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THE ROLE OF UNIVERSITY IN SHAPING LOCAL ENVIRONMENTAL AWARENESS

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Abstract: The article has two aims – first, to discuss changes in the Polish higher education system, and secondly, to investigate the role of university in developing environmental awareness in relation to this transformation. Particularly, the author focuses on a selected group of students as representatives of a region. Environmental sustainability is a crucial and contemporarily relevant issue, which attracts attention of both institutions and individuals. The state formulates laws and administrative regulations and procedures aimed at sustaining the natural environment. These instruments are often mentioned together with instruments of social influence, which include educational measures. Thus, universities can play an important role in their regions. They are a part of the system affecting their environment. The transformation they are undergoing poses a question concerning their social function, which comprises dissemination of environmental knowledge and fostering environmental awareness among both external and internal stakeholders. An analysis of the literature indicates that the transformation of Polish university does not exclude its social mission, which includes dissemination of environmental knowledge. The results of the survey conducted among a selected group of students indicate the need for such educational. University educates prospective workers, managers, entrepreneurs, whose environmental awareness will have a significant impact.

Keywords: higher education, entrepreneurial university, environmental awareness.

1. Introduction

The detailed characteristics of the role university plays in its region is a complex issue, which is made even more difficult by numerous factors influencing its functioning. They are rooted in a wider international or domestic context (e.g. legal, demographic or economic determinants). Leja (2008), after Boer, Enders and Schimank (2006) mentions three types of regulators determining university's functioning: state regulations, market and social pressure. The first type regulates university's managerial self-governance and academic self-governance. The second and the third ones are related to the influence of university's environment –

stakeholders' governance, and to the competition for students, employees and financing. The regulators influence a university more or less powerfully depending on a model of university. The entrepreneurial university (Clark's model), which, according to some experts, Polish universities strive to achieve, is less influenced by the state (or state regulations) or academic self-governance. However, the role of university's management plays a more dominant role due to highly competitive conditions in which universities must operate. The management must both face new challenges and meet the expectations of stakeholders. Despite the changes, a university still remains an important entity in its region, shaping the local community and determining the mode of cooperation with the local government and businesses.

Among many problems which businesses, local governments and education must face, one must mention the deteriorating condition of natural environment. Unfortunately, environmental awareness among Poles is limited, which is substantiated by numerous reports and scientific sources. Environmentally friendly attitudes and behaviours are enforced by both direct (legal and administrative) and indirect (economic) instruments. These actions are essential, yet they will not be fully effective if principles of environmental preservation are not internalised among the public. This goal can be achieved by providing relevant information and education, which are classified by B. Poskrobko and T. Poskrobko (2012) as indirect instruments of environmental management. University's mission includes imparting knowledge and developing environmental awareness among internal (students, and staff) and external (local communities, enterprises, and organisations) stakeholders. This can be achieved by organising a variety of activities, e.g. public lectures, trainings, environmental projects and science days, classes at the University of the Third Age and Open University, as well as cooperation with the media (interviews, educational programmes). It is the creativity of university's representatives that determines ways of dissemination of knowledge.

A review of online resources and literature allows to conclude that environmental education is provided at primary schools (or earlier, at pre-schools and middle schools) and at secondary schools. This happened due to inclusion of these issues in core curricula, which ensure that education for sustainable development can be provided in accordance with the Strategy for Education for Sustainable Development compiled by United Nations (Edukacja ekologiczna, 2019). Yet one can pose a question regarding tertiary education and its role and capabilities in terms of environmental education. This article is aimed at addressing the issue on the basis of source literature (mainly domestic, as the paper concerns developments in Polish higher education), online resources, legal documents and own research made among a group of Management Students, as intermediaries between the university and the local community.

The following research questions were formulated: Q1. Does the transformation process of Polish universities exclude their social mission? Q2. To what extent do universities accomplish their task of imparting environmental knowledge to students?

The following research hypotheses were adopted: H1. The transformation of Polish university does not exclude its social mission, which includes dissemination of environmental knowledge to internal and external stakeholders. H2. Universities, in comparison to other sources of information, play a significant role in imparting environmental knowledge to students.

The issue of environmental education, which constitutes university's contribution to the development of public environmental awareness, will be considered bearing in mind the necessity for mutual cooperation between a university and local enterprises and organisations, as well as the reform of Polish higher education.

