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STUDENTS' COMPETENCES AND ENTREPRENEURS' EXPECTATIONS. THE FIRST STAGE OF THE SYNERGY PROJECT EVALUATION

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Abstract:
The article presents the results of a research on students' competencies self-esteem. Competencies were defined as a synthesis of three components: knowledge, skills and attitudes. The study was performed in the areas identified by the representatives of the business, as competitiveness key factors in the job market. The research was conducted in the years 2009 - 2012, on a sample of 1,831 students, under the *"SYNERGY – MCSU Faculty of Economics students' competences development by gaining practical knowledge" project*. The SYNERGY project was co-financed by the European Union from European Social Fund *and realized by* the Department of Economics *Maria Curie-Sklodowska University (MCSU)*.

The purpose of this article is the to show which areas of knowledge, skills, and attitudes are considered to be essential for business owners and business representatives, as well as what is the level of self-esteem of this competencies among the students of economics.

The article consists of two parts. In the first part authors present the characteristics of the SYNERGY project: basic information, project objectives and activities realized in the framework of the project, for students, enterprises and business organizations. The second part presents the results of the research on students' of economics self-assessment in the area of presented knowledge, skills and attitudes.

Authors present areas of knowledge that were characterized by high and low level of self-esteem. The paper also shows the skills that are desirable from the business point of view, but in the opinion of students require special attention and development.

In the last part of the article authors present, whether and how the competencies self-esteem level depends on respondents' gender, age, place of residence, year and course of study? The paper presents also the key findings of the study, as well as examples of activities that are necessary to raise the level of knowledge, skills and to shape the attitudes of business students.

Keywords: self-esteem, competencies, students, Synergy project

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1. THE SYNERGY PROJECT DESCRIPTION

1.1. General information

Appropriate education of students is a prerequisite to an increase of their competences, understood as a synthesis of knowledge, skills and attitudes (Čiarnienė et al., 2010, p. 438). Shaping the competencies, in turn, leads to the increase of the competitive advantage gained in the job market, which nowadays, in times of crisis has become undoubtedly the market with strong competition, employers' market.

The *"SYNERGY – MCSU Faculty of Economics students' competences development by gaining practical knowledge"* realized by the Department of Economics Maria Curie-Sklodowska University (MCSU) is an attempt to meet the expectations of employers, graduates and students, also to improve the practicality level of education. The project is implemented over the period of five years, from October 2009 to September 2014, co-financed by the European Union from European Social Fund under the *Operational Programme Human Capital*. Detailed information about The SYNERGY project are available at: www.synergia.umcs.lublin.pl[2].

The recipients of the project are both students and graduates of business studies, who can participate in a number of benefits such as: trainings, lectures conducted by practitioners, practical projects, internships, or students practice. In the area of evaluation project team conduct also activities to explore self-esteem of participants competencies. Detailed results of the self-esteem research are presented in this publication. In addition, evaluation process is aimed to monitor the increase in the level of competencies and graduates' career.

One of the initiatives of the project is *The Entrepreneurs Council*, unit where representatives of the entrepreneurs gain the opportunity to exchange experiences between science and business practice, as well as have the influence on the design of study programmes. The Council consists of representatives of both the Faculty of Economics, as well as representatives of business and local government. *The Entrepreneurs Council* cooperate with the Department of Economics in the area of research (undertaking joint projects, practical use of research results, implementation of advisory services, conferences, seminars, workshops), educational (consulting training plans and curricula, organization of internships and students practice, support in the development of teaching materials, organizing lectures conducted by practitioners), promotional (including promotion of Department and partners, popularization of knowledge and education).

The Project made it possible to achieve additional objectives resulting from the close cooperation between science and the business sector:
- co-organization of an international conference *Technology Innovation and Industrial Management 2012* (TIIM 2012)[3],
- creation of a journal called *International Journal of Synergy and Research* (IJSR)[4],
- arranging the Academy of Entrepreneurship[5],
- development of a training programme in the area of using specialized IT tools in the enterprise management.

