# Embedding the Sustainability Development Goals in Universities

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## Abstract

*Universities are playing an important role in achieving a sustainable future. Issues related to sustainable development and the implementation of the United Nations Sustainable Development Goals (UN SDGs) by 2030 are very important for universities now, receiving significant importance and attention in practice. Within the current research paper a qualitative methodology was used to explore the way universities integrate SDGs into their activity. The paper presents also the findings from international research and practices on how to achieve and implement the United Nations Sustainable Development Goals (UN SDGs) into the university curriculum. The results reveal that many actions are taken for acquiring the comprehensive understanding of the Sustainable Development Goals (SDGs) in a university context. This research is useful for professors, students, and businesses. The research contributes to the business education by exploring how Sustainable Development Goals (SDGs) could be implemented in universities in a modality that ensures students' engagement and motivation in addressing social, economic, and environmental concerns.*

***Key words:*** *SDGs; sustainability; universities; learning; Times Higher Education Rankings;*

***JEL Classification:*** *M14, M48, I23, I25, I31, O57, A50*

# Introduction

Most global issues, such as climate change, poverty, gender equality, quality of education require immediate attention in universities to develop new values, attitudes, skills, and competencies in students.

In 2015, 194 United Nations Member States adopted the 2030 Agenda for Sustainable Development. They identified 17 Sustainable Development Goals (SDGs).

Universities have a unique place in society, are critical stakeholders, and have a big influence and an important role to play (Zilahy G, Huisingh D, 2009). Students, the key ingredient of the universities, are entering within a world that is uncertain, risky, and in rapid change, and these affect their professional and personal lives.

Universities are also the ones who can help countries to address and implement the United Nations' Sustainable Development Goals (SDGs) through different projects, and this is very necessary for this age of uncertainty.

During time, universities have made some efforts to integrate sustainability, corporate social responsibility, ethics into education (Matten and Moon, 2004; Moon and Orlitzky, 2011; Tilbury, 2011).

The main purposes of the current research are to inform, to gather evidence, and to contribute to developing knowledge in the *field of sustainability*. Within the current research paper a qualitative methodology was used to explore the way universities integrate Sustainable Development Goals (SDGs) into their activity.

The results of the research reveal a general understanding of the Sustainable Development Goals (SDGs) implementation within universities. Identifying the universities that reports on SDG will be challenging. The education sector is one of the most important sectors of activity that can promote, support, and contribute to achieving the United Nations' Sustainable Development Goals (UN SDGs), since that future generations can achieve skills, competencies, and knowledge to address sustainability challenges. The main challenge to integrate sustainable development subjects in teaching and learning is the limited resources and time available to academics

(Molthan-Hill et al., 2015). Since that the curricula are already overloaded, it is not necessary to introduce new subjects related to sustainability in the curricula. The change should take into account the review and the change of teaching and learning strategies, together with the promotion of development of critical thinking, problem-solving and decision-making, ethics, social responsibility, interdisciplinary projects (Moreso et al, 2017; Tilbury, 2011; Buckler et al, 2014; Lazzarini et al, 2018; Mulder et al, 2012; Baron et al, 2010).

The structure of the paper is as follows: literature review which identifies the relevant research for the paper, presents the context for Sustainable Development Goals (SDGs), how will the Sustainable Development Goals (SDGs) affect and impact universities and vice versa, why is education for sustainable development important, why do we need a sustainable university, what represents education for Sustainable Development, how to implement it, embedding Sustainable Development Goals (SDGs) into the curriculum, together with the barriers in implementing Sustainable Development Goals (SDGs) in universities. The methodology is the next section, which describes the methods used, followed by the results section, the discussion section, which present also future research directions, and the conclusions section that provides concluding remarks on Sustainable Development Goals (SDGs) in the universities.

