Economic and Educational Crisis: Challenges for Students in Portugal and Croatia

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Abstract The objective of the research is to conduct a comparative analysis of the student perceptions of the Croatian and Portuguese HEI and assessment their perceptions about the quality of their HEI. The methodology of the research will be based on the theoretical analysis which collects and review accessible information about higher education degree study programmes in Croatia and Portugal. Furthermore, the empirical analysis of the research, it will be validated with the reliable KVALIMETAR measuring survey instrument used among Croatian students (January–March 2014; n = 732) and Portuguese students (September–October 2014; n = 366). The results show that Croatian and Portuguese HEI have to accept several challenges made by students to improve the quality of the teaching and learning process. Also, several remarks appear from both surveys with views and thoughts made by the students in order understand their motivation. Indeed, the profile of the new curricula will get more knowledge and competences to face the exposition of students to economic crisis. The aforementioned facts should be taken into account in the process of planning the future educational programs in order to improve the quality of education in Croatia and in Portugal to meet the new demands of the modern business environment.

Keywords Economic crisis • Educational challenges • Students • Portugal • Croatia

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1 Introduction

The overall strategy and policy of the HEI is based on decentralization of large urban centers to smaller urban centers with student profile. In place of large urban centers, where the population, industry, commerce and services are concentrated, and where there is a hostile environment for a student psycho-sociological development, students will enjoy a quiet life, balanced with a high-quality environment in small towns of the country (as Osijek on Croatia and Guarda on Portugal). In this context, it is guaranteed the dynamics of local economies, the reduction of government expenditure, savings and household investment and, consequently, the sustained development of the country (Abreu et al. 2003).

In fact, the sustainable development of the Osijek and Guarda regions are induced by the University of Osijek (Croatia) and Polytechnic Institute of Guarda (Portugal) benefits, namely: to contribute to the quantitative and qualitative improvement of education (non-massified); to create new opportunities for access to higher education; to contain the exodus of the population young, candidate to the higher education, even reversing the flow of migration; to fix highly qualified scientific and technical body (supported on the expertise), needed for sustainable economic, social and cultural development of the region; to support services and industries already implemented and the creation of new ones, through the collaboration of teachers and technical staff as the use of laboratorial and documental structures; and to feasible implemented the social equipment as a result of new demographic dynamics (Abreu and David 2014; Legčević 2014b).

Indeed, new assignments and challenges for the modern HEI raises from expectations by the local economy and society representatives (Kirp 2003; Maringe and Gibbs 2009; Alves 2011). The society is not homogeneous, but differentiated entirety and one can say that it consists of three segments: the political elite, i.e., elites; of economic elites; and of social classes that make non-elite: the people, the demos, or whichever term one uses for it (Škare and Lacmanović 2013). However, economic crisis that starts with collapse of Lehman Brothers and whose effects spreader for all over the world, induces complex changes on the economy, whereby causes strong reductions of the State Budget for Education and then HEI must redefine its role and adapt their curricula to be able to compete on an equal footing in the international market.

Nowadays, this knowledge society is a topic discussed more than ever, but it unfortunately does not mean that the knowledge gained value in the society and from the international market. About whether the knowledge has economic value, i.e., if the society recognizes it as a value, there is no definite answer. The answer depends on how the three segments of society value knowledge, and valuation is performed at the level of attitudes and actual behavior. According to some authors, one may argue that this self-proclaimed knowledge society has actually given itself to the lack of education, no matter how much knowledge may have been accumulated and stored (Liessman 2008).

For all these reasons, the satisfaction among student population differs in perceptions of quality of their HEI (Entwistle 1991; van Rossum and Schenk 1984; Hounsell 1997; Douglas et al. 2006; Campbell et al. 2008). In this line, the objective of the research is to conduct a comparative analysis of the student perceptions of the Croatian and Portuguese HEI and assessment their perceptions about the quality of their HEI.