1.2. The Project aims

The main goal of the SYNERGY project is to minimize the competence gap of students of Faculty of Economics by increasing a level of practicality in education. The achievement of the main target is possible due to partial goals, which include:
- strengthening the practical elements of learning, thanks to cooperation with representatives of business and business supporting institutions,
- providing practical skills by organizing internships for students,

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[1] The SYNERGY Project Homepage: www.synergia.umcs.lublin.pl (15.01.2013).

[2] The SYNERGY Project Homepage: www.synergia.umcs.lublin.pl (15.01.2013).

[3] Detailed information about the TIIM 2012 conference are available at: http://tiim2012.umcs.lublin.pl/ (16.01.2013).

[4] Detailed information about IJSR journal are available at: http://ijsr.umcs.lublin.pl/ (16.01.2013).

[5] Information about the Academy of Entrepreneurship can be found at: http://www.kariera.open.pl/ (16.01.2013).

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- establishing *The Entrepreneurs Council*, as a consultative body of the MCSU Faculty of Economics Programme Council,
- conducting selected classes by practitioners,
- implementation of practical projects by students in enterprises and institutions under the patronage of academics,
- increasing the level of mathematical knowledge by conducting additional courses,
- better preparation of graduates to enter the job market by providing specialist trainings,
- increasing the level of contacts between students and potential employers by the organization of workshops and panel meetings,
- implementation of the system for collecting the information about the level of graduates competence in order to fit the needs of employers and adapt the curriculum to the needs of the job market.

Obtaining of above goals was largely possible by using ICT tools like web page[6] equipped with content management system (CMS) and The Virtual Platform of Cooperation[7] (WPWWE) based on course management system MOODLE. The home page of WPWWE was shown on **picture 1**.

Picture 1: The Virtual Platform of Cooperation home page
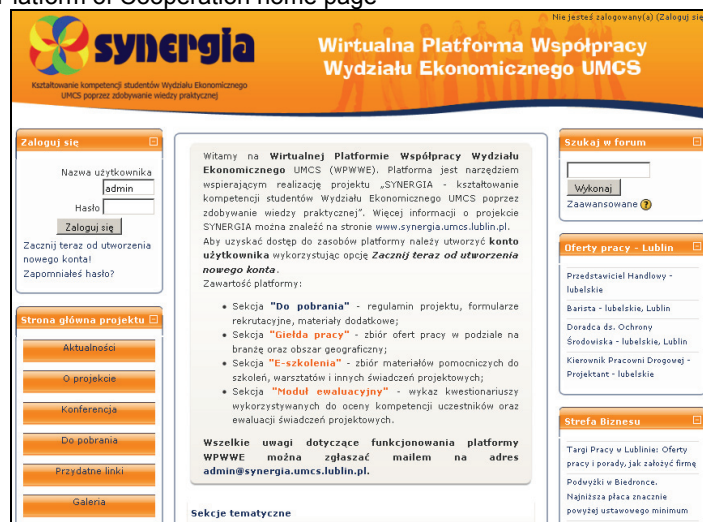
Source: http://www.platforma.synergia.umcs.lublin.pl (23.01.2013).

WPWWE is a communication portal between: Department of Economics, organizers of the project, project participants and representatives of the business. Using the WPWWE platform project participants are able to:
- apply to the project,
- apply to the specific project services,
- get access to project databases: trainings, job offers,
- download supporting materials,
- search for employers,
- verify own knowledge and competences,
- quickly communicate with other participants and project staff,
- gather participants' opinion about project services,
- assess the quality of project activities.

1.3. Project activities

The project activities are prepared for two target groups: students of the Faculty of Economics and entrepreneurs. Through the participation in the project, students of the Faculty of Economics, gaining the opportunity to take part in:
- compensatory courses in mathematics,

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[6] The SYNERGY Project Homepage: www.synergia.umcs.lublin.pl (15.01.2013)
[7] Wirtualna Platforma Współpracy Wydziału Ekonomicznego UMCS (WPWWE) dostępna jest pod adresem: www.platforma.synergia.umcs.lublin.pl (15.01.2013).