# 1. The literature review of sustainable development goals (SDGs)

The main responsibility of all universities is to take into consideration how they help their alumni to become responsible citizens that make a difference within their communities (Price et al, 2020).
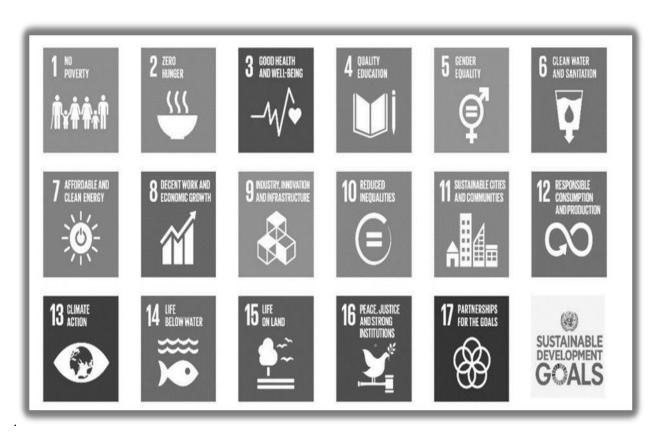
Since universities differ very much in forms, size, specializations, cultures, and regulations, thus will vary how they perceive and provide SDGs. Implementation of SDG requires different competencies and different decisions to be made (Denman, 2019).

## 1.1. A new context for SDGs

The pandemic revealed that the universities had the opportunity to prove the fact that they are not only focused on student satisfaction and providing skills and knowledge for their future careers. Sustainability represents a global issue that requires a global response from all stakeholders (Weybrecht, 2017).

**Figure no. 1. The 17 Sustainable Development Goals (SDGs)**

The Covid-19 pandemic showed us that all 17 SDGs (*Figure no. 1*) are interconnected and they need to be addressed in combination not in isolated units, of which the most significant refer to:

Goal 3 Good Health and Well-Being

Goal 4 Quality Education

Goal 5 Gender Equality

Goal 6 Water and Sanitation

Goal 8 Decent Work and Economic Growth

Goal 10 Reduce Inequalities

Goal 16 Peace, Justice, and Strong Institutions

Goal 17 Partnerships.

## 1.2. The role of universities and SDGs
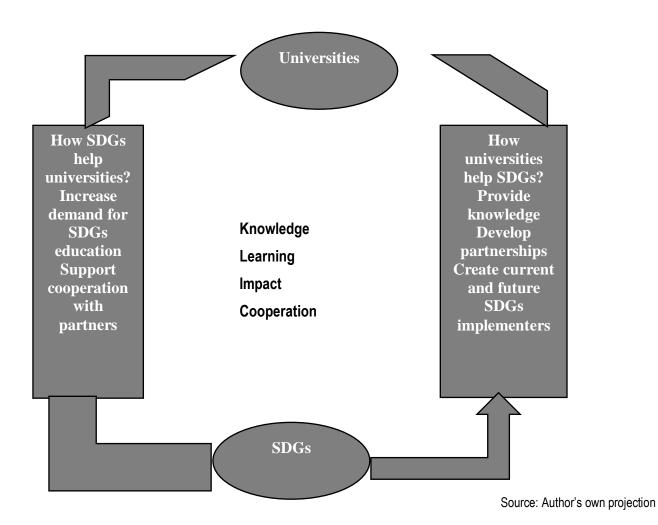
Education is influencing how future generations will act (Storey et al, 2017). Universities contribute to the delivery of social, economic, and environmental impacts.

Researchers discovered that United Nations has put education in the spotlights because these higher education institutions can influence how future generations act and think (Storey et al, 2017; Avelar et al, 2019).

**Figure no. 2. The Universities' Engagement in the SDGs**



Source: Author's own projection

Universities provide knowledge and create current and future SDGs implementers. These institutions can contribute through research on SDGs (interdisciplinary and transdisciplinary both at national and international levels), education (for SDGs), and governance aligned with SDGs (*Figure no. 2*).

The main question that arises nowadays is: *How will the Sustainable Development Goals (SDGs) affect and impact universities and vice versa?*

Universities have a big potential to help ensure the SDGs are implemented by 2030. There are 17 SDGs that promote prosperity and protect the planet, from which we can mention: eradication of poverty, no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water sanitation, affordable and clean energy,

decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life, on land, peace, justice, and strong institutions. The role of universities extends beyond teaching and research. They can contribute through practices, policies, and partnerships. Achieving all these goals require actions to be taken on several tiers, to find solutions to global challenges and to ensure environmentally sustainable campuses. Students will be informed citizens that will contribute to achieve sustainable development throughout their studies and future careers by being responsible and proactive.

