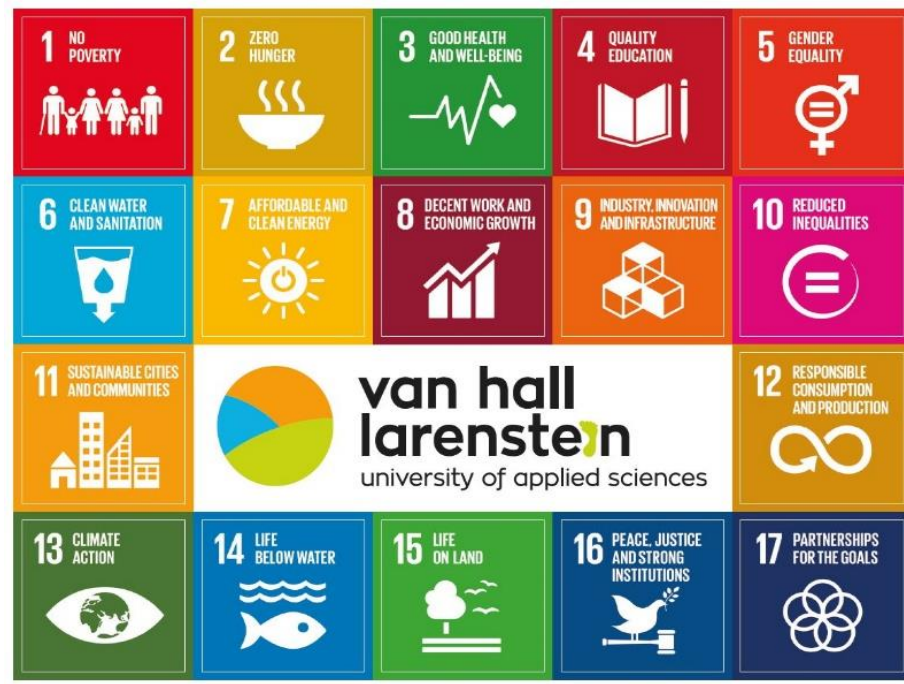# Inspirational or Aspirational?
The Sustainable Development Goals
in Higher Education Institutes

Subtitle: A case-study SDG implementation narrative of a Higher Educational Institute
van Hall-Larenstein University of Applied Sciences - in the Netherlands

Author: Jos van Hal, van Hall-Larenstein (VHL) University of Applied Sciences, The Netherlands
Thesis for the MSc program Master Development and Rural Innovation Programme of the Wageningen University and Research Centre (WUR) Chairgroup KTI
Jos van Hal Student 540304-299-080

Name of Supervisor WUR
Dr. Renate Wesselink
Thesis code: CPT 80830

2018

The UN was not created to take mankind to heaven, but
to save humanity from hell.

Dag Hammarskjold,
Second UN Secretary General

Abstract

Increasingly Higher Educational Institutes take the United Nations Sustainable Development Goals (SDGs) Framework of 2015 as a starting point for the sustainability strategies of the departments education, research and operations. But what does that mean? The initiative of the university of applied sciences, van Hall-Larenstein (VHL) in the Netherland, to address the SDG Framework in its policy strategy started with the SDG identification of priorities by the management. Intentional policy priorities however do not provide enough basis for research and educational professionals to engage with the SDG Framework. Staff felt unclear about the way to translate the Institutional SDG Policy into Educational curricula and Research programs and lacked the capacities and incentives to do so.

This became clear by taking an SDG survey among educational and research staff on the SDG affinity and priorities scores which showed partly overlapping and partly a mismatch with the Institutional SDG priority selection. The Learning Organisational, as a bottom-up approach, is suggested in which teams work from a nexus approach (disciplinary, inter- and transdisciplinary) to break through Institutional barriers that hinder an integral SDG implementation trajectory. Capacity building for such a successful SDG implementation process is essential; competences that need further research to do so are suggested as Transformational Competences. Institutional SDG Governance, as a top-down approach may need changes in the culture and ethos of an organisation through a collective leadership approach and SDG orchestration instead of SDG policy management. Institutional SDG Policy strategies are best expressed in the Third Mission for the Public Good of a civic university which align well the SDG Framework; the two methodological SDGs, Goal 16 Peace & Justice and Goal 17 Partnerships for the Goals, are clear guidelines for this, provided the Institute can show engagement evidence of this.

Key words: HEIs, SDGs policy, Third Mission, Learning Organisations, SDG orchestration, SDG Transformational Competences, civic university

Contents

1. Introduction

For this article the case of the University of Applied Sciences, van Hall-Larenstein (VHL) see textbox 1; *Profile of VHL University of Applied Sciences*, is brought forward as an example of how SDG adoption process came about and what lessons can be learned.

The VHL- IP plan 2018-2021 called 'Green without Borders' holds a strategic three-page chapter on the SDG Framework. This example of an early adaptation to the UN SDG Framework was a result of series of consultations with representatives of staff. The VHL SDG Policy framework 2018-2021 (hereafter VHL IP) came about timely and anticipated well on perceived trends for sustainability and shows that VHL has understood the role HEIs can play in adopting and adapting to the SDG Framework's challenges and opportunities. The SDG Sustainability Strategy Chapter (p 9-11) is positioned immediately after the Mission & Vision and Core Values paragraphs. In an attempt to operationalise the 2030 Framework, eight SDG priority selections were made for all Educational Programs and Applied Research Centers (ARCs). The selection serves as a general SDG affinity scan. The VHL IP was approved by participation council and was positively received during the Academic opening in September 2017.

In order to bring the Institutional Policy Plan closer to Implementation the researcher analysed early SDG literature, experimented and tested implementation trajectories between September 2017 and November 2018. A survey among VHL Lecturers and staff of Applied Research Centers (ARCs) and an iterative series of SDG workshops served as an experimental space in a realistic Learning Organisational setting in order to co-create a prototype of an SDG implementation trajectory.

