How University Students Develop and Meet Their Need for Additional Education

A. Merenkov, A. Sushchenko

Abstract. We analyze how university students develop and meet their need for additional education as the critical way to engage in lifelong learning, which starts in student days and continues throughout the life cycle. The article investigates into the theoretical approaches to the nature, content and orientation of the need for additional education, identifying the key factors encouraging university students to acquire additional major-related knowledge so as to sharpen their competitive edge in the labor market. We show that 71% of students experience the need for additional education, and 51% have already received some along with their regular university studies. We rely upon the determination theory to allow for not only extrinsic factors of development of the need for additional education (employer requirements, current trends) but also intrinsic ones (commitment to increasing one’s competitiveness in the labor market, need for personal fulfillment). The article also explores how students develop and meet their need for supplementary knowledge and skills depending on their major field of study. We suggest taking specific measures to develop the additional education system, notably developing more actively students’ need for constant improvement of their competitive power and better self-fulfillment in career and life, and expanding significantly the range of services offered by additional education institutions.

Keywords: lifelong learning, higher education, educational needs, additional education, need for additional education, competitive edge in the labor market, personal fulfillment.

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higher education standard by students to enhance their competitive power in the labor market [Gudkov, 2009; Lukashenko, 2003; Tereshchenko, 2005; Froumin, Dobryakova, 2012; Cherednichenko, 2014]. Master’s and senior Bachelor’s students who seek to obtain knowledge extending their basic university skills engage in continuing education as early as when obtaining their very first degree. The public demand for lifelong learning becomes their personal need. It brings forth a unique system of interaction between students, teachers, developers and organizers of ever more numerous supplementary education courses offered by universities or dedicated lifelong learning institutions.

Additional education has been traditionally regarded by both foreign and Russian researchers as a type of adult education associated with professional conversion or advanced training in a specific field [Grummell, 2007; Huberman, 1974; Knowles, 1980; Derzhavina, 2008; Konstantinovskiy, Vakhshhtayn, Kurakin, 2007; Lagutina, 2001; Gorshkov, Klyucharev, 2011]. For example, Christopher Knapper and Arthur Cropley define lifelong learning, which includes additional education, as a process that would “last the whole life of each individual; lead to systematic acquisition, renewal, and upgrading of knowledge, skills and attitudes, as this became necessary in response to the constantly changing conditions of modern life, with the ultimate goal of promoting self-fulfillment of each individual” (citation from [Grummell, 2007. P. 183]).

The need for additional education in specific fields has been investigated across different social groups identified based on the level of institutional education (secondary general education, elementary vocational education; secondary vocational education, incomplete higher education; higher education, two diplomas of higher education, postgraduate studies) [Konstantinovskiy, Vakhshhtayn, Kurakin, 2007. P. 305–310; Konstantinovskiy et al., 2011. P. 118] and employment rate [Ozerova, Borodina, 2013. P. 305]. Statistics shows that “the higher the level and quality of education, the more often people invest in it, including additional education”, and “additional education is more often pursued by those with higher education experience (54%) ” [Konstantinovskiy et al., 2011. P. 76–77]. “Employees aged over 30 engage the most in additional professional education (71.4% of all employees involved), the proportion being 19% for employees aged 25–30 and 9.7% for those under 25” [Ozerova, Borodina, 2013. P. 302].

While developing possible models of continuing education monitoring, Russian sociologists pay special attention to the “structure of people’s demand for education, which represents an order for meeting the educational needs” [Belyakov et al., 2006. P. 151]. First of all, they assess the need for additional education among those who realize a couple of years after graduating that they need to gain knowledge and skills demanded by employers by attending a dedicated course or obtaining a degree in some related field. Much less focus is
placed on the need for additional education among those getting their basic university education, i.e. senior Bachelor’s or Master’s degree students. Meanwhile, students tend to combine basic and additional education at university increasingly often, which means that part of them are aware of the need to develop a body of knowledge and skills to ensure their competitive edge in today’s labor market. To do this, they seek to gain some work experience by getting a part-time job either related to or rather differing from their prospective occupation. Others attend specialized courses outside the basic education program to improve the skills that they acquire from standard education programs as well as to learn new knowledge in a pretty different field.

As we can see, the development of the additional education system in the existing situation may be boosted if students as a social group engage in a self-motivated lifelong learning. Development and implementation of additional education courses with due regard to specific student needs would promote such engagement of youth in the process of constructing themselves as experts demanded in the labor market.

