

SOFT SKILLS ACQUISITION THROUGH ESP CLASSES AT TECHNICAL UNIVERSITY

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Abstract. *Nowadays potential technical employees demonstrate the poor level of required soft skills relevant to the particular work position. It is known that professional career growth depends on soft skills reference level. The most appropriate way to improve the engineer's employability skills and enhance their adaptation to the requirements of the labor market is the development of their soft skills. The paper describes the concepts such as "hard skills" and "soft skills" and explains the significance of these skills acquisition for today's graduates. The article contains a list of the necessary soft skills for professionals in the engineering industry. As the skills of professional communication are considered to be the most significant for an engineer, it is evident that ESP classes are the vital educational source for soft skills training. The author has analyzed some educational courses and activities which were implemented during ESP classes to develop soft skills for students of a technical university.*

Key words: *soft skills, hard skills, employability skills, ESP, communicative approach*

1. INTRODUCTION

The shift of modern society from technical into informative as well as the implementation of new alternative educational technologies foster the advance of current educational tendencies with a view to training highly qualified specialists. In this context, the development of current evaluation criteria and methods should be created to assess volume, system and quality of the university education system according to society's needs. Universities have become the foundation of country competitiveness and they are at the forefront of globalization and mobility processes, therefore, it is essential to study and estimate the professional education system impact on the processes of gradulators' professional self-identity, employability and social adaptation skills to meet the requirements of the global job market. Moreover, universities should realize that the modern society and job market demand not only skilled specialists but a holistic highly educated personality.

The globalization of social, economical and informative processes requires creating a "global" specialist. The modern educational system can satisfy this demand in two ways:

- through external globalization (validation of the training context to global job market requirements);
- through internal globalization (training the specialists from the perspectives of professionals competencies).

The current anthropocentric essence of professional activity evidences that every company or production is a humanitarian system with the prevalence of a human factor.

The design or development of a new product or project calls for the combined work of a professional team with the representatives of different jobs and qualifications. So the job market experts claim that a lot of mistakes or failures are caused by a human, not a technical factor.

Some years ago the primary goal of any technical university was to train a highly qualified graduate with excellent technical skills and knowledge. Therefore, a young specialist could find a well-paid job efficiently and get the fast promotion. Nowadays employers have changed their requirements to graduates.

Companies consider necessary for students to demonstrate a high level of soft skills as well as the hard skills (knowledge and skills in their technical field). Soft skills are distinguished to be the most essential for the global job market now.

2. OBJECTIVES OF THE RESEARCH

The demand can be accomplished by a competent and proper training of soft skills. Despite the soft skills importance, they are considered to be non-academic to be taught while a separate subject. Since the soft skills imply communication, their training should be provided through the interface as well. Considering globalization and international cooperation, we can state that English language knowledge is crucial to achieving the career promotion or being successful.

The effective communication in the fields of science and technology should be conducted in both the native and English languages in different discourses. We consider the classes of English language are the most suitable to introduce soft skills to students. This fact is submitted by the current shift in modern technical specialists' mode of training from industry oriented to communicative and informative one.

The article aims at (1) clarifying the characteristics of soft skills in the context of integration into higher educational institutions and (2) specifying the process of combining the soft skills and the English Language teaching at the technical university.

3. THEORETICAL FRAMEWORK

The literature presents the scholarly analysis and reviews of the acquisition of soft skills, approaches to teaching soft skills and integrating soft skills into the curriculum. The explanations of soft skills found in the literature are more or less similar. Researchers are of the same mind that soft skills are nontechnical and interpersonal competencies. Kans (2012, p. 2) describes soft skills as "personal, social, communication, and self-control behaviors." Tribble (2009) states that soft skills are associated with such skills as self-improvement, interpersonal relationships, communication, career preparation, leadership, teamwork, self-discipline, self-confidence, and good work ethic. From Stumpf's perspective (2007, p.7) soft skills mean "honesty, team building, problem-solving, critical thinking, and communication skills." Nevertheless, other researchers of the issue suggest the list of soft skills. Thus, Kans (2012) defined soft skills like communication, teamwork, trustworthiness and self-awareness that enhance job performances.

"Soft skills" are crucial for human capital development and workforce career. A lot of employers state that these qualities are competing for academic or technical skills providing the ability to predict employment and earnings, among other outcomes (Williams, 2015).