> The three domains of VHL provide higher educational programs for approximately 4500 students at Bachelor and Master level, specifically in the fields of Food, Agricultural and Natural Resource Management from two locations in the Netherlands, In Leeuwarden and in Velp (near Arnhem). In VHL Applied Research Centres (ARCs) twenty Professorships have appointed with a variety of Applied Research disciplines for innovative knowledge development e.g. the sustainable use of land and water, biodiversity, food security and the transition to a bio-based and circular economy. Applied research is initiated and executed with societal partners in quadruple helix configurations (Governmental representatives, researchers, private sector and citizen representatives)so called in Living Labs (LL) research constellations. The 4 leading principles of the Living Labs are according to Witteveen and Eweg ; that *Living Labs create authentic learning environments to foster inclusive 'quadruple helix' participation. From a methodological perspective it stimulates reflexivity for learning and innovation for sustainability by facilitating interaction, knowledge sharing and open system management* (Witteveen. L, et al. 2016)

Textbox 1 Profile of VHL University of Applied Sciences

Organisational Structure and units of operations

> VHL's RRT Organisational structure:
> *The teams responsible for results underpin the set-up of our organisation. In this respect, important points for attention are internal communication within and between teams and in the line, decision-making within the teams, and the further development of management roles. When accountabilities are devolved at as low a level as possible, those persons accountable need the associated powers, resources and information in order to be able to make decisions and be accountable in this regard.*
> (Source VHL IP Plan 2018-2021)

Higher Educational Programs and Applied Research Centers (ARCs) are organised with a delegated task responsibility structure for the primary functions of HEIs; Education and Research. For good reasons of professionalism and accountability these responsibilities are delegated at the lowest level possible level, that is at executing Team level. Individual team members contribute to the specialisation of the teams. Since 2014 the structure of Result Responsible Team (RRTs) units has been introduced and implemented at VHLs and many other HEIs work according to a similar organisational design. RRTs are

Textbox 2   Extract of IP 2018-2021 p 16 Organisational Team development and RRT task design at VHL

units of ten to twenty staff members with a delegated task division with described responsibility roles such as budgetary personnel planning, quality assurance, team coordination, curriculum coordination and internationalisation. The RRT structure is a factor of importance in the SDG adoption and adaptation process as the RRT units hold the responsibilities and resources to integrate the SDG IP policies into their operations of education and research.

Problem statement

The Agenda 2030 challenges societal parties (public and private) to contribute to the realisation of a sustainable future in ultimately 2050. HEIs can play an essential role with the 3 functions (Education, Research and the civic role (the Third Mission for The Common Good) to the Goals of Agenda 2030. What is actually understood with the functions of HEIs and whether the adoption of the SDG Framework is contributing to this, is so far not well understood. The SDG Framework potentially can bridge the dichotomy between research and education, specifically within Universities of Applied Sciences, and can provide an opportunity to be meaningful for society at large which is generally addressed as Third mission. That Universities' inward orientation and contribution to society is viewed upon with some criticism shows in the following statement: *Universities have an obligation to understand what they are good for instead what they are good at.* (Goddard 2016).
HEIs can contribute to transformational societal change and many HEIs have drafted Intended SDG Policy strategies. In the case of VHL this is expressed in the Institutional Policy Plan. (VHL IP). But few have a practical implementation strategy for the SDG Framework. And if adoption of the SDG Framework is an Institutional Policy, what organisational implications will it have?

The problem can thus be defined as : The ambition to embrace the SDG framework may pose challenges and provide opportunities to the culture and ethos of an organisation that go beyond the capacities of the management structure of such organisation and may require adaptation strategies at all 3 missions (research, education and civic role). Because of its recent introduction and the complexity challenges to operationalize the 17 SDGs, the research agenda of the Professorships and the curricula of the Educational Programs so far have minimally embraced the VHL SDG intended policy selection; there is a lack of Implemented SDG Practise at operational Result Responsible Team (RRT) level.
VHL's educational programs and VHL research RRTs are in need of an alignment tool to develop the capacity and deliver actual SDG practices to implement the SDG Framework

Problem owner

The general management of VHL expresses the need that at all levels of VHL institute it is sustainable. (VHL IP p7). This is prioritised by first fostering the Institutional awareness on the Core Values in 2018 and intends to focus on Entrepreneurship as a general focus of attention in 2019. The strategic sustainability paragraph in the VHL IP 2018-2021, however, specifically details on the SDGs, without further operationalising the SDGs in the primary and secondary functions of the Institute.
The General Management has approved to be the commissioner of this research without delineation of the objectives or further commitment to the results of the research. The role of the General Management provided the justification to do an internal survey among team members and VHL teams and to do further SDG exploration with HEIs in an UAS Dutch SDG coalition.
Furthermore the leading professorships (three leading lectors) in the three domains of VHL have expressed the wish to know how the SDGs can shape and measure the cohesion on Sustainable Development for their Professorships and in the Living Labs. (ARCs).

The objective is to advise on 'How to develop an SDG operationalisation trajectory' for the VHL departments Applied Research Centres (ARCs) ,the Educational programs and the Policy Department on the basis of the SDG framework , existing SDG implementation tools and most recent SDG research publications, websites and conferences.

The wider objective is to understand and contribute to the development of Universities of Applied Sciences to further implement its Mission & Vision to become engaged, civic universities and to be able to generate policy cohesion for Transformational sustainable development with the help of the SDG Framework.

The expectation is that the research 'how to operationalise and implement the framework of SDGs' will bring about a systemic policy coherence and methodology to support decision making for sustainable development at three levels of the VHL institute (ARCS and Education and Policy-Governance RRTs).

The intended SDG policy needs operationalisation and alignment with SDG perceptions of staff of Educational Programs and Research.

The guiding research question is then : Which opportunities and challenges arise with the SDG implementation process for research and educational departments for HEIs, and most specifically for VHL, and how to advise on Intended SDG policy towards Actual SDG practise?

2. Theoretical Concepts
Literature Review : Problematising the complexity and ambiguity of SDGs

Agenda 2030, the 17 SDGs , The Global Goals; all different names for the same overarching paradigmatic transformational Framework in times of accelerating change (Wals. A, & Corcoran.P, 2012). There is wide consensus on the 'Why' as the need for an all-encompassing global sustainability Framework is evident as Humanity, despite enormous progress made over the last century faces catastrophic challenges in the natural, social and economic domains. There is also consensus on the 'What' issue as the process of defining the SDG Framework was a 3-year global multi-stakeholder series of consultative discussion rounds involving hundreds of business representatives, governments, Universities and NGOs as well as a survey in which 9.7 million citizens participated. A recent SDG literature overview in section 2 of this article reveals however, that the Complexity of the SDG Framework itself and the Transformational claims of a holistic approach (integrated, indivisible and universal), with due attention for its governance challenges in its synergies, trade-offs and spill-over effects (Bowen, Kathryn J, et al 2017), calls for clustering, prioritisation and urgency ranking with the Framework. However the issue of 'What' has only been partly resolved on the consensus of the 17 SDG Framework itself as Resolution 70/1 shies away from political positions; it does not analyse the root causes of global inequality, poverty, environmental destruction and their underlying power relations.