The student need for additional education has been obviously underexplored, which is explained by several factors. First, only a limited proportion of students are involved in additional education parallel to their basic education. Second, an efficient university system that would develop the need for such education in students is still in its infancy. Finally, a major part of the teachers are not focused on developing additional education modules that would provide students with the knowledge required to adapt to a dynamic world. Research on student additional education experience and demand for it will help enhance the relevant education sector and inspire students towards lifelong learning in their future professional life.

Specific features of the development and realization of the student need for additional education have been studied in terms of the self-determination theory. Thanks to the latter, a set of extrinsic and intrinsic factors of such need may be identified. Researchers have been traditionally guided by Abraham Maslow’s conception, where needs are believed to be the main triggers of all sorts of human activities [Maslow, 1999. P. 21–22]. The needs as such are formed under the influence of extrinsic and intrinsic factors predetermining all human life. Every action should be correlated with the opportunities offered by nature and society and one’s personal willingness to grasp them [Merenkov, 2003. P. 30–37]. By accepting everyday life requirements imposed by the society, one can turn the public demand for (self-)education into their own intrinsic motivator.

People with higher education are demanded in a society that needs experts capable of working with sophisticated machines and mechanisms applied in various industries and analyzing the laws of
nature and societal evolution in the course of transformative human activities [Ukhanov, 2009. P. 70–71]. There is a body of basic knowledge from which students get the basic idea of their prospective occupation as well as of the techniques and technology applied nowadays by companies and enterprises. However, the rate of change in today’s industrial world is so high that students need to learn additional knowledge and skills in demand even before they graduate. In this situation, a number of factors stand out that predict the enthusiasm of senior Bachelor’s and Master’s students in acquiring competencies supplementary to those that they develop within the basic education program.

Additional education has been normally understood as obtaining knowledge and skills beyond the general and specialized education already acquired. People usually get interested in acquiring new competencies when they feel the need to realize themselves in a specific field or to expand their horizons. Today, additional education is available in dedicated training centers or within the basic education program, for high school students, students at all stages of vocational education and experts engaged in lifelong learning. Students represent a particular category, as their need for additional education is formed and realized while they have to conform to the federal State higher education standard requirements, being determined by specific extrinsic and intrinsic factors.

Extrinsic factors include, firstly, the existing labor market requirements for young specialists. Graduates should be conversant not only in their specific major but also in related fields, being able to obtain and analyze information from both Russian and foreign sources, to cooperate with colleagues effectively when solving complex production problems. Secondly, extrinsic factors include availability of institutions offering additional education courses that could enhance competitive power of recent graduates. Thirdly, students also consider the demand for employees willing to engage in continuous self-improvement and advanced trainings, those who will be able to communicate with foreign partners and to find prospects for the company’s products. Obtaining foreign communication skills and international experience in additional education, students provide themselves with broader opportunities for social mobility in the future. Researchers Karen F. Olwig and Karen Valentin confirm presence of “the close relationship between migration, education and social mobility” [Olwig, Valentin, 2015. P. 247].

The principal intrinsic factors encouraging students to get additional education involve successful employment orientation, where a broader array of competencies may boost the chances, and discontentment with the basic education obtained within the framework of the federal standard. Some students understand that they need to gain knowledge in related fields fearing that expertise in their major will not get them any high-paying job, which also plays an important role.
“Feedback on student experience in the form of surveys” is a vital mechanism abroad, allowing students to affect changes in higher education and promoting greater engagement in learning [Kidd, Czer- niawski, 2011. P. 194]. However, research on student experience conducted by Russian universities has not yet had any tangible effect on management decisions or development and improvement of higher and additional education programs. The lack of feedback on students’ educational needs is the key inhibitor of additional education development.

Specific aspects of the student need for additional education were investigated in a sociological study conducted in Russian Universities (Volgograd State University, Far Eastern Federal University, Kalashnikov Izhevsk State Technical University, Kazan Federal University, Moscow State Linguistic University, Plekhanov Russian University of Economics, ITMO University, St. Petersburg State University, Tyumen State University, Ural State Mining University, Ural State Forest Engineering University, Ural State Academy of Architecture and Arts, Ural State University of Railway Transport, Ural State Law University, Ural Federal University, Southern Federal University) in May—September 2015. The sample included 623 senior Bachelor’s/Specialist’s and Master’s degree students. This group of respondents was selected based on the assumption that senior Bachelor’s degree students get a certain idea of their prospective professional activities and possible employer requirements during internship and externship. Master’s degree students also get interested in additional educational resources to enhance their competitive power in the labor market.