Therefore, it is of utmost importance that the HEI reassess their role in the regional development in order to become more ready to meet the needs of the regional economy and the society as a whole. Consequently, the wider approach to higher education through connecting with the economy presents an extraordinary opportunity for the institutions of higher education to empower the local community's development through the profusion of various individual experiences. On the other hand, it is possible that a region can also receive long-term economic benefits from having a HEI in its location through the knowledge effect, referring to the knowledge production and technology transfer function of HEI (Wang 2010; Legčević 2014a).

Another source of knowledge effect is the education function of the institutions, namely, the production of human capital. Because HEIs are producers of educated workers, an area located around the HEI is likely to have a higher concentration of skilled workers. The higher earnings of faculty graduates would add to the regional income, and the better-trained workers may have a higher potential to start-up or attract new firms. An increase in the supply of highly educated labor may also lead to increased productivity, increased capacity to perform research and development activities, and increased absorption capacity (Smith and Drabenstott 1992).

In order to effectively engage HEIs, public authorities need to understand the principles underlying why HEIs can be important agents in region al development. There is also a range of mechanisms available to support engagement, many of which are already being deployed. However it is the strategic coordination of these within a wider policy context that will produce the maximum impact (EC 2011). Academic research has become endogenous and integrated into the economic cycle of innovation and growth. The HEI has been considered as a key contributor to wealth generation and economic development. Within the current knowledge based economy, the HEI acts as both "a human capital provider" and innovation (Dooley and Kirk 2007).

Methodologically, this research presents two research approaches. The theoretical framework is based on literature review about degree higher study programmes in Croatia and Portugal in the context of the higher education system in both countries. The empirical framework is based on statistical analysis, supported on survey carry out on the period from January 1 to March 30, 2014, on the University of Osijek (Croatia), and on the period from September 1 to October 31, 2014, on the Polytechnic Institute of Guarda (Portugal), providing important insights into the student perceptions of the Croatia and Portuguese HEI. Through the connection of both frameworks and research findings, HEI are able to improve their contribution to society in result of challenges faced by students following a CSR strategy.

The structure of the research is organized as follows. Section 2 presents the methodology in which, on the one hand, the theoretical analysis collect and review accessible information about higher degree study programmes in Croatia and Portugal and, on the other hand, the empirical framework reflects the student perceptions of the Croatian and Portuguese HEI. Section 3 gives an overview of the results research, in order to improve the quality of the teaching and learning process. Section 4 discusses the legal regulation of the HEI in Croatia and in Portugal. Finally, the Sect. 5 presents the conclusion and makes some recommendations that contribute to the debate of the role of students in overcome economic and educational crisis in Portugal and Croatia.

2 Conceptual Frameworks

Croatia and Portugal as the other European countries want to construct a European higher education area (EHEA) that establish comparability, compatibility and coherence between the higher education systems through the harmonization of academic degrees and the guarantee of quality in all the European higher education institutions (David and Abreu 2007). In this sense, the higher education answers, on one side, want to promote the scientific and technological progress, and, on the other side, to develop the individual interests and qualified personnel's social needs. All these result in greater mobility, reinforcing the ability to compete, and quality improvement (Dittrich et al. 2004).

Thus, the implementation and development of the higher education are centered in a society of intensive knowledge that the demands in relation to the landing of qualifications and competences grew considerably, and in that the formation of higher level carries out a strategic function. Effectively, the strategic function of higher education demands a constant adaptation of the conceptual field, especially in the social, economic and technological perspectives that will bring sustainable development (David and Abreu 2007).

In Croatia, the higher education system has a long educational tradition preserved primarily through the work of its public universities, such as, J.J. Strossmayer University of Osijek. Croatia has a binary higher education system, meaning that prospective students can choose between two types of higher education studies: University studies consisting of academic programmes that are conducted solely at universities and Professional studies consisting of professional programmes conducted at polytechnics or colleges of applied sciences (exceptionally, professional programmes can also be implemented at universities).

