

On Necessity of Balance Between Professional Development and Rank Promotion of University Faculty Members

Far Eastern State Technical Fishery University
I.N. Kim

To ensure successful professional development, a faculty member should plan his/her development trajectory that would be perfectly coupled with the career growth. Promotion of a faculty member is an effective way to encourage his/her professional activity, which, in its turn, would speed up the competence acquisition and allow a faculty member to pass through “the zone of incompetence”. The career growth of a faculty member should be slow but steady in its progression.

Key words: professional competency, position, professional trajectory, criteria of competency, qualification and job position of academic teaching staff.

A modern tendency in staff (engineering) training implies that objectives for the educational system are to be set by labour market demands rather than by university's policy. In other words, both employers and a University should develop competence requirements for the graduates [10]. One of the basic conditions for the requirements to be met efficiently is highly qualified faculty staff having necessary competences [2; 3].

ANALYSIS OF THE ISSUE

Professional development of teaching staff is an “eternal” issue, with research competence being in focus nowadays, which is conditioned by the fact that fresh graduates should be ready for ever-changing technological environment producing new constituents, unknown before [11]. In this regard, a teacher should foresee any changes in his/her academic field and develop the competences that are necessary now and will be required in the nearest future.

To become a highly qualified teacher it is not enough to have field (operating) experience or scientific degree, it requires longterm and systematic self-development that facilitates professional, pedagogical and psychological competences development [2; 6]. It is only close

professional collaboration that can ensure such self-development by implementing research- and training projects and other activities.

However, professional development of faculty staff needs to be regularly motivated. One of the effective motivations is **well-timed career promotion**, for example, as an award for scientific or teaching achievements. The promotion is somewhat conditional and is aimed at stimulating a teacher to overcome “his/her incompetence” to prove his/her adequacy for the position. It makes faculty staff acquire new professional competences and make comparison between competence levels of the present and previous positions in order to comply with new professional requirements. There is no doubt that successful development of “new area” results in teaching competence improvement, which leads to better quality of educational process. If the new professional competences fail to be improved, demotion to previous position can take place, which is typically followed by dismissal for professional impropriety.

Thus, for effective professional development, it is advisable for the rector's office to make every faculty member

19. TRIZ-based Engineering Education for Sustainable Development [Electronic resource] / A.A. Lepeshev, S.A. Podlesnyi, T.V. Pogrebnaya, A.V. Kozlov, O.V. Sidorkina // 16th Int. Conf. on Interactive Collaborative Learning, ICL 2013, Kazan, 25 – 27 Sept. 2013. – [Kazan: IEEE], 2013. – P. 489-493. – Accessible from <http://ieeexplore.ieee.org>; DOI: 10.1109/ICL.2013.6644632. – Title from the screen (date of reference: 21.12.2015).
20. Research-Education Center (department) of UNESCO “New materials and technologies” of Siberian Federal University [Electronic resource]: manual. – [Krasnoyarsk: 2013]. – 4 p. – URL: <http://www.unesco.ru/media/2013/krasnoyar.pdf>, free. – Title from the screen (date of reference: 21.12.2015).



I.N. Kim

design his/her career path with its official registration. In this case it concerns development of tools used to stimulate and motivate faculty members for long-term professional "life" with constant increase of scientific and education indicators. Only in recent times, however, has there appeared a formal relation between quality criteria and effectiveness of faculty member performance which is to be ensured by contractual system called "effective contract" [7].

It is obvious that the career path should include complex development of both scientific and teaching skills at every professional level of the career. **Teacher's professional development should be well correlated to rank advancement** and be accompanied by continuous gradual hierarchical promotion [5; 9]. The problem of faculty member rank advancement is out of attention in Russian education journals, which can be explained by particular ethic views of education society in the country.

BASIC COMPETENCE CONSTITUENTS

There is worldwide trend of substituting a notion "competence" for "knowledge", which means that such traditional notions as "knowledge" and "skills" cannot meet the growing cognitive demands of modern industries [14]. Nowadays, to solve professional task, an expert has to use scientific thinking and specific features of particular science rather than scientific knowledge [1]. Thus, "scientific character" of education is becoming its key parameter.

