Sustainability Assessment Tools in Higher Education Institutions

Sandra Caeiro
Universidade Aberta and CENSE, Portugal

Table of contents

I. Practices of ESD/Importance of Sustainability Assessment
II. Overview of Sustainability Assessment tools for HEI
III. The case of Universidade Aberta (STARS)
IV. Future perspectives
1. Practices within ESD

Whole-institution Approach
Multi-stakeholder interactions

1. Practices within ESD

Whole-institution Approach
Multi-stakeholder interactions

2. Sustainability Assessment Tools for HEI

- Large number of tools to assess and rank sustainability developed specific for HEI, several research about their comparison.
- Some of them are adaptation of tools with Sustainability Assessment of organizations (GRI, ISO 14001/EMAS, Ecological footprint - more focus on environment domain, ISO 26000, balance scorecard)
- Some well known are specific for one of ESD domains like Campus (e.g. CSAF, National Wildlife Federation's State of the Campus Environment) or Curricula (e.g. STAUNCH, CSAF) or SD domains (e.g. Environment, social)
- Categorized as narrative, or indicator-based (some normalized/common unit)
- Developed at research level, geography (Africa), organizational (UN, UNEP), NGOs, Ministries, rectors Councils, Universities
2. Sustainability Assessment Tools for HEI

◆ These tools are important for communication, benchmarking, continuous improvement, driver for change

◆ Applicability is still low
2. Sustainability Assessment Tools for HEI


Classified (1 – 3):

1. Understanding
2. Comparability
3. Level of easiness access to data
4. Measuring progress towards organizational change/transitional
5. Broadness/integration of sustainability dimensions
6. Usefulness for decision-making and communication
7. Level of participation
8. Level of access to be used

1. AISHE - Auditing Instrument for Sustainability in Higher Education
   Based on Deming cycle, Narrative/Indicators/whole university target. Applied in many universities, worldwide; several upgrades/versions, 30 indicators; 5 dimensions (Operations, Education, Research, Society, Identity), less focus on environment dimension (only one indicator); not available online; Netherlands. Roorda, (2001, 2009)

2. AMAS – Adaptable Model for Assessing Sustainability in Higher Education; 4 domains (institutional commitment, example setting, advanced sustainability), indicators (based on other existing tools); with weight process and stakeholders participation allowing to be adapted by each institutions, not available on-line (paper); Chile Gómez, (2013), Gómez et al., (2015)

3. AUSB – Assessment of University Sustainability Policies and their relation to the International Campus of Excellence Program; 3 dimensions, 176 indicators; aims to strengthen the Spanish Universities policies, data collection by self assessment and reviewed by a third party, p. with governmental funding, triangle graph to show results, not available on line (report); Spain CADEP, (2010)

4. BIG AUA – Benchmark Indicators Questions Alternative University Appraisal. Three components. Self-Awareness Questions, Benchmarking Indicators Questions (BQ2); and Dialogue; based on internal and external stakeholders participation; 4 dimensions (governance, education, research, outreach); do not includes environmental management indicators or social responsibility; 30 indicators; maximum score of 100 points; not available online. Asia-Pacific Alliance (28 universities) within UN PMOUER/Net, (2010)

5. CITE AMB – Red de Ciencia, Tecnología, Innovación y Educación Ambiental en Iberoamerica; include domains of Operation, Research, Education, Community; Indicators; not available online; Colombia CITE – AMB et al., (2014)

6. CRUE – Conference of Rectors of Spanish Universities; tested in several Spanish Universities; Indicators; data collection through questionnaires and interviews; used to improve performance in terms of social responsibility and accountability programs, environmental assessments, green procurement and water saving. Also used for the relevance, strengths, weaknesses, opportunities and threats of environmental and sustainable policies at Spanish Universities. Not available online at the moment Spain. CRUE & CSC, (2011)

7. DUK – German Commission for UNESCO, indicators, no focus on community, Not available online; Germany AG HS, (2011)
2. Sustainability Assessment Tools for HEI

8. GUS - Graphical Assessment of Sustainability in Universities tool
Based on GRI reporting; Applied in many universities; 8 dimensions (Direct Economic impact, Environmental, Labour Practices & decent work, human rights, society, product responsibility, curriculum, research); up to 126 indicators; represented in a graphical way; not available on-line for free; UK International
Locano; (2008)

9. GM - Green Metrics university ranking. Used worldwide in several universities, 6 domains (sourcing and infrastructure, Energy and Climate Change, Waste, Water, transportation, Education) 33 indicators, two focus on environment, no community engagement or other social components; online survey, point system of awarding allowing benchmarking, available on line; Indonesia
GM; (2014)

10. GMID - Graz Model for Integrative Development; narrative; 5 domains (Leadership, Social networks, Participation, Education & learning, Research); not specific for HEI, applied to RCE &
Network of existing formal, non-formal and informal education Organizations, mobilized to deliver education for sustainable development (ESD) to local and regional community; aiming transformative potential in ESD in three levels; not available on line (paper) Austria
Mader; (2013)

