Contradictions in Higher Education

Laura Dzelzkalēja and Jānis Kapenieks (Sen.)
Riga Technical University, Riga, Latvia

Abstract

The present paper is a literature and experience summary about contradictions existing in higher education, nowadays. Thus, it is important to understand the underlying reasons and historical background to find ability to move towards higher education system for sustainability. Seven main contradiction groups have been distinguished and an overview is given in the article. The analysis is more focused on a situation in Latvia and the post-soviet space since the authors are well acquainted with the system. The main future research object is university mission, since from the mission statement analysis it has been found that low rated universities lack the distinction between education and training, having bigger stress on training, and that is growing into future problems and this situation interferes with the sustainable education goal.

Keywords: contradictions in higher education, conflicts in higher education, sustainable development, problems in university, university mission

Introduction and Background

Education has always been a topic of hot discussions, but in recent years topics concerning education have gained especially big attention because of the growing availability of new technologies, globalization and mobility (Rogers, 2000). These processes change the way we live, think and what we expect from the educational system and new professionals. This is the time of rapid changes and a truly big challenge for all of us. Renewed European Union Agenda on Higher education (EU, 2017) says, "Effective education and training systems are a foundation of fair, open and democratic societies and of sustained growth and employment. The EU's 'pillar of social rights' and recent reflection paper on harnessing globalisation identify education and skills as a priority for European cooperation". At the end of 2015, United Nations approved the 2030 Agenda for Sustainable Development (UN, 2015) to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" as one of their 17 global goals; educated society values are found in many of the 17 goals for our common sustainable future.

In Latvia, the school and high school (7–19 years old: 1ˢᵗ to 12ᵗʰ grade) education changes are mostly regulated at the state level, but it is not the same for universities (Bachelor, Master, Doctoral studies) which are mostly on their own with the pace of changes. The EU delivers the responsibility to the Member States: "Reform of higher

education is the responsibility of Member States and part of their efforts to develop world-class education and training. The EU can help Member States with their educational reform efforts" (EU, 2017), but EU will not do it for them. That means that the changes are happening slower and with bigger reluctance, because they have to come from with and without much of an external legal push. And this is always hard. On the other hand, this situation offers a more sustainable and long-term result since the changes that are happening and will happen are truly needed and we experience less feeling of having them forced from outside.

Sustainable education requires ecological management that values all components and participants in the system, seeks positive synergy, and is democratic and participative. In terms of learning and teaching, the goal is to create learning communities and organisations where functional, critical, and creative competencies are valued, where differential needs and learning styles are recognised and honoured, and where teachers and students are both learners and collaborators in the learning process (Sterling, 2001).

The contradictions and imbalance between the higher education (university level) and the world we live in has increased. Consequently, the biggest issue is that young graduates have not received education that is appropriate for the job market needs, and more importantly – appropriate to their skills and talents. Nevertheless, employers do not have an appropriate labour force. To achieve the sustainable future goal, we need, first, to identify the existing contradictions in higher education that contribute to widening this gap and, second, to think of solutions to these contradictions so that we can start talking about a wider system that consists of different stakeholders, such as universities, local communities, industry, policy makers, and their efficient interactions. It is due to the fact that our global problems are not a one-man or a one-institution problems.

In this paper, the main groups of contradictions in higher education are highlighted. It is done to help the university staff, policy makers and researchers gain some structure and insight in the main problems and propose some suggestions how to solve them. The main resources for this analysis are literature and the authors' experience in the field.

Seven groups of contradictions have been distinguished as follow:
1) Willingness to teach comprehensively versus availability of financial resources;
2) Traditions versus novelties (in the educational process);
3) Willingness to learn versus willingness to financially survive;
4) Student X versus student Y (different backgrounds, personalities etc.);
5) "Women's professions" versus "men's professions";
6) The mission of a higher education institution and
7) Graduate skills and knowledge versus skills and knowledge needed by the employer.

The following sections provide a deeper insight into higher education contradictions and present each distinctive group in detail.

1) Willingness to Teach Comprehensively versus Availability of Financial Resources

Interesting research was made by Okeke researchers group in 2017: The researchers followed a semi-structured interview approach to explore teachers' broader understanding on causes of job dissatisfaction among them. Results indicated that lack of resources, overcrowded classes and lack of discipline among learners were serious sources of dissatisfaction among teachers. Administrative issues, lack of recognition by principals and parents for good work done also caused dissatisfaction among teachers

in the study. It was also indicative that job dissatisfaction caused disengagement of some teachers with a consequential lack of focus on professional activities and being negative in their job (Okeke, 2017). The research showed that dissatisfaction caused disengagement which meant that it was very important to think and take into consideration teachers' needs in order to increase the job quality and results.

Lecturers and professors often want to use modern facilities and technologies, but the holders of the financial resources do not consider it to be a priority or there are simply not enough resources, and money is not supplied for these purposes. In addition, it takes a lot of time to prepare for high level teaching (lecturing), to follow the novelties in the topic, to give consultations and feedback on the assignments. For example, in Latvia, however, lecturers and professors are commonly paid only for the lecture hours in the auditory and the salary is comparatively low: the minimum determined by the state law is 662 EUR a month for a lecturer in 2017 (724 EUR from 1st January 2018). Two years ago, it was only 602 EUR – the same as in 2009. This is lower than the average salary in the country, which is 838 EUR a month. OECD Director for Education and Skills A. Shcleicher says that salaries in educational sector in Latvia are low and many higher educational instances lack high quality faculty. Finance per student is also very low in Latvia, and for now the higher education and research live mainly on structure fund finance. The proposal of University Professors' Association of Latvia is to allocate 2% of the state budget on higher education and to increase the study base finance, because now it is almost three times lower than an OECD average. The increase in budget would allow to increase the salaries and ensure qualitative teaching force (Diena, 2016; Rivža, 2016).

The low salary can be insufficient to cover daily expenses without a side work or working a double shift. As a result, lecturers can easily lose their enthusiasm and passion for teaching due to long working hours and exhaustion.

The big auditorium form of teaching is historically well known, but outdated, because students are not satisfied with passive sitting in the lectures to listen to facts, because they are a few mouse clicks away available for everyone (Gardiner, 1996). Often the limited resources lead to a limited number of lectures and a huge number of students. For example, in Kenya average lecturer/faculty proportion is 1:500; in some cases – even 1:900 (Wesangula, 2015). A research shows that the 100 world universities with the least student/faculty ratio are within the 600 best universities in the World University Rankings and none has more than nine students for every staff member (Minsky, 2016). It is important that a student/faculty ratio has an influence on learning efficiency.