Using online survey data, we analyze the factors of development of the need for additional education in students, preferred educational patterns and student experience.

The main parameters of quota sampling include the level of respondent’s education (51% of Bachelor’s/Specialist’s students, 49% of Master’s students) and form of education (full-time). The sample included 66% of female students and 34% of male students. 36% of Bachelor’s/Specialist’s students and 64% of Master’s students had already had some experience of professional activities. Students in Engineering and Humanities accounted for the highest proportions in the sample (Tables 1 and 2).

To assess the specific features of the student need for supplementary education, we used answers to the following survey questions: Do you feel the need to attend additional education courses (short- and long-term courses outside your major curriculum or elected within or outside your university)? What is behind your need for additional education courses? What additional education courses would you like to attend? Which format of additional education would you prefer? What information is important for you in electing additional education courses?
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To assess the specific features of realization of the student need for additional education, we used answers to the following survey questions: Are you attending any additional education courses within or outside your university? Specify the additional education courses you are attending at university. What do you think could be improved in organization of additional education courses?

Sociological research reveals that 67% of employers attach great importance to diplomas and certificates of additional education when recruiting recent graduates. However, most students have no clear understanding of which requirements they need to meet to increase their competitive power in the labor market. The basic university curriculum does not provide them with such information.

Professional self-fulfillment oriented students seek to push the limits of what they learn at the university. 71% of Master’s and senior Bachelor’s degree respondents show a strong need for additional education. 84% of motivated students intend to engage in additional education within the next year or two, 39% of them during their university studies. Desire to expand employment opportunities and ambition to deepen professional knowledge are found to be the principal motivators for additional education (54% and 53%, respectively).

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1 The research covered Ural companies with over 500 employees and surveyed personnel directors or HR specialists, managers or leading experts accountable for employee selection criteria and hiring decisions [Monitoring of Popularity and prestige of UrFU and Its Competitors in the Urals, 2014. Available at: http://strategy.urfu.ru/fileadmin/user_upload/Strategy/Upravlenie%20strategicheskogo%20razvitiya/Marketingovie%20issledovania/Monitoring_izvestnosti_UrFU_i_konkurentov_2014_g..pdf].

In order to assess how major affects the choice of specific additional education courses, we divided the respondents into three groups depending on their educational trajectories:

1) Students obtaining additional education within their university field of studies (21% of the sample). They pursue a Master’s degree in the same major as their Bachelor’s/Specialist’s degree, and they are also interested in additional education in this major;

2) Students obtaining additional education in a field related to their university field of studies (52%). The respondents pursue a Master’s degree in a major other than their Bachelor’s/Specialist’s degree. Additional courses they engage in differ in their content from the basic higher education program;

3) Students with experience of additional education in both their university major and related fields of study (27%).

Only 12% of respondents changed their major when applying for a Master’s degree. These are mostly Bachelor’s degree students in Management (74%), followed by students in Economics (17%) and IT (11%). Students with Bachelor’s/Specialist’s degrees in Economics and Management most often switched to Humanities or Engineering, while those in IT applied mostly for a Master’s in Science. Students tend to change their major mostly when they understand the challenges of getting employed within their Bachelor’s degree major or when they don’t have enough state-funded opportunities available for Master’s degrees in their original major.

The majority of respondents (75%) realized their need for additional education while pursuing a Bachelor’s/Specialist’s degree. Only 7% attended supplementary courses during their Master’s studies, and 18% reported to have engaged in additional education at both levels. Besides, we revealed that students obtaining additional education within their majors were primarily focused on expanding their professional expertise and developing relevant skills (65%) (Table 3).

Students who changed their major when applying for a Master’s degree most often explain their need for additional education with a desire to boost their chances for a successful employment. Many of them believe that improved language skills, for example, will help them find a job involving international business trips or get employed abroad. Students with combined educational trajectories opt more often for courses that will allow them to develop their professional skills and fulfill their potential in a field related to their major, e.g. by working as a design engineer after learning to use various IT technologies.

For about one-third of students, the motivation for additional education came from their discontent with the basic education program. So far, modernization of higher education designed to bring it into line with employer and student needs has been rather slow in Russia. Students receive no useful information about how they can use what they
learn in real-life companies. That is why we believe that the content of elected additional education courses should become part of the basic education program over time. This way, the list of extracurricular courses offered to students at university will be constantly extended.