The issue of 'How' to operationalise the 17 SDG + 169 targets of the Framework, other than the long list of 243 Measurement Indicators, remains an open question as well three years after the UN Resolution 70/1 has been ratified unanimously by the 193-member countries in the General Assembly on 25 September 2015; there are no clear–cut methods how to apply the SDG Framework at organisational or business level, albeit a range of open source SDG Implementation Tools and commercial SDG scans that Consultancy Firms offer. More fundamental 'How issue' is that unfinished work on the SDG Indicators (Tier I,II and III level) creates debate around whether *the SDG Indicators measure the key progress and distribute the responsibilities to achieve them correctly* (Tulder.R van 2018 p 31).

So, on the practical applicability of the SDGs much design repair work is currently done at the UN delegated level of Sustainable Development Solutions Network (SDSN), led by Geoffrey Sachs to move from adhering to the ideological necessity of the SDGs to national experimentations to develop SDG practice. This is also needed for sectoral SDG implementation such as in HEIs. In these organisations SDG implementation usually starts with CEOs or Institutional Managers that request Policy staff to formulate strategic Mission & Vision paragraphs for the Strategy Plans which indeed show an increasing number of SDG policy statements. Strategic Business Plans and Institutional Policy plans cast a light on the near future with regards the Institution's Mission, Vision, Values and Norms. The strategic sustainability paragraphs make statements on the Institute's aims regarding the main functions, education, applied research and operations. Very often IPs define key performance indicators (KPIs) with which the management prescribes goals to be achieved.

Different perceptions on the SDG Framework.

Where populist' journals portray the SDGs as an 'ideological discourse …. in terms of utopian power oppositions in which the UN figure as an elitist, political instrument to (re)install class distinction [1], scholars as Persson (2016 p. 59) take a more balanced stance which nuances the Insprirational - Aspirational dichotomy: *Where some actors see a task of implementing a set of unrealistic and sprawling goals with no clear definition of sustainability guiding them, others see a uniquely comprehensive set of*

---

[1] New American UN Agenda 2030: A Recipe for Global Socialism 06 January 2016, retrieved 4-12-2017

universal, integrative and ambitious aspirations that offer a shared agenda for transformation. (
Persson. A 2016). The United Nations' Sustainable Development Goals (SDGs) provide an aspirational
map for an for the type of large system transformation (UN Resolution 2015, Waddell , 2015, Nicolai,
2015, Campagnolo, L 2015). In terms of aspirational guidance or aspirational outcome targets the UN
Resolution 70/1 indicates that aspirational is interpreted as global (univeral), with *each signatory
Government setting its own national targets guided by the global level of ambition but taking into
account national circumstances'.*(UN Resolution 70/1). For some, however, the SDGs remain *a set of
purely aspirational tasks for government, or a corporate responsibility box-ticking-exercise for
companies, or else they are viewed as largely irrelevant to most citizens and consumers* (Swaithes, A
2017) [2]. Again others call them '*essential moonshots'* (Conference comment SDG Charter evaluation
Nov 2018).

Whether the SDG Framework finds opponents or proponents who frame them as 'aspirational' or
'inspirational', there is no escaping them. Inspiration is defined as, the process of being mentally
stimulated to do or feel something. Aspiration is, a hope or ambition of achieving something.
Aspirational is associated with Intentional ambitions. Understanding the difference between the two is
that the SDGs may largely inspire early adopters in organisations but resistance may occur to become
inspired when the risk of achieving them is at stake. With that the aspiration level may fall short and as a
result one may find, in personal or professional environments, behavioral signs of Compassion fatigue or
Sustainability Fatigue. From that perspective 'SDG aspiration' can be framed as flights of fancy; of
unattainability, unrealistic projections of hope. Besides internal organisational resistance many critics
observe as well that Global Politics have changed since the Introduction and Ratification in September
2015. The International Global Community in 2019 faces more political unrest and controversies, is less
consensus oriented and shows signs of more divergent nationalistic profiling to which the Framework
2030 has not yet been tested. With that the UN SDG Framework may lose inspirational consensus and
becomes aspirationally unattainable.

Summary of SDG Critiques

Nicolai 's (2015) early summary of critiques on the SDGs vary between *too many, wrong targets, too
ambitious, not ambitious enough, no priotisation, no cost-benefit analysis, no governance, language
diffusion* (Nicolai 2015 p 17). The lack of of economic transformation is critiqued by Kopnina (2017)
when the model economic growth is required for less-developed economies and the tension it creates in
the light of economic development, inclusion and resilience. Persson's (2016) critique on SDG follow-up
and review are in line with an overall critique on the implementation (un)clarity which relates to
Governance mechanisms around the SDG implementation; should the progress of the Framework SDGs
be measured with 243 Universal Indicators? And is it worrying that for 68 Indicators there is no sound
methodology available and/or still need to be developed or tested, three years after the Ratification of
the UN Resolution 70/1 in autumn 2015? The three Tier levels (I-II-III) of the indicators have been partly
defined and still need conceptual and technical detailing. The problem with Tier level II is not so much
conceptual unclarity but data provision of associated country members. This can be categorised as a
logistic failure as a result of short-coming statistical capacity of many Member States. The more
fundamental issue regarding Tier III criteria, which is 30% of the entire set of Indicators, is that *they lack
international agreement and are still part of the negotiation process.* (UN SDG Indicators Metadata
repository)

---

[2] Unpublished Grey Paper Cambridge University Swaithes, A. 2017 Towards a sustainable economy
The commercial imperative for business to deliver the UN Sustainable Development

Other critiques relate to the analysis that the SDGs are a Human Rights-based Framework and has a Western cultural development bias, *excluding non-western perspectives* (van Norren 2017 p.19) or shows signs of reporting bias: Higher-income countries (HIC) rank relatively high in the SDG Index report. The concern is that the SDG reporting Index may omit important variables on which rich countries perform worse than others and may therefore produce biased results. *This is a result of an equal weighting of all SDGs and leads higher-income countries to perform better on average.* (Traub Smidt 2017, SDG index report 2017 p 33)