In 1969, tenured and tenure-track positions made up approximately 78.3% of the faculty and non-tenure-track positions comprised about 21.7% (Schuster, 2006). In 2009 tenured and tenure-track faculty had declined to 33.5%, and 66.5% of faculty were ineligible for tenure (AFT, 2009). Of the nontenure-track positions, 18.8% were full-time and 47.7% were part-time (Kezar, 2013). Analysis of data from the National Centre for Education Statistics (NCES) and Integrated Postsecondary Education Data System (IPEDS) by the American Federation of Teachers (AFT, 2009) shows that between 1997 and 2007 tenure-track positions in the USA increased by 8.6%; full-time non-tenure-track positions grew by 38.2%; and part-time positions grew by 42%. Available IPEDS data from 2009 demonstrates a continuing decline in tenured and tenure-track positions from 34.5% in 2007 to 33.5% in 2009, offset by a 1% rise in part-time faculty. The AFT analysis did not include data from for-profit institutions, which are comprised

almost entirely of non-tenure-track positions (Kezar, 2013). And this problem is global, in Africa a lack of resources is especially visible, since in Kenya almost 50% of faculty work part time and teach at other universities, but this makes an impact on quality of the educational process. In Uganda, the low finance and the lack of staff have led to labour migration to better paid countries with less job load.

Although working conditions vary across the academy and even within a single institution, many faculty – particularly part-timers – are not permitted to contribute to curriculum planning and design, are often hired within days of the start of the semester (which impedes planning and preparation), are not provided with office space for office hours and other work, and do not receive support from administrative staff or resources to support instruction. Non-tenure-track (NTT) faculty often have little choice in the classes they teach, meaning they often teach outside their areas of specific expertise. These conditions are problematic, but so are inequitable compensation, job insecurity, the denial of healthcare benefits and retirement plans, exclusion from meaningful partic-ipation in governance and professional development, and lack of respect for non-tenure-track faculty from tenured faculty and administrators on many campuses. In the USA only, 22.6% of adjuncts receive any kind of health coverage from academic employers. Many adjuncts have to work multiple jobs in order to make enough money to subsist, which is a more-than-full load (Kezar, 2013).

In short, the combination of lack of time to prepare, lack of freedom, heavy workload and commuting between two or more jobs leave these faculty members with little time to bring their best work to the classroom. It is important to acknowledge that findings do not – or should not – implicate non-tenure-track faculty, as individuals, as being responsible for negative outcomes. In fact, research finds that these faculty, whose primary responsibility is to teach undergraduate students, are largely committed to teaching, student learning, and often bring useful professional and real-world experience to their work, enhancing the classroom experience (Edmonds, 2015; Kezar, 2013).

Research shows that increased reliance on NTT faculty, particularly part-time, has been found to negatively impact retention and graduation rates. In the research by Ehrenberg (2004) and Jaeger (2009) it can be seen that graduation rates decreased as proportionally to NTT faculty increase. Increase in part-time faculty has an even greater impact on graduation rates, as well as retention (Jacoby, 2006). Gross (2009) found that students at two-year colleges that had more full-time, tenured faculty were more likely to transfer to four-year institutions. They found a 4% increase in transfer to four-year institutions per 10% increase in the proportion of tenured faculty. Eagan (2008) also found increased proportions of part-time faculty. In a study of college freshmen, Harrington (2001) found that increased exposure to part-time faculty was significantly associated with lower second-semester retention rates, lower grade points and fewer attempted credit hours. Bettinger (2010) found that early exposure to higher proportion to NTT faculty had a negative effect on students' major selection. Most studies highlight the substantial effects of diminished interaction. Contact time and interaction between traditional faculty and students have been shown to foster student success; suggested an inverse relationship with regard to NTT faculty (Benjamin, 2003). Research suggests that the inaccessibility of part-time faculty to students due to time pressure, lack of office space, and holding jobs at multiple locations has an inverse, negative effect on student outcomes (CCSSE, 2009; Eagan, 2008; Jacoby, 2006).

In the situation where resources are always limited, there should be some new methods of blended learning or e-learning (Žuga, 2015) implemented to satisfy the new needs of digital age (Bates, 2015). Balancing the tradition with seeking something new is connected to the next group of contradictions.

2) Tradition versus Novelties (in the Educational Process)

Historical heritage is always with us, and we base our today on it, but we have to be able to change our perceptions and approaches in accordance with the demands of our century. There is a popular opinion that the students perceive the world in a different way than their lecturers – different experiences, different upbringing and different historical and social backgrounds. Moreover, we have heard a lot about digital natives and digital immigrants (Prensky, 2001). Thus, it seems that the youth should be taught with different methods and approaches. But there is also another opinion – that the perceptions about what the education should be like are formed by teaching staff: student's attitudes are formed by the lecturer's approach. Thus, a situation arises in which students integrate their perceptions in accordance with what they receive from lectures, even if the approaches are very traditional and with a very few interactive tools. Until they are acquainted with something better.

The need for change is well grounded but it would not be correct to ground it with the assumption that learning styles are changing (Margaryan, 2011), because it forms another way around – the world changes, so it seems that the faculty should be the first to embrace the changes and the changing learning styles are consequences. Furthermore, when the students know, that the learning process can be different, they can start to demand the changes. In a research study conducted in Russia, and the Russian educational process is historically close to the Latvian on, it was concluded that the most important prerequisite to improve the learning processes was improvement of lecturers' pedagogical competences, and that it served as a core for every educational system (Dorozhkin, 2016).

Thus, it can be concluded that the main key to smoothen this group of contradictions is to educate lecturers. That would also contribute also to the formation of adequate student evaluation, assessment and feedback mechanisms that ideally should encourage student's initiative and self-directed learning, and not only serve as tools for testing factual knowledge, forgetting about taking into consideration student's self-progress evaluation, states of vulnerability and real problem solving skills (University of Reading, 2017). After all, students are subjects, not objects, they are living personalities and emerging professionals that deserve to be respected and treated with honour as human beings, the same as faculty.

3) Willingness to Learn versus Willingness to Financially Survive

In Latvia and in many other countries, this group of contradictions is topical. Students usually move to live in the city where their chosen university is located. Hence, if their parents are not wealthy enough to support them during the study time or the student does not want to be a burden for the parents any longer, a question emerges about finan-cial resources for surviving during the study process. Usually, there are two opportunities: study loan, which is very small in Latvia and leads to having credit obligations in the future or finding paid job during the studies. If the choice is a job that very often means not being able to attend all the lectures and fulfilling all the independent and practical work in a good quality.

In Latvia, 51.1% of full-time students have a job, 12.8% say that they have some earnings time by time. 45% of the students who have paid jobs say that the job is a priority over studies. 31% of the students have mentioned that they are in a financial struggle regularly (E-klase, 2010). Research in Latvia shows that students, who pay university tuition fees, are more likely to have a job during the studies than those whose fees are subsidised by university (Researcher Group, 2007). A survey conducted in the United Kingdom by Endsleigh (2015) indicated that eight out of ten (77%) students were working part-time to help fund their studies; it was a serious growth to compared to 45% in 2013. 14% said they had full-time jobs either during term time, holidays or both. 63% of respondents said that they had a part-time job, with a third (33%) of students working part-time during term; while 14%, 13% in 2013, of those asked said that they held down full-time jobs (either during term-time, holidays or both). A research survey in United Kingdom showed that there were 59% of students working (Gil, 2014; Burr, 2015).

