

# MANIFESTATION OF LIBERAL EDUCATION VALUES IN TECHNOLOGICAL UNIVERSITY STUDIES: LECTURERS' APPROACH

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## Introduction

Liberal education in various times has assumed many forms, but it has always been concerned with significant educational aims: cultivating intellectual and ethical judgment, helping students comprehend and communicate their views to the world and preparing them for lives of civic responsibility and leadership.

Higher education institutions no longer assume that analytical capability emerges automatically as students take courses. Instead universities are designing new curricula and new teaching strategies, which could ensure that such abilities as communication skills, critical thinking, understanding of social context, aesthetical sense, professional ethics, scientific interest for professional development and motivation for further education are developed in students.

Today universities, according to the university origin, should be concerned with educating full citizens for a multicultural and diverse society in today's interdependent world, though needs and requirements of the modern industrialized society forces higher educational institutions to focus on training highly-skilled professionals more, but nevertheless universities declare that students in their studies are not limited to being trained or instructed (Jones R. C., Oberst B. S. (2003), Ollis D. F., Neeley K. A., Luegenbiehl H. C. (2004)). It is claimed that one of the primarily goals of universities is to offer education oriented to the whole person rather than to mere acquisition of skills.

Conceptual or theoretical framework presented in the paper states that the most important and essential purpose of a university is to provide liberal education that would guarantee a person's intellectual emancipation. The primary purpose of such education is not only practical application of the received knowledge or tangible benefit, or other quantitative values, but knowledge itself which as such is valuable in the conditions of the knowledge society (R. Barnett, (2000), D. Maskell, I. Robinsin (2002), G. Delanty (2002), M. Nussbaum (2003), (2004), C. G. Schneider (2003), C. G. Schneider, R. Shoenberg (1998).

On the basis of scientific literature analysis and results of the written enquiry the paper searches

for an answer to the following questions: What are the problems and possibilities of liberal education in technological universities especially in formerly specialized higher education institutions from the lecturers' perspective? Do lecturers understand their role in students' liberal education? How do lecturers perceive liberal education, what features of liberal education do they foster? How do they incorporate values of liberal education in educational environment? How and to what extent does liberal education manifest in technological university's study system from the lecturers' point of view?

The **aim** of the article is to analyze manifestation of liberal education in technological university studies from lecturers' point of view.

**Research Objectives** of the article are:

- To analyze lecturers' perception of liberal education application in teaching and incorporation of values of liberal education in educational environment;
- To define significance of skills developed using radical approach to liberal education in teaching for professional career from lecturers' perspective;
- To ascertain importance of skills developed during university studies for students' future career from lecturers' perspective.

**Research methods:**

- Analysis of scientific literature.
- Written enquiry.
- Statistical data analysis using SPSS (mean ranks, independent samples t-test, Student's t-test).

## Manifestation of liberal education in technological university studies

Today no one doubts that liberal education is essential for surviving in modern society. As M. C. Nussbaum (2003, 2004), C. G. Schneider (2003) state, traditional framework of liberal education encompassing components of broad culture, social and scientific learning is adapted to changing demands of society. As many scientists agree, being liberally educated includes having a number of competencies, but the most significant one is students' ability to "learn how to learn and develop a zest for learning that will last them a lifetime" (Goldenberg, 2001, p. 15). Today's liberal education "develops

just those capacities needed by every thinking adult: analytical skills, effective communication, practical intelligence, ethical judgment, and social responsibility” (Association of American Colleges and Universities, 2002, p. 26).

Association of American Colleges and Universities defined liberal education (2007) as an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g. science, culture, and society) as well as in-depth study in a specific area of interest. Liberal education helps students develop sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings.

