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**RESOURCES ACTUALIZATION MEANS OF SUBJECT ENVIRONMENTS
FOR STUDENTS RESEARCH ACTIVITY**

The permanent efficiency increase of information and communication learning systems is due to competencies expansion and job responsibilities rectification of qualified professionals, which in turn is associated with the development of computerized technologies and means of production [1]. At same time, the curriculum content for future engineers training in its relevance usually lags far behind modern industry needs. To ensure the prompt updating of special disciplines methodological content, stable feedback with branch institutions has been implemented [2, 3]. Thus, in the training of qualified specialists for the printing and publishing complex at the Ukrainian Academy of Printing, in particular, cooperation with operational printing corporations is widely used [3].

In addition to industrial practice for professionally oriented correction of the educational process, thematic excursions to profiled establishments, and cognitive stakeholders lectures of their employees are conducted. Such measures are clearly not enough to develop special competencies and acquisition of programmatic learning outcomes, which are provided by the relevant standards of higher education for technical courses.

In the presented research it is offered to develop the communicative channel which will provide integration of the actual technological map of working and administrative processes of branch institutions in the computerized platforms of subject environments of research activity, while ensuring the continuous updating of methodological content. Here, first of all, it is necessary to take into account the compatibility of information flows of the virtual laboratory with an ordered set of data circulating in the current educational space [4].

Thus, the software of the learning experiment should ensure the processing of dynamically changing data coming from an external source, and implement their correct storage in third-party formats to prevent the accumulation of cumbersome environments with inefficient duplication of performed services.

For computing complexes to automated analysis and synthesis of subject area models [3], which are used in the educational process, it is necessary to develop and implement internal software libraries of components closely related to modern *means of production* (Fig. 1, a). The flexibility and mobility of such libraries will ensure the elasticity of modeled subject area and its adequacy to nomenclature of *corporate database* the operational printing machine park. With the change of means of production, obsolescence of some and the arrival of others, such a database will be able to supply the *academic knowledge base* with up-to-date information on the consumables and raw materials resources used by the profiled enterprise (Fig.1, b).
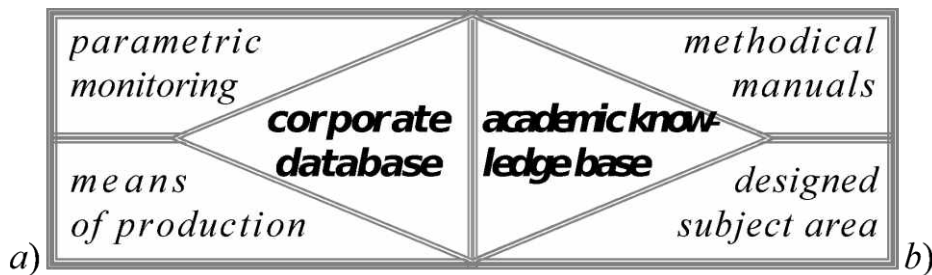
*Fig.1 – Conceptual model of educational experiment support actualization*

Therefore, the stipulated communication channel implemented by the ligament "corporate database / academic knowledge base", in addition to replenishing the software libraries of the virtual laboratory with new components, should also provide relevant parameters of the technological stages of preparation of the printing order. It was decided to obtain such parameters, including their limit values, from the results of production telemetry, delivered according to the readings of supervisory systems when performing *parametric monitoring* of control objects. In the *subject area* designed by students in a computerized learning environment, these parameters will be indicated as coefficients of mathematical models or time attributes of the transition process [1], realizing their reliability and adequacy to real production conditions.

Finally, all kinds of instructions for the operation of corporate equipment, technical passports of primary converters and actuators and general design documentation used in the material and technical base of the enterprise, will provide effective updating of the content of interactive *methodical manuals* as a basic informational support of the learning experiment [3]. In wider use, such content increases the flexibility of the presentation of the technical discipline with the accompanying visualization of research and the formation of practical skills, as well as automated verification of the level of acquired competencies, in particular in the current conditions forced remote teaching.

Thus, the presented conceptual model of actualization of resources of subject environments of research activity comprehensively promotes increase of quality of the rendered educational services at training of qualified experts, taking into account modern expectations of the profile enterprises and industries branch, strengthening the learning results compliance with requirements set by the National Qualifications Framework, and ensuring the establishment of effective interaction between education space and the job market.

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