However, an increase in the number of working students has not led to a decrease in students' dependence on other sources of finance, as might be expected. Endsleigh found that in 2014 53% (52% a year before) of students continued to depend on their parents to help them through university, 74% relied on their student loan (67% a year before and 60% two years before) as one of their main sources of income and 46% (25% a year before) of students used their overdraft to help make ends meet (Burr, 2015; Gil, 2014).

Most students are working, at least in part, because of money concerns, with 58% wanting to spend the money on socialising and 55% on food and household bills. A sensible 38% say they are doing it to save for the future and 35% – to avoid being in debt. More than half (57%) of students who work part-time spend their additional income on necessities – accommodation, food and household bills as well as earn extra cash for socialising (56%) (Burr, 2015). In Latvia, 78% of the surveyed working students do it to cover their daily expenditures (E-klase, 2010).

The research results, however, show that money concerns are not the only reason why students are increasingly choosing to seek out employment whilst at university. Many also do it to boost their employment prospects after university. Over half – 53% – say this is a motivating factor (Gil, 2014). For many students a practical job life experience is very important, but at Latvian universities these opportunities are poorly available: 25% of the students reprobate internship possibilities and management (E-klase, 2010). In the United Kingdom, 87% of the surveyed students say that developing additional skills and bulking up their CV are both important reasons for getting a job while studying (Burr, 2015). More than a half (52%) of the surveyed working students in Latvia work in their speciality, mostly in natural sciences, math, IT, health care and social welfare (E-klase, 2010).

It can be concluded that the real job experience is both valuable in terms of financial support for students and for gaining skills and experience that is not available or poorly available at a university. But there is another side of working while learning – a lack of focus and time for learning, so the studies can suffer a lot if students choose or are forced to choose the job over studies. There are universities that do not support their students to have a paid job. At Oxford University, "term-time employment is not permitted except under exceptional circumstances", and even in the holidays students are told to prioritise their studies. Cambridge University similarly "does not allow students to undertake

paid work" while they are studying full-time, and students "should not expect to accrue additional income in this way" (Gil, 2014). On the other hand, the students have more time for studies; on the other hand, they may not have enough money to even be able to study. Thus, the higher education can become somewhat a privilege of the rich.

A solution to this contradiction could be a broader exploitation of e-learning opportunities, closer collaboration between industry and universities, and more agile study plans and promoting jobs with duties that are related to learning topics.

4)   Student X versus Student Y (Different Backgrounds, Personalities etc.)

This contradiction has been always with us, but in the global society it has grown especially topical since the new trend is tolerance and not repression or hiding. Nowadays, in front of a university teaching staff, there is an auditorium of different genders, races and nationalities, as well as, different ages, knowledge levels, world perceptions and backgrounds, different learning styles and perception types, differing ability of self-directed learning and different emotional intelligence levels. Furthermore, the lecturers are also different, and the different students have to get accustomed with those different lecturers. And among this all, students have to learn the study subject.

In the research by Margayan (2011), there was not any evidence found on the popular idea about young people gaining radically new learning styles. From the research it seems that students are more likely to adapt to the lecturer's style and demands. Thus, the lecturer has the great responsibility and duty to encourage creativity, self-motivation, and responsibility for student's learning results with the help of learning orchestration.

On the other hand, it is also completely clear that different students do have different approaches to the learning process. For example, some studies state that learning styles differ between genders. One line of thought on why males are not doing as well at school points to a laddish culture where boys do not take school as seriously as girls; Some research puts it down to boys being taught predominantly by female teachers, especially in primary schools. However, another research maintains that gender of the teacher is not as important as the gender of the learner (Times, 2015). It means that using different methods according to the learner's gender can result in better learning outcomes and are not restricted by the gender of the teacher.

Another very important topic in a multi-dimensional learning environment is an ability to manage emotions and know oneself. Salovey's research group has termed Perceived Emotional Intelligence (PEI), or the knowledge individuals have about their own emotional abilities (Salovey, 2002). This scale addresses three key aspects of PEI: Attention conveys the degree to which individuals tend to observe and think about their feelings and moods; Clarity evaluates the tendency to discriminate between emotions and moods; Repair refers to the subject's tendency to regulate his/her emotions (Fernandez-Berrocal, 2005). Lerner (2001) showed a general tendency for angry and happy individuals to seek risks and for fearful individuals to avoid them. Individuals that are aware of their emotional states are less likely to fall into a moment of weakness (Fernandez-Berrocal, 2005).

From this follows that in order for individuals to cross their borders into unknown and broaden their perspective, it is important to avoid fearful learning circumstances, so the teacher should be more of a mentor and motivator than "strong fist" that intimidates students – and this is what Dewey stated already a century ago (Dewey, 1913).

Anger in some proportion is engaged but can become dangerous and hard to control, so it seems that it should be mostly avoided in the learning process.

A welcoming and positive environment should be created to be able to engage the different experiences and contradictions in the auditory for the sake of the students, so they would learn how to evaluate their own and others' advantages and setbacks and to divide learning tasks among themselves accordingly and understand, what to learn from each other. Sharing experiences would help develop this positive learning environment and decrease isolation from differences between each other, because isolation leads to fear and less sharing. Sharing is an important way to pass tacit knowledge (Jin-Feng, 2017; Young, 2012; Erden, 2008; Muthuveloo, 2017).

One of the latest trends for education for sustainability and life is the concept of mindfulness, given its potential to address both cognitive and affective processes and to stimulate reflection on the drivers of often routinised consumption practices. It is defined as the unbiased awareness that emerges through intentionally and continuously paying attention to subjective momentary experience with an open, accepting, benevolent, and compassionate attitude. Key competencies as learning objectives in education for sustainable consumption seek to (1) nurture cognitive, motivational and volitional dispositions, (2) are guided by the idea of critical, self-determined and self-reflexive individuals and (3) promote the capacity of learners to actively and responsibly contribute to advancing overall societal progress towards sustainability. Mindfulness is seen to encompass the reflection of individual values and actions in each given moment with a potential to strengthen people's ability to deliberatively focus their mind in a way that they become more sensitive for their own values, emotions and ensuing actions (Stanszus, 2017). Thus, integration of mindfulness concept together with already widely spread sustainability concept throughout the education could lead to higher tolerance levels and more positive learning environment.

5) "Women's Professions" versus "Men's Professions"

Prejudice and historical heritage have deeply grounded in our consciousness. For example, math is traditionally considered something for boys and the girls have been taught to believe that they are not able to handle exact sciences (Times I., 2015). And similar division goes for many more disciples – like boys do not traditionally choose nurse profession, and teacher profession is also something that brings associations with women. A popular perception is that girls are more suitable for humanities, but boys – for exact sciences in spite that research does not justify this opinion.