Many institutions of higher education in post Soviet countries including Lithuania have experienced shift from specialized institutes to universities. The shift in name changing was done some years ago but the shift in the organization as living organism is still in progress. Identification of problems for liberal education at university experiencing transformation listed below is based on purely theoretical background. These problems are common to all institutions of higher education experiencing transformation, formerly specialized institutes that were transformed into universities (Samalavicius, 2003):

- *weak tradition of liberal education* – for 50 years of Soviet occupation liberal education was realized to some extent, but usually its realization depended mainly on lecturer’s flexibility. Functionality of critical thinking, rationality, analytic skills, autonomy require partnership-based relations between lecturers and students and parity-based environment at a university and at that time it was more common for lecturers to impose hierarchic relationships and autocratic rationality, so because of ideology university had very limited possibilities for liberal education.
- *Tradition of dogmatic reasoning* – it is characteristic feature of all post-Soviet societies. This tradition should be associated with the Soviet period education system and its ideology. Individuals able to think universally and integrally were not required by that system because they were dangerous to it as Soviet system required dutiful specialists believing in its ideology and scientific technical revolution. The consequences of this tradition are still very deeply rooted in scientific research, studies, and on other levels.
- *Strong scientism ideology* – humanities at our universities are often seen as a relic of tradition or a humanistic decoration, but not as a discipli-

ne that carries out the mission of liberalization as the evaluation criteria of humanities and social sciences are formed by specialists of natural sciences strongly believing in scientism, ignoring other ways of understanding, and imposing their view of reality.

- *No integration between professional and general education disciplines* – although humanities are an obligatory part in non-humanities study program, the absence of integration is felt, the gap between professional and general education disciplines is enormous and the integration processes usually depend on the initiative of faculty professors. Academic community should assume responsibility and create education strategies that should encourage cooperation of university disciplines instead of separating them and raising opposition.
- *Passive resistance to reforms and new educational models* are still very frequent in post-Soviet countries. Quite a large number of lecturers at universities still use the Soviet pedagogical style and emphasize learning by heart (which is often given higher importance and valued more than critical thinking) as for fifty years education system was traditionally based on a clearly controversial theory of good and was conflicting with the education systems of democratic liberal countries. Resistance and the above-mentioned problems are one of the key barriers to democratic processes both at universities and in the society in general.

However universities experiencing transformation do not forget the roots of university origin and declare that they do not limit their study programs to training or instructing students. They claim that one of their primary goals is to offer education oriented to the whole person rather than to mere acquisition of skills. In the pilot survey conducted in 2005, 4<sup>th</sup> year students of Kaunas University of Technology expressed wish to acquire the skills and competencies that would allow them to prosper economically and live self-sufficient lives after completion of university studies. They also indicated that they want to learn things about themselves, others, and the outside world that will improve the quality of their thinking. In other words, students value liberal education and exposure to new ideas; they understand that competences acquired through liberal education are essential for their successful future professional career and life (Horbacauskiene, 2005).

### Methodology of the research

In order to inspect current situation of manifestation of values of liberal education at university

experiencing transformation (case of Kaunas University of Technology), research was conducted to define the lecturers' approach to conditions for liberal education at the university and manifestation of values of liberal education.

Methodology of the research is based on the following conceptions:

1. *Knowledge society conception* (Drucker, 1993): disclosing the importance of liberal education for modern society and highlighting the idea that a society becomes knowledge society when success resources and assurance for efficient activity is specialised knowledge, the basis of which is general knowledge and the ability to use it.
2. *Deep and surface approaches to learning* (P. Ramsden, 2003)
3. *Conservative and radical conceptions of liberal education* (R. Barnett, 1990, 1994). In *conservative* interpretation a word "liberal" is understood as "fitted for freedom". This traditional conception of liberal education is focused on a teacher's as organizer of studies activity ensuring necessary conditions for students' independence and self-development. The main idea here is wide study content. *Radical* – traditionally this approach to liberal education is considered one of the essential features of higher education that obliged academic community to assure that students have the possibility to become full and equal members of academic community. In radical conception liberal education is interpreted as education which produces free citizens, citizens who are free not because of wealth or birth, but because they can call their minds their own. *Special attention is paid not only to content of studies but also to teaching methods that allow educate free person.*

Research was conducted using questionnaire prepared by the author of the article. The questionnaire was formed using closed-response question (83) type statements. Closed-response questions were distributed according to the following blocks:

- *Conditions created by lecturers fostering liberal education during classes: lecturers' evaluation* ( $N_{\text{item}} = 27$ ).
- *Conditions for lecturers' work at university* ( $N_{\text{item}} = 14$ ).
- *Importance of skills in students' future professional career: lecturers' approach:* ( $N_{\text{item}} = 21$ ).
- *Lecturers' evaluation of students' ability to use skills in their career* ( $N_{\text{item}} = 21$ ).

