

ПЕДАГОГИКА ВА ПСИХОЛОГИЯДА ИННОВАЦИЯЛАР

ИННОВАЦИИ В ПЕДАГОГИКЕ И ПСИХОЛОГИИ

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ПЕДАГОГИКА ВА ПСИХОЛОГИЯДА ИННОВАЦИЯЛАР ИННОВАЦИИ В ПЕДАГОГИКЕ И ПСИХОЛОГИИ INNOVATIONS IN PEDAGOGY AND PSYCHOLOGY

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THE USAGE OF SOFTWARE PRODUCTS TO TEACHING MATHEMATICAL KNOWLEDGE TO PRESCHOOLERS: PROBLEMS AND SOLUTION



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ABSTRACT

Possibilities of using programmatic products during the process of teaching in primary education which is a part of the education system was based in this article. Also, the demands for creating programmatic products for primary schools was based in this article.

Keywords: interactive exercises, motives of learning, pedagogical programmatic methods, computer training, teaching programs, interactive programmatic products.

BOSHLANG'ICH SINIF O'QUVCHILARIGA MATEMATIK BILIMLARNI BERISHDA DASTURIY MAHSULOTLARDAN FOYDALANISH: MUAMMO VA YECHIMLAR

ANNOTATSIYA

Ushbu maqola umumiy o`rta ta'lim tizimining boshlang`ich ta'lim bo`g`iniga ta'lim berish jarayonida dasturiy mahsulotlardan foydalanishning imkoniyatlariga qaratilgan. Shuningdek, boshlang`ich sinf uchun yaratiladigan dasturiy mahsulotga qo`yiladigan talablar asoslab berilgan.

Kalit so`z: interaktiv mashqlar, o`qish motivlari, pedagogik dasturiy vositalar, kompyuter trenajyorlari, o`rgatuvchi dasturlar, interaktiv dasturiy mahsulot.

ИСПОЛЬЗОВАНИЕ ПРОГРАММНЫХ ПРОДУКТОВ ПРИ ОБУЧЕНИИ ДОШКОЛЬНИКОВ МАТЕМАТИЧЕСКИМ ЗНАНИЯМ: ПРОБЛЕМА И РЕШЕНИЕ

АННОТАЦИЯ

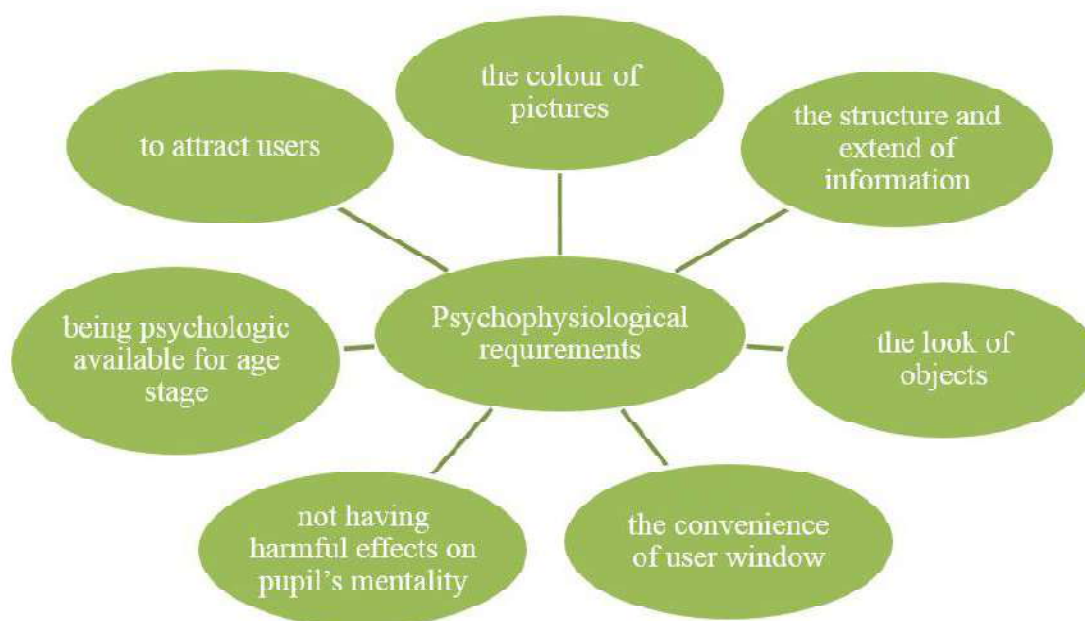
В статье рассматриваются вопросы связанные с предъявляемыми требованиями к программному обеспечению и возможности использования их в процессе начального образования.

Ключевые слова: интерактивные упражнения, мотивы обучение, педагогические программные продукты, компьютерное обучение, обучающие программы, интерактивные программные продукты.