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- conferences,
- training in starting and running a business,
- interpersonal training,
- training in the basics of investing in the stock market,
- training in computer accounting,
- internships and practices in enterprises or institutions,
- practical projects carried out for companies or institutions,
- activities conducted by business representatives.

Representatives of business and business-related organizations cooperating in the Project, gaining the ability to:
- recruit talented students and graduates,
- develop the graduates' competencies profile,
- assess the potential employees during the internships, or students practices,
- outsource consultancy projects for students, performed under patronage of experienced researchers.

These benefits, as well as the ability to use knowledge of the wider academic community, and to increase the efficiency of the new employees recruitment process, are possible to achieve without additional financial costs.

2. STUDENTS' SELF-ASSESSMENT RESEARCH

2.1. Research methodology

One of the *"SYNERGY – MCSU Faculty of Economics students' competences development by gaining practical knowledge"* project aim is to implement the system for collecting the information about the level of students', graduates' competencies in order to fit the needs of employers and adapt the curriculum to the needs of the job market. Before entering the project, students were asked to complete a questionnaire assessing the level of their competencies, understood as a synthesis of knowledge, skills and attitudes. Research designed to provide data for the analysis of students' self-assessment of knowledge, skills, and expression of attitudes was conducted in the years 2009 – 2012. The key areas of knowledge, skills and attitudes has been developed basing on feedback from business representatives and analysis of the literature (Bencsik, 2010, pp. 13-14), (Marzo-Navarro et al., 2008, p. 286), working with the organizers of SYNERGY project. The proposed areas were further verified by experts in the field of human capital management, counselors and representatives of recruitment agencies.

In order to carry out research tasks, research team constructed a questionnaire consisting of three closed matrix questions (block of substantive questions) and respondent characteristic questions. Three substantive questions were related to the basic components that make up the competencies: knowledge, skills and attitudes.

Closed-matrix questions allowed to assess the level of students' competencies on a scale of 1 to 5 (where the ranks mean: 1 - very low, 2 - low, 3 - average, 4 - high, 5 - very high). The measurement was performed using an electronic questionnaire (CAWI - Computer-Assisted Web Interview), so that it was possible to reach a large number of respondents in a relatively short time and with no additional costs.

At first respondent assessed the level of knowledge in the areas identified by the key business representatives, which include: production, marketing, sales, customer service, logistics, finance, accounting, taxation, banking, insurance, law, human resources management, project management, information technology, business practices. Respondent assessed the individual areas by assigning ratings on a scale of 1 to 5, meaning the level of possessed knowledge.
In order to examine the level of skills possessed by students, researchers developed an exhaustive list (see Bencsik, 2010, pp. 13-14). Its composition has been agreed with representatives of the business. This component consisted of the following skills:
- analytical thinking,
- communicating,
- constructive criticism,

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- coping with stress,
- creativity,
- decision-making,
- group work,
- knowledge of foreign languages,
- learning speed,
- making judgments and inferences,
- openness & adaptability,
- planning and work organization,
- preparing reports and presentations,
- public speaking,
- self-presentation,
- synthetic thinking,
- the use of knowledge in practice,
- using basic IT tools,
- using IT specialist tools,
- using mathematical tools.

Attitudes recognized by business representatives to be the most important from the point of view of the job market belonged to the following areas: assertiveness, efficiency, entrepreneurship, ethics, honesty, independence, intuition, loyalty, orderliness, reliability, responsibility, self-improvement and development.

The respondents' characteristic questions were: field of study, level of study, year of study, gender and place of residence.

Filling in the questionnaire covering all aspects of substantive knowledge, skills and attitudes and respondent characteristic, through the use of an electronic version of the questionnaire, which was published on The Virtual Platform of Cooperation (WPWWE) took the no more than 10 minutes.