The 'What issue': SDG Complexity challenge and the Silo Challenge

Whatever perspectives of critique the Framework 2030 may be subject to it remains the 'only common Agenda' we currently have. There is no other approach currently available, in line with the long sequence of attempts to steer the global community towards a more sustainable future.
Gratzer (2017) summarised the challenges of the SDG Framework during an International Conference for the Association for European Life Science Universities (2017 ICA –Deans conference: claims, challenges and imperatives) on the basis of the Tranformational character being , Integrated , indivisible, Universal as follows: *The all encompassing and indivisible nature of the SDGs bring about a 'complexity challenge'* (Gratzer 2017). Furthermore SDGs are described as Intertwined and cross-cutting tapping from the same three claims bring about the *'silo challenge'*(Gratzer 2017). The silo challenge calls for a holistic approach to create synergies, avoid trade-offs and negative spill-over effects. The silo challenge describes the attitude when solutions for one SDG goal or target are presented as scientifically sound but taking no considerations of effects on other SDGs and targets. The complexity challenge confronts us with knowledge ambiguity of different order. *Knowledge ambiguity which raises different questions: Do/can we know? Predictive ambiguity: Can we predict? Intervention ambiguity: Can we successfully intervene to reach the intended effect(s)?* (Tulder 2018 p 43).
SDG Research models, however, since the ratification in September 2015 provide several models that bring less ambiguity and more clarity to the complexity issue.

Models to grapple with SDG complexity

The UN Resolution 70/1 makes the motivated transition from Elkingtons 3 P (People-Planet-Profit) model to 5 P model (People- Planet-Prosperity- Peace/Justice- Partnership). The additional Peace/Justice and Partnership concepts are amendments to the MDG Framework after a long MDG evaluation and pre-adoption phase of the SDGs (2012-2015). The concept of Peace/Justice is new in the approach as a result of renewed attention for Human Rights as a responsibility of Governments to create inclusive societies.

The all-encompassing SDG Framework has called for methods to categorise and cluster them in conceptual workable packages and calls for clustering, prioritisation and urgency ranking with the SDGs (Davis 2015). Numerous designs are available to categorise, cluster, rank the SDGs. The UN SIFAL (UNITAR affiliated International Training Centre for Authorities & Leaders) clusters the SDG Framework into the 5 P Domains and this Research follows this clustering to be able to aggregate the data for the survey accordingly.

Figure 1 UN SIFAL: SDG Clusters according to 5 P principles

In figure 1 and in table 1 both clusters are visualised and listed

The methodological **Peace and Justice** Goal 16 is not clustered within the well-known 3P concept People-Planet-Profit (Elkington 1993) but is clustered left in fig 1 (blue circle) around the Social (People) domain. The methodological **Partnership** Goal 17 is visualized as the backbone of the entire SDG Framework and represents that all relevant societal partners need to contribute to it.

5 P Dimension	Domain	Goals
People	**Social Domain**	Goal 1: No poverty, Goal 2 No Hunger, Goal 3: Good Health Goal 4: Good Education and Goal 5: Gender equality
Planet	**Environmental domain**	Goal 6: Clean Water & Sanitation, Goal 12: Responsible Consumption and Production Goal 13: Climate Action Goal 14: Life below water Goal 15: Life on Land.
Prosperity	**Economic domain**	Goal 7: Affordable and clean Energy, Goal 8: Decent work and economic growth, Goal 9: Industry, Innovation and Infrastructure, Goal 10: Reduced inequalities, Goal 11: Sustainable cities and communities.
Peace- Justice	Methodological	Goal 16 : Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
Partnership	Methodological	Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Table 1 Clustering SDGs in 5P dimensions, domains and Goals . UN SIFAL

To be able to understand the complexity of the SDG Framework and grapple with complexity Davis (2015) suggests clustering the SDG Framework on impact level (changes as a result of outcomes) and on outcome level (what changes in the target population occurred) including the clustering into the technical and in the political domain under the three headings Environment, Wellbeing and Infrastructure. This model returns in more attempts to crack the complexity challenge (Waage J 2015 e251).
Research on the 'What issue' lead to Goals Scoring Models such as the interaction Goals Scoring Model of Nilsson et al (2016). The SDGs are scaled in a seven-step simplified classification ranging from Indivisible (+3 = inextricably linked to the achievement of another goal) to Counteracting (-2= Clashing with another Goal) and Cancelling (-3 = Makes it impossible to reach another goal.) (Nilsson et al, 2017).
Nicolai (et al 2015) classify the SDGs and targets in 3 categories; those that require reform, those that require revolution and those that require a reversal of current trends. (Nicolai 2015).
Further underpinning of the 3 categories describe that Reform is *'moving to the last mile'.* Under Revolution is understood *'Slow gains means falling short'.* And Reverse means *'Changes in direction is needed' (Nicolai 2015).*). In a later research Nicolai (2016) discriminates three dominant policy areas for Higher Income Countries (HIC) to focus on: migration, trade and climate in order to comply with the claim of the SDG Framework to leave no-one behind. Other classifications (Goals for the Rich 2015) show elements of geographical clusters (domestic sustainability targets versus international responsibility targets) and a category of SDGs referring to Effectiveness (do no harm targets). The 'Do no Harm'-targets resemble Nilson's classification 'Consistent' (0 = No significant positive or negative interactions).
Osborn (2015 p. 10) proposes three criteria of Applicability, Implementability, and the Transformational Impact *both in the country concerned and for the world as a whole* (Osborn2015) as a Model to find a

way around the complexity challenge and be able to prioritise. The result of Osborn's exercise on the 17 SDGs clusters *three priority Goals for high Transformational needs*. Goal 13: Climate Action, Goal 7 Energy Transition and Goal 12 Sustainable Consumption and Production. Osborn's model shows the assessment scores for each target for developed country as e.g. the UK with a range from 1 to 8 and averages it. The scores have been used to reorder the SDGs in a developed country context.

The four models (Davis, Nilsson, Nicolai,Osborn) that were quickly summarised provide different but comparable approaches to prioritise SDG implementation. The Models are helpful for Governments in the zero-measurement SDG strategy. It may also help units of smaller organisations such as HEIs to priotise their SDG urgency commitment.

