

## Methodological Approaches for the Development of the Electronic Textbooks and Manuals

A. Batirov University Karamatov O. O.<sup>\*</sup>

Computer has been used as an ideal tool for education. However, it is true that has been a question whether it can be utilized effectively in the process of knowledge acquisition and skill development.

A lot of education experts have been engaged in this problem since mini-computers come onto the market. Also with the spread of personal computers, the need for using computers in education has become higher. Though information technology in itself is not most important factor in the field of education. It can play an effective role in the achievement of educational purposes.

Utilization of computers as the supportive instruments for the education is closely related with the development of educational system as a whole. Related with the above, followings are under research.

- Why computers should be used for the education
- In what degree computers can be utilized as an effective tool
- What kinds of tasks should be assigned to computers
- In what method manuals for computerized educational system can be developed with the cooperation with education experts

The problem is that contents of computerized educational system are not from teachers[1]. Teachers usually do not take part in development of computerized educational system, so it cannot be practically useful system in the real world of education.

Elements necessary for development and maintenance of computerized education system are

- Distribution of educational materials
- Control and test of materials
- Related exercises
- Effective ways of group and individual lessons
- Guidelines for the of computerized educational system
- Policies regarding duplication
- Research on how tools and real lessons should be combined

Computerized manuals should be developed according to the all requirements of educational system and the above can function as a basis. It was proved that the above elements can support educational system and solve administrative problems of education in the project called "the correct name of project needed"[2, 3].

Development of the computerized manuals along with educational software assumes participation of experts from various fields.

<sup>\*</sup>E-mail okaramatov@hotmail.com

They are computer experts, writers of educational materials, teachers and advisers.

For the development of computerized manuals, followings should be considered in each step

- Control and test of educational materials
- Research on development of new methods of education with the computerization
- Outline of manuals and detailed contents for each course
- Openness that help users change parts of software such as of examples

The last step of developing computer manual is programming. Development software(DS) can be HM-Card, Visual Basic, Delphi, Power Builder and etc. Several basic advantages of DS are:

- Saving development time
- Ease of maintenance
- Ease of correction

If telematic education system is needed, Java can be used.

First manual which was adopted widely by people is "Higher mathematics for engineering". It includes 17 educational software packages which were developed by researchers of leading Institutes in Russia [4]. Development of this manual is meaningful in a sense that it is a good example of showing that small components from many programs can be combined to teach complex mathematical problems of engineering. Tools for combining other software packages are provided as well.

University of People Friendship developed electronic textbooks on remote education system for physicians. Second Tashkent State Medical Institute also developed electronic textbook, "Pathological physiology" for the students of it.

Computers as means of education can take an intermediary part in educational system. Education needs financial investment and it can improve quality of educational services. The important point is that qualitative benefits from the introduction of information technology should be calculated.

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Karamatov O. O

1987 TSUE assistant  
 1988 MUIL Moscow teacher trainee  
 1989 TSUE assistant  
 1990~1993 CAU Celnograd city (Kazakstan) Post-graduate  
 1993~1994 TSUE Post-graduate  
 1994~1996 Goscomprognozst under the Ministry man specialist  
 1996~1999 Insurance company "Bank sugyrta" manager  
 From 1999 till the present friendship University after A Batrov Nations rector

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