

A Study on Students' Social Competencies

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Abstract – The paper presents the effects and impact of different project in the field of entrepreneurship skills development and that include some training sessions for the social competencies' development in the case of students. The research has been focused on the social skills development in the case of students from the Engineering and Management specialization, but also, for the young researchers (PhD. students enrolled in different engineering specializations). In this context, there are debated: the social competencies development importance for the future engineers (parried with the technical abilities development), a research methodology for these competencies development (methods and tools that help a survey development based on structured questionnaires), the research results and some conclusions.

Keywords: Social competencies, training program, technical higher education

I. INTRODUCTION

In the context of this article, social skills are seen (needed and developed) to support the entrepreneurship behavior in the case of future engineers. The state of the problem was a quite difficult approach because of the technical competencies that must be strongly gained and that are dominant for every engineering curricula in Romanian higher education. However, the actual tendencies in establishing modern and attractive engineering programs curricula have started to join some important social competencies development that will better define the future engineers' personality at their workplace. The main problem consists of the scientific demonstration of the effective need for social competencies development!

Each student from the first year of study come and joins the academic community with his/her skills and abilities. Some are unique aptitudes and talents, which may include rare musical abilities (singing, playing an instrument, composing music), artistic skills (drawing, painting, sculpting), athletic skills (running, jumping, throwing), or any other ability that comes easily and naturally to them. Some skills and abilities are used in students' daily life: such as learning a new timetable or

organizational procedure, repairing the writing tools, listening to other student problems, or deciding what cloths to buy. Other skills are more specific to a work/task, such as learning a new software program or interpreting financial statements (as the balance sheet) to manage a company budget.

In this context, Figure 1 represents an overview of the contingency theory of action and the job performance when three kind of interest must be satisfied simultaneously: the individual interests, the job demands and the organization interests. The contingency model of management effectiveness can postulate that the overlap degree or best fit between the individual, his/her job demands, and the organizational environment would predict effectiveness [2].

This model creates an intensive debate. This confusion between links searching at the competency or cluster level has often been the source of mistakes in linking competencies needed from individuals to be effective and the core competence of the organization. If engineering excellence is the core competence of a company, we should predict that the Goal and Action Management Cluster (or the Self-Management Cluster in the emotional intelligence model) would need to be the most frequently observed cluster to create and sustain this culture and strategy [3].

The components of the Self-Management Cluster in the emotional intelligence model are self-control, self-confidence, adaptability, change catalyst, achievement orientation and initiative [4]. They could be and they must be trained to young generation of engineers. The motivation for having specific academic subjects (or even students support activities) related to social competencies development is linked with the reality that many skills need of in the 21st century job market are more related to people interaction (also, connected with emotional intelligence development) [4].

The important idea behind this research is that skills and abilities can be added and/or improved upon through education, training, and experience. Professionals, and teaching staff, tutors and mentors, all professors must continue develop and enhance students' skills, and then career opportunities will come for them and can be choose more easily.

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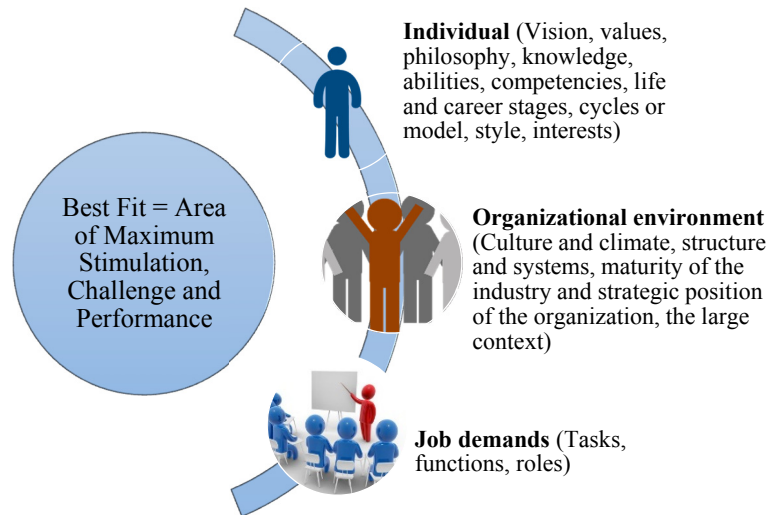


Fig. 1. The contingency theory of action and job performance [2]