The contemporary higher education reform makes shift priority from educational activities of faculty staff to research, creative and innovative ones [10]. Teacher's professional level indicators can be conventionally divided into **internal and external** [1; 8]. External indicators usually embrace the number of monographs, training manuals, teaching guides, articles published in journals recommended by State Commission for Academic Degrees and Titles and international journals, patents and citation indices of scientific and industry journals and web-sites. These

indicators show relevance of a faculty member's scientific achievements and somewhat characterize his/her scientific and teaching efficiency.

The internal indicators are personal qualities, such as social skills, state of mind, extensive knowledge, persuasive power, teaching tact, self-attitude, level of aspiration and specific features of professional interaction [11; 14].

Thus, teacher's professional competence is skills, knowledge and attributes that are necessary for successful professional performance in the frame of a position taken and higher school requirements. Up to now, there is still no standard classification of key competencies for faculty members of universities, however the essential basic competencies do exist [4; 14]. Scientific and subject-related, psychological, teaching, communicative, managerial, creative and informational competencies are regarded as the most important.

Scientific and subject-related competence. It is absolutely obvious that a faculty member is to be an expert in the scientific field in which he/she trains [1; 4]. To keep up and increase their competency level, faculty members should constantly keep their scientific and subject-related knowledge and skills up-to-date. It is also necessary to understand how this particular discipline contributes to **graduate's competencies development** [4].

Professional level of faculty member is usually measured in two basic dimensions – research and teaching ones with research being in more focus, since **ideal education is based on science**. Therefore, a faculty member should strive for professional development by writing monographs and manuals, doing scientific research works, defending a thesis, developing e- and on-line teaching materials and participating in scientific conferences and meeting. It should be noted that monographs and theoretical articles are the most valuable among the activities mentioned above.

There is no doubt that a faculty

member who, apart from a degree and titles, has his/her research results regularly published, participates in conferences and reads lectures to inspire students' creative thinking, should be considered as the most "prominent" teacher.

Psychological and teaching competence. Until recently these aspects of faculty members' training have been regarded as secondary ones, with anecdotal evidence suggesting that scientific competence be sufficient enough to manage effective training process in higher education institutions. Nowadays, more and more faculty members are undergoing special training, since a teacher produces the most significant impact on students in terms of education goal achievement [2; 14]. Experience has proved that it is personal qualities of a teacher rather than a system of focused teaching actions that have a significant influence on students.

Communicative competence. Communication is a basic means of scientific and teaching activities, as well as a necessary condition for professional and personal development of a faculty member [14]. A teacher is expected to have a set of special communicative skills including social perception, adequate assessment of communicative situation and effective and adequate social behavior. Besides, a teacher should be good lecturer who can use verbal and nonverbal communicative means, hold an effective discussion and perceive a partner adequately, which causes credit and wish for collaboration.

Managerial competence. A teacher often has to be a leader and manager while holding classes, supervising students' research work, mentoring internships, diplomas, organizing public activities, etc. [3]. To succeed in these activities, a teacher should have managerial competence that includes a system of interrelated skills, knowledge, attributes, and personal qualities.

Creative competence. Creative competence ensures effective research work, systematic development of training in

both content and methods, accumulation of scientific and teaching information, constant training analysis [12]. The value of creative activity is included in the ability of a person to produce and apply breakthrough ideas and new knowledge [1; 4].

Informational competence. Intensive growth of new knowledge and information flow have made computer user skills be one of the key personal competencies [13]. Informedia of the whole education environment has been dramatically changed by new technological means, such as telecommunication and IT-technologies used in educational process [10]. Moreover, according to the standard requirements, up to 20 % of classes should be held using multimedia technology, which makes informational competence one of the key constituents of a faculty member's professional competence.

Thus, the on-going higher education reform requires development of Teaching Big League of University, these are the experts trained for innovative teaching activities [13]. It should be stated that training of such teachers is a high-cost and science-based technology that can be implemented on condition that research and education activities are in good accord.