11. GP - Green Plan and the Label DDaRS; 5 domains (Strategy governance, teaching and training, research, environmental management, social policy and regional presence), aims to assist drawing sustainability plans/policies; 44 indicators; can be audit by the internal and external stakeholders certifying through a label, available on line (in French)
France
Green Plan; (2010)

12. P&P People & Planet - University League, tested in several Universities in UK; no dimensions, 13 indicators, more focus on environmental operations, less in community, allow annual ranking, data collection based on Universities websites and Higher Education Statistics Agency (HESA); results in graphical way, available on line, UK
People and Planet; (2013)

13. SAG - Sustainability Assessment Questionnaire
Indicators, based on a questionnaire survey to several internal stakeholders. 8 dimensions (curriculum, research and scholarship, operations, faculty and staff, outreach and services, students opportunities, administrative, mission and planning); narrative/indicators; 35 indicators; more question on operations; questionnaire available on-line;
Global Association of University Leaders for a Sustainable Future, Secretariat for Tailorised Declaration
ULSF; (2009)

14. SCAS - Sustainable Campus Assessment system, used in several universities in Japan, based on STARS, UNI metrics project by European universities, and AUA, 5 domains (Management, Education and research, Environment, Local community, Special reporting). 48 indicators; data collection through questionnaire; Inform weaknesh and strengths towards sustainability and helps the university decide its future strategy, include specifications of the country (natural disasters), available on line (in Japanese)
Japan
PSPE; (2012)

15. SRC - Sustainability Report Card; Narrative/Indicators (62); 5 dimensions (campus operations, dining services, endowment investment practice, students aktivets; based on a questionnaire survey; focus on energy saving and not in education; final rating from A to D; suspended in 2012; USA
Sustainable Endowments Institute; (2011)

16. STARS - Sustainability Tracking, Assessment & Rating System) Developed for USA, Canada Universities; Narrative/Indicators (14); 5 dimensions (Academic, Engagement, Operations, Planning and Administration, Innovation); on-line reporting tool with 5 levels of final rating; one of the most popular tools; USA
ASHE; (2012)

17. SUM - Sustainable University Model, tested in several worldwide Universities, narrative/indicators; based on and Deming cycle; 4 phases: developing the vision, the mission, sustainable committee, and at last auditing the sustainability strategies (education, research, outreach and partnership, sustainability on campus), 23 indicators, not available on-line (paper); Mexico
Velasquez; (2006)
2. Sustainability Assessment Tools for HEI

18. Sustainability Leadership Scorecard - based on the Green Scorecard and linked with standards and SDGs; planning and self-assessment tool specifically for colleges and universities to improve social responsibility and environmental performance through a whole institution approach; 4 domains (leadership & Governance; Learning, Teaching & Research, Estates & Operations); performance indicators, scores 0-4; no weights results in dashboard; available online for free in UK, Ireland and EAUC, (2016)

19. SustainTool – Program Sustainable Assessment Tool, focus on areas/programs or whole institution; indicators, few focus on environment; 9 dimensions (environmental support, governing stability, partnership, organization capacity, program, Evaluation, Program Adaptation, Communications, strategic planning); 40 question self-assessment; The assessment can be taken as an individual or group; allows to report, revise and develop a plan; tool available online; USA, Washington University, (2013)

20. TUR – Three Dimensional University Ranking, 3 dimensions (research, educational, Environment), 15 indicators, weighted based on a participatory process and Analytical Hierarchical Process (AHP); allows ranking based on world universities rankings; sustainability simplified only in 5 indicators, holistic approach, results in graphical way, tested in top universities, not available online (paper) International Lukman et al., (2010)

21. UEMS – University Environmental Management System; based on EMAS/ISO14001 with a Social responsibility component; indicators, 3 dimensions (University EMS, public participation and Social Responsibility, Sustainability teaching and research); 27 indicators, more focus on environment and campus, not available online (paper) Asia-Pacific Region Alshuwaykh and Abdulakar, (2008)

22. USAT – UH-Based Sustainability Assessment tool; based on SAQ, AISHE, GASU, 4 domains (teaching, research and community services, operation and management, students involvement, policy and written statement); 75 indicators, indicators score 1 to 4 can be used at department, faculty or HE unit, source book available online; Africa within UNEP PSE, (2012)
2. Sustainability Assessment Tools for HEI

Most are indicators based; using self assessment
Operational Dimension is the more detail/weighted

The ones who measure transformation are complex tools
Adaptations to North America, Latin America, Asia, Europe, International – comparability could be more difficult...

STARS
Worldwide used, All dimension equally included
Free, available on line, with support

Strongest for novelty, comprehensiveness, popularity, and their holistic and subjective approaches to sustainability (Stoughe et al., 2018)
3. UNIVERSIDADE ABERTA, PORTUGAL

The UAb is the single public distance education university in Portugal with facilities in Lisbon, Porto and Coimbra (city center).