All over the world, girls have relatively better grades. For example, in Ireland boys' grades are lower and girls are winning more college places, but boys dominate in engineering. But once boys go to college, their academic performance begins to match that of girls. And this is where males start taking over, ultimately dominating the senior ranks of academia (Times, 2015). Often this fact is justified with the fact that in school there are more female teachers, but in universities – male.

But the male predominance does not stop at the university. A study made in the United Kingdom showed that females who were working during the term time at university earned 36% less than males. But men are more likely to cite future earning potential as a reason for taking a degree (Burr, 2015; DBIS, 2016). In Latvia, for example, there is a gender disproportion both regarding the speed of finding job and salary. Men tend to find job faster and they earn more as well – men's salary is 1.34 times greater than

that of what women earns at the same conditions (Researcher Group, 2007). However, in the United Kingdom young male graduates are more likely to be unemployed than young female graduates. UK Graduate labour market statistics 2015 (DBIS, 2016) report found that among young graduates aged 21 to 30: 5.8% of male graduates were unemployed, 4.0% of female graduates were unemployed. And it is so in spite the fact that women actually are more educated than men – in 2014, in Latvia 69% of university or college graduates were women. At present, in Norway 60% of college/university students are women and the women's share of those who graduate is even higher (Amundsen, 2015; Researcher Group, 2007).

There is a clearly visible tendency of profession choice differences between men and women. Historically, education, humanities and arts are more dominated by women, but exact sciences – mostly by men. Research conducted in the United Kingdom showed that male students were more likely to be interested in higher-paying areas such as IT, engineering and finance (DBIS, 2016). The most popular areas among males were: IT and telecommunications (23.1%), engineering and manufacturing (23.0%) and science (22.7%). The most popular areas among females were: healthcare (25.7%), science (20.6%) and teaching (20.0%). Only one in five who opts for studies in the health and social sciences in Norway is a man and just one in four who works toward a degree in teaching is male; on the other hand, only a third of those who study mathematics, natural sciences or technological fields are women. In Norway, the strongest imbalances are found among studies for degrees qualifying graduates to teach in kindergartens, preschools and elementary schools from grades one through seven, but less than ten percent of the students are men in veterinary studies, dentistry and nutrition. The best gender-balanced fields of study in Norway were in economics and administration: in 2014 these attracted 46% men and 54% women (Amundsen, 2015). In Latvia, the situation is similar – in 2012, in programmes related to education 92% of graduates were women, 66% of graduates were women in social sciences, business and law, but only 21% were women among engineer sciences, manufacturing and construction specialisations and 30% in nature sciences, math and IT specialisations (GFK, 2013). Van Tongeren-Alers et al. conducted a systematic review of the evidence for gender differences in speciality preference among university medical students: male students were more likely to be interested in surgery, while female students were more likely to be interested in gynaecology, paediatrics and general practice, and the research showed consistency across countries (Van Tongeren-Alers, 2014). No real changes have occurred in the past decade with regard to the unbalanced gender distribution amongst Norwegian students – the disproportion that was there in 2005 was just the same in 2015 (Amundsen, 2015).

Research conducted in Norway showed that a gender balance in student groups, or fields of study, was positive for the student environment and for the amount of knowledge they acquired. The studies on gender selections showed that traditional conceptions and stereotypes regarding fields of interest and work of boys and girls were still alive and kicking (Amundsen, 2015). Professionalism has no gender, so it needs to be taken into consideration that prejudices about gender in professions do not stimulate stable and sustainable economics. This situation is paradoxical and does not reflect the needs of the job market, for example, in Latvia the most demanded profession today is an IT specialist (GFK, 2013).

Given such pronounced gender differences in relation with a professional choice across countries, Van Tongeren-Alers (2014) raised a very important question on such a thing as real free choice of career: to what extent available career options are socially and culturally mediated by gender. Solving this issue, a crucial role should be given to school teachers as well academic staff of universities, since the teacher and lecturer can be the ones that encourage students regardless of the gender – the only gauge should be one's abilities and performance.

Another aspect of this group of contradictions is antithesis of intellect and emotions, and usually women are associated with emotions and men – with intellect. But actually, both intellect and emotions are present in every human being, and there is evidence that students with high emotional intelligence perform better academically than those with low, as well as being better equipped for their professional careers (MO, 2009). It is important to point out the value of emotional intelligence development at universities, especially in exact and technical sciences and for men, since these are the groups that traditionally have considered the topic of emotions not very relevant. More holistic pedagogies are thus needed to increase the effectiveness of education. The previously discussed methods and concept of mindfulness could give a contribution to solving this imbalance (Stanszus, 2017).

6) The Mission of a Higher Education Institution
Technical and practical knowledge and skills for career preparation are important and necessary goals of higher education. However, the best outcomes of a college experience go well beyond this. They include development of the whole, thinking person, cultivation of creativity, maturation of social and cultural sensibilities, and even increased passion for life, learning and civic engagement of all sorts – what collectively might be called "life and citizenship knowledge" (Byrne, 2013).

Thus, it is essential to answer a question: "What is a university for?". The answer should be: fostering knowledge and understanding for student's own sake – beyond and outside the need of profession – and development of thinking, compassionate member of society that has skills and motivation to increase individual and societal wellbeing (Byrne, 2013).

To better understand the higher education mission, it is necessary to define a clear distinction between education and training. At the website of the 9th International Conference on Education, Training and Informatics: ICETI 2018 education is understood as cognitive development, but training – performance in a specific skill (ICETI, 2017). Thus, if an institution considers itself an educational institution, then there is a certain set of characteristics it has to meet, which reach far beyond the set of skills and knowledge needed to perform concrete and certain tasks.

If we want to understand the difference between education and training, it can be said that education is something broader than training, and training can be, and in many cases should be, an important part of education, but there should not be put a stress on the training as a main goal, because in such case it would eliminate the core of the education itself. There are many definitions for training and education. Some of them are summarised in Wheeler's article (2013). There are a few more papers about the topic, for example, by Rickman (2004) and Remen (2015), but the essence is nicely formulated by Burrus (2016) – he says that "You train people for performance. You educate people for understanding", and it is the core to keep in mind when thinking about higher education institution's mission.