This Literature review reveals, however, that the Complexity of the SDG Framework itself with the Transformational claims of a holistic approach (integrated, indivisible and universal) with due attention for its synergies, trade-offs and spill-over effects calls for counter approaches of clustering, priotisation and urgency ranking.

The 'How issue': The Silo-Challenge and HEIs

The silo challenge describes the behaviour when solutions for one SDG goal or target are presented as scientifically sound but taking no considerations of effects on other SDGs and targets.

In order to avoid the siloisation or cockpitism effect (Hajer et.al 2015) Research and the UN website propose a holistic approach by means of looking at the Synergies of achieving one Goal has on achieving another. And when interventions are suggested on a certain, prioritised SDG, what trade-offs it may have on other SDGs. Subsequently choice-conflicts arise.

Generally siloisation is beneficial in reductionist, analytical approaches. It is a working model for sectoral, deep knowledge generation and works well for disciplinary research, education and business specialisations. But a reductionist approach insufficiently includes the externalities or negative spill-over effect of sectoral approaches. Tacit, cross-cutting issues or wicked problems are usually not sufficiently covered in a sectoral approach.

Research calls for a nexus approach (Stafford-Smith 2016). It is defined as *a structured way to address cross-cutting issues. It helps to move beyond silos and ivory towers that prelude interdisciplinary solutions.* (Yillia. P, 2016 p3). A nexus approach is also referred to as cross-overs, multi-disciplinary or trans-disciplinary approach and comes with challenges. Van Tulder (2018) defines the Nexus callenge as *the extent to which each SDG can be effectively addressed separately, critically depends on the extent to which companies, governments and other societal stakeholders are able to understand, manage and make use of the interrelations between that and the other SDGs. Success in achieving results in one problem area is thus conditioned by actions, policies and progression in other areas*. (Tulder , R van 2018 p 27). From the Nexus perspective SDG progress measurement is multi-faceted, holistic and synergetic.

The Silo-challenge is a major challenge in vested institutional arrangements: interests of educational departments or specialisation research departments may hold resistance against a holistic, synergetic approaches which the SDG Framework proclaims. The third element of the literature research on Learning Organisations dimensions will explore the issue of the silo-challenge either in existing teams or through thematic cross-over SDG teams that work from a Nexus approach.

Before exploring the organisational opportunities with the SDG Framework the literature review will first zoom out on HEI's functions and opportunities to engage with the SDG Framework

Literature review : Functions of HEIs The Public Good .

The conceptual theory of the functions of Higher Educational Institutes is elaborated in this chapter in order to point towards opportunities for HEIs to engage with the SDG Framework from the perspective of the Third Mission , societal engagement, next to the traditional functions Education and Research. The applicability of SDGs in Institutes of Higher Learning taps on the premise that HEIs have functioned in relative institutional isolation and that this will fundamentally change as was indicated in the mid 90ies in the last century. *Research and Education are less detached from eachother and need to be integrated into societal functions*. (Gibbons. M, 1998 p6)

The first two functions, research and teaching, go alongside an explicit Third Mission which is called a civic role. (Goddard. J et al 2016 p ix) Whether this Third Mission is encapsulated in the first two roles or whether it must be reviewed seperately is a subject of academic debate and has many viewpoints. For now the Third Mission is viewed upon as complementary to the first two and not fully integrated in the the two primary roles. HEIs have developed their own identity balancing these three functions and for deliberate reasons Goddard calls the civic role a Mission.

There is reason to agree that the civic role needs specific attention as HEIs still function in relative isolation and are often concerned with quality ranking and institutional management instead of civic engagement. Goddard. J et al 2016 in 'Civic Universities' eloquently formulates and modestly criticises one of the fundaments of current key-performance indicators mentality (KPI) and ranking systems with the quote; '*Universities should be understanding not just what they are good at, but what they are good for.* (ICA conference Louvain le Neuve 2017, The Civic University 2016 p ix)

The Civic University according to Goddard et al (2016 p11) knows 7 principles of which sense of purpose; an engagement with the wider world and the community express the sense of place and belonging. Additional and complementary principles relate to a holistic institution-wide approach instead of specific units or teams. Universities rely basically on public money which is under public scrutiny how it is spent. The political and public debate influences both the research and the educational environment towards *intellectual curiosity which is driven by national priorities of economic growth and competitiveness* (Hazelkorn 2016 in Civic Universities; Theorising civic engagement p. 44).

Hazelkorn discriminates three engagement perspectives:

Social Justice – as a reaction to knowledge for knowledge sake or- value free perspectives

Economic Development – at the other end of the perspective: HE as a driver for socio-economic growth.

The public Good. Contributing to the Common Good : a deeper transformative agenda for Universities (Hazelkorn 2016 p 47.)

The SDG Framework naturally finds a home in the third perspective 'The public Good' that Hazelkorn describes and most clearly in the methodological Goals 16: Peace and Justice and Goal 17: Partnerships for the Goals.

HEIs will need to integrate their primary functions towards Education for Sustainable Development (ESD) in line with the public Good functions which potentially agglomerate well with the Agenda 2030.

SDG Framework and Educational requirements for Sustainable Development (ESD)

It is therefore essential that an Institutional Profile is supportive to ESD principles to be able to assess the Research and Educational Programs on their fundamental contribution to the Agenda 2030. *The Agenda 2030 requires a fundamental position towards Education for Sustainable Development (ESD), in times of accelerating change* (Wals. A, & Corcoran.P, 2012). *ESD empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations* (Rieckmann 2017 Unesco p7).

The role of ESD has been extensively reviewed for Global Citizen Education (GCED) and lists a series pedagodical requirements such as a shift from teaching to learning, action-orientation, transformative pedagogy, self-directed learning, participation and collaboration, problem-orientation, inter- and transdisciplinarity and the linking of formal and informal learning. (UNESCO : 2015).
Mainstreaming ESD requires an Institutional Value driven Sustainability Policy and simultanuously a dual 'bottom-up' adoption of ESD in all aspects of the policies, curricula, teacher education training, student assessment.

Literature review : Understanding Learning Organisations

The following paragraphs will highlight relevant aspects on Theory of Learning Organisations and Collective Leadership for the SDG Framework implementation. The motivational choice to analyse the Theory of Learning Organisations and apply it to the SDG Implementation trajectory of a HEI finds its reason in the researcher's viewpoint that Education for Sustainable Development -ESD- (Wals. A, Corcoran. P 2012) cannot be effectively implemented when it starts from a top-down policy approach. Bottom-up Learning Organisation dimensions may provide an alternative route to SDG Framework implementation in organisations. The SDG inherent complexity may require other-than-disciplinary approaches which are not intrinsically part of the current RR-team responsibilities and incentives.