The experts from the International Labour Organization claim that due to the workplace modernization around the world, the demand for such skills has increased over the past 20 years. The findings of a great number of studies indicate the growing interest in the integration of soft skills into curriculum and whether it is the most beneficial way to help students to acquire relevant soft skills. More than 40 years ago the Association of German Engineers (VDI) recommended implementing soft skills training into 20% of engineering courses. The graduates of technical universities are supposed to achieve mastery of foreign languages, cultural cognition, have skills of rhetoric and team building (Berglund, 2014). Soft skills included into training programs contribute to students' future successful careers in the workplace (Cately, 2010; Westray, 2008). The issue of teaching students soft skills is traced in studies of many scholars (De Villiers, 2010; Remedios, 2012). Heated discussions are held about the approach whether soft skills should be taught separately or integrated into core courses. Although, Remedios (2012) stated that soft skills could be obtained through two methods: formal training and self-training.

Technical (hard) skills and soft skills are on the different sides of any profession, but both are complementary for employment. The combination of soft and technical skills makes up the employability skills which are defined as job readiness skills by Shafie and Nayan (2010). Pegg, A., Waldock, J., Hendy-Isaac, S., and Lawton, R. (2012) outline the employability as more than the matter of developing attributes, techniques or experience just to enable a student to get a job or to progress within a current career. It is about the learning that is less focused on 'employ' and more on 'ability.'

Additionally, Taylor-Stone (2008) states modern universities produce knowledge-based workers instead of competency-based. According to his classification, knowledge-based skills involve the technical and practical skills, and competency-based skills are defined as a combination of critical thinking, communication, and problem-solving skills.

As far as we speak about skills that can be obtained at foreign language lessons and transferred into the working life we have to draw attention to researchers of this area. As noted by Alan R. (2006) graduates with high scores in the foreign language as a subjects emphasize skills and attributes such as self-motivation, defending arguments, communication skills, and information technology.

4. GENERAL CONTEXT OF THE RESEARCH

4.1 The nature of soft skills

Extensive studying has been carried out in the effort to determine and explain the nature of soft skills. According to the study conducted in the framework of Workforce Connection USAID project "Key soft skills that foster youth workforce success" (Lippman, L., Ryberg, R., Carney, R., Moore, K., 2015), the soft skills are related to a broad set of skills, competencies, behaviors, attitudes and personal qualities that allow employees to operate and perform appropriately in their environment, achieve goals and organize people. These skills are widely applicable and complement with other skills such as technical, vocational and academic ones.

Promoting the development of soft skills is an open-ended process that considers the involvement of mentorship, training, integration into subjects and practical experience. The process of soft skills formation is gradual: it commences while university training and continues through all professional career.

Based on the obtained research findings, five critical soft skills have been identified and chosen to be implemented in universities: social skills, communicative skills, high-order thinking skills, positive self-concept and self-control. Each of the mentioned skills includes some sub-skills.

Social skills assist in interacting with other people. They comprise such sub-skills as leadership, respecting attitude, resolving conflicts. These skills are essential to facilitate employment, performance and company success. Communication skills imply particular workplace oral, non-verbal and listening communication skills in different context with different people. As communicative skills acquisition is included in all universities curricula, it may seem that the majority of graduates are good at communication. But in fact, they lack presenting skills in order to present clearly and confidently to the audience. High-order thinking skills include problem solving, critical thinking, and decision-making skills. It also holds the ability to apply knowledge creatively, innovatively and analytically. These skills are much required by employers as they relate to success in work performance. A positive self-concept is behavioral in nature and deals with the personality of an employee. It points to the formation of such personality traits as self-esteem, self-confidence, and self-efficacy. The unique feature of these skills is that they contribute not only to the growing of business but the personal growth. Self-control skills mean to manage emotions and behavior. They facilitate fruitful coherent communication and conflict resolutions.

4.2. The issue subject in Ukraine

In 2015 the World Bank Group (WBG) conducted the research with a view to determining the skills demanded by Ukrainian employers and to discussing how educational institutions can invest into the development of professional skills. The experts of the World Bank Group concluded that Ukrainian businesses require advanced soft skills (cognitive and socio-emotional) and technical skills. In line with the high demand for socio-emotional skills of employees, the analysis shows that in Ukraine, people who are creative, proactive, perseverant, confident, responsible, adaptable, and emotionally stable are rewarded with higher wages, higher occupational status, or more active participation in the labor market. Whereas the system of formal education is outdated, and it does not respond to fast-changing modern labor market demands and consequently cannot train these necessary skills. The possible way out is to create a better worker's skills development policy that will contribute to the productivity of Ukrainian economy.