The data was analyzed using Student criteria (T-Test), which is used for comparing quantitative variable means in 2 independent groups. The aim

of the analysis was to disclose differences of manifestation of liberal education between 2 types of faculties: technological and humanities and social sciences faculties. Comparison of two independent samples – Student's t criteria (*independent samples t-test, Student's t-test*) is used when the mean of quantitative variable is compared in two independent samples. This statistical method allowed revealing significant differences between two groups of respondents. The level of statistical significance is represented by p, when p equals to 0.05 or less it is treated as statistically reliable.

Lecturers' agreement with statements was evaluated according the following format: 0 – never; 1 – rarely; 2 – do not know; 3 – often; 4 – very often. Such evaluation allowed to calculate means. Total number of primary items was 83.

*Demographic characteristics of the respondents*

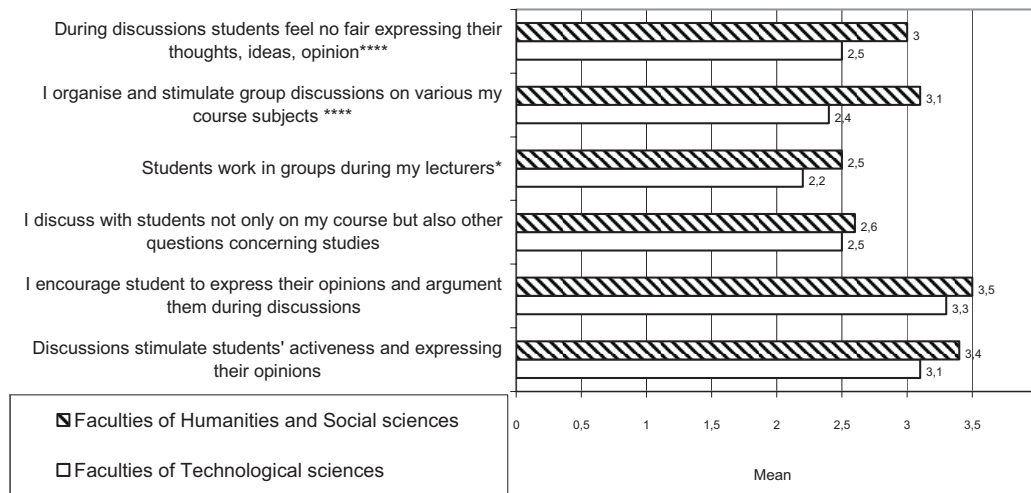
In the research participated respondents of one of the largest technological universities in Lithuania. The first group – lecturers of Technological Sciences faculties ( $N = 227$ ); the second group – lecturers of Humanities and Social Sciences faculties ( $N=101$ ). Total number of respondents was 328 with the following demographic characteristics: teaching experience up to 5 years – 22.9%; from 6 to 10 years – 23.5%; from 11 to 15 years – 9.5%; from 16 to 20 years – 9.1%, above 20 years – 35.1%. There are no significant differences in teaching experience between lecturers of Technological Sciences faculties and lecturers of Humanities and Social Sciences faculties. Average teaching experience of lecturers of Technological Sciences faculties was 16 years, lecturers of Humanities and Social Sciences faculties – 16.5 years.

There are no significant age differences between lecturers of Technological Sciences faculties and lecturers of Humanities and Social Sciences faculties. Average lecturer age in both types of faculties is from 35 to 55 years.

There are some differences in gender: in Technological Sciences faculties the percentage of male lecturers (52.4%) is slightly higher than that of female ones (47.6%), while in Humanities and Social Sciences faculties there are 2.5 times more women lecturers (71.3%) than men lecturers (28.7%).

## Results of the research

Students' activity, lecturers' attitude to making use during classes of group work and discussions as one of the main methods of liberal education from radical approach is represented in Picture 1.