2.2. Characteristics of the research sample

The research involved 1,831 respondents, students of the Faculty of Economics, participating in the SYNERGY project. Detailed description of the research sample was presented in **table 1**. Among the respondents, 33% were students of economics, 30% of management, 37% finance and accounting. The vast majority of respondents were bachelor's degree students (1540 respondents, 84%), students of the master studies accounted for 16% of respondents. Among the largest group of respondents were students of the second and the first year of B.A. studies, respectively, 64% and 17%.

Table 1: Characteristic of the research sample

Characteristics of respondent	Number of respondents	Percentage of respondents
Field of study		
- Economics	603	33%
- Management	556	30%
- Finance and Accounting	672	37%
Undergraduate degree		
- I	1540	84%
- II	291	16%
Year of study		
- I	320	17%
- II	1167	64%
- III	53	3%
- IV (1st year of masters)	126	7%
- V (2nd year of masters)	165	9%
Gender		
- Female	1190	65%
- Male	641	35%

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| Place of residence		
- City	976	53%
- Village	855	47%

Source: own work based on the Synergy project research.

The studies involved 1190 women (65%) and 641 men (35%). Among the respondents, 53% were residents of the cities, the remaining 47% of students came from rural areas.

2.3. Results of the research

General self-esteem level of competencies had quite positive average rating of 3.34 (Kakkonen 2011, p.234). The study showed that among the three components: knowledge, skills and attitudes that make up the competencies of students, the highest score got a component of attitudes (the average score on a scale of 1 to 5 was 3.96). Skills gained note 3.42. The level of knowledge was assessed the lowest, with average rating of 2.64. The results of the self-assessment of business students' competence were presented on the **picture 2.**

**Picture 2:** Self-assessment of business students' competence
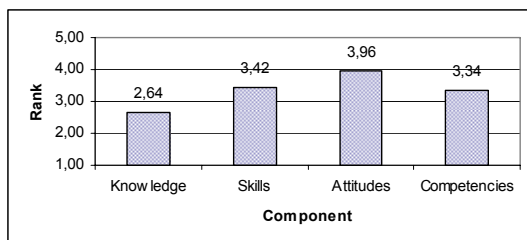
Source: own work based on the Synergy project research.

Significant is the fact that the realm of attitudes and the level of students' competencies got the highest notes, the level of possessed knowledge was rather low. This assessment seems to contradict the common opinion that universities provide students with large amount of unnecessary knowledge, which is usually not reflected in the level of skills and does not lead to practice use the acquired knowledge, or for shaping suitable attitudes of graduates.

The results of self-esteem level of students' knowledge in selected areas are presented on picture 3. The highest level of self-esteem refers to the areas of: computer science (score 3.05), customer service (score 3.00), finance (score 2.95) and accounting (score 2.91). The areas where the knowledge was at the lowest level includes: logistics, human resources management, project management, and production. In these areas the average rating on a scale of 1 to 5, was respectively 2.40, 2.33, 2.33, 2.29.

**Picture 3:** Self-assessment of the level of students' knowledge in the selected areas
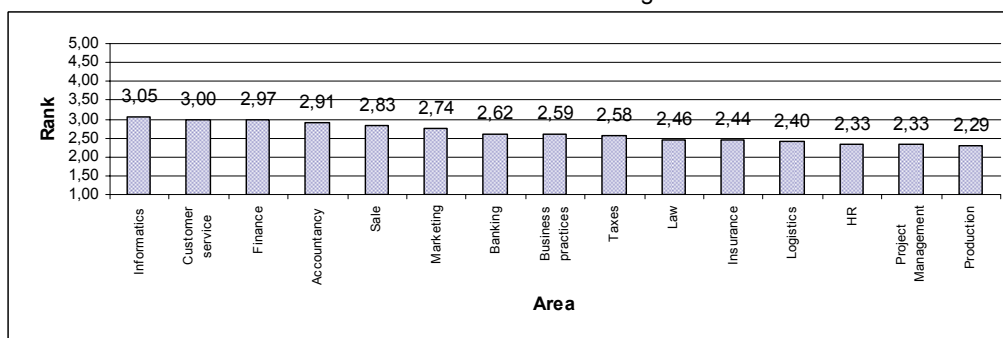
Source: own work based on the Synergy project research.