The overall international studies evidence that people with higher level of soft skills are more successful. However, we should be aware that soft skills do not stand for technical professional skills but function as support to accomplish the professional objectives. These skills are not obviously taught at schools or universities. This gap requires the reviewing of skills formation instructional strategy. According to the WBG survey, six of ten employers claim that formal education does not train students to have skills that are crucial for employment. The lack of interaction between the employers, government agencies and educational institutions is one of the leading causes of the problem. Considering mentioned problems, WBG suggested three key approaches to resolve the situation:

- building foundational skills for new labor market leaders;
- enhancing the quality of higher vocational education to develop advanced skills;
- improving the institutional environment to ease the use of current workforce's skills.

With this in mind, we as tertiary education providers clearly understand that in order to follow the recommendations, relevant educational measures should be taken: assessment of existing training programs for their validity according to occupational standards, incorporation of soft skills training into learning standards and curricula, creating job training programs with the vocational mentoring in addition to technical training, maintenance of partnership with industrial organizations to provide career awareness opportunities.

4.3 Soft skills implementation at universities

Having regards to the above, it is evident that universities should take their ownership of students' preparation to meet future professional challenges. The first step should be done in the framework of soft skills development as it will impact today's students' personality, and those who will start their careers soon and cannot wait for global changes.

Experts on the issue suggest some models of integrating the soft skills into formal vocational learning. It can be achieved on the basis of stand alone subject model, embedded model, and creating support programs. Stand alone subject model implies the developing of soft skills through one specific course or subject that was thoroughly planned for this objective. At National Technical University of Ukraine "Kyiv Polytechnic University" there are the following courses as Foreign Language for Specific Purposes, Philosophy, Research Managements and Presentation, Intellectual Data Analysis, Management of Organizations, Sociology, Entrepreneurship ect. The number of credits is counted depending on the curriculum and program standards. This model does not require much planning or assessment changes as the courses themselves comprise learning activities aimed at the soft skills development. However, it does not provide students with integration of soft skills and professional knowledge in the major discipline.

On the contrary, embedded model means the implementation of soft skills teaching across the curriculum. It extends students possibilities as they can master soft skills through variety of learning activities which are suggested while the course: discussions, questioning, presentations, simulations and role plays, projects creation, web quests etc. The learning objectives of these courses include the soft skills outcomes as an integral part of the whole course program. However, the implementation of this model requires appropriate methodological preparation as the teaching strategies should be student-centered and a lecturer should be ready to apply active learning strategies, problem-based learning, cooperative learning and e-learning methods. And the assessment of students' progress should incorporate criteria of soft skills evaluation as well as knowledge of the core discipline.

Soft skills development can be performed through support programs and activities. They can be academic and non-academic. The academic support program is additional and connected with an academic course. Some of these programs are "Presentation Skills and English Language," "Critical thinking in engineering workshops", "Conflict resolutions and managements of industrial organizations." Non-academic programs help students to acquire skills which assist personal development. Such programs are whether elective courses or campus life activities.

4.4. Soft skills development through ESP classes

It is out of ESP teachers duties to introduce global changes over the universities curricula or educational standards. However, we can initiate small but helpful changes while our classes. We have determined the cluster of soft skills which can be successfully developed at

ESP classes: skills of oral and written communication, listening skills, critical thinking, decision-making, problem-solving, presentation skills, teamwork and leadership, cultural awareness, negotiating skills, self-organization and self-control skills.

