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**Sustainability Awareness on Campus:
The Case of Marmara University**

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Aim of This Study



making a literature review as a first step of our project

examining the sustainable university concept of the Turkish and Foreign Universities

examining measurement tools of the sustainability awareness

Sustainability

Sustainability is a concept describing skill of creating a creatures world, which satisfy the environmental, social and economical needs at present time without harming opportunities of mankind and next generations (Blackburn, 2007).



Sustainability

• Environment

- biodiversity
- energy
- materials



• Social

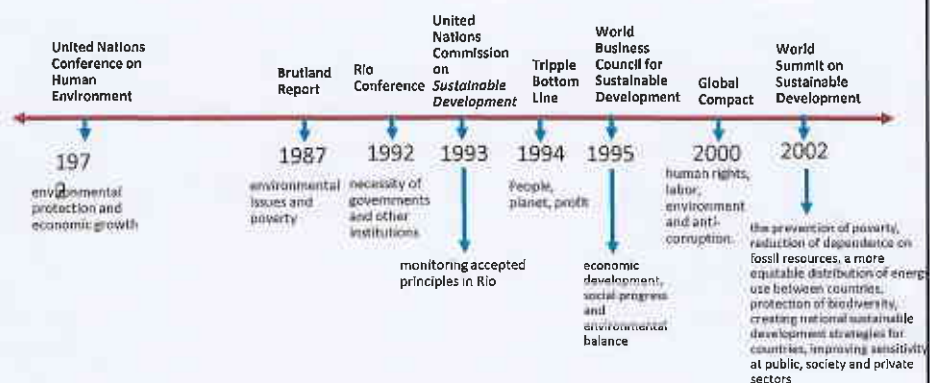
- human diversity (cultural, linguistic, ethnic)
- equity (dependence / independence)
- quality of life
- institutional structures and organization

• Economy

- money and capital
- employment
- technological growth
- investment
- market forces



The Historical Development Period of Sustainability Concept





Sustainability Perception Sustainability Awareness

- ***Sustainability perception*** expresses what they understand from the sustainability.
- ***Sustainability Awareness***
To catch the consciousness in the related subject and to spread this to economic, social and environmental life.



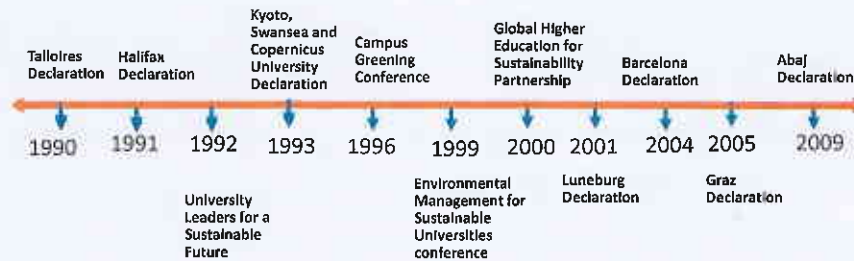
What is Sustainable University?

"A higher educational institution, as a whole or as a part, that addresses, involves and promotes, on a regional or a global level, the **minimization of negative environmental, economic, societal, and health effects** generated in the use of their resources in order to fulfill its functions of teaching, research, outreach and partnership, and stewardship in ways to **help society make the transition to sustainable life-styles.**"

(Valezquez, vd., 2006: 3)



The Historical Development Period of Campus Sustainability in Higher Education



Assessment Tools of Sustainability

- *Status of Campus Environment*
- *Questionnaire of Sustainability Assessment*
- *Equipment inspection for sustainability in higher education*
- *Higher education 21 sustainability indicators*
- *Campus ecology*
- *Graphical assessment instrument of sustainability in the universities*

The Historical Development Period of Assessment Tools in Higher Education



Literature Review for Turkey

Researcher	Objectives	Results
Tuncer (2008)	Analysing the university students' perceptions of sustainable development and the impact of enrolling in courses associated with gender and environment on perceptions. 823 students from three faculties of METU were included in the research.	There was a statistically significant average difference between men and women while no statistical difference was observed between the students who did not attend the classes associated with the environment.
Çakır et al. (2010)	Developing a profile of understanding of current environmental problems by the future science instructors in the context of educational reform in Turkey.	The science teachers in Turkey do not possess the required knowledge and understanding of environmental problems like their colleagues working abroad.
Atakan and Eker (2007)	Investigating the social responsibility initiatives of the Turkish higher education institutions.	Philanthropy is one of the main elements of the "Bilgi University Institutional Identity Program" and that the university possesses adequate motives for social responsibility initiatives.
Talay et al. (2004)	Evaluating the environmental education and awareness of the students of Ankara University.	The students possess awareness in the environmental issues, most of these students are enrolled in environmental subjects in social sciences and the students of health sciences among the rest of the students are not aware of the issues such as sustainable development, organic farming and solid waste pollution.
Oğuz et al. (2010)	Investigating the environmental sensitivity and consciousness of the university students. As the education programs of the landscape architecture, urban planning and environmental engineering departments are all environmentally oriented all around Ankara, the first and final year students of these departments have been included in the analysis.	The classes where the students study did not allow having any significant effect. It has been concluded that the environmental knowledge does not necessarily affect the awareness and behaviours, a national strategy is needed on these issues at the same time and the curriculum should be reviewed in terms of activities.
Şahin et al. (2012)	Analysing the link among the behaviours of attitudes, values and sustainability.	The most powerful factor in explaining the attitudes associated with sustainability has been found as gender in favour of women. Attitudes and values have also been found as the factors explaining the behaviours of university students associated with sustainability.
Budak et al. (2005)	Evaluating the environmental attitudes and behaviours of the students studying at University of Çukurova Faculty of Agriculture.	Students from rural zone are more sensitive to environmental problems compared to those from the city. Male students are more reluctant compared to the female students about the environmental problems. Only 12.9% of the students are members of environmental organizations and possess positive attitudes and behaviours about the environment.