2. Towards an entrepreneurial university – a shift in Polish tertiary education

Debates, which have recently grown even more heated, concerning the model of functioning in the higher education system, are a result of its reform (the so-called Law 2.0). Academics brainstorm ideas, criticise the reform or express favourable opinions. Debaters usually fall into two factions dubbed variously depending on adopted criteria. Most commonly they are proponents of the so-called classical (traditional) university formed by Humboldt and protagonists of Clark's concept of university. The former, also called a liberal model, is normally associated with principles governing the functioning of European (including Polish) universities. The latter is a model of entrepreneurial university resulting from the clash between the efficiency of American universities, where management acted on utilitarian principles – joining scientific achievements with the needs of the industry – and what was offered by European universities based on Humboldtian principles, which in 20th century were concerned old-fashioned and providing no guarantee of development.

Reforms of the European higher education system are based on American patterns consisting in introducing vocational studies and two-tier structure of degree courses at universities (Wawak, 2016). Changes proposed in Polish tertiary education involve other ideas typical for entrepreneurial university adopted from the American model, e.g. a controversial issue of encouraging and sometimes forcing academics to adopt an entrepreneurial attitude which should manifest itself in grassroots initiatives to search for sources of financing other than governmental subsidies. An entrepreneurial university should be based on its own financing. Therefore, it is expected that universities cooperate with businesses by doing commissioned research or expert opinions, or organising courses required by industries.

Such practices are considered by proponents of humanistic idealism a hazard to the autonomy of the university and the values fostered by academics for centuries. Many people associate such a model with corporatism, where effectiveness measured in terms of financial success is the principal value. The traditional, social mission of the university – consisting in shaping personalities and fostering their multi-dimensional development – is merged with the idea of university as a commercial enterprise (Dziedziczak-Foltyn, 2014). This raises question concerning traditional educational mission of a university, which may gradually cease to exist (Melosik, 2012).

The principles of entrepreneurial university include forging a bond with its environment. It is the third function of the university besides teaching and research. In contrast with the traditional model, the third function is emphasised. Normally, this involves cooperation with local businesses aimed at implementing new patents, thus generating economic and developmental benefits for parties involved and for the region where they operate. Business, science and administration are more and more interdependent, which is accentuated in a model of the so-called triple helix (Etzkowitz, Leydersdorf 1997; after: Olechnicka, Płoszaj, Wojnar, 2011).

In line with the idea of entrepreneurial university, some peripheral segments are created to foster cooperation and contacts with internal and external stakeholders. The segments include entities which "function inside a university or at its peripheries (corporate spin-offs and business incubators) as well as outside a university (external mentors, organisation responsible for regional development)" (Benneworth, 2007; after: Leja, 2011; Kwiek, 2010; Andrzejczak, 2015, p. 120).

The third function of a university is not limited to commercial cooperation with the environment. It also includes what is connected with university's mission, i.e. active participation in solving problems, such as climate change, health protection, ageing society, environmental degradation (The World in 2025, 2009). Many universities meet the challenges by initiating projects aimed at developing local communities and protection of natural environment.

3. Environmental protection as an element of curricula and of university's social responsibility

The changes in the Polish tertiary education (mass teaching, demographic changes, competition for students and academics and emphasis on the quality of teaching) enforce greater openness of university to its environment, stakeholders' needs and cooperation with them. Academic sets, next to business and government administration, are one of the three pillars of

knowledge-based society (Leja, 2008). Therefore, close cooperation between the three of them is a must.

Businesses are encouraged to implement initiatives as part of their Corporate Social Responsibility (CSR). Similarly, the shift of a university towards a service provider or an enterprise (Melosik, 2012) make it a subject of analyses and evaluation in terms of fulfilling the principles of CSR. Three areas comprising CSR are as follows: ethical, social and environmental (Żemigała, 2007). However, it must be stressed that the issue of environmental conservation (e.g. appropriate purchases, or recycling) in the context of providing educational services by universities is not appropriately investigated, and frequently even ignored (Teneta-Skwiercz, 2018). The literature contains analyses of academic functions derived from its social or educational missions, i.e. propagating knowledge of sustainable development among the local community (external stakeholders), but principally among internal stakeholders (students and academic staff).

The manner of providing environmental education by a university and its willingness to do it depends mostly on the institution itself or, to be more precise, on the people responsible for designing curricula, their knowledge and belief in the necessity of such actions (Michalska, 2016). This is provided for by the Minister of Science and Higher Education Decree on National Qualifications Framework (NQF) (2011). Since 1st October 2012, when NQF took effect, higher education institutions gained the right to autonomous creation of degree courses and curricula. Among the necessary requirements, provided for by the Minister of Science and Higher Education Decree of 2007, e.g. in the economy and management degree courses, there is no environmental education (2007; Michalska, 2016).

