INSTRUMENTS OF MANAGEMENT KNOWLEDGES AT TEACHING OF THE GIFTED CHILDREN

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The gifted personality will be realized in continuous cognitive activity. This activity carries kognitivnyy character and conduces to new (to unusual) vision of problem or situation. Base technological component support of such activity there are intellectual informative resources, to build aggregates all of aggregate of necessary knowledge which a student master and utillize in the cognitive activity. In same queue, modern information technologies allow to create the certain technological base of accompaniment of the modern systems of knowledge, lying in basis of providing of any educational process. It is thus necessary to provide the decision of task management knowledges which in the cognitive and creative activity utillize a student. The not so much accumulation of arrays of information is here important, in our view,, how many ability studying to build structures, systematization, constructing and mastering of knowledges.

Can the instrument of forming of informative resources, supporting kognitivnuyu activity of student, come forward ontology. Ontology is an attempt of all-embracing and detailed formalization of some area of knowledges by a conceptual chart. Usually such chart consists of hierarchical structure of data, containing all of relevant classes of objects, their connections and rules (theorems, limitations), accepted in this area. One of effective instruments of construction of in-oriented ontologiy (to ontology of subject domains-PRO), on the basis of which it is possible to design kognitivnye processes, a thesaurus comes forward is the system of concepts and semantic relations between them certain educational discipline (to the subject domain).

A thesaurus is the well-organized system of concepts and semantic relations between them. The structure of thesaurus and his dictionary reasons in a compute variant by the special developed functionality allows automatically to get the lists of the semantic fields (contexts), answering the fragments of the studied subject domains. Eksplitsitnoe presentation of semantic relations between concepts also enables to measure force of one or another semantic relation quantitative and high-quality methods. Semantic relations can be differentiated further, that creates multidimensional informative space for the design of concept complexes of different levels of complication. Thus by an environment, designing concept informative space, also can the Internet comes forward.

Consequently, on the basis of the offered method of creation of computers thesaurus description of every concept in the system of its relations becomes separate research, extending and traditional linguistic method, as executed at deepest level of study of linguistic object — both in paradigmas (among analogical objects) and in an encyclopadic aspect (in the system of knowledges).

Application of computers thesaurus in an educational process, in particular, allows:

- to study the basic terminology vocabulary of this discipline, utillizing the tools of visualization of objects-concepts also;

- associative to master the elements of knowledges on the basis of the multidimensional use of information of thesaurus structure, generated in a computers educational environment;
- to design educational situations and decide tasks from this subject domain at concept level;
- to get access to the computers thesaurus simultaneously to many to the users in comfortable for them time;
- to develop the personal thesauruses of teacher and taught and to form the educational bases of knowledges as thesauruses on different disciplines;
- exchanged the models of knowledges in form thesaurus;
- to build the created thesauruses in the computers educational environments of more difficult structure;
- to place the developed thesauruses on different educational disciplines in the Internet for teaching and development.

Functionally the thesaurus system is built on the basis of descriptions of relations between the concepts (by objects) of subject domain and their property. Makes the base structure of thesaurus the followings great numbers of relations and properties:

Relations:
INCLUDED IN
CONSISTS OF
PLUGS IN ITSELF <{objects, properties}>
ASSOCIATED With
IS In FAMILY is
IT IS DIRECTLY RELATED TO

Property
FAMILY
KIND
to BE PART <{objects}>
To EXECUTE FUNCTIONS <F1, F2,….Fn>
USED In a <case. an event>
is USED AT a <condition>
TAKES a place <event, case>

Thesauruses are the productive environment of study and constructing of objects. It not only maximally extends knowledge about maintenance of the studied object but also creates pre-conditions for development of on principle new strategies of teaching. Exactly on the basis of the thesaurus systems the association of in-oriented ontologiy is possible.