Table 1 - SCAN model for social skills investigation (adapted from [5])

A. FOUNDATION SKILLS (transferable skills) are those skills that people bring to a job	
I. Basic Skills	Reading - Locates, understands, and interprets written information in documents including manuals, graphs, and schedules to perform tasks. Learn from text by determining the main idea or essential message.
	Writing - Communicates thoughts, ideas, information, and messages in writing. Composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts with language, style, organization, and format appropriate to the subject matter, purpose, and audience.
	Arithmetic - Performs basic computations using basic numerical concepts, such as whole numbers and percentages, in practical situations. Uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.
	Speaking - Organizes ideas and communicates oral messages appropriate to listeners and situations. Participate in conversations, discussions, and group presentations. Speak clearly.
	Listening - Listen carefully, understand, and responds to listener feedback. Receive, interpret, and respond to verbal messages and other cues such as body language.
II. Thinking Skills	Creative thinking - Uses imagination freely. Combine ideas or information in new ways. Make connections between seemingly unrelated ideas and reshape goals in ways that reveal new possibilities.
	Decision-making - Specifies goals and constraints. Generate alternatives, considers risks, and evaluates and chooses best alternative.
	Problem solving - Recognize that a problem exists. Identifies possible reasons for the differences, creates and implements a plan of action to resolve them. Evaluate and monitor progress and revise plan as indicated by findings.
	Knowing how to learn - can adapt and apply new knowledge and skills to both familiar and changing situations. She/he can use ways of learning, such as note taking and organizing information. Become aware of false assumptions that may lead to wrong conclusions.
III. Personal Qualities	Responsibility - Exert effort and perseverance toward attaining goals. Work to become excellent at doing tasks by setting high standards, paying attention to details, working well even when assigned an unpleasant task, and displaying a high level of concentration.
	Social skills - Demonstrate understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Assert self in familiar and unfamiliar social situations. Relate well to others. Respond appropriately. Take an interest in what others say and do.
	Self-management - Assess own knowledge, skills, and abilities accurately; set well-defined and realistic personal goals. Monitor progress toward goal attainment

	and motivate self through goal achievement. Exhibit self-control and respond to feedback unemotionally and non-defensively (self-starter).
	Integrity/honesty - Can be trusted. Recognize when faced with deciding or acting in ways that may break with commonly held personal or societal values. Understand the impact of violating these beliefs and codes in respect to an organization, self, or others. Choose an ethical course of action.
B. FUNCTIONAL SKILLS are specific to the functions workers perform doing their job	
IV. Resources	Manage time - Select important, goal-related activities and rank them in order of importance. Allocate time to activities and understand, prepare, and follow schedules.
	Manage money - Use or prepare budgets, including making cost and revenue forecasts. Keep detailed records to track budget performance and make appropriate adjustments.
	Manage material and facility resources - Acquire, store, and distribute materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
	Manage human resources - Assess people's knowledge, skills, abilities, and potential. Identify present and future workload. Make effective matches between individual talents and workload. Monitor performance and provide feedback.
V. Systems & Technology	Understand systems - Knows how social, organizational, and technological systems work and operates effectively within them. Makes suggestions to modify systems to improve products or services and develops new or alternative systems maintenance and quality control.
	Uses technology - Judge that set of procedures, tools, or machines will produce the desired results. Understand the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems. Prevent, identify, or solve problems in machines, computers, and other technology.
VI. Informational Skills	Acquire and evaluate information - Identify need for data. Obtain it from existing sources or create it and evaluate its relevance and accuracy.
	Organize and maintain information - Organize processes and maintains written or computerized records and other forms of information in a systematic fashion.
	Interpret and communicate information - Select and analyse information and communicates the results to others using oral, written, graphic, pictorial, or multimedia methods.
VII. Interpersonal Skills	Participate as a member of a team - Work cooperatively with others and contribute to group effort with ideas, suggestions, and effort. Resolve differences for the benefit of the team and take personal responsibility for accomplishing goals.
	Teach others - Help others obtain necessary information and skills. Identify training needs and supply job information to help others see its use and relevance to tasks.
	Serve clients, customers - Work and communicate with clients and customers to satisfy their expectations. Actively listen to clients and customer to avoid misunderstandings and identify needs. Communicate in a positive manner, especially when handling complaints or conflict.
	Exercise leadership - Communicate thoughts, feelings, and ideas to justify a position; encourages, persuades, convinces, or otherwise motivates an individual or groups; responsibly challenges existing procedures and policies
	Work with cultural diversity - Work well with men, women, and those with a variety of ethnic, social, or educational backgrounds. Base impression on individual performance, not on stereotypes.

