Eulerian Circles (Venn Diagrams) as model for modern economy education on the basis of Russian professional standards

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Abstract. The article is an attempt to create a model built using Eulerian circles (Venn diagrams) to illustrate the methodological impact of recent Federal Law 283-FZ "On the independent evaluation of qualifications" and new Federal State Educational Standards of higher education of generation 3++ on educational process in Russia. In modern economic conditions, the ability to correctly assess the role of professional standards, as a matter of fact, some set, the degree of intersection with the approximate basic educational program and the Federal State Educational Standards becomes an important factor on which in the future will depend not only the demand of graduates in the labor market, but also the possibility of passing the professional and public accreditation of the proposed program.

According to the Russian Federation law No.238-FZ "On the independent evaluation of qualifications" on the basis of approved occupational standards, created at the moment of a system of independent assessment of qualifications (hereinafter – IAQ) the employment of graduates will largely depend upon their level of skill in accordance with professional standards, or who have already been approved and are currently updating, or actively being developed. The system of independent evaluation of qualifications according to 238-FZ "on independent evaluation of qualifications" will have to earn full capacity by January 1, 2020. This fact is already taken into account in the newly developed Federal Educational Methodical Associations (hereinafter - FEMA) and already approved in the summer of this year in the Federal State Educational Standards of Higher Education of Generation 3++ (hereinafter-FSES HE 3++). Accordingly, it is now the most urgent task to adapt to these changes already developed all educational and methodological content for FSES HE 3+ depending on the degree of their intersection as multiples.

From the point of view of constructing a model using Eulerian circles at the first glance on the definition of the concepts of PS and FSES HE 3++ it becomes clear that these are different sets are not related to each other, namely [1]:

- professional standards (hereinafter PS) is characterized as a qualification necessary for the employee to make a certain type of professional activity, including perform a specific
job function;
- the educational standard is characterized as a set of mandatory requirements for the formation of a certain level and (or) to the profession, specialty and the direction of training approved by the Federal Executive authority, carrying out the functions of public policy and legal regulation in the field of education.

Of course, something they must be linked methodologically. It would be easier if in the definition of Generalized Labor Functions (GLF) is also featured HE the set of concepts similar to the concepts used to define the PS, well, for example: "educational standard - a set of sequentially formed competencies required of the graduate to make a certain type of professional activity" or something like that, because it would simplify the problem of integration of the aforementioned documents, and also made it easier to use the GLF PS, as a criterion of indicators, for example, professionally-public accreditation. And here the important role is played by the General Professional Educational Program (GPEP) of FEMA and the GPEP of the University, especially since their roles are defined by the order of the Ministry of Education and Science of the Russian Federation No. 301 of 05.04.2017 [2].

In particular the paper draws attention to the fact that it is necessary to focus on GPEP. GPEP is included in the registry, and to enter this environment, you can use the front office (specialized Navigator GPEP, GPEP designer, etc.) i.e. specially designed software.

We would like to note that the development of the University's GPEP must begin with the realization that the system of independent evaluation of qualifications is, in fact, a kind of independent qualification "exam" for the educational program as a whole. By the way, this approach makes it clear that the quality of training of University specialists, their demand, on the one hand, and, on the other hand, the success of their activities in the professional sphere, the level of productivity, etc. will depend on the degree of conformity of these documents to the requirements of professional standards and how the derived requirements system IAQ [3]. To illustrate the mutual influence of these derivatives on each other can be represented as the scheme shown in figure 1.

Here becomes relevant and the necessity of taking into account the formation of Funds of Assessment Tools (hereafter FAT) to GPEP Complex Assessment Tools (hereafter CAT) was developed by experts from the IAQ profile of the Council for Professional Qualifications (hereafter CPQ), such as possible criteria for the state final attestation. The use of General Job Functions (hereafter GJF) or job functions (hereafter JF) is written in PS as indicators of achievement of these or those professional competences for the application areas of training [1; 4]. You may assume that the implementation of this approach will have a positive impact on the passage of professional and public accreditation (hereafter PPA) educational programs in the specified area of training now undertaken by the relevant CPQ.
Figure 1 - Model (Euler circles) the formation of a GPEP on based PS and GEF PS is the professional standard developed by profile CPQ; FSES HE 3++ are the standards of Higher Education of Generation 3++ approved in the summer of 2017, GEP is the approximate main educational program on a profile of preparation.