With a view to developing oral communicative skills, at our classes, we apply all strategies of the communicative approach to English language learning, cooperative learning, and problem-based strategies as well. Students are engaged in role games, interviews, conferences, group discussions, project creation, etc. To develop written communication skills, students prepare job application documents, professional portfolio, professional research and literature reviewing, problem-based essays. The strategies used by foreign language teachers should meet the following criteria:

- relevant to engineering profession: a great amount of writing material is proposed for ESP learning. But not everything is appropriate for technical universities unless it is based on particular technical content and contains specific vocabulary. We believe that involvement of students in the search for discussion topics or texts is critical for effective classroom learning; however, much of the core content of engineering courses is not a matter of opinion. In such way, we enhance students' motivation to study language, participate in discussions and develop communicative skills;
- team based or cooperative: a lot of advanced communicative techniques have been designed for nontechnical courses with minimal teacher-centered guidance. This type of classes is characterized by some independence. A clearly defined group goal (complete the problem task, write the lab report, design the process) should be set that requires the involvement of every team member. The second important feature is individual accountability. Each student in the team should take ownership of his/her share of the work. Cooperative learning exercises may be performed in or out of class. Typical tasks for cooperative learning groups in engineering are completing reports, design projects, and scientific research presentations.
- aimed at self-assessment: students should be taught to assess their need and achievements critically. Skills of self-analysis and self-cognition are vital for career promotion as own resources awareness may show the way to self-development.

Following some approaches we apply to develop such soft skills as teamwork, courtesy, commitment, and responsibility. We allow our students to track their progress themselves. Students get checklists to monitor their tests progress. When students are aware of clear evaluation criteria and monitoring principles, they can operate their progress. It develops responsibility and commitment to attend classes. Moreover, teachers do not seem to be biased. We provide a lot of team work and try to involve students from different groups, courses, and even universities. It can be achieved by completing project-based activities where it is vital to cooperate with a great number of people to find out the information.

We have developed the list of some activities which can be applied to ESP classes and facilitate soft skills training.

Table 1 Activities for soft skills development

Soft Skill	Learning activity
Oral communicative skills	<ol style="list-style-type: none"> 1. Future prediction game. Choose the time period below and make predictions about life at that time. Your partner should guess the right time (driverless cars – in five years) 2. Describing process game Variants: <ul style="list-style-type: none"> - describe a process without saying which one and your partner should guess the process; - describe one of the processes. Then your partner should repeat the process stages back and you should correct anything he gets wrong or misses out; - take turns describing one of the processes below in detail. Whoever gets to the very end of the process loses. 3. Invention role plays: Variants: <ul style="list-style-type: none"> - you think that you can invent something but the head of the funding committee (your partner) and its members (group) don't think it is a good idea and your research will be successful. Try to persuade them to give you as much money as you can get; - you are the committee to award the Nobel Prize for Engineering and three of the things in the list below (or can use your own ideas). Decide together which invention should be given the prize; - you bought one of the products from the list below (or can use your own ideas)for the first time at the inventor's suggestion but you aren't happy with this purchase. Call the inventor (your partner) who should persuade you to keep using it.
Written communication skills	<ol style="list-style-type: none"> 1. Preparation of job application documentation (CV, resume, cover letter, professional portfolio) 2. Writing of reports or article abstract on the implementation of a new device. 3. Describing the results of environmental audit for a device and write a report on the results. 4. Write safety instructions for employees on the factory.
Team work	<ol style="list-style-type: none"> 1. Organizing of a press conference with students acting` as inventors, journalists, representatives of government agencies, engineers etc. 2. Project activity for students groups. They have to prepare presentation about one type of engine: steam, combustion or rotary engine. Share their presentation in class and together chose the best engine type for today's application. 3. Interview activity. Each group has a list of questions it should find answers to. The questions may be about engineering, university, studying etc. Student in groups have a definite period of time to interview people at the university and then to present their answers in class.

Problem solving skills, critical thinking	<ol style="list-style-type: none"> 1. Discussion: think about the forces acting on a machine or device. How would different components deform or fail if they were not adequately designed? 2. Think about the different techniques used in the industry you work in. In what specific situations are different techniques used and why are they suitable? 3. Discussing the case studies taken from their vocational workshops or experience.
Self awareness	<ol style="list-style-type: none"> 1. Study the personality test designed to help you to choose a suitable career. To what extent do you agree or disagree with the results? 2. Discuss which of the adjectives best describes your partner (realistic, investigative, conventional etc). Decide which of the jobs listed on the board would suit your partner the best. 3. Prepare a short personal statement about yourself which you would like to present when applying for a job.
Presentation skills	<p>Students of senior courses who combine studying and working prepare short presentations about their workplace. Their assignment is to tell about the requirements of the firm or company, necessary skills to achieve progress, challenges, what knowledge or skills students need to train or master. In such way, we can maintain communication with employers and monitor labor market demands immediately and objectively.</p>