Another solution is represented by expanding the human capital by training students to understand

how the SDG help them, by educating them on the social, economic, and environmental issues that impact their work, and future careers and by implementing lifelong learning programs. In this regard, SDGs will be part of different subjects. Research will help discover which are the costs of implementing the SDGs. Universities can provide students with knowledge, skills, and aptitudes and motivation to understand and implement SDGs, mobilize young people, provide training to implement SDG solutions and can also integrate SDGs into courses (**Table no. 1**).

| Table no. 1. The incorporation of SDG in universities | | | | |
|---|---|---|---|---|
| Area ⟍ SDG | **Education** | **Research** | **Operational level** | **Social level** |
| | Universities as educators | Universities as knowledge creators | Universities as organizations | Universities as stakeholders |

Source: Own projection after Seto-Pamies and Papapoikonomou, 2020

*Why is education for sustainable development important? Why a sustainable university?*

Digitalization and globalization connect the world, make economies grow, culture mix, and speed up communication. We live in a complex and uncertain world. In addition, humanity alter the landscapes and the planets climate. Nowadays students have an increasing demand for education that overcome knowledge and skills just to obtain a job, they need a new perspective to be capable to understand how rapidly the world they live in changes.

Education for sustainable development aspires to make students to think and act for themselves, to become change agents or change-makers, to develop a critical thinking, creative thinking, and anticipatory thinking, to act and involve in the community. They can act through modeling, different simulations, scenario planning, and transition management. Students can learn about climate change, multi-criteria assessment, ethics, design sustainability projects, policies, and campaigns, develop interpersonal competencies, inspire followers, negotiate with opponents, communicate more, and build alliances. Students will learn literally any topic that it is discussed from an economic, social, and environmental perspective; as a result, students don't only see the world from the perspective of one subject, but they will obtain a big picture of reality by investigating different topics from an interdisciplinary perspective. Also, the method of teaching is different. An interactive, learner-centered, and action-oriented pedagogy is needed. (**Table no. 1**).

There is evidence regarding the efforts made by universities in various countries, such as Italy (Mion et al, 2019), Spain, (Tejedor et al, 2019), UK (Ndubula and Rey-Maemonier, 2019) to integrate SDGs into education. Students will become more responsible, rather than a passive receiver of knowledge and the professor will be a facilitator, not a knowledge provider:

✓ they will work collaboratively on a group assignment,

✓ they will solve real-life problems, go on trips, or discuss problems in small groups,

✓ they could develop plans for how to improve recycling on campuses,

✓ they can create a curriculum to learn about SDG,

✓ they can give theatre performances around issues of ethics,

✓ they can propose ideas on how to advance healthy and sustainable foods,

✓ they can advise companies on how to make production processes waste-free.

## 2. Research methodology

Within the current research paper, a qualitative methodology was used to explore the way universities integrate SDGs into their activity. The data were extracted

from the official websites of the universities. Our research questions were:

*Does the university has a SDG Report, a SDG Office or a Living Laboratory?*

The population of the study is represented by the universities that are part of The Times Higher Education Rankings 2023 (THE), which is an annual publication of university rankings worldwide, elaborated by The Times Higher Education Magazine, that includes global rankings of universities, by subject and reputation. It is considered to be one of the most widely observed rankings, together with the QS World University Rankings and others. It has an annual frequency and for our investigation we have chosen the most recent one, The Times Higher Education World University Rankings 2023.

The Times Higher Education World University Rankings 2023 include 1799 universities all around the world, more exactly across 104 countries. It is the most diverse and the largest university ranking system. It measures the

institution's performance across teaching, research, international outlook, citations, and knowledge transfer. The most representative country in the world is the US, with 177 universities, of which 58 are in the top 200, followed by China, with 11 institutions in the top 200. Romania has 22 universities in the top from 12 cities (Bucureşti, Cluj-Napoca, Târgu Mureş, Timişoara, Sibiu, Constanța, Braşov, Iaşi, Galați, Craiova, Oradea, Suceava), the Bucharest University of Economic Studies is ranked first in Romania. The Bucharest University of Economic Studies (ASE) is a public university in Bucharest, founded in 1913 by the Royal Decree of Carol I of Romania as the Academy of Higher-Level Commercial and Industrial Studies, and the first economic higher education institution established in Romania, that has now become the largest, in both Romania and Southeastern Europe. It is one of the five members of the Universitaria Consortium, a group of elite Romanian universities.