JOB RESPONSIBILITIES OF FACULTY MEMBERS

Professional activity of faculty members embraces training, research, scientific, methodical and educational constituents [3]. These activities require a definite degree of faculty members' training and form content of the competence. The amount and content of teachers' responsibilities depend on a position of a faculty member [9]. There are the following faculty member positions: lecturer, senior lecturer, associate professor and professor.

For successful implementation of an individual career path, it is necessary for a teacher to know the difference between job responsibilities of faculty positions and specific feature of each position. With staged and planned job promotion, new responsibilities will be fulfilled basing on

systematic knowledge, experience and special training. As a rule, the intensive acquisition of new duties is characteristic of the first period after the promotion, with further keeping-up the required professional level.

Lecturer. This position is the first and basic stage of teacher's career development in a university, which starts with graduating from a higher education institution [12]. A fresh lecturer starts to work under the supervision of one of the leading professors or associate professors of the faculty who becomes his/her curator or sometimes scientific advisor. This position is well accompanied by post-graduate study which lasts 3 years. This period is enough to finish a post-graduate course and defend PhD thesis.

Among the professional competencies of this position there are the following: a lecturer should be able to give some forms of practical classes, manage research work led by the faculty, develop guidelines for classes, teach students and carry out occupational guidelines for [11].

Teaching activity of a lecturer should develop the following skills: to use active training methods including IT- and multimedia technologies; set goals and objectives of classes and tutorials based on competency approach; analyze and structure training materials, develop a class and a discipline (curriculum); design and manage students' research and independent work, develop and use modern methods of students' learning outcome assessment.

Research competencies of a lecturer are developed during post-graduate study. Besides, they should be able to present information and scientific results in different forms, such as scientific articles, conference abstracts, patents, scientific reports for enterprises and federal bodies as well as apply for different kind of grants.

To prove the competence, a lecturer should: know modern tendencies in training methods in Universities; be aware of new IT and other means of teaching, be able to manage research and independent

work of students, be skillful in using different assessment techniques, be able to prove the choice of training techniques, analyze learning and cognitive activities of students. Personal qualities, leadership and team-working skills are to be developed as well.

Successful teaching activity, a certain length of teaching experience or PhD degree can be a reason for making a lecturer ready for further promotion. It is necessary to note that this position is characterized by the highest turnover of staff.

Senior lecturer. This position is the second stage of faculty member's career development [9]. This promotion is usually carried out after taking PhD degree. In some cases, which are characteristic of provincial universities, senior lecturers do not have PhD degree [7]. This period is aimed at developing a researcher, improving professional skills of a leading teacher such as managerial and teaching activities [12]. This stage does not typically exceed 5 years.

Educational activity of a senior lecturer involves deep knowledge of basic textbooks and training manuals, teaching and scientific approaches and concepts of a particular scientific field and reading of main journals. Basic professional activities of a senior lecturer are as follows: participation in curriculum (education program) development and implementation, giving all kinds of classes, including lectures. These activities require a senior lecturer to know basic manuals, teaching concepts and approaches in details, as well as be aware of newly published articles in subject-related journals. The basic teaching responsibilities of senior lecturers are the following: to take part in education program development and implementation; to give different forms of academic studies, including lectures, supervise term projects and graduate papers; to examine students; to plan and support students' independent and research projects; and to help lecturers with acquiring professional skills [9].

Scientific and research activities of

senior lecturers (with PhD degree) can include being a leader of federal and commercial research projects, scientific advisor (consultant) of postgraduate students, opponent at the thesis defense, and supervisor of Master graduate papers. They are to be able to develop and implement research, innovative, commercial and other projects. Besides, this position implies writing research articles in the journals recommended by State Commission for Academic Degrees and Titles (SCADT), participating and reporting on scientific and methodological conferences.

General professional competence of senior lecturers should be based on methodology of scientific creativity and research in higher education institution, the ability to see and set a scientific problem, analyze research results, develop education programs and teaching materials and their on-line version, develop and apply innovative and author's education programs, and choose an optimal teaching technology [3].