You know that in the Republic of Uzbekistan the public secondary education has its special place in the educational system. "The public secondary education stage helps to give necessary extend of knowledge, think independently to develop organizing capability and practical experience, to direct to suitable job in preliminary way to choose sequential stage of education" [1,2]. So, for young generation to learn subjects principles deeply and solidly lessons should be taught according to "the requirements of the present time" level, with methods, such as communication technology, interactive exercises, which help to improve knowledge and electronic textbooks. They not only increase the quality and effectiveness of education but also help pupils to improve the motives of learning.

Nowadays several pedagogical programmatic methods (computer training, test programs and teaching programs) have worked out to develop and support public secondary education teaching processes. Some of them are being put into practice continuously during education process. Some of them have limits conversing with pupils and approaching to use these methods during teaching processes should be looked at. Particularly, primary education of public secondary education stage should be taken into consideration technology and pedagogical programmatic methods.

No doubt, you can't attract primary school age children with programmatic products which contained with only texts. Grapho, audio and video files attract pupils but they can't estimate independently their mental development. So, to use interactive programmatic methods while teaching this age pupils, the following psychophysiologicaly available products should be created (picture 1). Because their psychophysiological conditions have a big importance during teaching process



Picture 1. The requirements for programmatic products which is planned to use for primary schoolchildren.

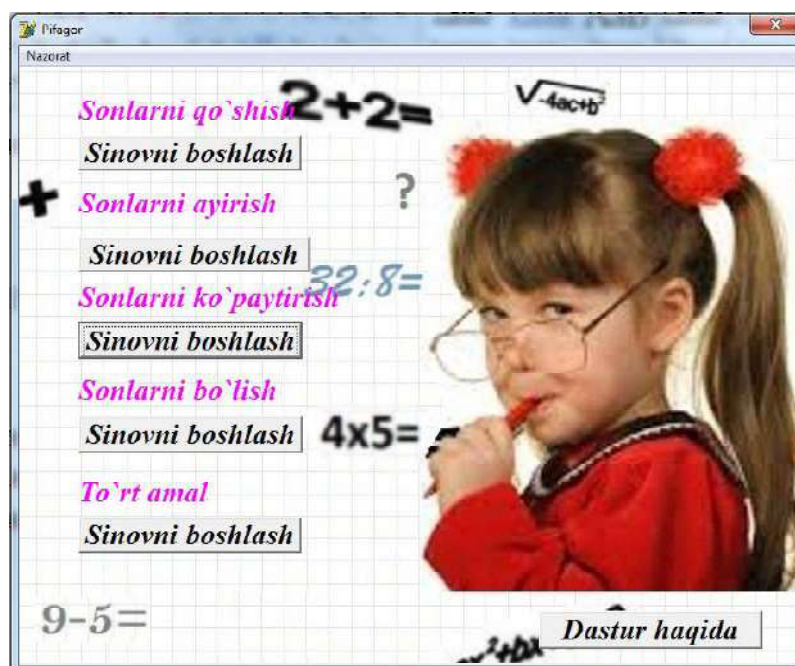
According to the results of pedagogical experiments, tests and observations, the following problems are defined in the teaching process of primary education:

- Not having the same learning capacities of every one of the pupils of primary schools.
- A lot of energy spending of teachers, because of the pupils who can't think independently and need teachers help. And teachers have to work with them much more.
- The time which is planned to teach a new theme have to be limited because of pupils whose learning progress is low. So it causes problems of learning with the rest of the class.
- Pupils' needs the help of their parents to do their hometasks and parents have to work hard with them and spend a lot of time with their studies. [3-6]

To solve the following problems interactive programmatic products was created by the authors. These products teach pupils basic elements, give and exercise to do, check their answers and announce the results.

To create this interactive products was used some programmatic systems, such as: Delphi, Visual Studio, Macromedia Flash and etc. The programmatic products which is created in this system separate with not only having convenient interface, not choosing operation system, having possibilities to animation objects widely, but also with hidden and secure program code. Also, with the help of program products created in visual system primary schoolchildren can be taught English, mathematics, can be estimated pupils' learning progress and automatized the marking. [7-9]

There is showed the look of a programmatic product which helps pupils to improve their arithmetic skills and mark them. (in pictures 2, 3).



Picture 2. The main window of program product.

This program every time asks a pupil for the result of the different arithmetical exercises between 2 numbers 10 times, waits the answer of the pupil, checks them and gives a mark.

This program works with unlimited combination of numbers and creates these combinations.



Picture 3. The process of working programmatic product.

In picture 4 there is showed the look of a programmatic product which teach reading and writing numbers in different languages. It is convenient with this programmatic product to teach pupils to express numbers with letters and pronounce them. Also it is easy to estimate learning progress of pupils' with this product.