The evolution in time, on last 10 years, of The Times Higher Education World University Rankings of top 10 universities can be observed within **Tabel no. 2**.

| Table no. 2. The Times Higher Education World University Rankings of top 10 universities for 2013-2023 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| University | Country | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| University of Oxford | UK | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 4 |
| Harvard University | US | 2 | 2 | 3 | 7 | 6 | 6 | 6 | 6 | 2 | 4 | 2 |
| University of Cambridge | UK | 3 | 5 | 6 | 3 | 2 | 2 | 4 | 4 | 5 | 7 | 6 |
| Sandford University | US | 3 | 4 | 2 | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 2 |
| MIT | US | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 6 | 5 | 7 |
| California Institute of Technology | US | 6 | 2 | 4 | 2 | 5 | 3 | 2 | 1 | 1 | 1 | 1 |
| Princeton University | US | 7 | 7 | 9 | 6 | 7 | 7 | 7 | 7 | 7 | 6 | 5 |
| Berkley University of California | US | 8 | 8 | 7 | 13 | 15 | 18 | 10 | 13 | 8 | 9 | 10 |
| Yale University | US | 9 | 9 | 8 | 8 | 8 | 12 | 12 | 12 | 9 | 11 | 11 |
| Imperial College London | UK | 10 | 12 | 11 | 10 | 9 | 8 | 8 | 8 | 9 | 10 | 8 |

Source: www.timeshighereducation.com/world-university-rankings/

The population of our study comprises 1799 universities. So, our representative sample is composed of 356 institutions (Krejcie and Morgan, 1970), where N

is the population size, and S is sample size considered to be representative, and E is the selected sample size (**Table no. 3**).

| Table no. 3. Determining Sample Size from a Given Population | |
|---|---|
| N | 1799 |
| S | 317 |
| E | 356 |

Source: Author's own projection, adapted after (Krejcie and Morgan, 1970)

# 3. Results and discussions

According to the current research, we investigated if the university presented an SDG report, SDG Office/Center/ Academy or implemented a Living laboratory. The results obtained are disclosed within the **Table no. 4**.

| **Table no. 4. The results of the study** | | | | |
|---|---|---|---|---|
| No. | University | SDG Report | SDG Impact (Living) Lab/ Studio | SDG Academy/ SDG Office/ Center/Laboratory/ Institute/Committee/Department |
| 1 | Europe | 100% | 83,56% | 91,10% |
| 2 | South America | 100% | 100% | 100% |
| 3 | North America | 87,21% | 96,51% | 97,67% |
| 4 | Africa | 100% | 75% | 75% |
| 5 | Asia | 90,30% | 87,68% | 90,29% |
| 6 | Oceania | 87,50% | 87,50% | 100% |

Source: Author's own projection, based on the research conducted

We were also interested to observe as well the sample distribution, by country and by continent, to establish which continent has the biggest number of sustainable universities in the world (**Table no. 5**).

| **Table no. 5. Sample distribution by country** | | | |
|---|---|---|---|
| Continent | Country | Number of universities | Percentage in selected sample |
| Europe | United Kingdom | 35 | 41% |
| | Switzerland | 7 | |
| | Germany | 33 | |
| | France | 9 | |
| | Belgium | 6 | |
| | Sweden | 8 | |
| | Netherlands | 8 | |
| | Finland | 1 | |
| | Denmark | 6 | |
| | Austria | 4 | |
| | Norway | 2 | |
| | Italy | 8 | |
| | Spain | 5 | |
| | Luxembourg | 1 | |
| | Hungary | 1 | |
| | Ireland | 3 | |
| | Estonia | 1 | |
| *Total number of universities* | | **146** | |
| South America | Brazil | 1 | **0,3%** |
| *Total number of universities* | | **1** | |
| North America | United States | 75 | **24%** |
| | Canada | 11 | |
| *Total number of universities* | | **86** | |
| Africa | South Africa | 4 | **1,2%** |
| *Total number of universities* | | **4** | |

| Continent | Country | Number of universities | Percentage in selected sample |
|---|---|---|---|
| Asia | China | 13 | 29% |
| | Singapore | 22 | |
| | Hong Kong | 5 | |
| | Japan | 41 | |
| | Saudi Arabia | 4 | |
| | South Korea | 8 | |
| | Taiwan | 2 | |
| | Macau | 2 | |
| | Qatar | 1 | |
| | Israel | 2 | |
| | India | 1 | |
| | UAE | 1 | |
| | Brunei Darussalam | 1 | |
| *Total number of universities* | | **103** | |
| Oceania | Australia | 14 | **4,5%** |
| | New Zealand | 2 | |
| *Total number of universities* | | **16** | |
| *Total number* | | **356** | |

Source: Author's projection, based on the research conducted

Incorporating the Sustainable Development Goals (SDGs) into universities raises students' awareness of the important role that sustainability plays. This paper highlighted the importance of embedding the Sustainable Development Goals (SDGs) in universities to enable them to fulfill their potential role of transforming individuals and communities towards sustainability.