In Portugal, the higher education system consists of a binary system which includes university and polytechnic education that can be public or private. The university and polytechnic subsystems are mainly differentiated by their formative role in research: the polytechnics are vocationally or professionally oriented and do not carry out fundamental research as the universities do; and the universities conducted applied research (Caseiro et al. 1996). The professional nature of the

polytechnic education was reflected in paragraph 2 of article 5 of Decree-Law n° 427-B/77 (MEIC 1977), when defines that "courses contain a strong practical or pedagogical specialization, allow an immediate entry of their graduates in the activity for which they were formed". In fact, the polytechnic education cannot ignore its modernization effort, innovation and science creation, as well as, the professional dimension of their graduates, always demonstrated the focus on the professional training.

So, the professional nature on degrees is based on paragraph 1 of article 7 of Law n° 62/2007 (AR 2007) when it states that "the polytechnic institutes and other polytechnic education institutions are high-level institutions that aim to create, transmit and disseminate the culture and the knowledge of professional nature, through the articulation of the study, teaching, oriented research and experimental development". Specifically, the polytechnics institutions have as main objectives the regional development and a close interaction with its operational environment that provided a flexible reaction to changes in its environment (Kettunen and Kantola 2006). The polytechnic teaching presents some potentialities, as: the innovative and dynamic capacity relatively to the traditional structures; the flexibility and adaptation capacity to the social-economic context (Abreu et al. 2003); the near connection with the productive and social entities of the area where it is located; the strategy of diversification of the professed study programmes; and the rehearsal of pedagogic methods that motivate the creativity, the initiative, the risk and the collaboration inter-specialties (David and Abreu 2007).

In the field of legal regulation of Portuguese education system, it is worth noting the important contribution of the Law n° 5/73 (PR 1973), which summarizes a basic principle of educational policy, to establish in subparagraph (a) of the Base II that "the State will seek to ensure all citizens access to several levels of education and culture of the world, without other distinction than that result from the ability and merits". Thus, according to Decree-Law n° 402/73 (MEN 1973), Portugal promotes the democratization of education that was been consolidated in the expansion and diversification of higher education "to match the need to ensure social and economic development of the country, requiring an ever higher number of scientists, technicians and administrators with higher education, endowed with innovative critical capacity".

In relation to degrees, according to Decree-Law n° 42/2005, of February 22 (MCIES 2005), that introduce principles and instruments for the creation of the EHEA, through the implementation of the Bologna process, the degree programmes offers three official graduation levels: graduate (Licenciatura, in Portuguese), master (Mestrado, in Portuguese) and doctor (Doutoramento, in Portuguese). The duration of these levels change according with the degree and field of study. On average, the graduate degree has 3 years (or 180 credits), but in fields of study such as engineering, law and architecture could be 5 years and in medicine till 6 years; the master degree has 2 years; and doctor degree has 3 years (see AR 2007).

Thus, the implementation of the Bologna process originated the adoption of key measures to promote equal opportunities in accessing higher education, to improve student support systems, to attract new publics in the context of lifelong learning

and to guarantee the qualifications of citizens in Europe framework (Abreu and David 2011). On the one hand, the Bologna process obliges the European countries, including Croatia and Portugal, to developing instrumental objectives, such as (MCIES 2005):

- Adoption of a system of easily readable and comparable degrees;
- Adoption of a system essentially based on two main cycles, undergraduate and graduate;
- Establishment of a system of credits such as in the European Credit Transfer System (ECTS), as a proper mean for promoting student mobility;
- Promotion of mobility by overcoming obstacles to the exercise of free movements of students, teachers, researchers and administrative staff;
- Promotion of the European Dimension in higher education;
- Promotion of European cooperation in quality assurance with a view to developing comparable criteria and methodologies.

On the other hand, the diversification of the higher education system increased the qualification of the Croatian's and Portuguese's in particular, and of the European citizens in general, and its knowledge base in an international context. Caseiro et al. (1996) refer that a lack of qualifications in some sectors has already been observed and all elements indicate a growing need of engineers, scientists and technicians in the future, and the fear is that educational systems and vocational training systems are not prepared to meet the required number and the range of final year degree students. Therefore, the HEI should cooperate in depth and consolidate, in Europe, the idea of networks as a mechanism to optimize the resources and scientific and technological European knowledge (Marçal-Grilo 2003).