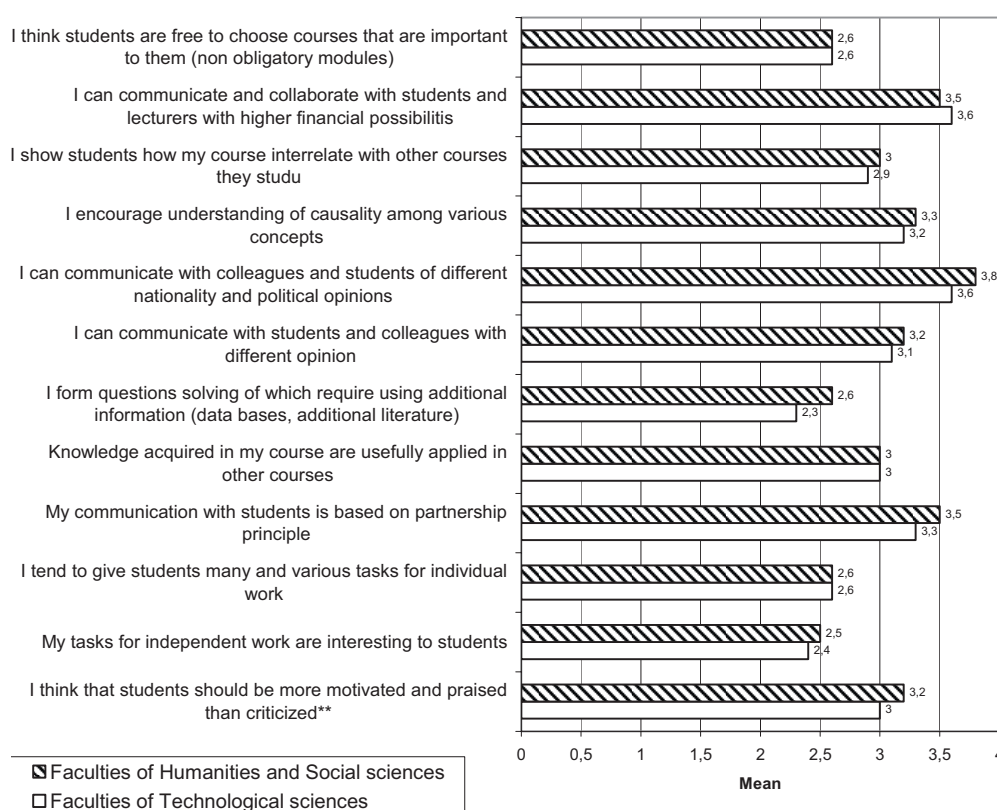
Note: p is significant at the level 0.05 (1-tailed), at the level 0.01 (2 tailed), at the level 0.001 (3 tailed), at the level 0.0001 (4 tailed).

**Picture 1.** Conditions Fostering Liberal Education in KTU: Lecturers' Approach Teaching grounded on discussions

More positive evaluation of discussions and group work was given by lecturers of Humanities and Social Sciences faculties. In the opinion of lecturers of Humanities and Social Sciences faculties, *during discussions students feel no fear to express their thoughts, ideas, opinion* more than students in Technological Sciences faculties (mean difference – 0.45, when  $t = -4.10$ ;  $p = 0.000$ ). Lecturers of Humanities and Social Sciences faculties more often *organize group work* during their classes (mean dif-

ference – 0.31, when  $t = -2.30$ ;  $p = 0.023$ ), *organize and stimulate group discussions on various my course subjects* (mean difference – 0.68, when  $t = -5.55$ ;  $p = 0.000$ ).

Though there are no significant differences, it could be stated that lecturers of Technological Sciences faculties are less active in *encouraging students to express their opinion and argue for it* and tend not to fully agree that discussions stipulate students' activeness and presenting opinion.