Table 1
Top 15 Universities According to Four Different Ratings

Name of the university	Places in ratings				Average place	Summarised place
	100 Best	Top QS	Webo	Times		
Stanford University	2	2	2	3	2.25	1
Harvard College	1	3	1	6	2.75	2
Massachusetts Institute of Technology	3	1	3	5	3	3
University of Cambridge (Berkley)	5	5	10	4	6	4
Oxford University	10	6	7	1	6	4
University of Chicago	9	9	22	10	12.50	6
University of California	4	27	11	10	13	7
Yale University	11	16	13	12	13	7
California Institute of Technology	7	4	40	2	13.25	9
Cornell University	13	16	8	19	14	10
Pennsylvania State University	16	19	12	13	15	11
University College London	20	7	19	15	15.25	12
University on Columbia	8	18	27	16	17.25	13
ETH Zurich	19	10	34	9	18	14
Imperial College London	22	8	56	8	23.50	15

To grasp the feeling about differences of world's best and worst universities in their mission statements, and weather there are any, four popular ratings have been used: The Top universities ranking Top 1000 universities in the world 2018 (QS, 2017) that takes into consideration six parameters in different weights – academic reputation, employer reputation, faculty/student ratio, citations per faculty, international faculty ratio, international student ratio; The Times Higher Education World University Rankings 2018 (Times, 2017) on 1000 best universities in the world judging research-intensive universities across all of their core missions: teaching, research, knowledge transfer, industry income and international outlook; and The best schools rating 100 best universities in world today (100 Best Universities in World Today, 2017) which has taken into consideration academic prestige, scholarly excellence, and intellectual horsepower. The information about the worst performing universities were gained from only one rating, since all the other contained only a limited number of the best schools. The rating used for finding the worst performing universities is Webometrics Ranking of World Universities (Webometrics, 2017) with about 12 000 universities in their rating. There are about 20 000 universities in the world (RTU, 2017), but the Webometrics rating is the most complete to find in web freely. This rating was taken into consideration finding the best universities as well.

The fifteen best universities in the world at the moment, taking into consideration all the above-mentioned ratings, are as follows (1st place to 15th place chronologically): 1. Stanford University; 2. Harvard College; 3. Massachusetts Institute of Technology; 4. University of Cambridge (Berkley) and Oxford University; 6. University of Chicago; 7. University of California and Yale University; 9. California Institute of Technology; 10. Cornell University; 11. Pennsylvania State University; 12. University College London;

13. University on Columbia; 14. ETH Zurich; 15. Imperial College London. The placements in the ratings and the summarised value for each of the mentioned universities can be seen in Table 1.

To give the feeling about different mission statements, here are a few examples:

The mission of Stanford University (this university is considered a top class university in most of the ratings) is to qualify its students for personal success, and direct usefulness in life; and to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence for the great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness (Stanford, 2017). It can be seen that the stress is on students' personal development and success, as well as global (civilization) wellbeing mentioned and human rights and respect to values.

The mission of Cornell University (which is among 20 best universities in the world) is to discover, preserve, and disseminate knowledge, produce creative work and promote a culture of broad inquiry throughout and beyond the Cornell community, through public service, to enhance the lives and livelihoods of the students, the people of New York, and others around the world (Cornell). In this case we see some words about increasing life quality for students and a bit cosmopolite way of thinking – to improve the global society.

The mission of Westminster University in Great Britain (this university is among 601th–800th place in the world according to Times rating) is to shape the future of professional life by being a diverse, vibrant and inspirational learning environment; building the university as the leading practice-informed teaching and research; being a responsive, metropolitan and cosmopolitan university serving the needs of diverse communities; and embedding internationalisation, employability and green-thinking in all that they do (Westminster). It seems though, that this mission is too general, although the main focus point is considered to be movement towards meeting the needs of multifaceted society – in other words, serving the society.

The mission of Riga Technical University in Latvia (which is among 800th–1000th place in the world according to Times rating) is to ensure internationally competitive high quality scientific research, tertiary education, technology transfer and innovation for the Latvian national economy and society (RTU2, 2017). In this case, stress is put more on the quality for better chances in competition battle, which is narrowly targeted for development of Latvia and it lacks human and self-development in the centre of the education system.

The mission of the VIT University in India (which is also among 800th–1000th place in the world) is to create able management professionals who shall contribute towards the betterment of the society and nation through their dedicated staff and world class management education (VITUI, 2017). It is a good example of mission for reaching training goals and not so much educational goals. It also lacks human – subject attitude and prevails human – object attitude.

As we can understand from the examples, the definition and view in the contemporary literature about the mission of a university can greatly differ from the mission perceived by the university head and developers of the university's positioning. The mission statements varied a lot, but there was a correlation found that best universities tended

to speak more about student's self-development, creativity and tackling global challenges and problems as well as serving the global community, while worst performing universities tended to talk about creating and making professionals, sometimes, even using the word "train" in their mission statement, stressing the excellence, research, innovation, practical skills and solving real life problems, as well as serving the nation and local community. What is interesting, the best schools rarely mention excellence, research and innovation in their mission statements. Another thing spotted regarding the universities' mission is that often the worst performing universities had low quality web pages and often it was impossible to find their mission statement. Overall conclusion is that the best universities in the world focus more on the core of the word 'education'.

The analysed worst universities focus more on what suits the word 'training' better. Educational establishments are rightly and necessarily engaged in training, but it is not enough to pour information into receptive minds to meet the ideals of education. Partly it can be explained by the economic and historical background where job market demands skilled professionals for certain job tasks and less are needed critically thinking, reasonable and self-aware individuals. But this should change very soon because the skilled professionals (trained individuals) can soon encounter big problems in finding jobs since the jobs with a low cognitive load but a need for a great precision and speed are more and more given to robots and artificial intelligence. We need skills and information, but we also need – and this is of paramount importance – human beings who have learned to think, make judgments, appreciate the beautiful and the good. We need not only experts in choosing means, but people educated to decide on their goals. Thus, to replace education by training is to threaten the human future (Rickman, 2004). And it seems that the only way to prepare majority of people for wellness in the future long term, that is, to make a sustainable future, is to educate them instead of concentrating mostly on training.

It should be remembered as well that the used ratings and tops in this analysis are using a set of criteria for evaluating the universities. Unfortunately, these criteria lack comprehensiveness. Usually the criteria include such characteristics as number of citations and other research outcomes, degree of international cooperation, openness and infrastructure, but lack such measurements and students' feelings during the studies, graduate performance in the job market and readiness for real life challenges, readiness to tackle difficult problem situations, graduate overall wellbeing etc. Thus, many very important topics are not usually even considered in these ratings. They probably do not reflect the reality. And another issue with this is a notion that the above-mentioned that is not considered in the ratings are not gathered at all by the universities – it seems that this kind of information is not relevant to most of the universities, and that also reflects our way of thinking and values.

Another threat with university ratings is that universities are willing to step up the rating ladder and thus they may change their university policies according to the valuable characteristics in the ratings thus trying to achieve high results in the characteristics mentioned in the ratings but not paying much attention to the characteristics that are not taken into consideration in the ratings.

According to Sterling (2001), education for sustainability is a means and process by which we educate citizens in how to achieve global and local sustainable communities. It challenges the dominant material, ecological, psychological, economic, and social

paradigms that define our culture and have led to our current impasse and threatened presence on this planet. Thus, we can see the linkage to the word "education" itself (instead of training) in a way that "education" if it truly reflects the deepest meaning of this word is actually "education for sustainability" since education should be the key to creating critically thinking and socially responsible person that is not afraid and ready to tackle the global problems that we face every day and will face in future.

7) Graduate Skills and Knowledge versus Skills and Knowledge Needed by the Employer

We have come to the last group of contradictions, which is more of a logical next step of summarising all of the other groups of contradictions since they all end up in this group – the knowledge and gained skills and competences and suitability to "real life".

