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VISUAL COMPARATIVE INTERPRETATION OF CULTURAL HERITAGE APPLIED RESEARCH/EDUCATIONAL EXPERIMENTAL METHODOLOGY*

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This study suggests the implementation of a methodology for comparative analysis called "visual comparative interpretation" – an innovative applied scientific methodology for the study/approbation (of the correctness or rejection) of particular visually modelled working hypotheses for the creation of certain images of elements of the cultural heritage and enlargement of the contact zone with the past. Its successful implementation will afford an opportunity for optimisation and partial reconfiguration of the processes, determining the manner of perception of knowledge in the sphere of the scientific disciplines which are partially or entirely dedicated to the study of the past. A framework, defining the new correlation in the system of symbiosis of explicit and visual cognition is being formed through widening the range of the educational methodologies in the sphere of applied scientific research. The introduction of a new generation of educational methodologies like "visual comparative interpretation" will enrich substantially the scheme of perception and organization of knowledge in this domain. The methodology makes possible the development of multiple access points in an integrated learning environment, which is essential for the creation of active learning strategies using knowledge communications and knowledge modelling implemented in the cultural heritage domain.

The **dynamic development** of the modern world, caused by the fast global changes of the economic conditions and above all, by the wider penetration of the information and communication technologies in all spheres of life, call for a prompt reaction in the direction of the planning and immediate realization of new educational methodologies, outlining new framework of education. The establishment of the information society and the knowledge economy it brings along require immediate action, corresponding to the degree of intensity of development of information and communication technologies (ICT), and determining the necessity of innovative solutions in the educational programmes of the sciences studying the cultural heritage. There is an obvious need for urgent measures and adequate behaviour in unison with the **paradigm change from linear text to visually dominated society** in which the hegemony of images affirms itself with incredible speed.

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The **aim** of this study is to work out a proposal for experimental implementation of a new generation educational methodology (and with this, the gradual creation of the **educational programme "visual media comparative interpretation of cultural heritage"**) based on an applied research methodology generating and perceiving the cultural values in three-dimensional environment (virtual and augemented).

The contemporary ICT offer the exceptional possibility for the adoption of new elements in the sphere of the **future strategy for development of knowledge assimilation**, in which visual cognition will obviously be allotted larger and larger perimeter in the syllabus. The active use of visual cognition will contribute to **widen the possibilities for knowledge organization** and enrich the educational programmes. The high level of development of ICT preconditions essential changes in the configuration of scientific research and will inevitably lead to reconfiguration of the basic matrix of cognition. It is obviously necessary to broaden the range of the cognitive instrumentarium and to place visual cognition into the framework encompassing the various types of cognition on the same hierarchical level with the so far dominating explicit perception (not as its supplement). Its transformation into one of the leading elements of the cognitive process changes the paradigm of contemporary knowledge. The new perspectives, evolving from the technological possibilities perfected with incredible speed, precondition the necessity of immediate action for the **creation of favourable conditions** for yet larger **integration of visual cognition into the learning process** in the humanities and especially in the branches of knowledge used partially or entirely in the **research covering the cultural heritage.**

It is necessary to enrich the educational methodologies in this sphere with proper instruments based on the generation of three-dimensional virtual models through visual interpretation in a multidisciplinary centred network learning environment as a basis for comparative research in teams of specialists from all the branches of knowledge required for the creation of a complex synthesized image of a certain historical époque. More specifically, it is a matter of the creation of a new methodology approach for applied knowledge research and advance education, based on knowledge communications and knowledge modelling uniting the efforts in the research work of:

— the **branches of knowledge** which are entirely or partially dedicated to the **study of cultural heritage**: history, culturology, anthropology, ethnography, architecturology (especially module reconstruction), art history with an accent on the history of the technologies for creation of cultural monuments and some new complex branches of knowledge like preservation of cultural monuments, and especially the so called archeometry, etc.

and

— the **sciences connected with the creation of virtual environment** (computer sciences, psychology, especially perception psychology) and some engineering sciences (mechanics, optics, electronics, acoustics, etc.).