Source: adapted from <http://www.soicc.state.nc.us/soicc/planning/skillsjob.htm>

In addition, there have been important research developed that have debate the role of entrepreneurs' social competence linked with their financial success. The social skills described by them are linked with entrepreneur ability to interact effectively with other people as based on discrete social skills [1]. The

research has underlined once again the importance of the social skills for the successful entrepreneurial behavior development.

The main problem that arise from the previous examples is to find a better tool (together with a creative method) for the social skills present status

identification and characterization and then to design an efficient training program for their development in accordance with some organization needs or generally for the success of an individual on the labor market.

SCANS could be a good example for this practical purpose. The Secretary’s Commission on Achieving Necessary Skills (SCANS) that was created by the United States Department of Labor to study the skills needed in the American workplace gives a possible inventory of the social skills [5]. The SCANS competencies span the chasm between the worlds of school and the workplace. The 27 SCANS skills are divided into two categories: foundation and functional skills (Table 1) [5]. Based on the SCANS suggested social skills structure there have been build a questionnaire for the purpose of the social skills investigation in the case of the future engineers enrolled in master programs of the Faculty of Management in Production and Transportation from Politehnica University of Timisoara, Romania (UPT).

II. RESEARCH METHODOLOGY

A research survey based on a questionnaire have been adopted and implemented. The study surveyed master students of the second year of study, enrolled in master programs of the Faculty of Management in Production and Transportation from Politehnica University of Timisoara, Romania (UPT). 14 students were unemployed and 73 were employed in companies from the West Region of Romania. A total number of 87 students were part of the research sample that represents a good percent (the total number of master students is 124). the most important research variable that was consider was if the students are employed in some company. Students were selected randomly as they expressed their wish to be involved in the research. The e-mail and face-to-face structured interview method were adopted to obtain responses to the study’s survey instrument. Although it was a resource intensive option, it was chosen over the standard methods of administrating paper or online

surveys for various reasons: (1) to be able to clarify respondents’ queries; (2) to avoid the situation whereby a busy student (as an executive or manager) delegated the task of fill-up the survey to a secretary or a co-worker; and (3) to ensure that most of the responses collected were complete and usable for data analysis. The research was developed from September 2019 till March 2020 and it will be repeat in April – June 2011 to collect much pertinent opinion from the master graduate students.

For the structured interview method approach a questionnaire has been developed using the social skills structure and description as presented in SCANS tool (Table 1). The questionnaire structure consists of 21 characteristics that define social skills. They have been described carefully to facilitate the master students understating and perception that will conduct to a very precisely answer. In the beginning of the questionnaire, the research aims, and a brief description of the answering procedure has been explained. Then a general single question was written: In the case of your profession, job or/and position work specificity, please indicate the level of social skills own by you to be efficient? All questions on social skills importance for a specific workplace or job description (in the respondent opinion) were measured on a six-point Likert scale (1 = “fully disagree” – 6 = “fully agree”). In the final part of the questionnaire, there were collected data for the respondent characterization (the background or bachelor studies that were graduated, the master program where she/he is involved, company where she/he is employed, position, age, sex, and contact data) for better described the research sample.

III. RESEARCH RESULTS

The figures show the preliminary research results in graphical presentation (responds obtained through questionnaires, absolute values). The SPSS software was used for the results visualization.