The Case of Marmara University



12 Campuses
17 Faculties
11 Institutes
5 Vocational Schools
19 Research Centres

Number of Students and Staff		
Number of Students	Associate's Degree	9026
	Bachelor's Degree	47698
	Masters (with Thesis)	15239
	Masters (without Thesis)	2913
	Doctorate	4080
	Doctorate with Bachelor's Degree	60
	Proficiency In Art	84
	Mevlana Program	77
	Erasmus Program	363
	Farabi Program	103
	Grand Total	79643
Number of Staff	Academic Staff	2080
	Administrative staff (clerk)	1479
	Administrative Staff (Contracted)	16
	Grand Total	4575

The Case of Marmara University

• **Courses**

- Sustainability and Social Responsibility
- Institutional Management in Fostering Sustainable Growth
- Social Sustainability and Value Creation
- Sustainability Economy
- Institutional Sustainability Practices
- Environmental Economics and Sustainability.



• **International Sustainability Research and Practice Center**

Future Study and Research Questions

- What is the general level of awareness of sustainability at Marmara University?
- How does sustainability awareness affect attitudes and behavior?
- Which behavior and attitudes of staff and students affect the development of awareness of sustainability?
- What is the effect of different factors such as age, gender, income and place of growth on the awareness and perception of sustainability?
- Is the awareness of economic and social sustainability developed as much as the awareness of environmental sustainability?
- What are the expectations of students on the lessons on sustainability?
- How should be the general content and applicability of a lesson on sustainability "in order to develop the awareness of sustainability of students"?
- How should be the most appropriate measurement tool to be used in measuring the awareness and perception of sustainability?

Conclusion and Evaluation

- most of assessment tools are environment focused, and they remain insufficient in terms of social and economic aspect in measuring the awareness.
- the survey to be developed will be a measurement tool that can be used in a leading and guiding nature not only for Marmara University but also for other universities in measuring the social, economic and environmental sustainability awareness and perception.

References

- Abaju Bildirgesi, http://www.aau.org/sites/default/files/esb/abuja_declaration_on_sustainable_development.pdf erişim tarihi: 03.11.2015
- Afacan Ö., Demirci Güler, M. P. (2011). Sürdürülebilir Çevre Eğitimi Kapsamında Tutum Ölçeği Geliştirme Çalışması, 2nd International Conference on New Trends in Education and Their Implications, 27-29 April, 2011, Antalya-Turkey
- Atakan S. and T.Eker (2007). Corporate Identity of a Socially Responsible University – A Case from the Turkish Higher Education Sector. *Journal of Business Ethics* (2007) 76:55–68
- Bakoğlu, R. (2010). *Çağdaş Stratejik Yönetim*, Beta Yayınevi, İstanbul.
- Bakshi B.R., Ziv G., Lepech M.D. (2015). Tecno-ecological synergy: A framework for sustainable engineering. *Environmental Science and Technology*, 49, 1752-1760. doi: 10.1021/es5041442
- Blackburn W. (2007). *The Sustainability Handbook: The Complete Management Guide to Achieving Social, Economic and Environmental Responsibilities*. Earthscan.
- Blackburn, W. R. (2007). *The Sustainability Handbook: The Complete Management Guide to Achieving Social, Economic, and Environmental Responsibility*, USA.
- Brulnders V., K.Canavan, S.Johnstone, M.Mabuza, P.Mattushek, J.Spencer. *Global Warming: An Assessment of Knowledge, Attitudes and Practices at Rhodes University. Final Report.*
- Budak D., Fuat Budak, Zeynep Zaimoğlu, Seçil Kekeç, Yavuz Sucu (2005). Behaviour and Attitudes of Students towards Environmental Issues at Faculty of Agriculture, Turkey. *Journal of Applied Sciences*, 5(7), 1224-1227.