In addition, the recent development of the Bologna process has imposed a set of measures, including the establishment of the European Credit Transfer System, which replaces, for example in Portugal, the credit system establish in the Decree-Law n° 173/80 (MEC 1980). The new paradigm focuses on the student, giving him greater freedom in their training path and requiring him more responsibility. In this sense, it is allowed the accreditation in the school context, when the student approves national courses of a given degree level with the same convergence of subjects, as well as is allowed the accreditation between degrees of different countries in result of the students movement.

3 Methodology

Following the aim of the research empirical analysis, the first phase involve sampling two sub-set of the target population (students) using a reliable and valid measuring instrument named KVALIMETAR. The second phase, in order to examine the similarities and differences among student's perceptions, constructed a questionnaire based on the KVALIMETAR measuring instrument (Legčević et al. 2012). This instrument consists of 31 questions grouped into five dimensions:

Table 1 Questions of the dimension 'teaching staff'

Questions
Professors and teaching assistants give an impression of love and enthusiasm for their course
Professors and teaching assistants are highly motivated for doing their job and conscientiously fulfil their obligations
When teaching, professors and teaching assistants seem to have proper knowledge of the matter and demonstrate it in a clear and comprehensible manner
Using teaching tools and modern technology, professors and teaching assistants raise the level of teaching quality
Professors and teaching assistants hold classes, seminars and practices regularly and in time
Professors and teaching assistants encourage students to actively participate in classes and to take responsibility for studying
Professors and teaching assistants assess students' performance appropriately, objectively and fairly
Professors and teaching assistants are available and friendly to students
Professors and teaching assistants possess proper communication skills and create pleasant working atmosphere
Professors and teaching assistants are available and willing to receive students during office hours
Professors and teaching assistants can also be reached after classes

teaching staff; administrative staff; image; environment and equipment; and study programs and curricula. The questionnaire has been applied and immediately collected after classes and they remained anonymous.

Table 1 shows the eleven (11) questions of the dimension 'teaching staff' that deals with motivation, competence, and communication of the scientific staff, usage of teaching aids and modern technology, regular lectures, valid and objective knowledge grading, courtesy during office hours. As Coffield et al. (2004, p. 39) say "*this is too simplistic", and go on to comment that "attention needs to be given not only to individual differences in learners, but to the whole teaching-learning environment*".

Table 2 presents the seven (7) questions of the dimension 'administrative staff' that includes availability, decent attitude towards the students, duly handling of the students' requests and inquiries, reporting on new changes in the schedule, and precise handling of students' documents.

Table 3 displays the tree (3) questions of the dimension 'image' that includes the reputation of the faculty, qualified teaching staff, finishing the education with the ability to transfer knowledge and skills.

Table 4 shows the six (6) questions of the dimension 'environment and equipment' that includes the environment and the equipment necessary for learning and teaching, which are: libraries, laboratories, workshops, Information Technology (IT) classrooms, lighting and classroom cleanliness, adequacy and accessibility of the literature. As Campbell et al. (2008, p. 282) defend "*infrastructures and resources, such as teaching facilities (rooms and technologies including, at some*

Table 2 Questions of the dimension 'administrative staff'

Questions
Administrative staff is available and ready to provide students with assistance
Administrative staff treats students with respect and dignity
Administrative staff deals with students' enquiries in a prompt and professional manner
Administrative staff helps students with respect to providing information on the study, curriculum and majors
Students' applications and enquiries are timely and accurately dealt with
Student office keeps records of students properly and precisely
Students are timely informed on current changes of course schedule, time of examination and delayed/cancelled lectures

Table 3 Questions of the dimension 'image'

Questions
Faculty is characterized by its professional image
Faculty includes adequately qualified teaching staff
After the studying, students are capable of transferring acquired knowledge and skills

institutions, e-learning support), were seen as excellent, and staff noted the availability of support for both teaching and learning".

Table 5 presents the tree (4) questions of the dimension 'study programs and curricula' that includes clear objectives and guidelines, various programs of studying intended for student education.