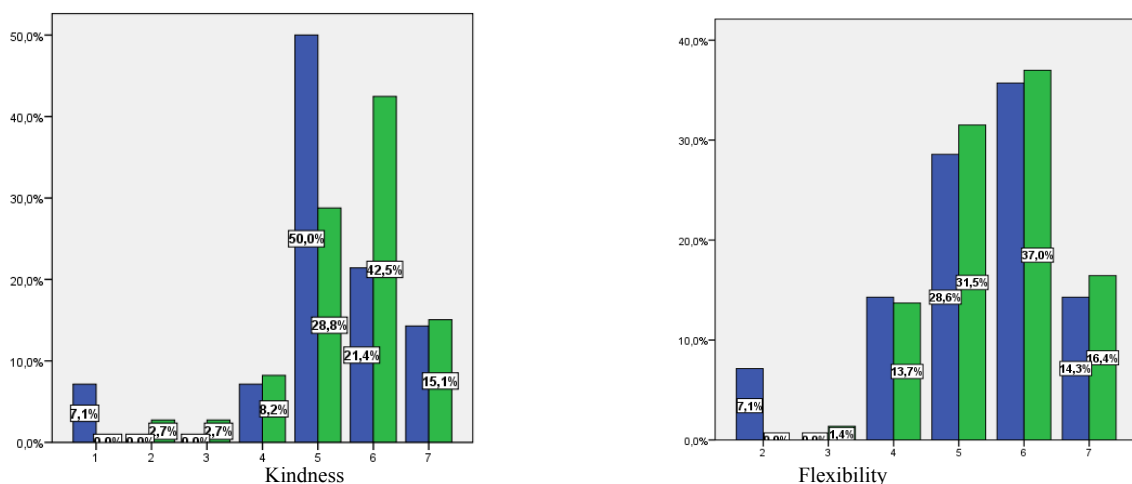


Fig. 2. The distributions of the responds for kindness and flexibility in behaviour (blue – unemployed students, green – employed students)

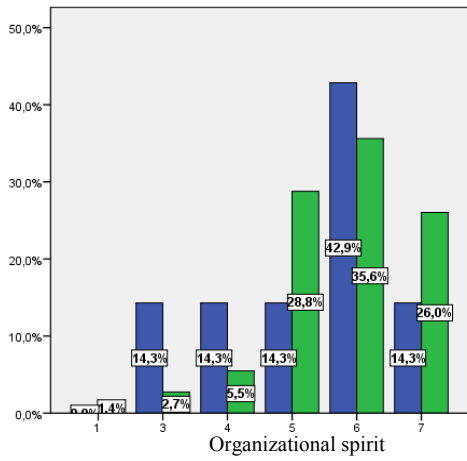


Fig. 3. The distributions of the responds for organizational spirit (blue – unemployed students, green – employed students)

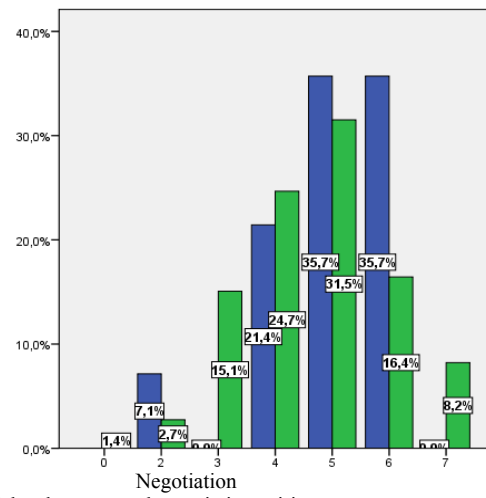
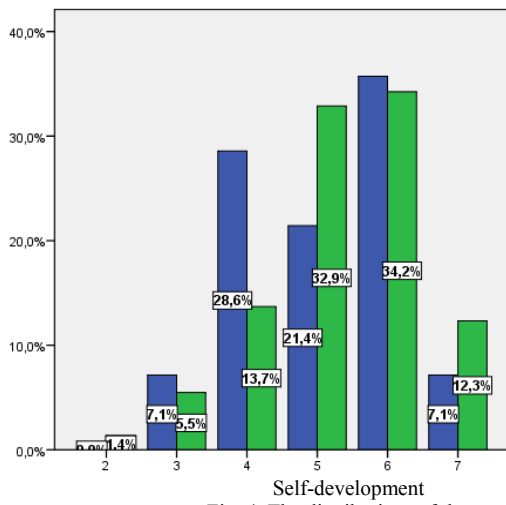
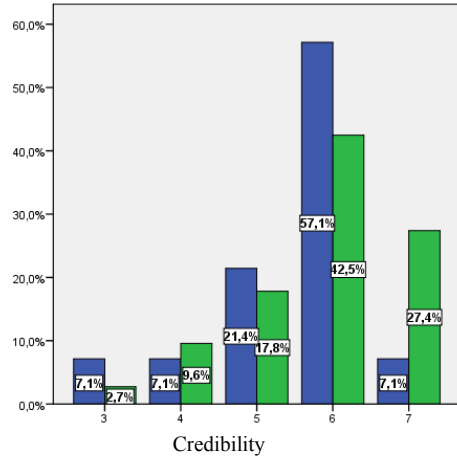