Research shows that >63% of the graduates lack the skills that are needed in the job market, in Tanzania it is >61%, in Burundi and in Ruanda 55% and 52%, respectively, but in Kenya – 51% are considered unsuitable for job market; in India in ~50% of graduates are deemed 'unemployable', in some industries even more – 75% in the IT sector, 55% in manufacturing, 55% in healthcare and 50% in banking and insurance (Wesangula, 2015; Mishra, 2015). Graduates of agriculture, humanities and arts often have no work experience and they are less likely to find a job – the unemployment rates are comparably higher. In 2006, in Latvia 8% of university graduates were unemployed, mostly due to family issues or continuing studies (Researcher Group, 2007). In India, most of the graduates are generalists with broad socio-economic knowledge but no specific technical skills; Spain, for example, is lacking language skills (Mishra, 2014; Corominas, 2010).

The reasons for graduates not being ready for the job market demands are various. Let us begin with the fact that often the study directions that correspond to students' personal needs and talents are not in alliance with the country's defined development and growth directions. For example, almost 50% of youth respondents in India said they would like to work outside growth sectors (Mishra, 2014). In Latvia, the situation is better – about 73% of the graduates work according to their education. It is quite a good proportion. Experts say that working in another field than education area is not always a bad thing – it can show a graduate's ability to learn new skills and adapt to new market needs (Researcher Group, 2007), but it still means that more than a quarter of graduates in Latvia have chosen their profession wrongly. And this probably means that the procedure of setting sectors for growth – from external, in global research based to internal – in the country's people talents and passion based. This would be harder and demand to broaden the information about children's talents and drives, but in the end it would likely make the society happier, more creative and functional. It seems that such a society is the goal that most of the countries reach for.

After the talents and drives are identified, the talents can be adapted and directed into suitable sectors and make the national and regional strategies according to the talents today's children have, so that when they are grown-ups, they could fully utilise their potential. This step would also solve the problem of youth in need of choosing the future profession when they are not aware of their strengths and weaknesses, talents and drives as well as are not fully informed about diversity of professions and what is hidden under the names of the professions.

Universities have faced flak in recent years over inflexible curricula, rote teaching and learning and lack of experiential learning outside the classroom. However, academics

say that industry expectations are often unrealistic and misguided. Employers want everyone to come prepared and ready, but they should invest in their own employees (Mishra, 2014). To decrease the dissonance between industry and the higher education institutions, for example, in India there are regional "knowledge centres" made to promote the collaboration between them in making curricula, teacher trainings, students' exchange and international communications; students are to work for real projects in industry for practical skills. The Indian government is making a market information system to map the supply and demand (Mishra, 2014). Competency based approach is one of the ways to harmonise education with job market (Dorozhkin, 2016). Distance education and blended education could have a good impact on the situation; however, the creation of system of distance education should not be the final step for higher education institutions as such; furthermore, this process would not be developed without students (Vasilevska, 2017).

Conclusions

From all the literature and research on this topic, it has crystalised that the only way we are going to create education for sustainability is by really putting a human in the centre. Not just in words, but in real actions – by caring, accepting, by cherishing the great spectrum of differences among us all within this one humanity, and letting everyone develop oneself, reach awareness about individual talents, drives and passions as well as about weaknesses and personal breaks through the education. This self-awareness would then lead to awareness and caring for the person beside – an emotional intelligence that allows everyone to feel self-worthy and thus be able to appreciate and respect others as equally worthy – without feeling threatened.

The other big pillar that is crucial for our common success is quite the opposite – feeling of being a part of and feeling responsibility for the whole and consequentially – other "parts" as well. Teaching the cosmopolite way of thinking is more crucial now than ever since the world is connected more than ever through mobility, markets, digitalization and climate issues. Consequentially, one-city or even one-nation in the centre attitude is not suitable for era, since we are facing global challenges more and more, and they can only be tackled jointly and with this global perspective in mind. Too much time has passed since one nation could grow thanks to exploiting the others. Although it still happens, it is clear that this approach resembles sawing off the branch you are sitting on since the pollution, refugee problems, unpredictable economic systems etc. just harm everyone. The only way to deal with this outdated imperialistic way of thinking is to replace it with a cosmopolite way of thinking – an Earth inhabitant in front of all the other roles.

If combining these two pillars we get a colourful and diverse global population that strives for common good putting their effort and drive in the fields and topics they are good at and passionate about at the same time recognising and valuing the differences in other. And naturally questions would disappear about a lack of national and cultural awareness, environment awareness and other kind of awareness which lead to conflicts and problems.

There is still much work to do to implement sustainable and future challenges tackling education system, but at least the main directions are highlighted in many studies and

literature. There are problems in higher education since it is more or less going in the non-sustainable education direction. It is important to structure and name the reasons that have led and are still leading to this situation, and it is important to understand what the ideal situation is to be able to define the level of quality in a higher education institution. The contradictions defined and characterised in the article are an attempt to highlight the reasons for this non-sustainable education road in higher education institutions as well as share some ideas from research and experience on how an ideal situation would look like and why these defined contradictions are to be solved to be able to move towards education for sustainability and life in our society.

As to referring to the present article, the most interesting future research topic in the field of changing higher education would be university mission, responsibilities and role. Further deeper quantitative and qualitative analysis would be needed to better understand the correlation between university's mission and performance.

One direction on how to contribute to solving the above-mentioned contradictions could be a wider e-learning introduction in the universities. It could only partly substitute the class lectures to maintain the social bonds and interactions meaningful at the same time using the class meetings for exactly this – working both with the course agenda and the social skills growing tolerance for other opinions and backgrounds, which would have to be designed to target the forth and fifths contradiction. The distant learning approach would also contribute to solving the third contradiction since the number of class lectures decreases and the learning time can be very agile due a to possibility to learn online at a convenient time for the student, thus allowing the student to combine work with studies more successfully. The online learning would also save some financial resources for the university since there would be less class lectures needed and so the resources could go to raise quality instead of quantity, lessen the work load for lecturers and increase the hourly rate thereby lowering the impact of the first contradiction on the quality of study process. At the same time, online learning is also growing very rapidly and it seems that universities that ignore this form of teaching and learning can fall behind and get stuck in the first contradiction, since the world is moving and changing very rapidly and agility especially in the higher education is getting a great importance. Another important and meaningful contribution would be related to the 4th and 5th groups of contradictions in a sense that online learning platforms allow making great self-tracking tools and allow a student to follow his/her own learning progress, develop self-awareness in one's learning process and get to know one's learning habits better. If the online courses are developed well and meaningful class meetings take place as well, it would seem that the overall learning quality could increase and, thus, also the graduates would be equipped with better skills and knowledge that would contribute to solving the seventh group of contradictions.

Acknowledgement

References

AFT, H. E. (2009). *The American academic: The state of higher education workforce 1997–2007*. Washington, D.C: American Federation of Teachers.