Concepts of Learning Organisations

This sub-chapter on the staff capacity and Institutional Requirements elaborates on the Theory of Learning Organisations (LO) in relation to the SDG Framework. Organisations perform best when a certain form of task division and task distribution is implemented which requires a form of specialisation, decision-making agreements and communication. Many organisations and also HEIs, among which VHL, have adopted the principles of Result Responsible Team structure (RRT) to facilitate this cooperation and responsibility distribution. (see Introduction Ch.1 textbox 2) . Result Responsible Team-design may , or may not, provide the right unit of embedding the SDG Framework with a Learning Organisation approach. In combination with a deepened view on concepts of Collective Leadership (Kuenkel 2018) in a Learning Organisation it may provide the right 'ecosystem' for Transformational change. Both approaches combine elements of 'bottom-up and top-down' change-initiating strategies (Heyden. M, et al 2016)

Learning Organisations versus organisational Learning

Örtenblad. A, (2001) argues in 'On differences between organizational learning and learning organization' that '*organizational learning is an existing process while a Learning Organization is an ideal form of organization*'. In other words a Learning Organisation (LO) is an organisational principle or structure to steer the Institutional functions.
This research choses to follow Örtenblad's definition of the ideal form of a Learning Organisation and continues to identify Institutional Requirements for Learning Organisations (LO).
Yang, Watkins and Marsick (2004) describe four types of LO perspectives and they are discussed as well in the OECD publication 2016 (Kools and Stoll 2016) which provides an extensive overview of the LO literature. Yang et al 2004 describe four types or perspectives: "systems thinking", the "learning perspective", the "strategic perspective" and the "integrated perspective". (Yang cited by Kools and Stoll 2016 p.16 and following)

When applying these perspectives to the Agenda 2030- SDG Framework it requires of Educational and Research Teams to analyse and review the current Programs from a systems thinking, strategic and integrated perspective but most of all from the key perspective of Learning Organisations, the Learning perspective.

From a Learning perspective one assumes that educational and research professionals are essentially occupied in professional learning and development. But as Easton (2008, p. 756) describes, *there is a difference between 'professional development' and 'professional learning'. Learn as a professional in order to bring about change and become learners* as cited by Kools and Stolls (2016 p16). In most organisations HRM policies provide opportunities for personal development strategies, in the form of Personal Development Plans (PDPs). Team or Professional Learning in the context of a Learning Organisation, however, is rarely the focus of HRM policies or in Team Development Plans.

The dimensions of such a collective Learning trajectory is presented, again in the OECD publication (Kools and Stoll 2016) which lists 7 overarching 'action-oriented' characteristics of a Learning Organisation

> *1) developing and sharing a vision centred on the learning of all students;*
> *2) creating and supporting continuous learning opportunities for all staff;*
> *3) promoting team learning and collaboration among staff;*
> *4) establishing a culture of inquiry, innovation and exploration;*
> *5) establishing embedded systems for collecting and exchanging knowledge and learning;*
> *6) learning with and from the external environment and larger learning system; and*
> *7) modelling and growing learning leadership* (Kools and Stoll 2016 p 61)

Collective Leadership and Institutional Boundaries

A similar perspective on Organisational Learning as with Roloff. K (2011) is brought forward by Kuenkel (2018) on the Collective Leadership concept. Her work categorises four Mindset-shifts that bring about Collective Leadership capacities that lead Teams to address the global challenges of the Agenda 2030. The concept of Collective Leadership moves away from the idea that Leadership is looked upon as a capacity of the individual and is addressing the capacities of collaborative teams, or units of organisations, with a certain task responsibility such as the RRTs. Kuenkel (2018 p 5 and 6) defines the Collective Leadership concept as *'the collaborative capacity of a collective of diverse actors across institutional boundaries in a patterned approach, because Transformation encompasses more than change , it involves a shift in ways of thinking, acting, as well as enacting power structures and relationships'*.

The Mindset shift dimensions as illustrated in the Table 2 below, proposes shifts FROM - a result driven Transformation approach TO – a Process or Co- creating driven Transformation approach.

	Result driven Transformation	Process or Co-creation Transformation
Mindset shifts	**From**	**To**
Taking goals as transformative guidance	Aspiring to reach targets defined as measurable stable future state or static target.	Taking goals as temporarily binding guidance for achieving a dynamic balance in better functioning patterns while using metrics to continuously learn how to further improve patterns.
Nurturing emerging potential	Emphasizing and focusing on the deficits in a system.	Recognizing what already works, building on existing and emerging competencies, empowering functional patterns and fostering disruptive innovation.
Shifting dysfunctional patters	Fixing wicked problems, mitigating risks and combatting challenges.	Collectively diagnosing imbalanced or dysfunctional patterns and safe-guarding or co-creating multiple pathways ways to shift patterns into aliveness.
Stewarding nested transformation sytsems	Taking an often-isolated project-based or initiative-based approach.	Stewarding systemic, patterned, and nested change initiatives by fostering interconnectedness and connection to a larger transformation system.

Table 2 Adapted Shifts in Mindset needed (Kuenkel 2018. Collective Leadership Institute)

SDG Framework as ' a temporarily binding guidance'.

Kuenkel 2018 describes how Teams can collectively find pathways of process or co-creation transformations towards the SDG concept. In Kuenkel's view the SDGs function as *a temporarily binding guidance*. This would ease the result-driven, linear direction of the SDG Framework and recognises and empowers functioning patterns without disregarding the need to collectively diagnose dysfunctional patters.
The Collective Leadership approach , *as a capacity of the collective* (Kuenkel 2018), respects and builds on the power of the Learning Organisation. It also provides the space for Institutional Management to *foster an 'SDG orchestration'* (p 217 in Kanie and Bierman 2017).

Departmental and Result Responsible Team Structures; Transformation to a Learning Organisation.