Bearing the above in mind, the concerns about universities' unwillingness to undertake non-profit actions formulated by antagonists of entrepreneurial university seem to sound more strongly. Thus, it was proposed to create a liberal – entrepreneurial model of university, which combines the strengths of Humboldtian and entrepreneurial university (Wawak, 2016). Similarly, Leja (2008) proposes that universities shift towards the Clark's entrepreneurial model, sustaining their traditional values. This could be fostered by shaping academic management in a way that the rector is not only a representative of all employed academics, but also of business and local governments, and by establishing social councils, comprising representatives of local society and business (which currently exist mostly *pro forma*) (Leja, 2008; Andrzejczak, 2015).

The aim of a social council is to provide advice and opinions in terms of designing curricula adequately to labour market needs (Leja, 2008). It also seems necessary that they demand provision of education and raising awareness of environmental protection among students, staff and external stakeholders.

International agreements e.g. The Rio Declaration on Environment and Development of 1992 (Dokumenty końcowe, 1993) and national regulations and declarations e.g. National Strategy for Environmental Education "Przez edukację do zrównoważonego rozwoju" (2001), National Curriculum of Environmental Education (2001), Environmental Law, Act on Environmental Protection (Ustawa z 16 kwietnia 2004), Act on the Educational System (1991), National Environmental Policy for 2009-2012 and its 2016 Outlook – are conducive to introducing environmental issues in curricula at all levels of teaching (from kindergartens to tertiary education) (Michalska 2016).

Nevertheless, there are universities where students cannot gain or broaden their environmental knowledge, or, more broadly – knowledge on sustainable development. B. Poskrobko (2001) underlines significant shortage of environmental courses provided by social science faculties as well as insufficient amount of environmental issues in curricula at engineering, economic and legal faculties. Papers and research published after 2001 also show a bleak picture. Students' knowledge of CSR, which comprises environmental protection, is rudimentary at the very most (Trackingowe badanie, 2018).

4. The role of universities in shaping environmental awareness of students as representatives of the local community – results of own research

The research, whose results are presented below, was performed in March 2019 at one university in Warsaw (Military University of Technology). The research investigated consumer attitudes, the role of university in developing students' environmental awareness and their willingness to popularise environmental knowledge and environmentally friendly attitudes. The results published herein are a part of the mentioned research. The sample was specially selected – the participants were students of bachelor and master degree courses in Management, because as prospective managers they should pay more attention to environmental conservation. 148 questionnaires were analysed in this research. The statistical analyses were performed using SPSS software.

The results show that university plays an insignificant role in propagation of environmental knowledge (cf. Figure 1). Respondents acquired the knowledge from the Internet (85.8%), the media (64.2%) and primary and secondary schools (61.5%).

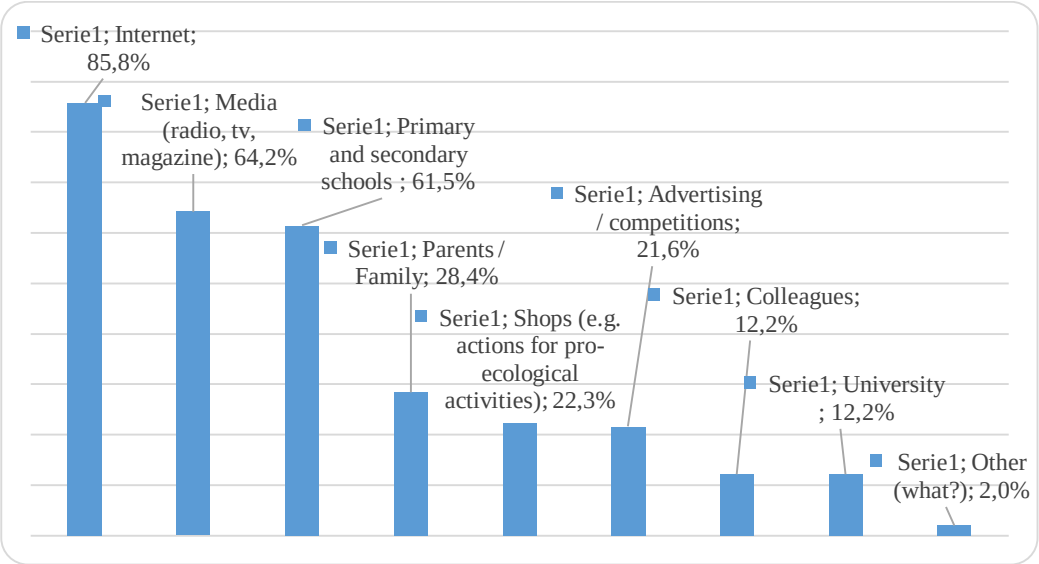

Figure 1. Sources of environmental knowledge. Source: own research.