Amundsen, B. (2015, August 21). Women and men still study completely different university subjects. Norway: Science Nordic. Retrieved from Scien http://science nordic.com/women-and-men-still-study-completely-different-universtity-subjects

Bates, A. (2015). *Teaching in a Digital Age*. licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Benjamin, E. (2003). Exploring the Role of Contingent Instructional Staff in Undergraduate Learning. *New Directions for Higher Education, 123*.

Bettinger, E. L. (2010). Does cheaper mean better? The impact of using adjunct instructors on student outcomes. *The Review of Economics and Statistics, 92*(3), 598–613.

Byrne, L. (2013, April 13). What is the mission of a university. *New York times*. Retrieved from http://www.nytimes.com/2013/04/09/opinion/what-is-the-mission-of-a-university.html

Burr, A. W. (2015, August 10). *77% of students now work to fund studies*. London: Endsleigh. Retrieved from https://www.endsleigh.co.uk/press-releases/10-august-2015/

Burrus, D. (2016, Jun 10). Teach a Man to Fish: Training vs. Education. Huffington Post. Retrieved from http://www.huffingtonpost.com/daniel-burrus/teach-a-man-to-fish-training-vs-education_b_7553264.htm

Cambridge, U. (n.d.). The University's Mission and Core Values. United Kingdom. Retrieved May 2017, from https://www.cam.ac.uk/about-the-university/how-the-university-and-colleges-work/the-universitys-mission-and-core-values

CCSSE. (2009). *Making connections: Dimensions of student engagement*. Community College Survey of Student Engagement, Austin, TX.

Cornell, U. (n.d.). Mission. New York, USA. Retrieved May 2017, from https://www.cornell.edu/about/mission.cfm

Corominas, E. C. (2010). The Match Between University Education and Graduate Labour Market Outcomes (Education-Job Match). Retrieved from http://www.aqu.cat/doc/doc_12987231_1.pdf

DBIS, U. G. (2016). *The Graduate Labour Market Statistics: 2015*. Department for Business, Innovation & Skills. United Kingdom government. Retrieved from https://www.gov.uk/government/statistics/graduate-labour-market-statistics-2015

Dewey, J. (1913). *Interest and effort in education*. Cambridge, MA: Houghton Mifflin.

Diena. (2016, May 20). Kvalitātei jākoncentrē nauda. Riga, Latvia. Retrieved from https://www.diena.lv/raksts/sodien-laikraksta/kvalitatei-jakoncentre-nauda-14141316

Dorozhkin, E. M. (2016). Teacher's labour as a tool of forming human capital of higher school graduates. *Gokkusagi LTD. STI*. Retrieved from http://elar.rsvpu.ru/handle/123456789/15264

Eagan, M. J. (2008). Effects of exposure to part-time faculty on community college transfer. *Research in Higher Education*, 0361–0365.

Edmonds, D. (2015, May 28). More Than Half of College Faculty Are Adjuncts: Should You Care?. *The Forbes*. Retrieved from https://www.forbes.com/sites/noodle education/2015/05/28/more-than-half-of-college-faculty-are-adjuncts-should-you-care/#6665614c1600

Ehrenberg, R. Z. (2004). *Do Tenured and Non-Tenure Track Faculty Matter?*. National Bureau of Economic Research Working Paper No. 10695.

E-klase. (2010). Puse pilna laika studentu strādā algotu darbu. Latvia. Retrieved from https://www.e-klase.lv/lv/zina/zinas/aktualitates/puse-pilna-laika-studentu-strada-algotu-darbu/print/

Erden, Z. v. (2008, March). The quality of group tacit knowledge. *The Journal of Strategic Information Systems, 17*(1), 4–18.

European Union (2017, May 30). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a renewed EU agenda for higher education Brussels, COM(2017) 247 final. Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1496304694958&uri=COM:2017:247:FIN

Fernandez-Berrocal, P. E. (2005). About emotional intelligence and moral decisions. *Behavioral and Brain Sciences, 28*(4). Retrieved from http://emotional.intelligence.uma.es/pdfs/Fernandez-Berrocal%20y%20Extremera%20(2005)comments.pdf

Forbes. (2017). *University ratings 2017*. The Forbes. Retrieved from https://www.forbes.com/pictures/mkl45eghg/1-california-institute-of-technology/#4b514d9d7749

Gardiner, L. F. (1996). Why We Must Change: The Research Evidence. *The Na Higher Education Journal*, 71–88. Retrieved from http://drjj.uitm.edu.my/DRJJ/OBE%20FSG%20Dec07/OBEJan2010/Gardiner-Why_We_Must_Change-The-Research-Evidence.pdf

GFK. (2013). *Sabiedrības priekšstati par sieviešu un vīriešu lomām, dzimumu līdztiesību*. Riga: GFK.

Gil, N. (2014, August 11). One in seven students work full-time while they study. *The Guardian*. Retrieved from https://www.theguardian.com/education/2014/aug/11/students-work-part-time-employability

Gross, B. G. (2009). *Community college transfer and articulation policies: Looking beneath the surface*. Center on Reinventing Public Education.

Guardian. (2017). *Top 200 universities in the world 2018*. The Guardian. Retrieved from https://www.theguardian.com/higher-education-network/2017/jun/07/top-200-universities-in-the-world-2018-the-table

Harrington, C. S. (2001). *Caveat Emptor: Is there a Relationship Between Part-Time Faculty Utilization and Student Learning Retention?* Association for Institutional Research Files On-Line.

Hill, E. J. (2014, Jun). Career decisions and gender: the illusion of choice?. *Perspect Med Educ., 3*(3), 151–154. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078050/

ICETI. (2017). The 9th International Conference on Education, Training and Informatics: ICETI 2018. Orlando, USA: International Institute of Informatics and Systemics. Retrieved from http://www.iiis-spring18.org/icsit/website/about.asp?vc=31

Young, J. (2012). 2 – Exploring knowledge creation tacit knowledge. *Personal Knowledge Capital, A volume in Chandos Information Professional Series*, 17–27.

Jacoby, D. (2006). The effects of part-time faculty employment on community College graduation rates. *Journal of Higher Education, 77*(6), 1081–1103.

Jaeger, A. E. (2009). *Unintended Consequences: Examining the Effect of Part-time Faculty Members on Associate's Degree Completion*. Community College Review.

Jin-Feng, W. M.-Y.-J.-J. (2017). The construction of enterprise tacit knowledge sharing stimulation system oriented to employee individual. *Procedia Engineering, 174,* 289–300.

Kezar, A. M. (2013). *The Delphi Project on The Changing Faculty and Student Success.* University of Southern California's Rossier School of Education, Association of American Colleges and Universities. USA: Pullias Center for Higher Education.

Ķezbere, Z. (2015, Oct. 19). Arodbiedrības ceļ trauksmi: Augstskolu pasniedzējiem draud zemāks atalgojums nekā audzinātājām bērnudārzos. Riga, Latvia: Delfi. Retrieved from http://www.delfi.lv/news/national/politics/arodbiedribas-cel-trauksmi-augstskolu-pasniedzejiem-draud-zemaks-atalgojums-neka-audzinatajam-bernudarzos.d?id=46604071

Lerner, J. K. (2001, July). Fear, anger, and risk. *Journal of Personality and Social Psychology, 81*(1), 146–59.

