ARCHITECTURAL COMPUTING IN SCHOOL AND REAL DESIGNING

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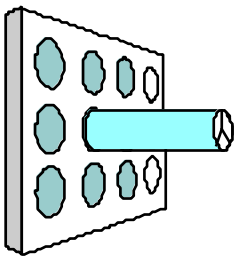
The existing system of architectural education (including computer) as has shown practice has appeared not absolutly perfect. It not capable to dynamic changes, active introduction of a new engineering and computer technologies, to realization about of the inquiries of a modern time. It suggest of a way of search of new models of computer training.

The computer education is represented by us as certain a universal system, which permits to solve the problem of arcitectural education at a higher level. The opportunities of computers and computer technologies at such approach are used as means of increase of efficiency teaching and training. The orientation goes on final result: a opportunity to generate of the creative decisions by learnees , based on attraction of received knowledge and use for their realization of arsenal of practical skills and skills. The system represents not only certain set of experiences elements, necessary and final result sufficient for achievement, but also quite certain interrelation between them. It means, that the knowledge from a initial rate ” The Introduction in computer training ” must be secured and transformed for utilization in special rates and through them- in practice.

The functional nucleus of the software package of such universal system is under construction as opened, apparatus an independent system. A central part of a system is a database, the structure of which is uniform for all other modules and side of enclosures.

The conceptual model of a system is under construction on principles structure idea, visualization, multimedia. The listed principles are realized in model so that to encourage the user to independent creative work.



The structure idea assumes the cellular circuit, uniting educational discipline, in which joint work of 3-d making for each particular discipline separately is executed.

The work of the teacher with a audience

Work of the student with multimedia

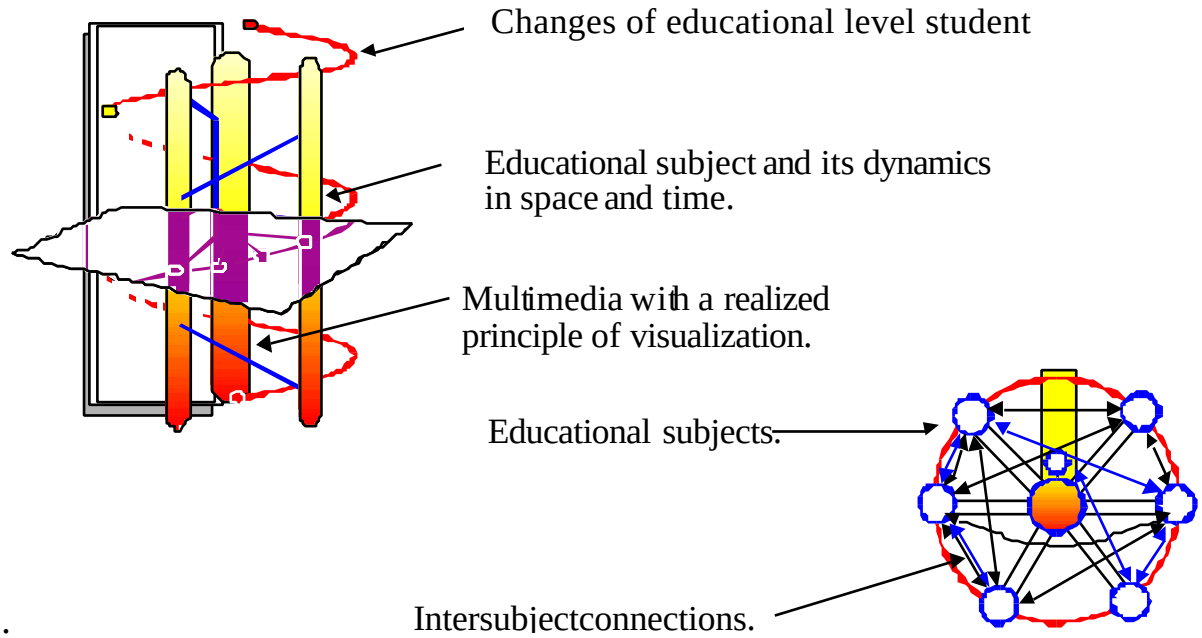
Work with the certain program A structure unites in self various disciplines, adapted under multimedia training.

In them function of visualization of any problem and any complexity is realized; new methods teaching, using computer as a means of training.

Visualization. The principle of visualization is a nucleus of offered model.Modern methods and the technologies of visualization, are realized in it and can give unique environment for architectural modeling of dynamic systems and graphic visualization of arcitectonic,constructive and other abstraction. The program or the structural part of the offered concept is also means of visualization of research results of. As far as in practice architectural education and education in general, for the most complete description of those or other processes of dry language of the formulas it is not enough, expediently "to arm" the program by maximum variety of graphic opportunities. Dynamics of process is always interesting for the student. The principle of visualization is distributed on 2-dimensional, 3-dimensional graphics with use of modes of lighting, animation, libraries of textures and materials. Except graphic modeling, in a system there can be accessiblly realization about the cinematic analysis of engineering, architectonic and other designs.

Multimedia. Flexibility of the multimedia programs means an opportunity for ussing with any level of preparation of the user, opportunity of effective independent work, the deepest degree of detailed elaboration in a problem (by the principle HELP), opportunity to consider an investigated problem from positions of various disciplines.