The SDGs might already be integrated as part of some courses, or they might be mentioned in a specific module of a course. To better implement the SDGs in universities, we should look at the materials we use, which include:

✓ energy (energy efficiency, energy saving)

✓ water (reducing water consumption)

✓ protective equipment

✓ infrastructure (laptop, computers)

✓ consumables (paper, pens, recyclable materials).

In order to implement and integrate sustainability into university education plans, it is necessary for educational institutions to rethink the curriculum, reorient education plans towards sustainable education, organize conferences or workshops on the theme of sustainability, include sustainability in the organizational culture, use the campus as a living laboratory for students who can run sustainable projects, organize a sustainability day, encourage students to find sustainable solutions for different organizations, run competitions with prizes for SDGs, encourage students to write poems, paint, draw or sculpt using the theme of sustainability, encourage students to organize a sustainability campaign, organize a visit to a sustainable and socially responsible company, organize a visit to a nature reserve or a farm, organize a cooking session through healthy eating and lack of food waste is encouraged among students, to organize a competition between students for a sustainable business, respectively a sustainable city.

The main barriers to implementing the SDGs in universities are the lack of information on integration methods for sustainability education or the lack of training. There are various challenges for higher education institutions to implement the SDGs in the current context. (Avila et al., 2017)

The implementation of the SDGs in universities also comes with some challenges, such as the limited time frame (Setó-Pamies, 2020). Steps to follow for SDG implementation are: awareness raising, collaboration, measurement, reporting.

# 4. Conclusions

The introduction of the Sustainable Development Goals (SDGs) in universities, regardless of specialization (business, engineering, sociology, psychology, medicine, etc.) represents an important step in education. Universities can help students better understand the challenges facing organizations and society.

Universities should adapt to the way society has evolved and to boldly consolidate their status as proactive actors in the community (Harloe, Perry, & Repenser, 2005). All university stakeholders can act as agents of change by implementing and encouraging several Sustainable Development Goals (SDGs). Cooperation at all levels is necessary to achieve the potential. Some institutions are preparing for the changes imposed by the future.

An interesting topic for future research is the creation of focus groups to discover how universities can become a catalyst for change to inspire stakeholders to engage in sustainability issues.

This paper provides insight into the state of implementation of the Sustainable Development Goals (SDGs) in universities globally through curriculum and teaching methods. Obviously, promoting the SDGs will not be without challenges. The Sustainable Development Goals (SDGs) should be seen as an opportunity to make a change in curricula and teaching to achieve sustainable development and make changes for a better world.

## REFERENCES

1. Avelar, A.B.A., Oliveira, K.D.S., Pereira, R.S. (2019) Education for advancing the implementation of the Sustainable Development Goals: A systematic approach. *International Journal of Management Education*, 17, pp 100-322.

2. Avila, L.V., Leal Filho, W., Brandli L., MacGregor C., Molthan-Hill P., Ozuyar P.G., Moreira R.M. (2017), Barriers to innovation and sustainability at Universities around the world, *Journal of Cleaner Production*;164:12 pp 68–78.

3. Barrón, A.; Navarrete, A.; Ferrer-Balas, D. (2010), Sostenibilización curricular en las universidades españolas. ¿ha llegado la hora de actuar? *Revista Eureka Sobre Enseñanza Divulgacion de la Ciencias*, 7, pp 388–399; available online https://www.redalyc.org/articulo.oa?id=92013009018 (accessed on March, 2023).

4. Buckler, C.; Creech, H. (2014), Shaping the Future We Want: UN Decade of Education for Sustainable Development (2005–2014), *Final Report; UNESCO: Paris, France*; Available online: https://unesdoc.unesco.org/ark:/48223/pf0000230302 (accessed on March 2023).