Fig. 4. The distributions of the responds for self-development and negotiation spirit (blue – unemployed students, green – employed students)

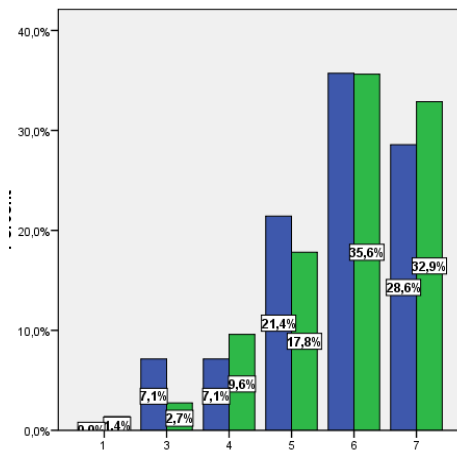
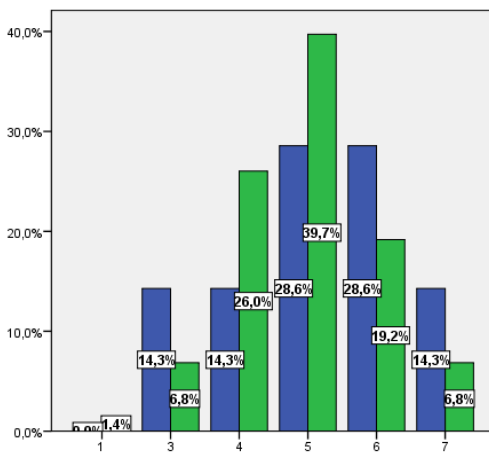


Fig. 5. The distributions of the responds for persuasion characteristics and sociability (blue – unemployed students, green – employed students)

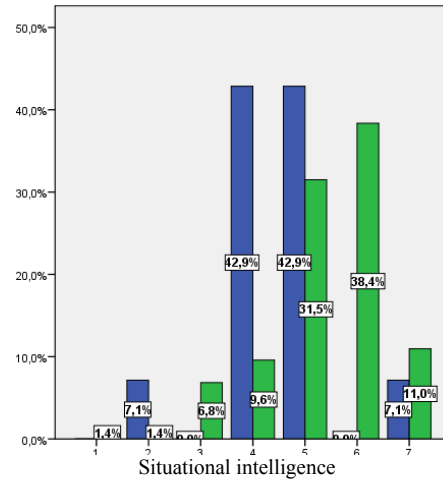
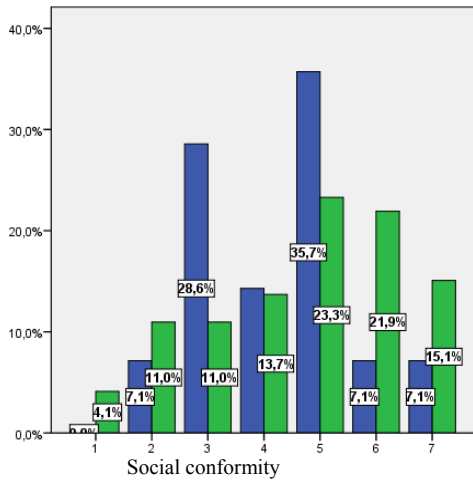


Fig. 6. The distributions of the responds for social conformity and situational intelligence (blue – unemployed students, green – employed students)

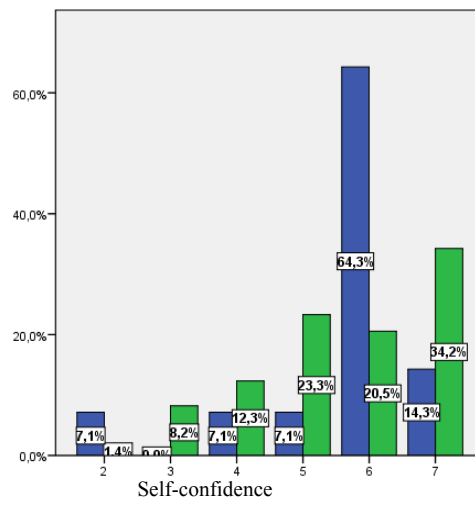
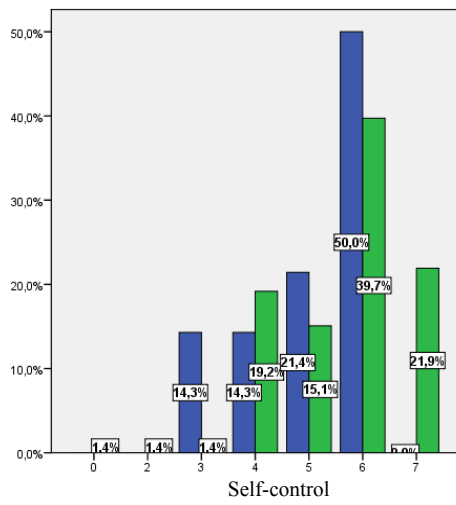