The SDG Framework requires answers to societal challenges which suggest that the role of contributing to the Public Good perspective is a natural fit for HEIs. (Hazelkorn 2016 p 47.) Furthering the concept of the Third Mission it will require organisational and departmental experimentations. Despite the SDG complexity and urgency , the time horizon of 2030 is close, Result-driven Transformations will need to be reviewed in favour of Process or Co-creation Transformations.(Kuenkel 2018). The assumption is that in Learning Organisation approaches it will bring about better Transformational impact. (Critten. P 2016 p. 73)

3. Research Design: Research questions and Methods

The Intro Chapter 1 , the Problem statement and Objective of the research have clarified the background of it. The literature review in chapter 2 on the SDG Framework literature, The 'Public Good'-role of Civic Universities and the role of Learning Organisations in Education for Sustainability have provided the theoretical framework and use of concepts from which this research operates.

And this leads to the following Research Question

Research Questions

Main Research Question:
> **Which opportunities and challenges arise**, **knowing its complexity, with the SDG implementation process for research and educational departments for HEIs, and most specifically for VHL, and how to advise on Intended SDG policy towards Actual SDG practise?**

Sub Research Questions:

3.1 What is the state of SDG-implementation policies at HEIs?
3.2 Which perceptions exist at the VHL departments (Education and Applied Research) on the challenges and opportunities of adopting - and adapting to - the SDG framework?
3.3 What are staff's and the departmental and Learning Organisational capacities to be able to implement the SDG transformative functions into the research and educational departments?

Research Design

The research follows the research design of a Theory building Case study (Vaus de. D, 2013 p223) in which the University of VHL serves as a unit of research. The approach will be prospective (Vaus de. D, 2013 p228) as the underlying goals of VHL is to continue on the strategy to be the 'most sustainable university of applied sciences in the Netherlands' (VHL IP 2018-2021) and is future oriented instead of retrospective.

The Research has a constructivist approach. In the school epistemology of Educational Philosophers the Transactionalism is applicable: Transactionalists assert that the *"advancing conformity and coercive competition - so characteristic of our times- demands reassessment* (Phillips, T. J. 2015) *in the direction of "knowledge" as an organism-environment*. (Dewey. J, Bentley. A, 1949 cited by Phillips).

The research wants to know how the SDGs challenge HEIs as a Learning Organisation and therefore the Research goes beyond case study unit findings and intends to generalise for HEIs and indicate pathways for SDG implementation. The SDG workshops are experimentation units to build the case for Organisational Learning with the SDG Framework, its challenges and opportunities.

Furthermore the research intends to advise management in order *to provide meaning to the choice of continued progress on the sustainability ambitions with the SDGs in education, research and operations (in 2018 define 'if' and 'how', in 2019 further implementation)*. VHL Policy brief June 2018.

Parallel to this research eight[3] HEIs of Applied Universities have declared a collective statement to an '*SDG Coalition of the Willing'*. The Researcher has the intention to contribute to this process with this research and be meaningful for HEIs in general and the Association of UAS (VH).

---

[3] At the time of writing autumn 2018. In early 2019 11 UAS have joined the Coalition representing over 60% of the UAS subscribed students. The Association for UAS in the Netherlands (VH) aims to team all UAS into the SDG Coalition

The Research Problem was formulated in Ch 1 Introduction as follow: The ambition to embrace the SDG framework may pose challenges and provide opportunities to the culture and ethos of an organisation that go beyond the capacities of the management structure of such organisation and may require adaptation strategies at all three missions (research, education and civic role). Because of its recent introduction and the complexity challenges to operationalize the 17 SDGs , the research agenda of the Professorships and the curricula of the Educational Programs so far have minimally embraced the VHL SDG intended policy selection; there is a lack of Implemented SDG Practise.

The research starts from the Theory-Practise Gap of the SDG Framework and lack of SDG implementation practise. There are an increasing number of practical examples of HEIs that adopt an SDG policy communication strategy and as such the SDG Framework provides inspirational direction for HEIs on sustainability strategies. The research assumes that the SDG Framework provides a relevant Framework for the Third Mission of HEIs.

VHL has formulated an Intended SDG Policy statement but so far the researched RRTeams and departments have minimally embraced the VHL SDG intended policy selection; there is a lack of Implemented SDG Practise.

VHL's educational programs and VHL research departments are in need of an alignment tool to deliver actual SDG practices and develop SDG competences.

Research Methods

Participative fieldwork: Exposure to early SDG fieldwork in SDG Network

The omni-presence of the Agenda 2030 have caught the attention of scholars, engaged citizens and local governments. It has brought forward a wide range of National and International SDG initiatives. Taking part in a participatory way in many of these SDG network activities have contributed to this research. The entire research period sept 2017-and 2018 particpative fieldwork has been part of data collection with relevant stakeholders in the Netherlands and within the EU HEI-platforms, SDG policy discussions at Ministry of Foreign Affairs and several consultation rounds with members of the Dutch SDG Charter. Also participant observation such as consultative SDG team explorations, experimental SDG workshops research on SDG perceptions (at all levels of VHL organisation) and 'awareness raising' SDG workshops for a diverse audience has contributed to understand how to bridge the SDG Intended Policy and SDG practical implementation opportunities.

Desk Research HEI's SDGs profile

A web-based Research in combination with participative field research among HEIs at International SDG related Conferences led to result chapter 5: Scan of SDG Policies in HEIs.

Survey and Team Workshop

Two methods were used to collect primary data;
A survey among VHL Lecturers, ARC researchers and an iterative series of Workshops were designed with the intention to apply existing SDG tools. The workshops served as experimental space in a realistic Learning Organisational setting in order to produce a prototype of an SDG implementation trajectory.

SDG affinity Team Survey

For the SDG perception of Educational staff member 71 lecturers from six RR-teams were requested to provide answers to five questions in the form of a survey. The survey was accompanied by providing overview information sheets on the SDG Goals , Target and Indicators to be able to make informed decisions, beyond icon-recognition, on the professional SDG affinity and applicability for their professional practice. The survey (Ch 5 Results of survey) agregates data in quantitative layout (absolute and relative) at RR-Team level. The output data are again qualitatively interpreted in a Team advice for further SDG Team implementation strategies. This Team advice is a separate internal document of 36 pages. In Ch 5 extracts of the Team advice are presented in textboxes 3 and 4.
The survey data contributes to understand whether educational specialists see a content-driven opportunity in the SDG Framework (Survey Q 1,2) The survey inquires on the methods for Sustainable Development that staff already have at their disposal and whether the SDG Framework could be a useful supplementary or complementary tool (Q3). The latter part of the survey (Q4) enquires on the Institutional Policy awareness and on the personal or Professional Learning Need (Q5) regarding the SDGs. Deliberately, minor attention is given in the survey to methods of Learning for Sustainability with the SDGs, such as concepts of Learning Organisations or capacity for the SDGs, to avoid the impression the survey may serve Institutional Policy coercion mechanisms.Therefore the survey insufficiently contributes to answering the perceptions of VHL staff on Learning Organisations strategies. Several comments to Q4 and Q5 indicate though, in the direction of Team Learning with the SDG Framework.