The experience of combining work and study has no effect on the development of the need for additional education. Students of all categories are mostly motivated for getting extracurricular knowledge and skills by the aspiration to enhance their competitive power in the la-

Table 3. **Development of the need for additional education in students with previous experience** (% of the number of respondents)

<table>
<thead>
<tr>
<th>Motivation for additional education</th>
<th>Student groups</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SE within the major</td>
<td>SE outside the major</td>
<td>Combined educational trajectory</td>
</tr>
<tr>
<td>Enhancing professional skills</td>
<td>65</td>
<td>49</td>
<td>57</td>
</tr>
<tr>
<td>Developing new skills, personal fulfillment</td>
<td>34</td>
<td>40</td>
<td>53</td>
</tr>
<tr>
<td>Broadening one’s horizons</td>
<td>57</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>Boosting competitive power</td>
<td>47</td>
<td>62</td>
<td>42</td>
</tr>
<tr>
<td>Discontent with the basic education program</td>
<td>32</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Obtaining a supplementary degree (diploma, certificate, etc.)</td>
<td>26</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Potential employer’s requirements</td>
<td>16</td>
<td>16</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 4. **Reasons for development of the need for additional education in students with or without part-time job experience** (% of the number of respondents)

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Senior Bachelor’s/ Specialist’s degree students</th>
<th>Junior Master’s degree students</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Having a part-time job</td>
<td>Having no part-time job</td>
<td>Having a part-time job</td>
<td>Having no part-time job</td>
</tr>
<tr>
<td>Boosting competitive power</td>
<td>54</td>
<td>58</td>
<td>47</td>
<td>64</td>
</tr>
<tr>
<td>Broadening one’s horizons</td>
<td>34</td>
<td>43</td>
<td>56</td>
<td>50</td>
</tr>
<tr>
<td>Developing new skills, personal fulfillment</td>
<td>38</td>
<td>43</td>
<td>41</td>
<td>49</td>
</tr>
<tr>
<td>Enhancing professional skills</td>
<td>47</td>
<td>56</td>
<td>59</td>
<td>46</td>
</tr>
<tr>
<td>Discontent with the basic education program</td>
<td>39</td>
<td>34</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>Obtaining a supplementary degree (diploma, certificate, etc.)</td>
<td>33</td>
<td>26</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Potential employer’s requirements</td>
<td>16</td>
<td>13</td>
<td>13</td>
<td>6</td>
</tr>
</tbody>
</table>
The desire to enhance professional skills appears to be the main reason for development of the need for additional education in senior Bachelor’s/Specialist’s degree students with no part-time job and Master’s degree students with work experience. Chances are, students suffer from the lack of specific skills in Bachelor’s degree programs. Master’s degree students, in their turn, treat supplementary knowledge not only as a factor of professional expertise enhancement but also as a means of climbing the career ladder.

Realization of the student need for knowledge and skills not provided by the basic education program depends on the opportunities offered by the additional education system. Today, this system does not always provide a choice of courses that students associate with competencies required for a successful employment. Most often, it offers “trendy” courses in management, marketing, finance, interpreting, IT, etc. Expertise in these fields is generally believed to boost competitive power of graduates in the labor market. However, young people who have pursued these education programs for two years at the best tend to have professional competencies inferior to those acquired during four- or five-year basic university studies. Ensuring a relevant choice and content of additional education courses for both Master’s and senior Bachelor’s degree students is a separate direction in the development of additional education for university students.

Of those with previous additional education experience, over 60% would like to go further with this type of learning. Most often, they prefer courses in foreign languages other than English (37%), project management (31%) and personal growth (33%). Conversely, students with no previous additional education experience are oriented toward traditional courses in English (55%), public speaking (37%) or fundamentals of entrepreneurship (30%) (Table 5). Early engagement in additional education develops a focus on consistently expanding and deepening existing knowledge and skills as well as acquiring new competencies to boost the chances of self-fulfillment in career, public and leisure activities.

40% of respondents revealed demands that we qualify as specific needs for additional education. They are mostly typical of students with engineering as their major. They seek to obtain new knowledge in such promising technologies as missile and rocket engineering, robotics, metrology, modern medical electronics, biotechnology, and quantum mechanics. Specific needs can also be found among students oriented to self-fulfillment in public life: graphic design, user interface design, interior design, landscape design, imageology, behavioral psychology, clinical psychology, neuropsychology, crime science, film direction, beauty and fashion industry, etc. Specific needs also include the demand for a specific IT technology (Cisco, ASP, Python,
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AutOCAD) not yet provided within basic university education. Such demand is experienced by 28% of respondents.