Fig. 7. The distributions of the responds for self-control and self-confidence (blue – unemployed students, green – employed students)

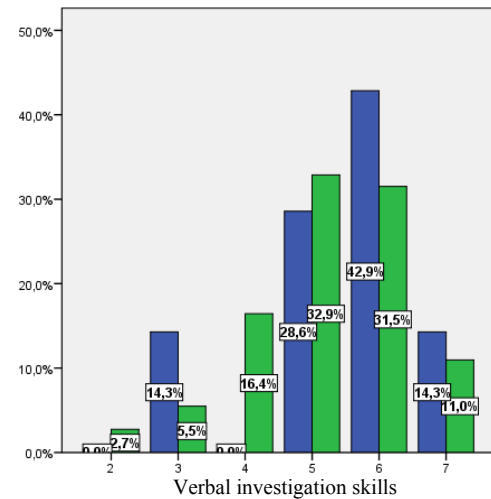
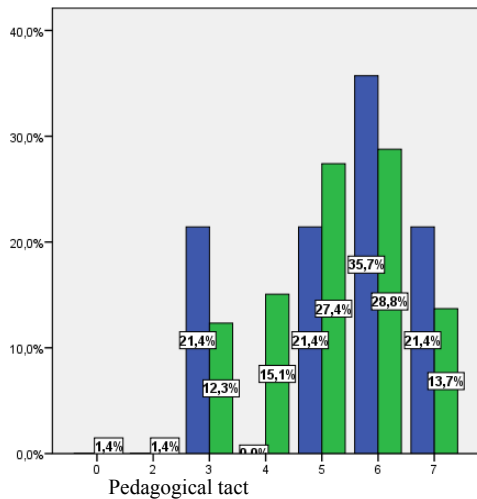


Fig. 8. The distributions of the responds for pedagogical tact and verbal investigation skills (blue – unemployed students, green – employed students)

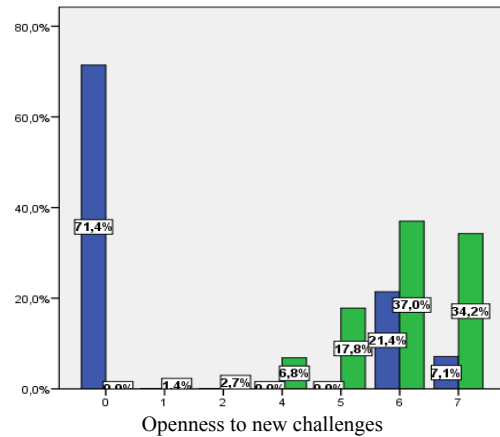
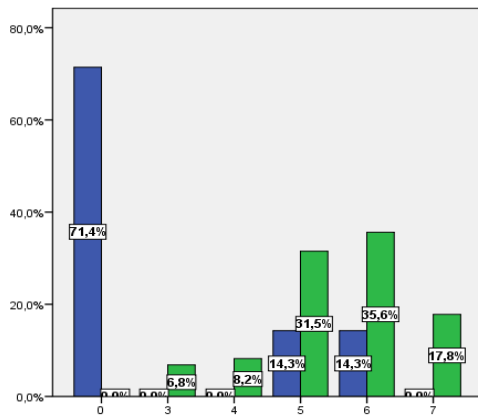


Fig. 9. The distributions of the responds for self-development/satisfaction and openness to new challenges (blue – unemployed students, green – employed students)