5. CONCLUSION

Soft skills competencies are useful in real life and match, in particular, labor market needs. Poor language skills, as well as soft skills, are a serious obstacle to seizing professional opportunities. Language learning outcomes must support employability, mobility, and personal growth. To equip future engineers with soft skills, and meet the demands of employers for qualified staff able to perform a range of work-related tasks, it is important to provide high-quality and diversified language and soft skill teaching at all levels across all sectors of education. Under these conditions, students are encouraged to develop leadership, communication, problem-solving, critical and creative thinking, conflict resolution, and time management skills. Therefore, universities play a vital role to create knowledgeable and skillful society. The providers of tertiary education should be competent to contribute to the development of future graduates.

REFERENCES

- Allan, R., A wider Perspective and More Options: Investigating the longer term employability of humanities graduates. (*Southampton: Subject Centre for Languages, Linguistics and Area Studies*, 2006), 34 p.
- Berglund, A. and Heintz, F., Integrating Soft Skills into Engineering Education for Increased Student Throughput and more Professional Engineers. (*paper presented at the conference "Pedagogiska Inspirations konferens", Linköping University, Sweden, December 17,*

- 2014) Accessed: https://www.lth.se/fileadmin/lth/genombrottet/konferens2014/11_Berglund_Heintz.pdf
- Carpio, X., Skills for a modern Ukraine WBG. (2015). Accessed: http://www.ipq.org.ua/upload/files/files/03_Novyny/2015.11.17_Skills_for_Modern_Ukraine/WB%20EN%2012%20pt.pdf
- Cately, Y.M., "Raising Stakeholders' Awareness of the Need for Soft Skills in the Tertiary Engineering Education Curriculum", *Synergy* 6(1)(2015):41-56. Accessed: <http://synergy.ase.ro/issues/2010-vol6-no1/07-raising-stakeholders-awareness-of-the-need-for-soft-skills-in-the-tertiary-engineering-education-curriculum.pdf>
- De Villiers, R., "The incorporation of soft skills into accounting curricula: Preparing accounting graduates for their unpredictable futures". *Meditari Accountancy Research*, 18(2) (2010): 1-22. doi:10.1108/10222529201000007
- Kans, M., "Applying an innovative educational program for the education of today's engineers." *Journal of Physics: Conference Series*, 364 (2012), doi:10.1088/1742-6596/364/1/012113
- Lavrysh, Yu., Developing of employability skills and English study at universities of Ukraine, (2013) Accessed: https://www.researchgate.net/publication/273780339_Developing_of_Employability_Skills_and_English_study_at_Universities_of_Ukraine
- Lippman, L., et.al., "Work Force Connections: Key "Soft Skills" that foster youth workforce success: toward a consensus across fields". (2015) Accessed: http://www.childtrends.org/wp-content/uploads/2015/06/2015_24AWFCSoftSkillsExecSum.pdf
- Pegg, A., et.al., *Pedagogy For Employability*. (York, UK: Higher Education Academy, 2012), 58p. Accessed: http://oro.open.ac.uk/30792/1/Pedagogy_for_employability_170212_1724.pdf
- Remedios, R., The role of soft skills in employability. *International Journal of Management Research and Review*, 2(7), 2012: 1285-1292. Accessed: <http://www.ijmrr.com>
- Shafie, L., and Nayan, S., Employability awareness among Malaysian undergraduates. *International Journal of Business & Management*, 5(8), 2010: 119-123. Accessed: <http://www.ccsenet.org/journal/index.php/ijbm/article/view/6917>
- Stumpf, J. M., "Meeting the needs: Does technical college education meet the needs of employers?" (PhD. diss., University of Minnesota, 2007).
- Taylor-Stone, L., Case studies of successful public-private partnerships for education and workforce development: The case of Jamaica. *HEART Trust 189 NTA*, 2008. Accessed: <http://www.sedi.oas.org/dttc/comp/docs/JamaicaCase.pdf>
- Tribble, L. S., "The importance of soft skills in the workplace as perceived by community college instructors and industries". PhD. diss., Mississippi State University, 2009.
- Williams, C., "Soft Skills perceived by students and employers as relevant employability skills." PhD. diss., Walden University, 2015. Accessed: <http://scholarworks.waldenu.edu/dissertations/1427/>