At the researched university, the curriculum of Management studies does not contain any environmental subject. However, the questionnaire contained a question regarding such a subject, because respondents included students learning at two degree courses or at a different university. Only one response pointed to a class directly related to environmental issues. The majority (87.8%) claimed they never attended such a course. 15 respondents (10.2%) reported environmental issues were considered in some of the courses they participated in.

Students have low expectations in terms of university's role in propagation of environmental knowledge. On a Likert scale, respondents mostly marked level 3 – medium level (43.2%), the second most common answer included low expectations (26.4%). 12.2% of respondents have very low expectations. There is also a group of students who expect a university to propagate environmental knowledge (high expectations – 14.2% and very high expectations – 1.4% of respondents). Apparently, the group is not very numerous.

Students were also asked about efficiency of various forms of popularizing environmental knowledge. Most responses indicated that participation in environmental conservation and local community projects constituted the most efficient form for students (39.2%). Lectures and classes were in the second position (they were attributed value 1 by 22.3% respondents, cf. Table 1 below). Smaller importance was attributed to students' associations and organisations promoting conservation attitudes (14.2%) and contests (13.5%)

Table 1.
Students' opinions concerning efficient academic forms of disseminating environmental knowledge

No.	Academic forms of disseminating environmental knowledge	Scale*			
		1	2	3	4
1.	Lectures and classes	22.3%	16.2%	18.3%	30.4%
2.	Participation in environmental and local community projects	39.2%	16.9%	18.3%	12.8%
3.	Pro-environmental organisations/associations functioning at university	14.2%	30.4%	26.4%	16.2%
4.	Contests	13.5%	25.0%	23.0%	25.7%

* Value 1 means the most efficient forms of propagation of environmental knowledge, and value 4 indicates the least efficient form. Respondents were to rate different forms on the scale 1 to 4. The results in each category sum up to 87.2%, because only those questionnaires, out of 145, which were completed correctly, were taken into consideration. The incorrectly completed ones (13.8%) were discarded.

Source: own analysis.

Environmental and local community projects remain the most efficient also after summing up answers with value 1 and 2 (those were provided by 56.1% of respondents). Category 'other' was not considered, as it was selected by an insignificant number of respondents (2.0%).

The results presented here are not considered representative on a national scale, they depict the situation at one university, at one degree course. Simultaneously, they can be a practical argument in the discussion on the need to include modules promoting environmental protection in curricula. University educates students (especially at Management courses), who in the future will become managers, i.e. the personnel, also working in local administration, and will be responsible to a large extent for the organisation's attitude towards natural environment.

5. Summary

It is difficult to predict the shape Polish university will eventually take as it is undergoing a profound change. The literature on the subject allows to conclude that even if it adopts a typical model of entrepreneurial university, its social mission may not be lost. This inference is supported by numerous discussions and papers by academics supporting preservation of traditional values held by universities for ages. Additionally, even an entrepreneurial university, which is focused on bringing financial profit, may hold environmental values as this can bring calculable profits, such as competitive edge, or enhancement in the image, which can attract students, academics, and entrepreneurs.

Hypothesis 1: The transformation of Polish university does not exclude its social mission, which includes dissemination of environmental knowledge to internal and external stakeholders, seems to be confirmed.

Universities are an important element of regions. They can be a major employer in the region and thus they shape human capital and knowledge development. In light of recent changes (NQF), universities exercise significant discretion as to the contents of courses provided. As a result, environmental issues are not always included in curricula.

H2: Universities, in comparison to other sources of information, play a significant role in imparting environmental knowledge to students, cannot be definitely confirmed, as there are some universities engaged in dissemination of environmental knowledge and modelling sustainable attitudes (e.g. Michalska, 2016). Nevertheless, one can indicate universities with a significant deficiency in this respect (e.g. result of the present study). Additionally, despite introducing environmental issues in some modules and active participation in environmental projects at some universities, their students demonstrate limited knowledge of their university's initiatives fulfilling the third function associated with social and environmental activities (Teneta-Skwiercz, 2018).

The above conclusions should not lead to abandoning environmental education. Rather, they indicate the complexity of the subject and induce investigation of factors determining the efficiency of didactic and educational influence in the field of environmental sustainability. University educates prospective workers, managers, entrepreneurs, whose environmental awareness will have a significant impact.

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