Senior lecturers should be aware of innovation in higher education, managerial and teaching basis of education systems, education program and university accreditation and licensing procedure. They must be able to supervise research activity, new technology development, as well as develop personal leadership and team work skills. As a rule a senior lecturer with PhD degree plans a long-term activity in the university.

Associate professor. This position is considered to be a stage of effective professional and career development [9]. This career level is a level of the leading university teacher, associated with developed skills, such as the ability not only to give classes of high quality, but also to manage teaching, research and methodical activities of the faculty, basing on professional knowledge, skills and experience. The promotion to the position of associate professor should meet the following requirements: effective teaching and research activities, published teaching

manuals, PhD degree, and several articles published in journals recommended by SCADT. This stage can last 10-15 years.

The basic associate professor's functions are planning and management of all kinds of academic studies, supervising students' independent and research work, coaching young faculty members, managing teaching and research projects of a faculty, controlling the quality of academic classes given by the faculty, applying innovative education technology, developing and testing new teaching materials, participating in education program development and accreditation, publishing monographs, research articles, reviews, and manuals [3; 12]. An associate professor should have developed teaching and methodical culture.

This position implies having the following competencies: to manage scientific and research activities, to lead and implement federal and commercial research projects, to consult and supervise post graduates, act as an opponent of PhD thesis defense, give academic studies of Master programs and supervise Master thesis. Besides, an associate professor should be a member of professional societies participating in conferences and meetings, and know the labour market demand for the graduates in the related industry. It is obvious that an associate professor should be known as a researcher in the subject-related area, and as a teacher in education society. A successful career path may be doubtful if this position has been taken for more than 15 years.

Professor. A faculty member can reach not only the position of professor, but also can be awarded with the academic status "professor" [15]. The status is awarded for high achievements in basic teaching activities, a good number of research, teaching and methodology works, as well as a number of PhDs defenses under his/her supervision or consulting doctoral dissertations.

This status is an objective indicator of constant professional self development of its

holder. A professor of university has always belonged to the elite, being the source, translator and generator of knowledge as well as being a representative of real intelligentsia [8]. Moreover, a professor plays a key role in developing education and research activities of the university, in some cases being a University's brand.

The basic criteria for promotion from associate to full professor include a number of aspects. Firstly, they are scientific and research achievements that result in a big number of articles in top-rated academic journals, monographs, high citation index and Hirsch index, the amount/number of plenary reports on prestigious international academic conferences, the number of supervised candidate defenses, and doctoral degree. In some exceptional circumstances, associate professors with PhD degree used to be promoted to the position of professor in some regional Universities [5]. It is obvious that such a candidate must have met all the requirements mentioned above. The current regulations, however, prohibit an associate professor to be promoted to the position of professor without doctor's degree.

This position has no time restriction and is the most fruitful in terms of teaching and research activities, since it means that the professor is still "young" but already experienced and "intelligent". It is the period to plan and create fundamental monographs, reference textbooks, basic manuals of the federal level, as well as to found and develop a school of science. The school of science allows the faculty members to determine scientific interests and scholarly importance of the studied problems, develop professional competencies, use the obtained knowledge in education process, encourage students to conduct research, thus contributing to better training of the future specialists [15].

The most valuable results of professor's activity are original (author's) courses based on personal research or research conducted under professor's supervision by order of industrial enterprises or research

institutes [8]. These courses should increase new knowledge and its distinctive feature is to direct the development of a particular scientific area, predict technical and technological development, and negative impact of problems in case they are neglected to be solved.

A scientific supervisor of post graduate students and a consultant of doctoral students is a specific characteristic of the position. Besides, having more than 20 years' experience in teaching, a professor can be a chairperson of education and methodical commissions, education quality control commissions, a member of the chairperson of Thesis committee and other university public unions [13]. A professor can also work in outside associations and committees such as Training and Methodology Committee, SCADT, be a member of Thesis Boards of other universities and research institutes, or act as opponent at the defense of candidate or doctoral thesis.