In this sense, the research was conducted from January 1 to March 30, 2014, on the University of Osijek (Croatia), and on the period from September 1 to October 31, 2014, on the Polytechnic Institute of Guarda (Portugal). In Croatia the authors inquired up 732 students and in Portugal 366 students. A self-administered, structured questionnaire was pre-tested to a sample of twenty five (25) students. Adjustments were made based on the pre-test to get a more effective instrument.

After that the questionnaire was finally administered through previously mentioned web link. Since high predictive validity was a major concern, a five-point Likert scale was used. The Likert scale ranged from strongly disagree to strongly agree for students rating of all defined statements of the questionnaire.

The responses of both groups of students (Portugal and Croatia) will analyze and the relevant answers will be identifying to draw the tendency and detail the characteristics of the students that answer to the questionnaire.

Table 4 Questions of the dimension 'environment and equipment'

Questions
Faculty possesses appropriate equipment necessary for organization of classes, seminars and practices
Faculty manages with adequate rooms for teaching and studying (libraries, workshops, laboratories, IT classrooms. . .)
Illumination and cleanliness of classrooms are also adequate (halls, classrooms, laboratories. . .)
Faculty owns teaching tools as well as adequate and available literature
Student access to faculty classrooms/rooms is at a proper level
Student access to IT classrooms is at a proper level

Table 5 Questions of the dimension 'study programs and curricula'

Questions
Curriculum and teaching plans contain clear goals and guidelines comprehensible to both professors and students
Curriculum standard matches the acquired level of qualifications
Faculty as an entity offers various curriculums (majors) intended for advancement of students
Goals and guidelines of curriculums are harmonized with course contents

4 Results

The results of this research are supported, for one side, on the Lin et al. (2005) paper, that detail the concept of perceived value with a level of abstraction equal to its interrelating constructs, knowing that the unidimensional approach is most appropriate. For the other side, the student even after the service purchase cannot evaluate the service, because the student does not have the technical capacity to assess the quality of the education received (Alves 2011).

Table 6 shows, with data referring from January 1 to March 30, 2014, for the students of University of Osijek (Croatia), and from September 1 to October 31, 2014, for the students of Polytechnic Institute of Guarda (Portugal), the distribution by gender. The results show that, in Croatia, men represent 30.1 % of the total (220 students) and women represent 69.9 % of the total (512 students). In relation with Portugal sample, men are 38.0 % of the total (139 students) and women are 62.0 % of the total (227 students).

In Table 7 is possible to observe, with data referring from January 1 to March 30, 2014, for the students of University of Osijek (Croatia), and from September 1 to October 31, 2014, for the students of Polytechnic Institute of Guarda (Portugal), the distribution of students by age. The Croatian students have mainly <24 years (320 students, i.e., 43.7 % of the total), as Portuguese students (267 students, i.e., 73.0 % of the total), followed in both of countries by students who are between 25 and 30 years, respectively 305 students (41.7 % of the total) in Croatia and 58 students (16.0 % of the total).

Table 6 Distribution of students by gender, 2014

Gender	Croatia	Portugal	Total
Men	220	139	359
Women	512	227	739
Total	732	366	1098

Table 7 Distribution of students by age, 2014

Age	Croatia	Portugal	Total
Less than 24 years	320	267	587
25–30 years	305	58	363
31–40 years	77	32	109
More than 40 years	22	9	31
No answer	8	0	8
Total	732	366	1098

The distribution of students by academic year is presented in Table 8. Is possible to conclude that in Croatia and in Portugal the first academic year concentrates most of the students, respectively 180 students (24.6 % of the total) and 200 students (55.0 % of the total), following by the third academic year in Croatia (162 students, i.e., 22.1 % of the total) and second academic year in Portugal (81 students, i.e., 22.0 % of the total).

Table 9 shows evidence of the distribution of students by class attendance, being possible to verify changes between both countries. In Croatia, most students attend more than 75 % of the classes (490 students, i.e., 66.9 % of the total), contrasting with the Portuguese students, which attend between 50 and 75 % of the classes (177 students, i.e., 48 % of the total).