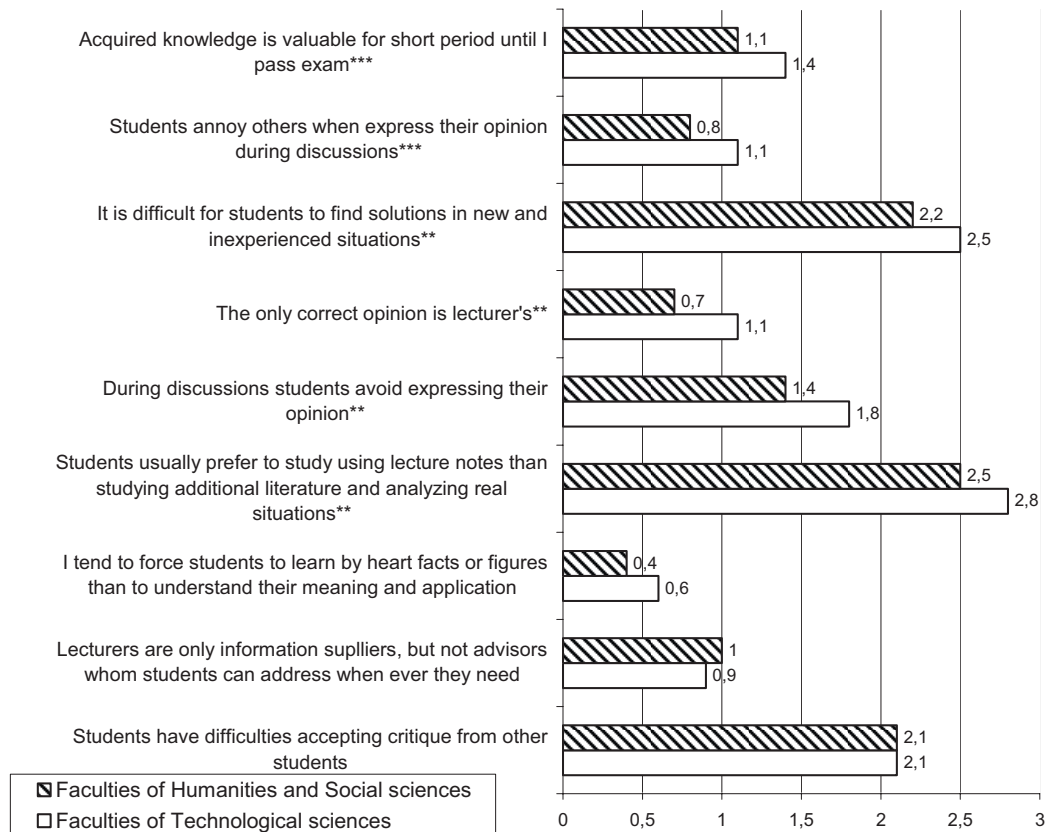
Note: p is significant at the level 0.05 (1-tailed), at the level 0.01 (2 tailed), at the level 0.001 (3 tailed), at the level 0.0001 (4 tailed)

**Picture 2.** Conditions Fostering Liberal Education in KTU: Lecturers' Approach Fostering of learning paradigm



The above diagram represents learning paradigm, development of critical thinking and transferrable skills. More positive evaluation for students' motivation than criticizing was given by lecturers of Humanities and Social Sciences faculties. Lecturers of these faculties gave higher evaluation to the statement *I think students should be more motivated and praised than criticized* (mean difference – 0.26, when  $t = -3.02$ ;  $p = 0.003$ ).

It should be noted that lecturers of Humanities and Social Sciences faculties and Technological Sciences faculties gave the same evaluation to the following statements: *I show students how my course interrelate with other courses they studies, I encourage understanding of causality among various concepts, the knowledge acquired in my course are usefully applied in other courses*, so there are no significant statistical differences.



Note: p is significant at the level 0.05 (1-tailed), at the level 0.01 (2 tailed), at the level 0.001 (3 tailed), at the level 0.0001 (4 tailed)

**Picture 3.** Conditions Fostering Liberal Education in KTU: Lecturers' Approach Teaching grounded on conservative liberal education approach

The diagram presented above shows lecturers' attitude to statements representing the idea that knowledge acquired in one or another course are valuable only for a short period of time, teaching based on conservative approach to liberal education.