Being at the highest step of teacher career, a professor can be motivated by awarding such honorary titles as "Honored Scientist of the Russian Federation" or "Honorary Figure of Russian Higher Education".

DEVELOPMENT OF PROFESSIONAL COMPETENCIES

The reform of Russian education system and change of education goals induce universities to choose a corresponding science-based development path and train faculty members capable of following and implementing the university's development path. In this regard, the university administration has to improve the system of continuing professional development of faculty members. According to the existing regulations on faculty members' professional development, a teacher is to take a training course no less frequently than once every five years, which does not meet the requirements of the Federal State Education Standards.

Nowadays, the most widely spread further training courses for faculty members

are those focused on eliminating gaps in professional knowledge and competencies, supplying additional job-related information, and ensuring adjusting to new professional conditions and requirements. Professional development can be on-the-job training or external courses. The latter is used in exceptional cases and usually accompanied by other significant work such as thesis defense, writing fundamental monograph or manual.

Thus, the university administration needs to organize and manage a system of continuing professional development for the main part of faculty members, for this purpose a corresponding complex program for faculty member professional development should be implemented in the University. The program should include special training course for fresh teachers and post graduates who need fundamental teaching training. Training courses for associate and full professors are tailored to "keep fit".

Continuing training implies availability of permanent theoretical teaching courses, science schools, research institutions and professional associations for faculty members in a university. To implement the competencies acquired while taking the courses, it is necessary for a teacher to carry out individual education projects in basic professional activities:

- research – doing research work fulfilling federal or commercial orders, carrying out grant programs, publishing monographs, articles or patents;

- teaching methodology – manual and text-book publications, participation in education program development, development and design of teaching materials; giving experimental courses, education regulations and requirements;
- teaching – interactive form of teaching;
- extracurricular – student club management; supervising students for conferences and competitions; managing university social, research and creative projects [6].

The results of teacher's activity should be analyzed annually, with the teacher reporting on conferences, faculty meetings or seminars, or giving "open lesson" [5]. In addition, a teacher is to give an essay to show that the work performed meets the university requirements.

Thus, in conditions of higher education reform, university efficiency depends on professional level of faculty members. Professional competence of a faculty member should correlate with rank promotion and be characterized by gradual but steady upwards motion the career ladder.

Professional development of a faculty member surely needs to be motivated. One of the effective ways of the motivation is well-timed career promotion. It makes a teacher acquire new professional competencies that are characteristic of the new rank position, thus improving the quality of the teaching process on the whole.

Development of engineering graduates' competences

National University of Science and Technology "MISIS"
V.P. Solov'ev, T.A. Pereskokova, Yu.A. Krupin

Knowledge opens doors, but you have to step through.
D. Likhachev

The article proposes the use of competence-based approach in Higher Engineering Education. The proposed graduate's competence model developed in accordance with the Federal State Educational Standards, and employers' requirements makes it possible to unite all participants of education process in order to achieve a primary goal, i.e. high quality of engineering education. This would certainly raise the prestige of engineering education.

Key words: competence-based approach, education quality, active specialization acquisition, learning outcomes.

The future of the Russian Federation is directly dependent on development of innovation and knowledge-driven economy that is based on scientific and technological progress (real technological revolution). However, the ambition to achieve high economic performance alone is not enough. It is necessary to define the key factors to achieve such a purpose.

As stated by S.S. Naboychenko (Rector of Ural Polytechnic University), human intellectual assets play an important role in innovation-driven economy development [1, p. 7]. At the same time, it is the responsibility of High School to assist in preparing and guiding human intellectual assets that are currently of great demand.

There are a great number of economists, lawyers, and humanists. There is no doubt that these professions, especially educators, are of great importance, however, they do not produce any goods or items of value. Economy is built due to engineers and workers. Despite rising diversity of education programs offered by Higher Engineering School (production engineering, manufacturing, modeling and design), most graduates work as engineers or high-qualified workers. In most cases, they start their carrier upon completion of

so-called "on-the-job training program". Is it possible for a bachelor student to become an engineer? B.A. Prudkovskiy, Professor of National University of Science and Technology «MISIS», has stated that engineering activity is confined to the three basic actions: to manage, to research, and to design [2, p. 5-6]. Therefore, according to the Federal State Educational Standards (FSES), fields of the professional activity for graduates with the Bachelor's Degree include:

- production and manufacturing;
- organization and management;
- design;
- engineering;
- research and development (analytical).