Furthermore, the higher education system in Croatia and Portugal are provided through a diversified arrangement of degree levels (see Table 10), existing a diversify system in that subsist post-secondary non-higher level, graduate, master and doctor degree. The majority of the Croatian students integrate the graduate degree (266 students, i.e., 36.3 % of the total), like the Portuguese students (209 students, i.e., 57.0 % of the total). The other students are distributed by post-secondary non-higher level (20.0 % of the total in Croatia and 35.0 % of the total in Portugal), master degree (24.3 % of the total in Croatia and 33.0 % of the total in Portugal), and doctor degree (only 78 students, i.e., 10.7 % of the total, in Croatia). This last result is explained by the fact that in Portugal the doctor degree was offered exclusively by the university system (David and Abreu 2007) and the survey was done at a polytechnic HEI.

The distribution of students by status of study is expressed in Table 11. This table shows that the great majority of Croatian students study <6 h per week (453 students, i.e., 61.9 % of the total) and no student studying more than 48 h. Consequently, it was no surprising that Portuguese students also study <6 h per week (151 students, i.e., 41.0 % of the total), as well as no student studying more than 48 h. This reality confirms that the requirements of highly proclaimed Bologna system are being fully performed and demands more responsible behavior of

Table 8 Distribution of students by academic year, 2014

Academic year	Croatia	Portugal	Total
First year	180	200	380
Second year	142	81	223
Third year	162	75	237
Fourth year	109	4	113
Fifth year	135	6	141
No answer	4	0	4
Total	732	366	1098

Table 9 Distribution of students by class attendance, 2014

Class attendance	Croatia	Portugal	Total
Less than 25 %	34	6	40
25–50 %	47	12	59
50–75 %	155	177	332
More than 75 %	490	171	661
No answer	6	0	6
Total	732	366	1098

Table 10 Distribution of students by degree level, 2014

Degree level	Croatia	Portugal	Total
Post-secondary non-higher level	205	35	240
Graduate	266	209	475
Master	178	122	300
Doctor	78	Not applied	78
No answer	5	0	0
Total	732	366	1098

students as well as aimed to be more demanding for teachers despite the capability of create flexible classes. Without no doubt that one of the challenges of learning and teaching process is the context of the wider global economy.

After compare the Croatia and Portugal samples, the results demonstrate that the demographic structure of respondents was mostly similar. Nevertheless in order to compare the samples more detailed and reply the research goals with the intention to conclude on the effect of the HEI on economic development, i.e., to answer the question how to make education stronger impeller, promoter and stimulator, the authors have examine the data structure separate by students of both samples with the goal of determining similarities and differences in perceptions in both countries. But, the HEI must take full advantage of what Campbell et al. (2008, p. 292) defends "*to create and maintain small class sizes as a means of maximizing learning opportunities, which are enhanced through personal interactions and relationship building. Smaller classes also facilitate the development of strong teacher–student relationships and a strong sense of inclusion in the learning community.*" Globally, the results show that Croatian and Portuguese HEI have to

Table 11 Distribution of students by status of study, 2014

Status of study	Croatia	Portugal	Total
Less than 6 h	453	151	604
6–24 h	162	166	328
24–48 h	112	38	150
More than 48 h	0	0	0
No answer	5	11	16
Total	732	366	1098

accept several challenges made by students to progress on the quality of the teaching and learning process.

5 Conclusion

The first challenge is the continuous improvement process that it will be helpful to build stronger, more cooperative and further prepare HEI, society and global community to face educational and economic crises and, particularly, financial failures with hard consequences to the society.

The second challenge puts the students as central play-role on the new European higher education area, because they get special training through a combination of secondary education, general or professional, with higher education to responding to expectations of a modern society and to the new technological challenges.

The third challenge is the administrative staff that must change the "complaining" attitude to the customer satisfaction as a result of new competences and knowledge in languages, TICE and demands of students and professors.