SCHEME OF OFFERED CONCEPTUAL MODEL



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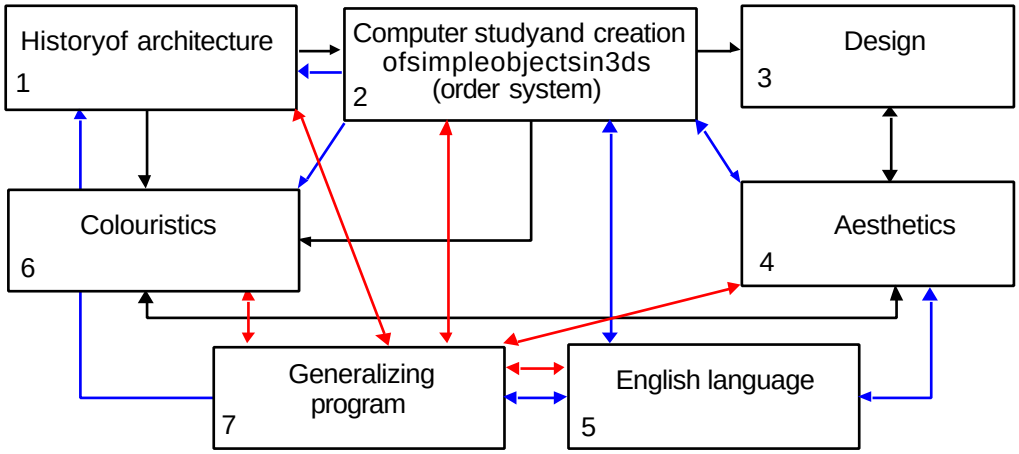
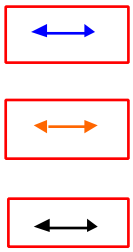
During training the student should assimilate methods of complex designing of object-space environment. And going from a rate to a rate to it has to decide more and more complex problems, requiring and larger knowledge in the field of computer about desingning.





Intersubject connections of general themes of English language (order system)

Connection with a generalizing subject or database.

Direct working connection.

Here creative process occurs not only in the field of the designing, but also in the field of those subjects, sciences with which he collides deciding those or other problems. The universal system through a network of diverse levels of communications, including intersubject connections, enables for perfection of being present knowledges and purchase new. For example, at designing flat, its plane, interiors-he uses knowledge, received from area architectural composition, architectural colour, painting, history of architecture, aesthetics. Executing the project "Cottage", "Multistory residential house " he acquaints and masters the architectural combinatoric in complete volume. AUTOCAD (USA) or B__ IS_F_ (France) permit to execute the large list of combinatorial procedures, replacement and rearrangement of elements, their turns and duplicating, change of the sizes and geometrical configurations, shift of points of perception of object at construct of a prospect and many other. The student decides problems of junction - type and volumetric modeling. Its knowledge are expanded for account of knowledge from the area of designs and engineering equipment, which he can receive, join in a necessary moment to a general system. Or on the contrary to add informations in a database.

Designing residential group, the student decides volume-spase problems. It goes to space modeling through spase-style models with useage of the programs, creating the 3 -dimensional space (3 D STUDIO).

The most difficult complex of problems waits for the student at designing of a city. It should create the superspace of a city from separate elements (from houses, visual communications, comfortable territory up to a transport). And here he could not have managed without the account of such categories as the spaces, time, time - style, movement. The computer permits to pass, create the space fix it through time - movement, , and during reconstruction - through time - style. The modern city hardly yields visual storing because of the tendency to fast growth and development. The computer permits to record the real space and to analyse. The computer becomes a tool of the analysis.

The universal system permits to the student to be engaged in scientific researches at the help of a computer at a higher level. It is very important for educational process. The conceptual model of computer training permits to use both the universal programs and specialized ones.

And last programnies can be used both independently, and universaly. So the History of Arts, a History of Architecture are based on active useage of the ready programs (ART). Some spesial disciplines, as Interiors, Polychromatic restoration or Colour science utelize AUTOCAD, 3 D STUDIO, COREL DRAW in the various purposes. Advantage of these programs is an opportunity to develop in details the special programs of understanding of the space, to feeling the energy of colour environment.

Modern architectural education is not probably to present without computer colour modelling, as a level demand to professional skill architect,colourist has increased. There is absolute dependence between professional colour by culture and circle of professional problems, which architect decides in work. Separatelu it is necessary to say about those problems and possibility of a computer at polychromatic restoration. The speech goes about opportunities in interpretation of that environment , that time, that style, to which street, interior of reconstruction object belongs. All illustrative materials, necessary for architectural analysis can be scanining or fixed in different classes for graphic models, and the part of the images can shifts or be transformed by the special computer programs. It is probably to use the ready program ”ART”. This program will give the complete information on style of a epoch (architecture, painting, sculpture, music, costume), will allow make analys receptions and methods of formation of colour style . The student can see, to increase an interesting fragment, detail, to analyse his structure, composition, colour system. And then through associative thinking, through stylization (basis colour science) he can create the abstract sketch, abstract composition (painting, basis composition) in this style, which will serve as initial model for further modeling.

Having chosen one of methods polychromatic restoration :

a) method of a roman system- failure from previous colour of an image and creation of a colour image of a time restoration;
b) the method of colour stylization - when initial colour image is restored .

The student begins to fulfil of the colour decision. The problem can be complicated at the expense of fulfilment of the colour decision on the basis of a principle space colour zoning. Computer colour modelling permits to the students analyse colour system of a natural nature and colour building of architectural monuments, to allocate a step of comparison and communication in law of the form, colour and illumination.

Such model of computer educational permits to release process of training, based on the conventional concept, from tecnocratic of consequences of incorrect application of computers in a system of education. It is represented to the student the possibility from a course to course to improve knowledge of a investigated subject; to decide particular applied problems; effectively to conduct scientific recearch; to improve knowledge of foreign languages. The student can use bank of data, generated to himself for last a period of training. There are new opportunities for cooperation of the teacher and student.

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