Picture 4. The window of a product which teaches reading numbers.

To test the created interactive product conducted some experiments in primary schools of Surkhandarya the Republic of Uzbekistan. This tests was carried out during their mathematics lessons.

Table 1. The learning level of pupils' before the experiment.

The choises	Bad	Satisfactory	Good	Excellent	the number of pupils
Experiment team	19	16	28	4	67
Control team	32	14	18	5	69
Total:	51	30	46	9	136



Table 2. The results of experiments at the end of them

The choises	Bad	Satisfactory	Good	Excellent	the number of pupils
Experiment team	0	2	11	54	67
Control team	31	12	20	6	69
Total:	31	14	31	60	136



To estimate the effectiveness and reliability level of received results was used K.Pirson's (χ^2 quadrat) scale [10].

Before the experiment the learning progress of the pupils' was 5,70

$$T_{\text{kur}} = \frac{1}{67 * 69} \cdot \left(\frac{(67 \cdot 32 - 69 \cdot 19)^2}{51} + \frac{(67 \cdot 14 - 69 \cdot 16)^2}{30} + \frac{(67 \cdot 18 - 69 \cdot 28)^2}{46} + \frac{(67 \cdot 5 - 69 \cdot 4)^2}{9} \right) = 5,70$$

after the experiment the result changed 79,14

$$T_{\text{kur}} = \frac{1}{67 * 69} \cdot \left(\frac{(67 \cdot 31 - 69 \cdot 0)^2}{31} + \frac{(67 \cdot 12 - 69 \cdot 2)^2}{14} + \frac{(67 \cdot 20 - 69 \cdot 11)^2}{31} + \frac{(67 \cdot 6 - 69 \cdot 54)^2}{60} \right) = 79,14$$

The results of experiment showed that the team which is taught by using programmatic products achieved higher results than the other teams.

In the conclusion, this kind of created interactive programmatic products can be used as didactic material during teaching processes.

To use this programmatic products, to use them correctly during teaching processes help:

- to develop new pedagogical method and ways.
- to make teachers change their styles to solve the problems before them.
- to change pedagogical system
- to change completely traditional educational system
- pupils' easy learning of information
- pupils' using computer technology independently

Also the quality of lessons increases. It makes pupils' to pick up knowledge according to their strength, talent and pace and independently learn them.

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МУНДАРИЖА

Babahodjaeva N.M., Shonazarov S.Q. USING THE ELECTRONIC EDUCATIONAL-METHODICAL COMPLEX IN DEVELOPING QUALITY OF TEACHING THE SUBJECT "THEORY OF ALGORITHMS"	3
Джурраев М.К., Каршиев Ж.М. МЕТОД КОРРЕКЦИИ ТЕКСТОВ НА ОСНОВЕ ВЕРОЯТНОСТНОЙ МОДЕЛИ СОВЕРШЕНИЯ ОШИБОК.....	8
Эрназаров М.Ю., Гуломқодиров К.А., Зиякулова Ш.А. ТАЪЛИМДА АХБОРОТ - КОММУНИКАЦИОН ТЕХНОЛОГИЯЛАРИДАН КЕНГ ФОЙДАЛАНИШ.....	14
Mamatkabilov A.X., Xujamurodov Sh.A. TA'LIMDA SUN'IY INTELLEKT TUSHUNCHASI.....	17
Mengliyev Sh.A., Bozorov A.X., Xolliyev F.B. ELEKTRON DARSLIKDAN FOYDALANISHDA TA'LIM SIFATINI OSHIRISH OMILI.....	20
Нарбаев Азамат Бахрамович АСТРОНОМИЯНИ ИННОВАЦИОН ДАСТУРИЙ ВОСИТАЛАР ОРҚАЛИ ЎҚИТИШНИНГ САМАРАДОРЛИГИ.....	24
Toyirov A. X., Tuxtayeva N. R., Toyirova V. X. THE USAGE OF SOFTWARE PRODUCTS TO TEACHING MATHEMATICAL KNOWLEDGE TO PRESCHOOLERS: PROBLEMS AND SOLUTION.....	29
Ziyakulova Sh.A., Gulomkodiroy K.A., Ernazarov M. Y. ELEKTRON O'QUV KURSINI AMALGA OSHIRISH SHAKLLARI VA UNING O'QUV-TARBIYA JARAYONIDAGI O'RNI.....	35
Мусаева Рано Халиковна, Мусаева Нигина Хамидовна, Акромов Достон ЕТМАК ИЛДИЗИ ЭКСТРАКТИНИ БУФЛАТИШ ЖАРАЁНИ УСКУНАЛАРИНИНГ ТИЗИМИ ТАҲЛИЛИ.....	42

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