5. Denman BD. (2009), What is a university in the 21st century? *Higher Education Manage Policy* ;17(2): pp 9–28

6. Harloe M, Perry B. (2005), Repenser l'université sans la vider de son sens: engagements externes et transformations internes de l'université dans l'économie du savoir. *Politiques et gestion de l'enseignement supérieur.* 2005;2: pp 31–45.

7. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, pp 607-610.

8. Lazzarini, B.; Pérez-Foguet, A.; Boni, (2018), A. Key characteristics of academics promoting Sustainable Human Development within engineering studies. *Journal of Cleaner Production,* 188, pp 237–252.

9. Matten, D.; Moon, J. (2004), Corporate social responsibility education in Europe. *Journal of Business Ethics*, 54, pp 323–337.

10. Mion, G.; Broglia, A.; Bonfanti, A. (2019), Do Codes of Ethics Reveal a University's Commitment to Sustainable Development? Evidence from Italy. *Sustainability*, 11, pp 11-34.

11. Molthan-Hill P, Dharmasasmita A, Winfield F (2015) Academic freedom, bureaucracy and procedures: the challenge of curriculum development for sustainability. In Leal Filho W, Davim JP (eds) *Challenges in higher education for sustainability*. Springer, Cham, Switzerland, pp 199–215. ISBN:978-3-319-23705-3

12. Moon, J.; Orlitzky, M. (2011), Corporate social responsibility and sustainability education: A trans-Atlantic comparison. *Journal of Management Organization*, 17, pp 583–603.

13. Moreso, J.J.; Casadesús, M. (2017), Preparing the Global Citizenry, Implications for the Curriculum. In

Higher Education in the World 6. Towards a Socially Responsible University: Balancing the Global with the Local; *Global University Network for Innovation (GUNI):* Girona, Spain; pp. 181–193. Available online: http://www.guninetwork.org/files/download_full_report.pdf (accessed on March 2023).

14. Mulder, K.F.; Segalàs, J.; Ferrer-Balas, D. (2012), How to educate engineers for/in sustainable development: Ten years of discussion, remaining challenges. *International Journal for Sustainability in Higher Education*, 13, pp 211–218.

15. Ndubuka, N.; Rey-Marmonier, E. (2019), Capability approach for realising the Sustainable Development Goals through Responsible Management Education: The case of UK business school academics. *International Journal of Management Education*, 17, 100319.

16. Price E, Longhurst J, White R, Preist C, Mori K, Robinson Z, Baughan P, Gough G, Hayles C, Higgins P, Molthan-Hill P, Hack C, Kemp S. (2020), Education for sustainable development in higher education. *Environmental Science*;29(4):38–45.

17. Setó-Pamies, D., & Papaoikonomou, E. (2020). Sustainable Development Goals: A Powerful Framework for Embedding Ethics, CSR, and Sustainability in Management Education. *Sustainability*, 12(5), 1762. doi:10.3390/su12051762

18. Storey, M.; Killian, S.; O'Regan, P. (2017), Responsible management education: Mapping the field in the context of the SDGs. *International Journal of Management Education*, 15, pp 93–103.

19. Tejedor, G.; Segalàs, J.; Barrón, A.; Fernández-Morilla, M.; Fuertes, M.T.; Ruiz-Morales, J.; Gutiérrez, I.; García-González, E.; Aramburuzabala, P.; Hernández, A. (2019), Didactic Strategies to Promote Competencies in Sustainability. *Sustainability*, 11, 2086.

20. Tilbury, D. (2011), Higher education for sustainability: A global overview of commitment and progress. *Global University Network for Innovation* (GUNI), Spain, pp. 18–28.

21. Tilbury, D. (2011), Are we learning to change? Mapping global progress in education for sustainable development in the lead up to 'Rio Plus 20'. *Global Environment Resources* 14, pp101–107.

22. Weybrecht, G. (2017), From challenge to opportunity – Management education's crucial role in sustainability and the Sustainable Development Goals – An overview and framework. *International Journal of Management Education,* 15, pp 84–92.

23. Zilahy G, Huisingh D. (2009), The roles of academia in Regional Sustainability Initiatives. *Journal of Clean Production*; 17:1057–66.

24. UN Sustainable Development Solutions Network (SDSN), 2016. Funding SDGs. http://www.sustainablegoals.org.uk

25. www.timeshighereducation.com/world-university-rankings/ accessed on March 5, 2023

26. www. undp.org, accessed on March, 2023