Based on the obtained results it can be concluded that the students evaluate low the level of their knowledge resources. Low average rating of 2.64 may result from the relatively large representation among respondents students of initial years of studies (the first and the second year) who are starting to gain expertise. Representatives of undergraduate rated the possessed level of knowledge at 2.56, while the respondents representing master studies assessed it at 3.04. Another reason for the low

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assessment of the level of knowledge may be the fact that the respondents were asked about their knowledge in a specific areas. Perhaps having the general knowledge acquired during participation in basic courses, held during the first years of the studies, students were not always able to classify it into a specific area.

The research on self-esteem of students skills indicate that the highest level of practical application of knowledge students' exhibit in the areas of: using basic IT tools, communication, teamwork, openness to change & adaptability (compare with Bencsik, 2010, pp. 13-14). In these areas, the level of self-esteem was: 3.94, 3.87, 3.84, 3.80, The lowest marks received areas: self-presentation (score 3.31), using mathematical tools and techniques (score 3.05), public speaking (score 2.83), using specialized tools (2.43) (compare with Marzo-Navarro et al., 2008, p. 286). The results of self-assessment of students' skills in the selected areas were illustrated on **picture 4**.

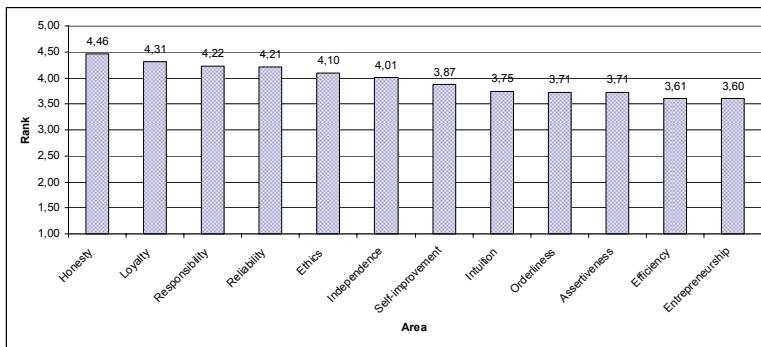**Picture 4:** The self-assessment of the level of students' skills in the selected areas
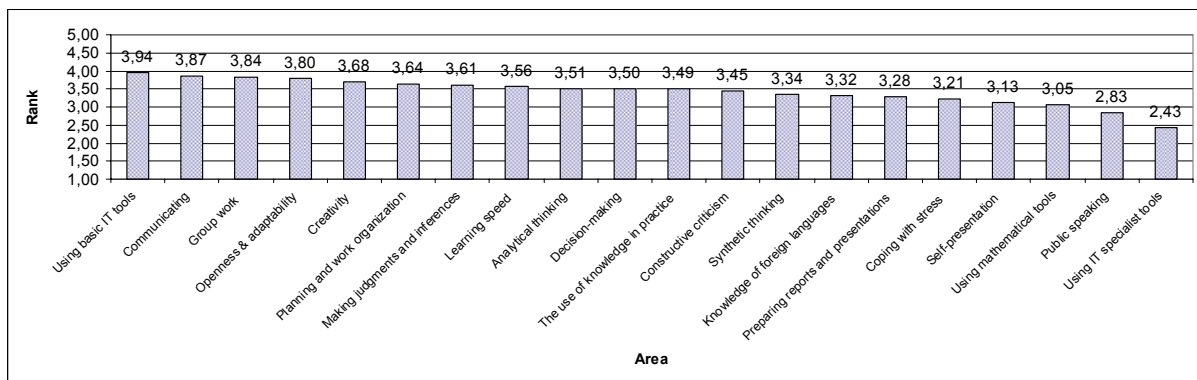
Source: own work based on the Synergy project research.