Based on the survey, we identified the conditions that would promote the development of the additional education system according to what is in demand in the labor market and encourage students to develop more actively the need for specialized knowledge outside the basic education program.

First of all, the respondents point to the need to update additional education programs on a permanent basis. Designers of such programs should respond immediately to the emergence of new fields of expertise caused by rapid development of science, engineering and technology. Today, additional education courses are mostly elaborated by university professors, many of whom see it merely as an additional source of income. There is nothing that could motivate them for updating the content of their courses.

Obviously, we should build a system encouraging teachers to update constantly both curriculum-based and additional education courses. In the flexible remuneration scheme, a university teacher’s salary consists of “base salary and bonus, the size of which depends on the overall department performance (unbudgeted profit)” [Kupera,
Shmidt, 2006. P. 85–86]. Such profit may include earnings from development of new additional education programs. Besides, teachers will have a chance to fulfill themselves in new courses.

The respondents also focused on the importance of improving the organization of additional education. The schedule of courses offered does not fit into the university timetable. The cost of learning leaves out the actual financial standing of most students. The preliminary meetings with developers of new courses do not always disclose the value of the latter as a means of increasing competitive power in the labor market, nor the originality of learning methods, including the opportunities for developing project management skills.

The respondents believe that the following should be done to meet the student need for additional education as fully as possible (Table 6):

1) Improve student-teacher interaction
2) Solve the urgent organizational issues in additional education
3) Provide an efficient way of notifying students about the new courses
4) Adjust the cost of additional education to students’ financial standing (the price tag affects the choice of 77% of respondents)
5) Upgrade the content of courses on a permanent basis (content is a vital aspect for 64% of respondents)

Student-teacher interaction can be improved by using new learning methods: business games, team projects, simulation video games in professional activities, solving cases of real-life companies. In addition, students should be given an opportunity to communicate directly with experts in specific fields when they work on individual projects. Creating feasible projects or engaging in research during the learning process also promotes closer interactions between students and teachers. By including personal success stories in the content, developers of additional education courses could encourage teacher-to-student and peer-to-peer transfer of self-fulfillment practices.

Students see the following ways to upgrade the organization of additional education:

- Develop a flexible timetable; deliver courses during vacations (summer schools)
- Provide working in small groups, which will facilitate enrolment for narrowly specialized courses and allow for grouping students based on their level of proficiency so that everyone could obtain the knowledge and skills they actually need instead of helping their peers to catch up;
- Focus on classroom studies as a preferred form of obtaining knowledge and skills (51% of students). Development of distant learning courses should not be a priority, although some Russian researchers in lifelong learning emphasize the importance of
advancing online education [Tikhomirova, 2014. P.30]. Western studies confirm the demand of students for direct interactions with teachers during the educational process. They show that e-learning should be complemented with classroom studies as “e-learning technology has proved to be insufficient to provide necessary student-teacher interaction” [Carroll, 2013. P.352];

- Reduce the lecture-based part of courses and create podcasts for students.
- Inefficiency of the existing system of notifications about new courses for students was signaled by many respondents. Students mostly get information about additional education courses from their friends (44%) and social media (43%). Respondents suggest (i) providing remote notifications on the website of educational institution (43%) and through targeted emails (32%) and (ii) foreseeing the possibility of vis-a-vis notifications in the form of meetings with course developers (27%). Such policies will allow students to be aware of both the content and the value of new courses for their prospective professional activities.

### Implications

Russian higher education is facing a major challenge of creating conditions to engage the best part of the faculty in the development of courses reflecting the latest progress in science and technology both...
in Russia and abroad. Using these programs, students will be able to jump into professional activities accelerating the renewal of Russian science and industry.

The student need for additional education is determined by both extrinsic and intrinsic factors. Such factors are formed by the current trends, in particular by the English language trend, on the one hand, and by the desire to get certified in innovative fields of science, engineering and social process management, on the other hand. The development of the need for additional education is affected greatly by the relevant experience during the last years of Bachelor’s studies. Those with the previous experience are able to make a more reasonable choice of further educational and career trajectories and to assess the value of new courses they are offered within the Master’s program.

As students develop specific needs for supplementary knowledge, new forms of teacher-student interaction in the learning process evolve. The role of students in the educational process organization is changing, making them the customers of new knowledge ensuring their personal fulfillment and successful employment.

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