We propose an approach in which both types of cognition supplement each other into a new type of symbiosis, different from the one that has been dominant for a long time giving priority to linear/explicit cognition. Besides the use of a network learning environment and a multidisciplinary approach, the suggested methodology assists the setting

up of conditions for the accumulation of collective experience/collective intelligence and the improvement of the analytical abilities of the learners.

The proposal for experimental introduction of the methodology of "visual comparative interpretational analysis" offering a new instrumentarium for applied research and above all the possibilities which it supplies for an exceptionally fast test of certain visualized scientific theses is a good opportunity for a speedy development of an extremely promising domain, directed entirely towards the future. The creation of virtual reconstructions of the material culture of certain historical events or age through the comparative analysis of the stages of development of a certain historical environment or urban development and a visual synthesis of its creative achievements is an extremely intriguing way of shaping the learning process with a view to a maximal (for this stage) approximation to the contact zone with the past representing a new point of view in the perception process.

This trend is of special importance if we have in mind how the young generation perceives the Information Society technologies. It does not think in a linear/alphabetical manner, but thinking is based on spatial, symmetrically existing spaces. This tendency develops so fast that Prof. Klaus Thewelait raised the issue of disappearance of the reality [1].

The proposed methodology will contribute to the more active association of two much discussed, but still lacking from syllabuses, extremely important components that should be paid much more attention in the future educational paradigm, namely:

— **orientating the educational projects to the real/specific interests of each learner** – conforming the subject matter with the individual motives and interests of the MA and PhD students and

— **strengthening the education – economy connection**.

Within the frames of the classical informational and technological system that education is, according to some specialists, undoubtedly conditions should consistently be assured for the improvement of communication in the informational environment between tutors and students. The search for an optimal approach to the overcoming of the inertia left over from the past in certain syllabuses, the philosophy of which was based on compulsion as a means for mastering the volume of knowledge required by the curriculum and the state educational requirements, is an urgent task. It would be better if efforts were reoriented from the search for new effective methods for compulsion (or improvement of the old ones) for the assimilation of the subject matter, to the creation of conditions for "**offering choice options**". Students are given the possibility to choose a thesis within the range of the material which will be subjected to research (and, with this choice, a narrow specialization could be chosen as well) in study projects, as proposed for experimental implementation by the methodology herein. It goes without saying, however, that this process is to take place during the second half of the university course, upon completion of the minimum/optimum base of the subjects for the particular speciality. This approach contributes to the placing of the students into the position of active users (defined by certain specialists as 'active recipients') of the educational substance in the realization of the project.

The second component concerns the shortening of the distance between the educational institutions and the economy. The case in point is the realization of research projects carried out in the higher education institutes, the information/research from which could be used directly for the realization of products in the economy.

On the basis of this study we propose the gradual setting up of a new educational programme based on a long-term development vision. From the educational point of view, the creation of the programme is based on the need of:

- New skills mainly in the sphere of ICT and technological culture.
- The placing of the learners in the centre of the process, i.e. the achievement of student-centred education.
- Intensified investment in human resources.
- Innovations in teaching and training – elaboration of effective training methods and their implementation, enlargement of cognition space with an accent on its practical applicability. Better preparation for key or unexpected changes in the future profession of students.
- Easy access to high quality information. Creation of an environment for the acquisition of an attitude for life-long education.
- Mastering of skills for team-work, for work in the conditions of multidisciplinary centred network learning environment and interactive teaching methods. Work in a multidisciplinary-based team allows for better motivation, better mastering of the material and better professional performance in the future, perfection of communication skills and placing the teacher-student relations on a new level.
- Skills for better presentation and therefore an attempt at the solving of problems, cropped up during the process of realization of the working project. It is especially productive to start a team-initiated project by discussion and collective definition of its goals, allocation of responsibilities and creation of appropriate working climate. Stimulation of prerequisites for the formation of non-standard conceptions on the basis of the favourable conditions for creative expression in the conditions of the multidisciplinary-centred learning environment. Creation of conditions for the building of a research attitude in the young, which would contribute to the formation of skills allowing the students to outline the configuration, framework and volume of the working project themselves, to find strategies for its successful realization on their own. An especially important element in the learning process is the ability to conceptualise the information and to define ideas. Turning of the worked-out conception into a plan of action. The proposed methodology assists personality development.
- The multidisciplinary learning environment could be viewed as a basis for stimulation of the assimilation of knowledge that has so far been in the periphery of the students' range of vision, and, on the whole, could serve for the creation of a strategic resource for creative solution of emerged problems. The students participating in such a project could form a vision for their own future development