The above analysis shows that in order to make maximum use of the skills possessed by the students, teaching process, especially in the early years of studies, should enable the realization of group tasks, using simple IT tools such as a web browser, instant messenger. Due to relatively high level of openness to change and adaptability presented by the respondents (compare with Čiarnienė, et al., 2010, p. 441), it is worth to differentiate, diversify the process of gaining skills for example, by using activating teaching methods like brainstorming, task forces, project method or simulations (Buzzetto-More, Mitchell, 2009, p. 87).

The study programmes should also include courses to ensure the development of skills such as self-presentation, which plays a special role in the recruitment process, but also to prepare graduates, including future managers, analysts, financial managers, to conduct public speaking. Graduates of economics studies should have the ability to think logically and use mathematical tools in practice (Abraham, Karns, 2009, p. 355), in order to be able to base the conclusions or decisions on relevant numerical foundations, often generated in an automated way by IT tools. An important fact is also to enable students to learn the commonly used advanced IT tools, such as: ERP systems, BI applications and applications that support electronic data interchange (EDI). Ability to use specialized IT tools can be one of the way to decrease the gap between the employers needs and the skills and abilities of job candidates.

Respondents presented a relatively good opinion about attitudes, in particular: honesty, loyalty, responsibility and integrity. Self-evaluation of the above areas was respectively at the level of 4.46, 4.31, 4.22, and 4.21. Characteristics of self-assessment of students' attitudes in the selected areas were illustrated on **picture 5**. In general, the area of presented attitudes has been assessed much higher than their skills or knowledge. The attitudes considered to be the least developed were: regularity (3.71), assertiveness (3.71), efficiency (3.61), entrepreneurship (3.60).

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Picture 5: Self-assessment of the level of students' attitudes in the selected areas

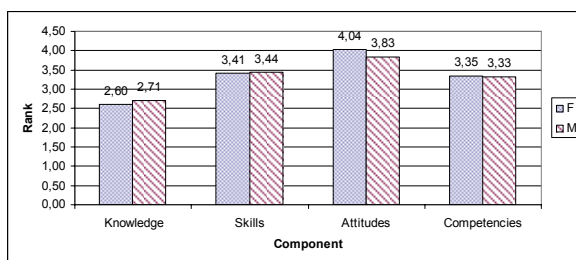
Source: own work based on the Synergy project research.

Analysis of these data leads to the conclusion that students of economics can be considered as honest, loyal, responsible and reliable. At a slightly lower level students assessed: systematic, assertiveness, operability. Students also characterized themselves by a low level of perceiving market needs and the ability to use grasp opportunities, and willingness to take risks of running their own business. Consequently, it is important to systematically shape attitudes by introducing regularity, rhythm to the way in which the content of the study programme is passed on to students. In case of the part-time students, it becomes crucial to design the mandatory training programmes and additional activities in a way that ensures an adequate distribution of content at the time, such as weekly classes, regular meetings with the supervisor, tutor, or a representative of the business.

The key issue is to develop attitude of entrepreneurship and entrepreneurial culture (Kumara, Sahasranam, 2009, p. 24), for example by organizing meetings with entrepreneurs, presentations of case studies, and implementation of practical projects that require contact with the business environment.

Incorporating the practical elements into the study programmes probably involves additional administrative problems: the selection of personnel, construction of meetings schedules, or costs arising from the need to provide adequate salary for professionals, business people that would like to share the experience accumulated over many years. Although many organizational cost or problems, it should be stated that the most important in the educational process must be the good of student, that can be manifested by formation of appropriate attitudes, commonly desired in the job market.

The study also made it possible to answer the question whether the level of presented knowledge, skills, and attitudes depends on the gender, place of residence, year of study, or respondent's field of study? The results show that both investigated women and men have similar levels of self-evaluation of presented competencies giving notes, respectively, 3.35 and 3.33 (see **picture 6**) (compare with Čiarnienė et al., 2010, p. 441; Kakkonen, 2011, p.237). The only significant difference was observed in the area of attitudes (average score for women 4.04 and for men 3.83).