The fourth challenge is related with image of the HEI, for example, instead of using 'client', this was considering the domain of private businesses versus 'customer' as a public entity that it had no place in the jargon of a higher education establishment.

Several other challenges appear from both surveys with views and thoughts made by the students in order understand their motivation. Indeed, the profile of the new curricula will get more knowledge and competences to face the exposition of students to economic crisis. The aforementioned facts should be taken into account in the process of planning the future educational programs in order to improve the quality of education in Croatia and in Portugal to meet the new demands of the modern business environment.

The limitation of the research is that each HEI do not completely understand the constant changes laws, regulations and framework and then it classified them as potential problems. Then, risks, attitudes, behaviors, values of the student, teacher and administrative staff aim to solve these problems and then it appears the codes of ethics as a general accepted formula.

As final discussion, the emerging alternatives to research start to growth as a global corporate citizenship and education programmes. For further research, the

authors know that it has been and it will be a long way, but waiting is not the solution. . .

References

Abreu, R., & David, F. (2011). Corporate finance assessment results: Questions and solutions. In International Association for Technology, Education and Development (Ed.), *Proceedings of ICERI2011 Conference* (pp. 4198–4207). Madrid: IATED.

Abreu, R., & David, F. (2014). Post-secondary non-higher education on the scientific area of accounting. In J. S. Silva & I. Beato (Eds.), *The higher short term: The CET and the future* (pp. 57–67). Leiria: Polytechnic Institute of Leiria (IPL).

Abreu, R. M., David, M. F., Silveira, M. C., & Marques, P. (2003). Contributo para a Avaliação, Revisão e Consolidação da Legislação do Ensino Superior [Contribution to the valuation, revision and consolidation of Legislation on Higher Education]. In A. Amaral (Ed.), *Avaliação, Revisão e Consolidação da Legislação do Ensino Superior* (pp. 46–50). Matosinhos: Cipes.

Alves, H. (2011). The measurement of perceived value in higher education: A unidimensional approach. *The Service Industries Journal, 31*(12), 1943–1960.

AR (Assembleia da República). (2007, March 14). *Decreto-Lei n° 62/2007, aprova o regime jurídico das instituições de ensino superior [Approves the legal framework of higher education institutions]* (pp. 1599–1602). Diário da República, I Série—A.

Campbell, A., Künnemeyer, R., & Prinsep, M. (2008). Staff perceptions of higher education science and engineering learning communities. *Research in Science and Technological Education, 26*(3), 279–294.

Caseiro, T. A., Conceição, P., Durão, D. F. G., & Heitor, M. V. (1996). The development of higher engineering education in Portugal and the monitoring of admissions: A case study. *European Journal of Engineering Education, 21*(4), 435–445.

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Should we be using learning styles? What research has to say to practice*. Trowbridge: Cromwell Press.

David, F., & Abreu, R. (2007). The Bologna process: Implementation and developments in Portugal. *Social Responsibility Journal, 3*(2), 59–67.

Dittrich, K., Frederiks, M., & Luwel, M. (2004). The implementation of 'Bologna' in Flandes and the Netherlands. *European Journal of Education, 39*(3), 299–316.

Dooley, L., & Kirk, D. (2007). University-industry collaboration: Grafting the entrepreneurial paradigm onto academic structures. *European Journal of Innovation Management, 10*(3), 316–332.

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education, 14*(3), 251–267.

EC (European Commission). (2011). *Connecting universities to regional growth: A practical guide*. Brussels: European Commission.

Entwistle, N. J. (1991). Approaches to learning and perceptions of the learning environment. Introduction to the special issue. *Higher Education, 22*, 201–204.

Hounsell, D. (1997). Understanding teaching and teaching for understanding. In F. Marton, D. Hounsell, & N. Entwistle (Eds.), *The experience of learning. Implications for teaching and studying in higher education* (pp. 238–258). Edinburgh: Scottish Academic Press.

Kettunen, J., & Kantola, M. (2006). The implementation of the Bologna process. *Tertiary Education and Management, 12*(3), 257–267.