more quickly, and turn more successfully to those training and knowledge-acquiring frameworks that would serve them best in their future professional carrier. They will be able to cope more easily with changes in their future work and to be more flexible in situations requiring non-standard orientation.

- Individual approach, teaching methods comparable to prior teaching and learning methods in order to avoid a decrease in motivation. Using the students' experience with a view to the acquisition of more complex knowledge.

- Potential development – creation of conditions for the building-up of professional confidence. Conditions are created in the learning environment for objective appraisal of one's own resources on the basis of mutual evaluation and recognition of professional qualities. Such an environment will support a faster adaptation to the dynamic change of working forms with a view to the tendency for distant team work.

- Implementation of the androgogical approach – anthropologically centred.

- Research of the expectations of the participants in the experimental project.

Suggestions. The experimental implementation of the "**visual interpretative analysis**" presented in this study could supply the basis of a proposal for the gradual setting up of a new educational programme **"visual media comparative interpretation of cultural heritage"** as an instrument for applied research encompassing the contact zone with the past. In practice, the feasibility study of the project requires the **setting up of an experimental multidisciplinary centre with a laboratory**, which would serve as the technological nucleus of the future training of trainers and project work.

The methodology will be extensively based on the following principles: knowledge communications and knowledge modelling multidisciplinary approach; team work; active learning strategies in network environment; 3D environment – virtual reality and augmented reality technologies; anthropologically centred approach.

We hope that in the future this suggested methodology will become essential part of technology supported learning, training and research in the cultural heritage domain.

REFERENCES

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ВИЗУАЛНА СРАВНИТЕЛНА ИНТЕРПРЕТАЦИЯ НА КУЛТУРНО НАСЛЕДСТВО. ЕКСПЕРИМЕНТАЛНА МЕТОДОЛОГИЯ ЗА ПРИЛОЖНИ ИЗСЛЕДВАНИЯ И ОБРАЗОВАТЕЛНИ ПРОГРАМИ В ОБЛАСТТА НА КУЛТУРНОТО НАСЛЕДСТВО

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В статията се предлага въвеждането на научно-приложна иновативна методология от нова генерация, наречена *сравнителна визуална интерпретация.* Тя може да се използва за апробиране на правилността или отхвърлянето на визуално моделирани изследователски работни хипотези за създаването на определен образ на елементи от културното наследство за увеличаване на контактната зона с миналото. Нейното успешно въвеждане ще допринесе за възможността да се оптимизират и частично да се реконфигурират процесите, които определят начина на възприятие на знания в сферата на научните дисциплини, които частично или изцяло са посветени на изучаването на миналото. Рамката, определяща новата корелация в системата на симбиоза на експлицитното и визуално-когнитивното възприятие се формира посредством разширяване на обхвата на образователните методологии в сферата на научно-приложните изследвания на културните ценности. Въвеждането на нова генерация методологии като сравнителната визуална интерпретация ще обогати съществено схемата за възприятие и организация на знанието в тази област. Предложената методология дава възможност за създаването на множество точки за достъп до една интегрирана обучаваща среда, което е важно за успешното въвеждане на информационното общество в сферата на културното наследство.