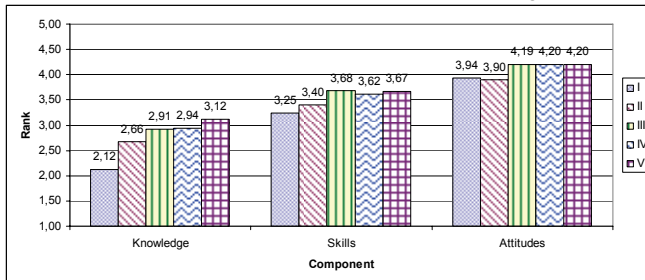**Picture 6:** Self-assessment of competence among business students according to students' gender

Source: own work based on the Synergy project research.

The results indicate that the level of students' competencies is positively correlated with the year of studies (compare with Kakkonen, 2011, pp. 235-235). All components: knowledge, skills and attitudes were rated lowest by the students of the first year, the rank was, respectively, 2.12, 3.25, 3.94. The

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level of competencies achieved an average rating of 3.10. The highest level of competence was declared by last year students, whose self-esteem is at a level of 3.66 (knowledge component 3.12, skills component 3.67, attitudes 4.20). Self-assessment of competence among business students according to students' year of study was shown on **picture 7**.
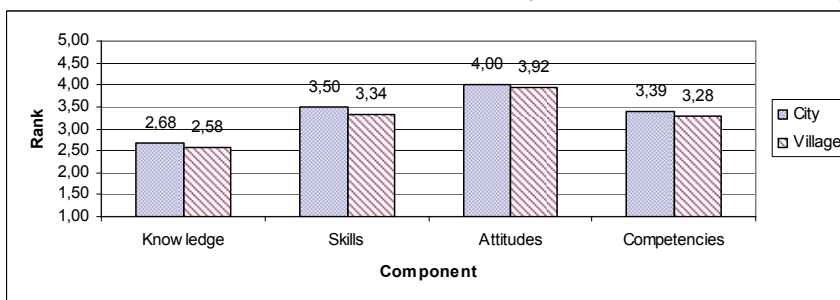
Picture 7: Self-assessment of competence among business students according to students' year of study

Source: own work based on the Synergy project research.

There were no significant differences in self-assessment of competence resulting from the place of residence of students. Both surveyed students living in rural areas (47% of respondents), and urban residents (53%), evaluated the components that make up the overall level of competence on almost the same level. The inhabitants of cities have assessed level of knowledge, skills and attitudes slightly higher. The differences in the assessment of the individual components are, respectively: 0.10, 0.15, 0.07 point. The level of self-assessment of students' competencies according to the place of residence is shown on **picture 8**.
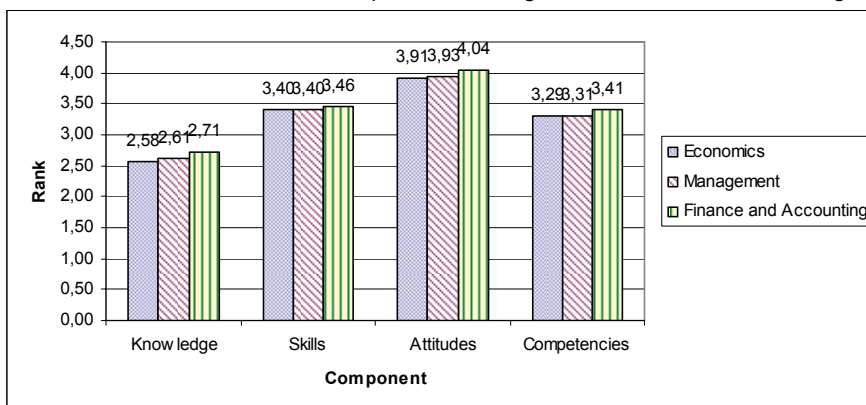
Picture 8: Self-assessment of competence among business students according to students' place of residence

Source: own work based on the Synergy project research.

