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## **DIVERSIFYING GRAPHICAL KNOWLEDGE**

Oriented towards international trends and domestic needs, Russia's educational system overcomes traditional contradictions in graphical education as it continues to evolve:

- in spite of lack of funding technology used in graphics education is continuously improving;
- ubiquitous spreading of information technologies throughout modern society generates demand for workforce having good skills in computer graphics and IT; however, high schools lack educational programs aimed at timely and humane development of students' graphical skills;
- as market relations continue to evolve and labor-market undergoes serious change, educational diversification and formation of multilevel vocational technical training take place in the absence of basic graphical training at high school.

Multilevel educational system will achieve better efficiency if based on principle of diversifying (expanding, enabling greater variety of) graphical knowledge. This principle implies:

- developing alternative programs throughout 'high school – higher education establishments' educational chain;
- enabling variety of vocational competencies to keep pace with ever-changing labor market landscape.

Graphical education of tomorrow should be based on such concepts as world developing as a single whole, humankind evolving as part of interaction between society and nature, humanism, careful attitude to historical and cultural heritage, raising in people need for self-education and enabling education throughout their entire life.

Traditionally in Russia high emphasis is placed on technical education which includes graphical language as its major component. Engineering still dominates in Russia's national educational system. However, high school graduates almost fully lack graphical knowledge which traditionally makes a problem when building professional skills in higher education establishments.

Nowadays this problem is solved through integrating instructors' educational, scientific and methodological activities. Being aware of psychological and psychophysical properties of students is a matter of great importance. An instructor must help students develop conceptuality and learn them to discover relations among various areas of reality being examined. Instructor is considered as a specialist who has certain expertise and mindset, particular attitudes and values, some habits of professional behavior.

Instructor's role is not limited with transferring knowledge and professional skills to students; he/she is expected to introduce students to a certain culture. Today's education demands a new kind of teachers and instructors being not just carriers of information, knowledge and skills but thinkers who are able to use innovative technology and build new knowledge. This is all the more important in view of 'information boom' resulting from the emergence of electronic mass-media and global information networks.

At the present time diversification of graphical knowledge is increasingly seen in educational processes. Educational practices include using computer graphics which enables a developer to create 3D models, to edit, store and distribute various images through special software and to transfer them over communicative networks. Development of new information technologies and increasing amount of graphical information transform knowledge as it is needed by a person in today's society. That's why graphical training contributes to better mastering of allied sciences, and makes propaedeutics for some of them.

Diversifying graphical knowledge shows itself the other way as well. Graphical modeling in allied sciences implicitly or in some cases explicitly affects building graphical literacy of students due to various cross-scientific relations. There's a methodological niche here. That's why we need to research every aspect of using software in the process of continuous vocational education - scientific, theoretical, methodological and practical - from a perspective of basic graphical training in the context of school hours' deficiency.