- **Total students** (graduate+postgraduate) ± 6000
- **Academic and research staff**: 150
- **Administrative staff**: 190

**Departments/divisions**: 5
- Science and Technology
- Humanities
- Social Sciences, Education and e-learning
- Life Long Learning Division

**Graduate programs**: 10; Postgraduate: Masters Ph. D. programs 10.

2016 European Foundation for Quality Management (EFQM) distinguished UAb with the 1st Level of Excellence Committed to Excellence – 4 starts; Certified by ISO 9001 and 27001

3. UAb case study– applications STARS

---

Stakeholders Engagement (on going Master Grilo, Rute)
### 3. UAb Case study - applications STARS

Assessed ESD through online Sustainability Tracking, Assessment & Rating SystemTM (STARS) Reporting Tool

<table>
<thead>
<tr>
<th>DATA COLLECTION</th>
<th>METHOD</th>
<th>PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw data</td>
<td>Documents Analysis (Activity plans and reports, Strategic Plan and programs and courses study guides, databases)</td>
<td>Academics, Administrative services, Campus Operations and rectorate</td>
</tr>
<tr>
<td>Data standardization</td>
<td>Search in databases /websites</td>
<td>-</td>
</tr>
<tr>
<td>Improvement proposals</td>
<td>1st Focus group 2nd Focus group</td>
<td>4 researchers 16 (researchers, students, teachers, administrative staff)</td>
</tr>
</tbody>
</table>

Data Collection:
- Raw data
- Data standardization
- Improvement proposals

### Improvement proposals
- 1st Focus group
- 2nd Focus group

Participants:
- Academics, Administrative services, Campus Operations and rectorate
- 4 researchers
- 16 (researchers, students, teachers, administrative staff)

### 3. UAb results Academics

#### Assessment
- **Comprehensive formal cycle**: BSc Environmental science, MSc Environmental Citizenship and Participation, PhD Social Sustainability and Development
- Most of undergraduate programs with a least a module about Sustainability
- Non formal courses (Open classes, MOOCS related with Environment)
- Strategic research line about “Sustainability and Environment” (but with no financial support from University)
- There is no available place to register the SDG activities of the university.

#### Improvement
- Institution specific sustainability learning outcomes for all students
- All undergraduate students should enroll at least a sustainability course (3 ETCS)
- Enlarge research on sustainability linking students with the labor market, according to transdisciplinary research

(On going Master Grilo, Rute)
### 3. UAb results: Engagement, Plan and Admin

#### Assessment
- **Staff training** about better sustainable practices at work
- **Open courses** on Sustainability and Environment
- PhD thesis aiming at solving local problems related with SDG (action research, transdisciplinary)
- No formal Institutional sustainability policy/strategy
- Formal support to Students with disabilities
- Assessed employee satisfaction
- Participation of community members in the Institution governance (General Council)
- Engagement of UAb community in DREAMLAB for Sustainability (Dragon Dreaming technic)

#### Improvement
- Develop a University policy for sustainability
- Integrated in the Quality office the Sustainability Practices
- Inclusion within the program of Welcome of new employees (already existing) a sustainability performance kit
- Promote awareness within academic community for students to work with the Local Community problems… (with help of local Learning Centers)
- Give more emphasis to the Sustainability academic offer of the University

### 3. UAb results: Operations and Innovation

#### Assessment
- No formal campus; e-learning regime (low ecological footprint)
- LED lighting has reduced consumption
- Use of local food/resources/services for events
- Videoconference as prime communication service to all events
- Decentralized Local Learning Centers in areas of low population density/close contact with society

#### Improvement
- Disseminate/Monitor the Ecological footprint – CO₂ equivalent, water etc… (easy to do, but UAb need to improve inventory)
- Sustainable procurement practices (also within national policies): e.g. recycle paper, hybrid cars, cleaning material
- Separate bins in all facilities
- Through online collaborative platform engage all University Community for sustainable ideas topics
3. UAb final results

- Earn credits for gold rating (if apply for Rating)

- ESD Assessment through SATs allowed to identify fields for improvement as well as new ways for the implementation of the sustainability practices (shareholders were engaged...)
- Improvements as shown in the case study are feasible and at low cost;
- SAT are important driver for first diagnosis and source for strategic plan definition and change organizational management.

3. SAT Future perspectives

All content is in the image.
4. SAT Future perspectives

For transitions assessment (improvement in measurement indicators):

Distinguish between SD integration via “inputs” (e.g., curriculum content, pedagogy) and “outputs” (e.g., acquired competencies or learning objectives), (Stough et al., 2018) limited research on the connection between how courses are delivered (pedagogical approaches) and how they may affect sustainability competences (Lozano et al., 2017).

Long term assessment to allow transition (use of transformation indicators – impact on governance structure; happiness, interconnectivity with nature, community cohesion, fun and celebration) (Disterhelft et al, 2016)

THANKS!
scaeiro@uab.pt
References