Application of this method supposes the thoughtful piece of work with solid luggage of professional knowledges and personal experience. A specialist-expert jointly with a consultant develops the personal model of knowledges as a thesaurus for a that subject domain which it works in, or problem with which wants to understand. By submitting the knowledges as with external objects, an expert forms the own eksplitsitnuyu paradigm of connections of objects. In spite of the fact that

quite often both objects and relations are some universalii, fastened in the special literature, methods, standards, document, a man designs exactly the system of knowledges, vision of problem above which works, but not, say, textbook on a management or some other. Each such thesaurus is presented by the model of individual knowledges of expert. Naturally, that for different people thesauruses will be different. A thesaurus is a new intellectual product, and also organizes knowledge in a form, suitable to the use other people. Specialists can be exchanged the models of knowledges (we will underline — exactly by models, because no knowledge for a man is not alienated). This designing system allows not only to present knowledges but also decide tasks at concept level — yet without quantitative correlations between objects, as it was conducted in the context of the school and institute of higher teaching. The estimation of adequacy of the got results largely supposes subjective vision of specialist rather, what authority of consultant. The last comes forward mainly as a consultant on development of thesaurus, as owns this method, but in also time experience, got a consultant during development of analogical projects, allows it it is better to be oriented in a problem and logic of making a decision. And quite often interpretation, offered an expert, helps a teacher-methodist to extend a possible context or remove some usual barriers. In this case, the technique of the use of thesaurus is near to the technique of fasilitatsii. Thus: experts the eksplitsiruyut state of the knowledges on some subject domain or problem; such structure is not static, as the special procedures of work in a computers environment foresee functioning of elements of thesaurus in a dynamics on different levels. A student can enter the systems of knowledges in a thesaurus, for example, as principles, axioms, preferences, etc.. Assumes the internal mechanisms of thesaurus free or directed associations. Such model will realize possibility of work not only with external objects but also with the internal reality, wherever many mechanisms are traced obviously. Informative space is created for the design of variants of making a decision. A difference appears in maintenance and form of knowledges at the level of the separate studying, groups, organizations, as a thesaurus can be by the joint intellectual product of some collective; as a result teaching into organization leans both against collective and on personal knowledges, standards which are passed to other people or groups are produced (exchange by experience, multiplicity of points of view allows to find out a new look on a thing, to change the opinion, extend the scopes of interpretation, find alternative possibilities) I.e. to decide the problem of choice maximally effectively. The farther prospects of work with thesauruses suppose the design of virtual paradigms — finding of potential, but yet not adapted knowledge, prognostication of future innovations and their estimation, realization of new technologies.

Possibilities of thesaurus model with the specially developed functionality allow to get the hidden knowledge — objectively existing, but subjectively not known to taught. We will show it on a next example. One determination over of cube is brought in a school textbook, as a rule (in particular, rectangular parallelepiped which all of ribs are equal at). In an educational computers thesaurus it is possible to get 12 its determinations — through the contexts of other studied objects on a semantic relation included in.. .. That concept a cube can be defined and through other concepts: correct quadrangular prism, rectangular parallelepiped, direct parallelepiped, direct

quadrangular prism, direct prism, prism, protuberant polyhedron, polyhedron, correct prism, quadrangular prism, parallelepiped, correct polyhedron.

Forming of domain-oriented ontologiy on the basis of thesaurus models will be realized in the environment of server of teaching co-operations. The conceptually indicated server is the hierarchical linked classes of active objects. The example of classes of the active objects utillized in an educational process is resulted in a table.

Table

Educational establishment	**Telecommunication system**	**Ground of co-operation**
Source of receipt of knowledges	Router	Subscriber
Transmitter of knowledges	IP-connection	Teacher
curriculum of studying	Blast-furnace space	Subscriber of source of knowledges
virtual library	Utilities of address access	Studying
lectures		CD disk
textbooks		Flash-memory
methodical manuals		Postal server
scientific articles		Board of bulletins
term and control papers		
practical works		
reference books		

The instrument of access and management knowledges in the environment of server is metaobject is a ground of co-operation. Metaobject educational establishment plugs in itself procedures of management the thesaurus models of subject domains. Metaobject – the telecommunication system provides support of communicative processes, arising up during cognitive activity of student.

Special instruments there is a virtual library - distributed base of knowledges, plugging in itself the hierarchical linked classes of documents and active objects. Mediafiles behave to the active objects, imitators of processes, designers, etc.. At all of plenty of existent standards and technologies, determining space of Internet, question of authentication of documents, facts and objects is one of the least worked out. A task consists of that, to produce the system of authentication of electronic (possibly, not only) documents, intended for work (including automatic) with them in space of Internet. The system must support weigh life cycle of object and to take into account the technological features of the controlled from distance work with the objects of different kinds and sizes and variety of server and user platforms.

References

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