ✓ to be measured radiation levels in the computer class-rooms.

Conclusions

Preventing and removing of unwanted effects caused by the work at computer can be done by organizing a system of working, respecting the duration of activities and including breaks, air conditioning, rational planning and correct ergonomic of work place, including occupations of physical culture, special exercises for preventing eye fatigue.

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