The study also showed that there were no significant differences in self-esteem level of students' competencies according to the field of study. The level of competencies self-assessment according to the field of study was presented on **picture 9**. Self-esteem among the students of Management and Economics developed almost at the same level, gaining score 3.30. Presented slightly higher level of competence has been assessed by the Finance and Accounting students, an average rating of 3.41.

Picture 9: Self-assessment of competence among business students according to students' field of study

Source: own work based on the Synergy project research.

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Some small differences between the level of self-esteem of students of Economics and Management, and representatives of the Finance and Accounting may result from the recruitment process. For several years at the Department of Economics MCSU it is observed that in the selection procedure there is two or three times more candidates for one place for Finance and Accounting than for the other economic field of study. Therefore, the selection is more strict. As a result, Finance and Accounting gets the candidates who obtained better high school results, so they should have a higher level of competencies.

3. SUMMARY

Conducted research indicates that students assess their present level of competence (on a scale from 1 to 5) on average 3.34. Among the components that make up the level of competence, namely: knowledge, skills and attitudes, the lowest score obtained component of knowledge, particularly in the areas of logistics, human resources management, project management, and production. Slightly higher scores obtained areas related to information technology, customer service, and finance and accounting. Therefore, it seems particularly important to provide students with knowledge of logistics, human capital management, and presentation of issues related to project management for example: methodology, IT tools supporting the management process. Mentioned activities implemented in the area of knowledge, may be a way to remove the competence gap between the employers requirements and business students or graduates competencies.

The level of skills acquired in the opinion of students relatively high score of 3.42, higher than the level of knowledge, where the average rating was 2.64. In the most opinions the areas with the greatest shortages are: self-presentation, using of mathematical tools and techniques, public speaking, and using specialized IT tools. In turn the areas: using basic IT tools, communication, teamwork, openness to change and adaptability received the highest score. Therefore, it becomes important to develop practical skills through the implementation of project tasks, discussions of case studies, allowing students to use their full potential including: openness, teamwork and communication skills. In the process of developing skills students should use more IT tools and try to establish cooperative relationships with representatives of business, or government. (Holtzman, Kraft, 2010, p. 56). The above activities should use the students potential exhibiting in a relatively high level of computer knowledge and enable to deepen, develop knowledge in the areas of human resource management, production, skills which have the lowest level of self-esteem.

Among the components that make up the skills, students rated highest the level of their attitudes. Component of attitudes gained average rating of 3.96. Top rated attitudes include: honesty, loyalty, responsibility and reliability. Relatively large gaps were observed in the following areas: regularity, assertiveness, efficiency and entrepreneurship. So, the design process of educational paths for students should focus on developing attitudes, regularity and willingness to start own businesses.

While the development of knowledge and skills in a selected area can be seen in the short term, at the level of course, shaping the attitudes requires long-term plans, which should consist of a coherent set of activities: lectures, tutorials, laboratories, projects, seminars, internships, study visits spanning the entire studies programme. In order to minimize the gap between businesses requirements and universities offer it becomes necessary to exchange knowledge and experiences as well as staff between science and business (Bencsik, 2010, p. 17; Abraham, Karns, 2009, p. 355).

The research showed that there were no significant differences between the level of competence self-esteem among male and female students. Only the attitude component was rated slightly higher by women than by men. There were also no differences in the self-assessment of students' competence level according to the respondents place of residence, or field of study. Only Finance and Accounting students stated to have slightly higher level of competencies, which is probably due to the higher level of competition during the recruitment stage.

However, there is a positive correlation between the level of competence self-esteem, and the respondents year of study. The competencies were rated quite low by first year students. The highest level of competence was declared by last year master's degree students. These data clearly show that during the each year of study, students acquire new knowledge, skills, form attitudes, which make up a increase in the level of substantial competencies useful and desired by future employers.

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