Margaryan, A. A. (2011, February). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education, 56*(2), 429–440. Retrieved from http://www.sciencedirect.com/science/article/pii/S036013151000 2563

Meisters, G. (2017, Feb. 12). Augstskolu pasniedzēji noraizējušies par savām algām; cer sagaidīt pielikumu. Riga, Latvia. Retrieved from https://skaties.lv/zinas/latvija/ sabiedriba/augstskolu-pasniedzeji-noraizejusies-par-savam-algam-cer-sagaidit-pielikumu/

Minsky, C. (2016, February 22). Top 100 universities with the best student-to-staff ratios. World University Ranking. Retrieved from https://www.timeshighereducation. com/student/news/top-100-universities-best-student-staff-ratio

Mishra, A. (2014, Feb). Growing mismatch between graduate skills, market needs. *306.* University world news. Retrieved from http://www.universityworldnews.com/ article.php?story=20140204171742828

MO, Y. Y. (2009). *Measuring and enhancing the emotional intelligence of built environment students.* Doctoral Thesis, Loughborough University. Retrieved May 2017, from https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/5868/1/Mo%20PhD% 20Thesis%20final%20print%20version.pdf

Muthuveloo, R. S. (2017, September 6). The impact of tacit knowledge management on organizational performance: Evidence from Malaysia. *Asia Pacific Management Review.* doi: https://doi.org/10.1016/j.apmrv.2017.07.010.

Okeke, C. I. (2017). Teacher job dissatisfaction: Implications for teacher sustainability and social transformation. *Journal of Teacher Education for Sustainability, 19*(1), 54–68.

Prensky, M. (2001). Digital natives, digital immigrants Part 1. *On the Horizon, 9*(5), 1–6.

QS, r. (2017). *World University Rankings 2018.* Retrieved from https://www.top universities.com/university-rankings/world-university-rankings/2018

Remen, R. N. (2015, Jan 28). The Difference Between Education and Training. Daily good. Retrieved from http://www.dailygood.org/story/955/the-difference-between-education-and-training-rachel-naomi-remen/

Researcher Group, f. L. (2007). *Augstāko un profesionālo mācību iestāžu absolventu profesionālā darbība pēc mācību beigšanas.* Rīga: LU Akadēmiskajā apgādā.

Rickman, P. (2004). Education versus Training. London: Philosophy Now. Retrieved from https://philosophynow.org/issues/47/Education_versus_Training

Rivža, B. (2016). *Baiba Rivža Par situāciju augstākajā izglītībā Latvian Association of University Professors novembris 5*. Riga: LAPA. Retrieved from http://profesoru asociacija.lv/par-situaciju-augstakaja-izglitiba/

Rogers, D. (2000). A paradigm shift: Technology integration for higher education in the new millennium. *AACE Journal, 1*(13), 19–33. Retrieved from https://www.learntechlib.org/p/8058/

RTU. (2017). Reitingi. Riga, Latvia: Riga Technical University. Retrieved from https://www.rtu.lv/lv/universitate/reitingi

RTU2. (2017). Vīzija, misija, vērtības. Rīga, Latvia. Retrieved May 2017, from http://www.rtu.lv/en/valorization/for-students

Salovey, P. M. (2002). The positive psychology of emotional intelligence. In C. R. Lopez (Ed.), *Handbook* (pp. 159–171). Oxford, UK: Oxford University Press.

Schools, B. (2017). *100 Best Universities in World Today*. The Best schools. Retrieved from https://thebestschools.org/features/100-best-universities-in-world-today/

Schuster, J. H. (2006). *American faculty: The restructuring of academic work and careers*. Baltimore: Johns Hopkins University Press.

Stanford. (2017). *Stanford University Mission*. Retrieved from http://exploredegrees.stanford.edu/stanfordsmission/

Stanszus, L. F. (2017). Education for sustainable consumption through mindfulness training: Development of a consumption-specific intervention. *Journal of Teacher Education for Sustainability, 19*(1), 5–21. Retrieved from http://www.ise-lv.eu/ufiles/1498629349JTEFS_2017_vol%2019_no%201.pdf

Sterling, S. (2001). Sustainable Education. Devon, UK: Green Books.

Times. (2017). *World University Rankings 2018*. The Times Higher Education. Retrieved from https://www.timeshighereducation.com/world-university-rankings/2018/world-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats

Times, I. (2015, Jan Tue 20). Gender imbalances in the classroom – and all the way up. Retrieved from http://www.irishtimes.com/news/education/gender-imbalances-in-the-classroom-and-all-the-way-up-1.2067438

United Nations (2015, September 25). The 2030 Agenda for Sustainable Development. Retrieved from https://www.un.org/sustainabledevelopment/sustainable-development-goals/

University of Reading, R. (2017). Relationships. USA. Retrieved May 2017, from https://www.reading.ac.uk/internal/personaltutor/Role/pt-relationships.aspx

Van Tongeren-Alers, M. D. (2014). Gendered specialities during medical education: a literature review. *Perspect Med Educ., 3*.

Vasilevska, D. R. (2017). Analysis of the demand for distance education at eastern and central european higher education institutions. *Journal of Teacher Education for Sustainability, 19*(1), 106–116.

VITUI. (2017). *VIT University of India Mission statement*. Retrieved from http://www.ideagram.in/temp/vit/mba/design3/vision.php).

Webometrics. (2017). *Webometrics Ranking of World Universities 2017.2.1*. Retrieved from http://www.webometrics.info/en/About_Us

Wesangula, D. (2015, July Wednesday 29). Kenya's shuttling lecturers: university shortages are taking a toll. Nairobi. Retrieved from https://www.theguardian.com/global-

development-professionals-network/2015/jul/29/kenyas-shuttling-lecturers-university-shortages-are-taking-toll

Westminster, U. (n.d.). Vision, Mission and Values. United Kingdom. Retrieved May 2017, from https://www.westminster.ac.uk/about-us/our-university/vision-mission-and-values

Wheeler, K. (2013, Jun 18). What's the Difference Between Training, Education, Development and Learning? Future of Talent institute. Retrieved from https://futureoftalent.org/whats-difference-training-education-development-learning/

Žuga, B., Kapenieks, A., Gorbunovs, A., Jirgensons, M., Kapenieks, J., Kapenieks, J., Vītoliņa, I., Jākobsone-Šnepste, G., Kudiņa, I., Kapenieks, K., Timšāns, Ž., & Gulbis, R. (2015). Concept of Learner Behaviour Data Based Learning Support. *Procedia Computer Science*, 43, 134–140.

Correspondence concerning this paper should be addressed to Laura Dzelzkalēja, Riga Technical University, Kronvalda 1, Rīga, Latvija, LV1010. Email: laura.dzelzkaleja@gmail.com