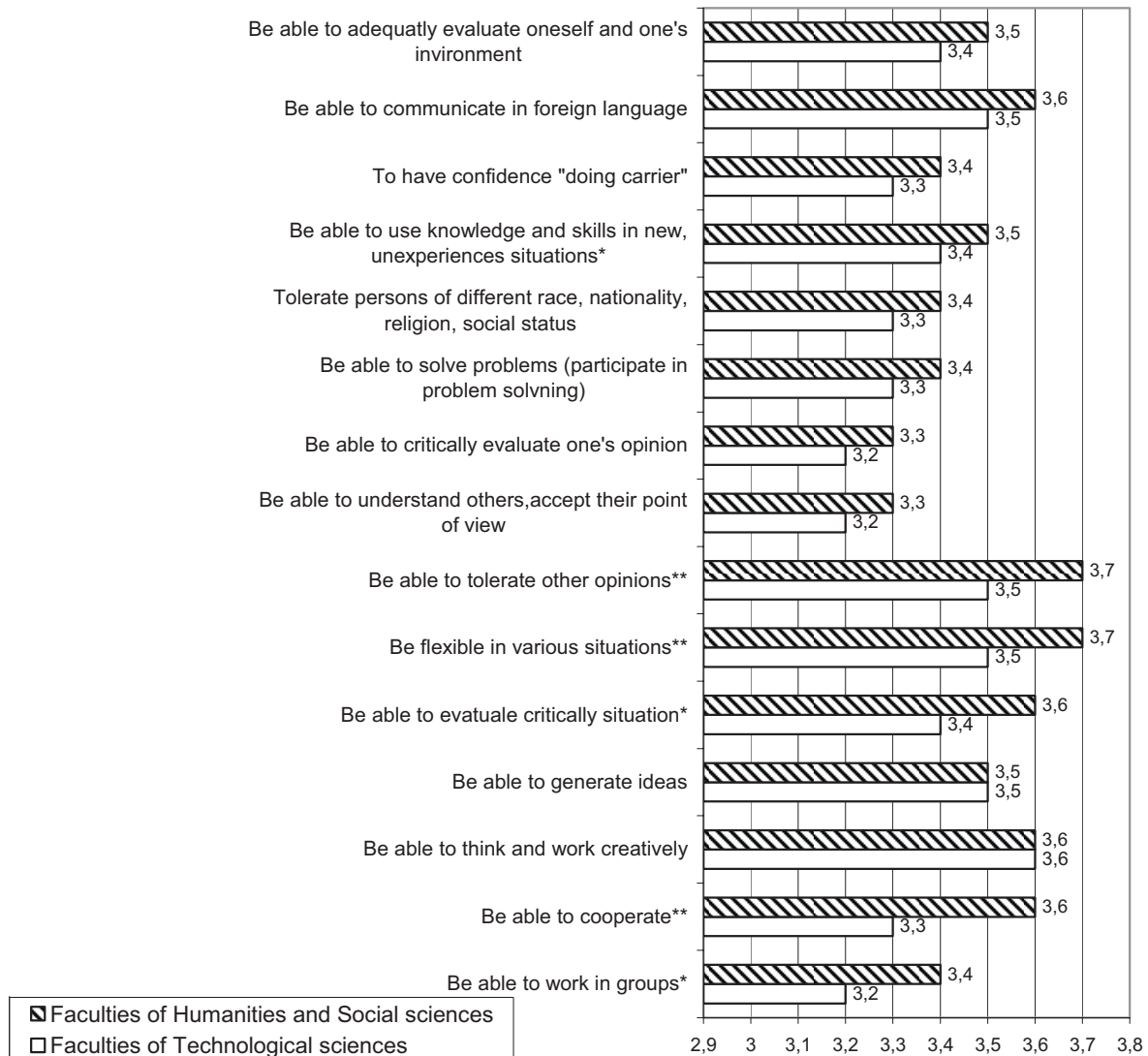
Lecturers of Technological Sciences faculties agree with the statement that *acquired knowledge is valuable for short period until I pass exam* (mean difference – 0.38, when  $t = 3.32$ ;  $p = 0.001$ ). They also gave higher evaluation to the statement *students annoy others when express their opinion during discussions* (mean difference – 0.31, when  $t = -3.34$ ;  $p = 0.001$ ) than lecturers of Humanities and Social Sciences faculties did. The statements *the only correct opinion is lecturer's* (mean difference – 0.38,

when  $t = 2.83$ ;  $p = 0.005$ ), *it is difficult for students to find solutions in new and inexperienced situations* (mean difference – 0.28, when  $t = 3.07$ ;  $p = 0.002$ ), *during discussions students avoid expressing their opinion* (mean difference – 0.35, when  $t = 3.09$ ;  $p = 0.002$ ) were given more positive evaluation by lecturers of technological faculties. They also gave higher agreement to the statement *Students usually prefer to study using lecture notes than studying additional literature and analyzing real situations* (mean difference – 0.34, when  $t = 2.75$ ;  $p = 0.007$ ) than lecturers of Humanities and Social Sciences faculties.