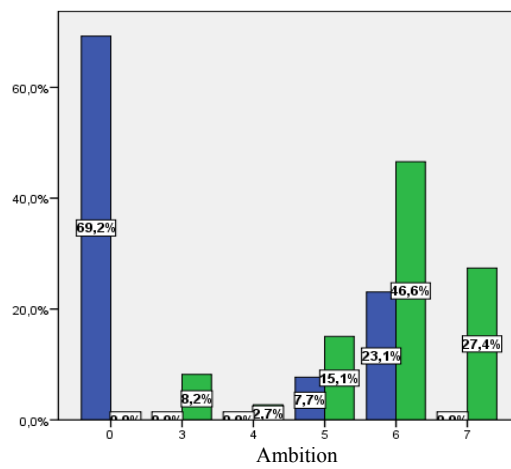
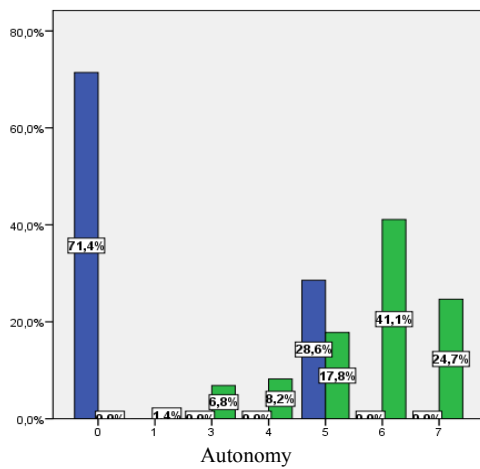


Fig. 10. The distributions of the responds for autonomy and ambition (blue – unemployed students, green – employed students)

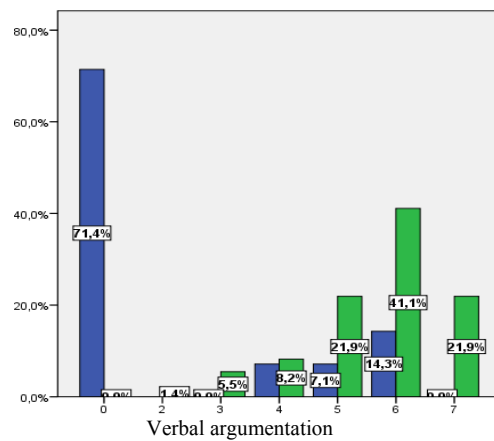
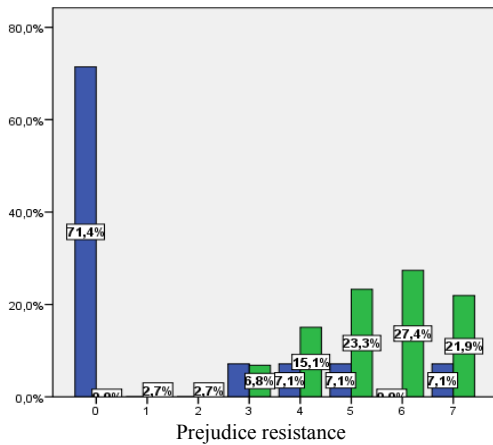


Fig. 11. The distributions of the responds for prejudice resistance and verbal argumentation (blue – unemployed students, green – employed students)

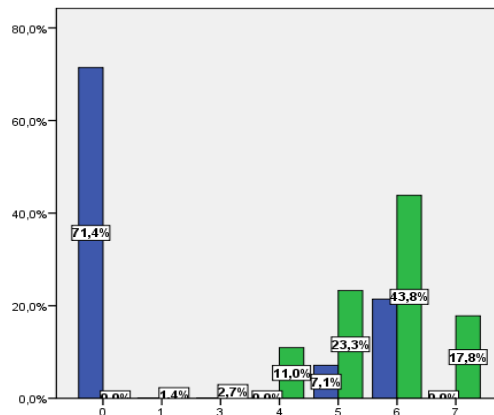


Fig. 12. The distributions of the responds for personal action and initiative (blue – unemployed students, green – employed students)

In figures with the graphical results of the research there have been represented in blue the results of the unemployed students and in green the responds of the employed students.

The responds were syntheses in Table 2 under the form of the social skills matrix. For each characteristic suggested by a specific question there have record the dominant answer for the two samples (one of the unemployed NE and the other of the employees E). Correlated with the Likert scale used for the answers level of perception, there were made the following

- Disagree / not needed correspond to the score obtained for the level 1 and 2 (arithmetic average);
- Neither agree nor disagree correspond to the score obtained for the level 3, 4 and 5 (arithmetic average);

- Agree / needed correspond to the score obtained for the level 6 and 7 (arithmetic average).