Basically, students can be adequately prepared within one or several fields. It is obvious that a graduate, even a bachelor's degree holder, can become a "real" engineer when he/she begins to accumulate qualifying engineering experience after graduation. This fact was clearly identified by V.S. Sheynbaym, Professor of Gubkin Russian State Oil and Gas University [3, p.15-28]. Therefore, universities are to be concerned not only about the quality of education, but also the readiness of labor

REFERENCES

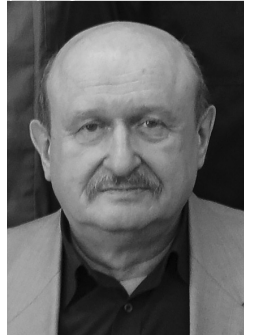
1. Anishchenko V.S. University Education Cannot Be without Science // Alma mater (High School Herald). – 2013. – № 2. – P. 14-20.
2. Verbitsky A.A. Teacher as a Main Subject of the Education Reform // Higher education in Russia. – 2014. – № 4. – P. 13-20.
3. Competency Approach to Independent Assessment of Faculty Members' Activity/ Ivanova T., Osechkina L., Osokina S., and Grineva M. // Education quality. – 2013. – № 10. – P. 20-25.
4. Kim I.N. Development of Basic Constituents of Teacher's Professional Competence in the Frame of FSES / I.N. Kim, S.V. Lisiyenko // Higher education in Russia. – 2012. – № 1. – P. 16-24.
5. Kim I.N. Professional Activities of the Universities' Teaching Staff: Set Patterns and Need for Changes. // Higher education in Russia. – 2014. – № 4. – P. 39-47.
6. Kovalenko V.I. Continuing Professional Development of Teaching Staff // Higher education in Russia. – 2012. – № 2. – P. 70-77.
7. Kurbatova M.V. Effective Contract in Higher Education of the Russian Federation: Theoretical Approaches and Features of Institutional Design / M.V. Kurbatova, S. N. Levin // Journal of Institutional Studies. – 2013. – Vol. 5, № 1. – P. 55-80.
8. Kljuev Ju.B. The Professor – the Main Subject of Modernization of Education at Fderal University // University management: practice analysis. – 2010. – № 3. – P. 27-31.
9. Matushansky G.U. The Modelling of Increasing Qualification of Higher School Teacher on the Way "Assistant – Senior Teacher – Associate Proffesor" / G.U. Matushansky, G.V. Zavada, L.M. Romanova // Alma mater (High School Herald). – 2011. – № 3. – P. 40-42.
10. Modernization of Russian Education: New Decade Challenges/ under the editorship of Klimov A.A. – Moscow: Delo, 2013. – 104 p.
11. Podlesnykh V.I. Higher Education Reform Based on Technological Mode Substitution (New Approaches and Techniques/ V.I. Podlesnykh. – Moscow: INFRA-M, 2014. – 189 p.
12. Ryauzova O.Ju. Creative Competence in the Structure of Basic Competencies of University Faculty Members // Higher Education Today. – 2010. – № 9. – Pp. 43-44.
13. Trubilin, A.I. Grigorash O.V. Role of the Head of the Sub-faculty in Organizing the Process of Bettering Qualification of Lecturers' Staff // Alma mater (High Scholl Herald). – 2014. – № 1. – P. 48-51.
14. Sharipov F.V. Professional Competence of University Faculty Members// Higher Education Today. – 2010. – № 1. – P. 72-77.
15. Shestak V.P. Ethos, University Rating and Faculty Members' Publication Activity/ V.P. Shestak, N.V. Shestak // Higher Education in Russia. – 2012. – № 3. – P. 29-40.



V.P. Solov'ev



T.A. Pereskokova



Yu.A. Krupin