As practice shows, the role of the PS increases dramatically, if the GPEP can be formulated generalized, if there is either no corresponding updated professional standard or the direction of training combines technologically difficult compatible fields of activity. Accordingly, the task of formulating professional competencies, with the exception of their mandatory part prescribed in the GPEP fall on the shoulders of the teaching staff of the University and here simply cannot do without the PS and close interaction with the profile of the CPQ and FEMA, as shown in figure 1.

If we talk about the role of the PS, in any case, updating the developed GPEP using the quintessence of their content CAT as the accounting of practical experience and highly specialized knowledge of experts of the IAQ, for translation into the language of "competencies" adopted in high school, will be a highly relevant task.

And here we would like to share my methodological approach to solving this problem. Namely, the work function, so to say their "content" it is possible to correlate with the conceptual apparatus underlying the design of working curriculum of the discipline of the University's GPEP, and then, further and verify through the use of language "synonyms" in the description of the requirements for the employment functions PS: the "required knowledge" (wording from the professional standard) - "to know" (the wording in working curriculum of the discipline of the University's GPEP); "necessary skills (wording from the professional standard) - "to be able" (wording in working curriculum of the discipline of the University's GPEP); "labor action" (wording from the professional standard) - "possess skills" (wording in working curriculum of the discipline of the University's GPEP). Then the requirements laid down in the PS will affect the content of already working curriculum of the disciplines, and hence the process of interaction of participants in this process, their role in it and the tasks will be logically clearer and more concise. This approach will simplify the process of creating content based on the GPEP.

Here it is worth noting that for applied training areas it will be necessary to solve with the help of PS and changes in methodological approaches to the formation of programs of practices, for example, due to the need to conduct practices at a particular enterprise commissioned by a particular employer. So requirements connected, for example, with specifics of the concrete equipment or connected with frequent change (updating) of
technological processes can be put forward. This may also be due to the possible changes in the introduction of the University opop new competence that allows to carry out professional activities on a specific GLF in several related PS and the existence of an order from a particular employer, etc. [1; 5]

It is this interpenetration of the requirements of the PS in the educational program will enable educational organizations carrying out preparation of experts for application areas of the economy to maintain the competitiveness of the proposed educational services, especially as in recent times training is conducted on a commercial basis.

Thus, if we draw Parallels with the proposed model of the Eulerian Circles, then the future of our graduates, their demand in the labor market, and, in fact, the demand for the relevant educational programs of the University as a whole, will depend on the correct and timely assessment of the importance of the General Professional Educational Program of Federal Educational Methodical Association a tool of the PS influence on the educational trajectory.

References
[1] Sharonov M A, Sharonova O V. On the problems of integration of professional standards and systems of higher education. Engine. 2017. 4 (112). pp. 56-57
[2] The order of the Ministry of Education and Science of the Russian Federation of 05.04.2017 № 301 on approval of the organization And implementation of educational activities on educational programs of higher education - undergraduate programs, programs of specialization, master's programs. Access method: https://rg.ru/2017/07/19/minobr-prikaz301-site-dok.html / access date on 20.11.2017.
[3] Sharonov M A, Sharonova V P Interrelation of individuality of the offered services and competitive advantages of service process. Fundamental and applied research of the cooperative sector of the economy. 2016. No. 1. C. 111-115.
[4] Reliability of service systems and equipment. Textbook // Gerasimov M K, Korosteleva V P, Sharonov M A, Sharonov V P - Moscow: Heating Engineering, 2011. - 240 p.
[5] Sharonov M A, Sharonova V P Trade business: Commerce, marketing, management. Theory and practice. Monograph / edited by doctor of Economics, prof., D I Valigursky.- M.: Publishing and Trading Corporation "Dashkov and K", 2017. – 410 p.