References

- Bunting, G., Davidson, J., Osborne, P. (2012). Sustainability Skills Survey, Staff Questionnaire.
- Cavas B., H.Ertepinar ve G. Teksoz (2014). Sustainability in Schools of Education in Turkey: In the Words of Lecturers. *Journal of Baltic Science Education*, 13(4), 469-482.
- Cole, L. (2003). *Assessing Sustainability on Canadian University Campuses: Development of a Campus Sustainability Assessment Framework*, Royal Roads Üniversitesi, Viktorya, Kanada
- Cole, L. (2003). *Assessing Sustainability on Canadian University Campuses: Development of a Campus Sustainability Assessment Framework (CSAF)*, Royal Roads University.
- Copernicus Üniversitesi Bildirgesi, <http://www.unece.org/fileadmin/DAM/env/esd/information/COPERNICUS%20Guidelines.pdf>, erişim tarihi: 03.11.2015
- Dyllick, T. ve Hockerts, K. (2002). "Beyond the business case for corporate sustainability", *Business Strategy and the Environment*, 11, 130-141.
- Gómez, R. U., Sáez-Navarrete, C., Llo, S. R., and Marzuca, V. I. (2014). Adaptable Model for Assessing Sustainability in Higher Education. *Journal of Cleaner Production*: 1-11.
- Graz Bildirgesi, http://iau-hesd.net/sites/default/files/documents/graz_declaration.pdf, erişim tarihi: 03.11.2015
- Halifax Bildirgesi, <https://www.iisd.org/educate/declaration/halifax.html>, erişim tarihi: 03.11.2015
- Küresel Yüksek Öğretim için Sürdürülebilirlik Ortaklığı, <https://sustainabledevelopment.un.org/partnership/?p=1534>, erişim tarihi: 03.11.2015
- Kyoto Bildirgesi, http://archive.www.iau-aiu.net/sd/sd_kyoto.html, erişim tarihi: 03.11.2015
- Lozano, R. (2006). A tool for a Graphical Assessment of Sustainability in Universities (GASU). *Journal of Cleaner Production*, 14(9), 963-972.
- Lukman, R. ve Glavic, P. (2006). What are the key elements of sustainable university?, *Clean Techn Environ Policy* (2007) 9, 103–114.

References

- Lüneburg Bildirgesi, <http://portal.unesco.org/education/en/files/37585/11038209883/LuneburgDeclaration.pdf/LuneburgDeclaration.pdf>, erişim tarihi: 03.11.2015
- Martin J. and J.E.Samuels (2012). The Sustainable University: Green Goals and New Challenges for Higher Education Leaders. Johns Hopkins University Press.
- Mustafa Çakır, Serhat İrez & Özgür Kivilcan Doğan (2010) Understandings of current environmental issues: Turkish case study in six teacher education colleges, *Educational Studies*, 35:1, 21-33, DOI: 10.1080/03055690903148522
- Nasır, V. A., (2012). Sürdürülebilir Kalkınma için Yükseköğretim Politika ve Stratejileri, *Yükseköğretim Dergisi*, 2(3), 137-143.
- Nejati, N., and Nejati, M. (2013). "Assessment of sustainable university factors from the perspective of university students." *Journal of Cleaner Production*, 48, 101-107.
- Nixon, A. (2002). Improving the Campus Sustainability Assessment Process, Western Michigan University, Theses.
- Oğuz D., I.Cakici ve S.Kavas (2010). Environmental Awareness of University Students in Ankara, Turkey, *African Journal of Agricultural Research*, 5(19), 2629-2636
- Saadatani O., K. Dola, E. Salleh, O.M. Tahir, 2011. Identifying strength and weakness of sustainable higher educational assessment approaches. *International Journal of Business and Social Science* Vol. 2 No. 3, 137- 146
- Sahin E., H.Ertepinar and G.Teksöz (2012). University Students' Behaviours Pertaining to Sustainability: A Structural Equation Model with Sustainability Related Attributes. *International Journal of Environmental&Science Education*, 7(3), 459-478
- Shriberg M. (2002). Institutional Assessment Tools for Sustainability in Higher Education, *International Journal of Sustainability in Higher Education*, vol:3, ss.254-270
- Shriberg, M. (2002). "Institutional assessment tools for sustainability in higher education", *International Journal of Sustainability in Higher Education*, 3 (3), 254 – 270
- Swansea Bildirgesi, <https://www.iisd.org/educate/declarat/swansea.html>, erişim tarihi: 03.11.2015
- Talay İ., S.Gündüz and N.Akpınar (2004). On the status of environmental education and awareness of undergraduate students at Ankara University, Turkey. *International Journal of Environment and Pollution*, 21(3).
- Togo M., Lotz- Sisitka H. (2009). Unit-based Sustainability Assessment Tool: A Resource Book to Complement the UNEP Mainstreaming Environment and Sustainability in African Universities Partnership.
- Tuncer G. (2008). University Students' Perception on Sustainable Development: A Case Study from Turkey. *International Research in Geographical and Environmental Education*, 17(3), 212-226
- Valezquez L., Mungia N., Platt A., Taddel J.(2006). Sustainable University: What can be the matter?, *Journal of Cleaner Production*, 1-10.
- Valezquez L., Mungia N., Platt A., Taddel J (2006) Sustainable university: what can be matter? *Journal of Cleaner Production*, 14(9– 11), 797– 809.

Thank You!



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