The total score shows the most needed social skills that are required for the job or the workplace. In addition, the social skills matrix is useful for the training program design in this field of soft skills development for students from engineering specialization. Table 2 shows that employed students are more interest in having and develop their social skills. Most of them agree in having 18 different social skills development and only three characteristics (self-development, negotiation spirit and persuasion characteristics) are neither agree nor disagree (they do not feel yet that these social skills are needed for their professional career development).

Table 2. The social skills matrix (research results)

Characteristics / Question	Disagree / not needed		Neither agree nor disagree		Agree / needed	
	NE	E	NE	E	NE	E
1. Kindness			X			X
2. Flexibility in behaviour					X	X
3. Organizational spirit					X	X
4. Credibility					X	X
5. Self-development				X	X	
6. Negotiation spirit			X	X		
7. Persuasion characteristics			X	X		
8. Sociability					X	X
9. Social conformity			X			X
10. Situational intelligence			X			X
11. Self-control					X	X
12. Self-confidence					X	X
13. Pedagogical tact					X	X
14. Verbal investigation skills					X	X
15. Self-development	X					X
16. Openness to new challenges	X					X
17. Autonomy	X					X
18. Ambition	X					X
19. Prejudice resistance	X					X
20. Verbal argumentation	X					X
21. Personal action and initiative	X					X
Total score	7	-	5	3	9	18

The unemployed students most agree of the importance of the flexibility behavior, organizational spirit, credibility, sociability self-control, self-confidence, pedagogical tact, and verbal investigation. They neither agree nor disagree on the importance of kindness, negotiation spirit, persuasion, social conformity, and situational intelligence. The unemployed students disagree on many social skills (answers to questions 15 to 21) because they are not used to think of their social need when considering working group inter-relationships.

IV. CONCLUSIONS

The paper have presented a study on characterizing the effects of different project in the field of entrepreneurship skills development and that include some training sessions for the social competencies' development in the case of students from technical sciences (engineering studies pf tertiary level). The research has been focused on the social skills development in the case of students from the Engineering and Management specialization, but also, for the young researchers (PhD. students enrolled in different engineering specializations). Thus, a comparative study has been developed by underling the two group of students' characteristics, one of students that were employees and another one consists of students that were unemployed (NE).

The method used for the investigation was the survey based on the SCAN questionnaire. It has been developed by the Secretary's Commission on Achieving Necessary Skills (SCANS) that was created by the United States Department of Labor to study the skills needed in the American workplace gives a possible inventory of the social skills. SCANS competencies span the chasm between the worlds of school and the workplace. The 27 SCANS skills are divided into two categories: foundation and functional skills (as shown in Table 1).

In addition, in the context of the paper there have been debated the social competencies development

importance for the future engineers (parried with the technical abilities development).

As a supplementary result, the study shows that PhD. Students were more interested and motivate by the social skills development most because their major interest of a successful career development. Master students are most of them employee in the beginning of their professional life and thus, they do not understand the importance of the investigated skills.

The research for the social skills competencies' perception is considered mature to be extended to other group of students to improve their curricula with subjects or activities that promote the social skills development. The limits of the research results (graphical presentation and social skills matrix) are related to the investigated group of students.

REFERENCES

- [1] Baron, R. & Markman, G., D. (2003). Beyond social capital: the role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, vol 18, Issue 1, January 2003, pp. 41-60
- [2] Boyatzis, R., E., (1982). *The Competent Manager: A Model for Effective Performance*, John Wiley & Sons, New York, USA
- [3] Boyatzis, R., E., Goleman, D. & Rhee, K. (1999). Clustering Competence in Emotional Intelligence: Insights From the Emotional Competencie Inventory (ECI), *Available from: <http://weatherhead.case.edu/academics/departments/organizational-behaviour/research/workingPapers/WP%209-6.pdf>*
- [4] Goleman, D. (1998). *Working with Emotional Intelligence*, Bantam, New York, USA
- [5] *** (2006). *Skill and Abilities. SCANS skills*, <http://www.soicc.state.nc.us/soicc/planning/skillsjob.htm> - North Carolina Career Resource Network, *Accesed on:2011-03-18*