Most significant statistical differences are represented by statements about discussion-based learning showing that lecturers of faculties of Tech-

nological Sciences in their lectures do not tend to organize students' discussions and group work. Lecturers of faculties of Humanities and Social Sciences are more inclined to motivate students rather than criticize them and develop transferable skills. Lecturers of faculties of Technological Sciences tend to agree with statements implying autocratic relations

with students. Though there are no significant statistical differences, it could be noted that autocratic relations with students are more frequent in faculties of technological sciences. Lecturers of these faculties do not tend to see students as their colleagues; there is lack of parity relations between students and lecturers.

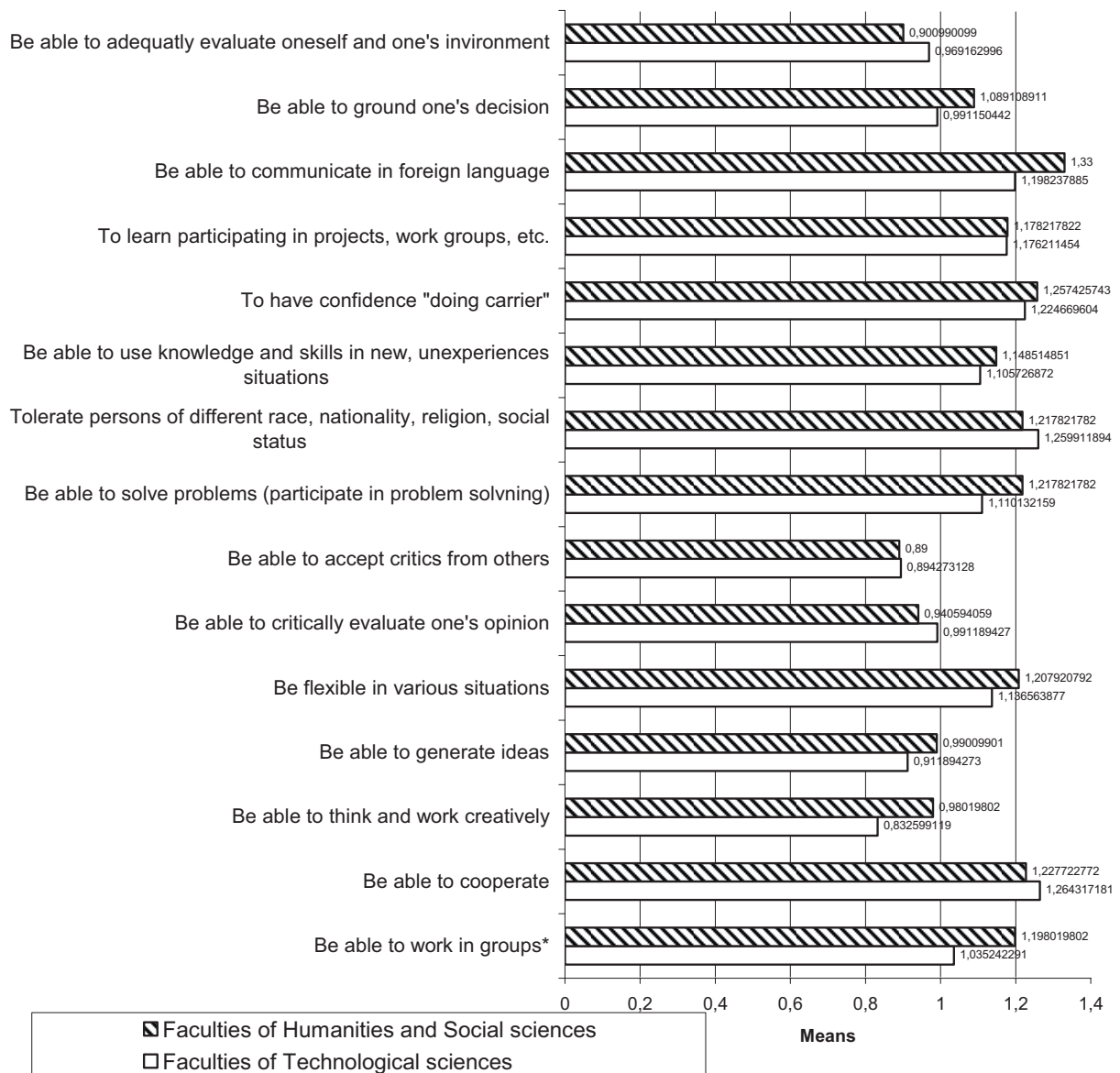


Note: p is significant at the level 0.05 (1-tailed), at the level 0.01 (2 tailed), at the level 0.001 (3 tailed), at the level 0.0001 (4 tailed)

Picture 4. Importance of skills in students' professional career

Picture 4 indicates that lecturers of Humanities and Social Sciences faculties as well as lecturers of Technological Sciences faculties agree that such

skills as critical thinking, creativity, problem solving, cooperation and other are vitally important in student's future career.