Kirp, D. (2003). *Shakespeare, Einstein and the bottom line: The marketing of higher education*. Cambridge, MA: Harvard University Press.

Legčević, J. (2014a, September 1–9). Institutions of higher education as a development wheel of the regional economy. In SGEM Organizers (Ed.), *SGEM2014 Conference on Psychology and*

Psychiatry, Sociology and Healthcare, Education and Educational Research, SGEM2014 Conference Proceedings (pp. 741–748). Sofia, Bulgaria.

Legčević, J. (2014b). Linking higher education and economy as a role for regional development. In University J.J. Strossmayera in Osijek, Faculty of Economy Osijek, Anka Mašek-Tonković (ur.), *3th International Scientific Symposium Economy of Eastern Croatia—Vision and Growth* (pp. 185–194). Osijek, Croatia.

Legčević, J., Mujić, N., & Mikrut, M. (2012, March 15–16). Kvalimetar as a measuring instrument for improving quality at the University of Osijek. In Croatian Association of Quality Managers (Ed.), *International Scientific Symposium Quality and Social Responsibility*. Solin: Croatian Association of Quality Managers.

Liessman, K. (2008). *Theorie der Unbildung: Die Irrtümer der Wissensgesellschaft [Theory of ignorance: The mistakes of the knowledge society]*. Wien: Paul Zsolnay Verlag.

Lin, C., Cher, P., & Shih, H. (2005). Past progress and future directions in conceptualizing customer perceived value. *International Journal of Service Industry Management, 16*(3/4), 318–336.

Marçal-Grilo, E. (2003). European Higher Education Society. *Tertiary Education and Management, 9*(3), 3–11.

Maringe, F., & Gibbs, P. (2009). *Marketing higher education: Theory and practice*. UK: McGraw-Hill Education.

MCIES (Ministério da Ciência, Inovação e Ensino Superior). (2005). *Processo de Bolonha [Bologna process]*. Lisboa: MCIES.

MEC (Ministério da Educação e Ciência). (1980, May 29). *Decreto-Lei n° 173/80, institucionaliza o regime de créditos nas Universidades [Institutionalizes the credit system in universities]* (pp. 1255–1257). Diário da República, I Série.

MEN (Ministério da Educação Nacional). (1973, August 11). *Decreto-Lei n° 402/73, cria novas universidades, institutos politécnicos e escolas normais superiores e define o regime das respectivas comissões instaladoras e estabelece um conjunto de medidas destinadas a propiciar a formação e o recrutamento dos meios humanos necessários para o início das suas atividades [Creates new universities, polytechnics and higher schools and set the rules of the respective starting commissions and establishes a set of measures to encourage the training and recruitment of human resources required for the start of their activity]* (pp. 1401–1406). Diário da República, I Série.

Ministério da Educação e Investigação Científica (MEIC). (1977, October 14). *Decreto-Lei n° 427-B/77, cria o ensino superior de curta duração [Creates the short cycle in higher education]* (pp. 2492(5)–2492(6)). Diário da República, I Série.

Presidência da República (PR). (1973, July 25). *Lei n° 5/73, aprova as bases a que deve obedecer a reforma do sistema educativo [Approves the bases to be satisfied by the reform of the education system]* (pp. 1315–1321). Diário da República, I Série.

Škare, M., & Lacmanović, S. (2013). Role of universities in regional development. In *Conference Proceedings of the Scientific Conference—Economic Education in the Republic of Croatia—Yesterday, Today, Tomorrow* (pp. 331–343). Zagreb: Economic Faculty University.

Smith, T. R., & Drabenstott, M. (1992). The role of universities in regional economic development. In W. E. Becker & D. R. Lewis (Eds.), *The economics of American higher education* (pp. 199–221). Netherlands: Springer.

van Rossum, E. J., & Schenk, S. M. (1984). The relationship between learning conception, study strategy and learning outcome. *British Journal of Educational Psychology, 54*(1), 73–83.

Wang, H. (2010). Institutions of higher education and the regional economy: A long-term spatial analysis. *Economics Research International, 2010*(376148), 1–19.