Note: p is significant at the level 0.05 (1-tailed), at the level 0.01 (2 tailed), at the level 0.001 (3 tailed), at the level 0.0001 (4 tailed)

**Picture 5.** Lecturers' evaluation of students' ability to use skills in their career

Lecturers of Humanities and Social Sciences faculties evaluated statement *to work in groups* (mean difference -0.16, when  $t = -2.17$ ;  $p = 0.030$ ) higher as statistically significant. But according to the acquired means it could be noted that lecturers tend not to identify the possibilities of students' knowledge and skills acquired as the evaluation they chose the most often is *do not know*. It could be noted that in general lecturers have low understanding of students' abilities to use the skills in their future career, as lecturers do not tend to emphasize students' competences development in their lectures.

### Conclusions

Thus it can be stated that:

- Lecturers do not use possibilities for liberal edu-

cation to the full extent: teaching methods still remain conservative, there is a lack of partnership relations between students and lecturers, and such partnership is considered to be one of the most necessary conditions for liberal education.

- Most significant statistical differences are represented by statements about discussion-based learning showing that lecturers of faculties of Technological Sciences in their lectures do not tend to organize students' discussions and group work. Lecturers of faculties of Humanities and Social Sciences are inclined more to motivate students rather than to criticize them and develop transferable skills. Lecturers of faculties of Technological Sciences tend to agree with statements implying autocratic relations with students.
- Lecturers of faculties of Humanities and Social

Sciences and Technological Sciences gave the same evaluation to work conditions at university. It could be noted that in such situation lecturer's personal approach becomes very important, as conditions for teaching are the same.

- Lecturers of faculties of Humanities and Social Sciences and Technological Sciences tend to agree that abilities such as critical thinking, creativity, problem solving, cooperation, etc. are important for students' future career.

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### Summary

The first part of the paper presents a discussion on the conservative and radical conceptions of liberal education values in higher education, the changes in this tradition conditioned by the peculiarities of the development of higher education institutions (R. Barnett, 1990), identifies possibilities and problems of manifestation of liberal education values in the studies of technological universities. The second part of the paper presents analysis of the results of the research into manifestation of values of liberal education in technological university studies from lecturers' approach.

**Keywords:** Liberal education, technological university, manifestation of values of liberal education



## LIBERALAUS UGDYMO VERTYBIŲ RAIŠKA TECHNOLOGIJOS UNIVERSITETO STUDIJOSE: DĚSTYTOJŲ POŽIŪRIS

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### Santrauka

Straipsnyje nagrinėjama liberalaus ugdymo vertybių raiška technologijos universiteto studijose, remiantis R. Barnett (1990) konservatyviaja ir radikaliąja liberalaus ugdymo koncepcijomis bei jų pokyčiais, sąlygojamais besikeičiančio universiteto ypatumų. Remiantis mokslinės literatūros analize, atskleidžiama liberalaus ugdymo raiškai būdingos problemos ir galimybės technologijų universitete. Antroje straipsnio dalyje pristatomi liberalaus ugdymo vertybių raiškos technologijų universitete tyrimo rezultatai. Tyrimui atlikti taikytas autorių sukurtas klausimynas, pagrįstas žinių visuomenės koncepcija (Drucker, 1993), konservatyviojo ir radikalaus požiūrių į liberalų ugdymą koncepcija (Barnett, 1990, 1994), giluminio ir paviršutiniško požiūrio į mokymąsi koncepcija (Ramsden, 2003). Tyrimo metodai: apklausa raštu, naudojant uždaro tipo klausimą, statistinė duomenų analizė. Tyrimo rezultatai atskleidė, jog, dėstytojų nuomone, liberalaus ugdymo vertybių raiška yra svarbi studijų procesui, taip pat studentų būsimai profesinei karjerai.

**Prasminiai žodžiai:** liberalus ugdymas, technologijų universitetas, liberalaus ugdymo vertybių raiška.

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