Experimentations with SDG Workshops

Futhermore primary data was collected by means of a series of experimental workshops (Ch 6 Results of SDG Workshops) with a multitude of target groups; Educational staff and students, VHL's Professorships, Living Labs stakeholders and VHL's partners, prospect students and their parents. The purpose was to build institutional and network awareness on the SDG Framework and to test and adapt the implementation tools for SDGs. It resulted ultimately in a prototype of an SDG implementation Demonstrator.
These workshops have been iteratively and progressively designed to understand better how societal partners in a context of Learning Organisations react to the two main challenges; Explore operational opportunities within the complex set of SDG targets and Indicators (Complexity challenge) and at the same time find opportunities to create synergies, avoid trade-offs and negative spill-over effects (Avoid the Silo Challenge). SDG workshop-testing ultimately contributes to the prototyping of SDG implementation trajectory in a Learning Organisation in order to cultivate or acquire SDG capacity or Team Competences at middle management level of Institutions and Organisations.
Thus it serves the purpose of applying the Theory of Learning Organisations within the context of the SDGs.

Data collection in order to compose an SDG Narrative

The choice of research methods as explained in the previous paragraphs have been iteratively and progressively composed. The research timeline is long , almost two years since the first adoption of the SDG Framework in the RR-Team of the BSc and MSc programs International Development Management Studies and subsequently in the Institutional Plan 2018-2021. The long timeline allowed for different forms of inquiries such as internal policy interviews, webanalysis, participative methods such as fieldwork in conferences and symposia, lobby meetings, workshops, surveys. The researcher has

continuously worked from an embedded, participative perspective in order to compose a narrative 'How to advise on Intended SDG policy towards Actual SDG practise?'.

From a Theoretical perspective this finds roots in the Narrative Inquiry methodology ; the study of experiences. (Pinnegard a.o 2007 p4) and is directing towards Interpretative Inquiry Research and Evaluation (Morehouse 2012) *…one begins with the big picture, the Gestalt or whole, and then looks at the individual pieces in order to better understand the whole which leads back to a new look at the pieces, in an increasing spiral of complexity and relational connectivity. An interpretative perspective views the world and the observer as situated in a practice or activity within a lived world.* (Morehouse 2012 p 1, 2) Whereby the *'Gestalt or whole'* is understood as the SDG Framework and the challenges and opportunities it provides for HEIs.

4. Results of Scan of SDG Policies in HEIs

This chapter presents data to be able to answer the research question 3.1 *'What is the state of SDG-implementation policies at HEIs?'*

Implementing SDGs in HEIs in EU: Platforms for SDG cooperation

This subchapter discusses a non-exhaustive overview of Platforms for HEIs and EU initiatives of SDG implementation stategies of several HEIs. This overview is created to know the scope, depth of SDG Transformational pathways of HEIs and brings together collective platforms that facilitate the SDG adoption or adaptation strategies of HEIs. Data was collected through web-research and parttaking and participative interviews during national and international SDG related Conferences.

PRME UN Platform for HEIs Business Management Schools and SDGs

The Principles for Responsible Management Education platform (PRME) is a United Nations-supported initiative founded in 2007 as a platform to raise the profile of sustainability in schools around the world, and to equip today's business students with the understanding and ability to deliver change tomorrow. (PRME 2018) . The 2018-2019 Cycle under the title "Mainstreaming the SDG in PRME Institutions", describes how '*PRME Champions are asked to take transformative action on integrating the SDGs in three key areas: curriculum, research, and partnerships.… with a view to co-designing a blueprint for the next generation of sustainability-driven business schools and management-related higher education institutions.* (Source website PRME)

ICA – Interfaculty Committee Agraria

ICA – the Association for European Life Science Universities relating to agriculture, forestry, food, natural resources, rural development and the environment.
Adapting to the GG 2030 agenda is considered an opportunity for EU HEI how life science universities should respond to the global drivers for change exemplified by the sustainable development goals (SDGs) in agriculture, and the food and non food value chains through the development of the education programs, the application of science in a social context in support of governance in the region and globally (ICA 2017a +b + c).

EAUC - Environmental Association for Universities and Colleges

Internationally a similar Platform for HEIs, The SDG Accord, was launched in September 2017. Initiated by the UK and Ireland based Environmental Association for Universities and Colleges (EAUC) the SDG Accord is a collective response to the Sustainable Development Goals (SDGs) from the world's universities and colleges. Led by a Global Alliance of the world's university, college and student sustainability networks, the Accord is a worldwide partnership – representing approximately 64 institutions and reaching 1.28 million students. (July 2018)

SDG scan of SDGs in EU HEIs

A scan of several HEIs SDG communication on websites shows that HEIs have so far covered some of the 6 step GLOBAL COMPACT method (fig 2) : 1 Commit 2 Assess 3 Define 4 Implement 5 Measure 6

Communicate. This assessment model was selected for its completeness based on the PDCA-cycle (Deming's Plan-Do-Chech-Act model) and includes Communication strategy. The researcher has benchmarked the Universities with the help of the most complete Steps descriptions of UN Global Compact (6 steps method) and the World Business Council for Sustainable Development (wbcsd) (5 step method) (see table 3). The following HEIs were compared and analysed : Boku University in Austria, The Stockholm University (SLU), Rotterdam School of Management (RSM), Van Hall-Larenstein University of Applied Science (VHL), Copenhagen Business School, and the VSNU Association of Universities in the Netherlands.

Figure 2 UN Global Compact Management Model

UN Global Compact wbcsd PDCA cycle			Step distribution					
			Commit	Assess	Define	Implement	Measure	Communicate
			Understand		Prioritise	Set Goals	Integrate	Report & Communicate	
			Plan		Do			Check	Act
#	University	Nr	Commit	Assess	Define	Implement	Measure	Communicate Results
1	Boku Austria	All 17						
2	The Stockholm University -SLU	12						
3	RSM Rotterdam	14						
4	Van Hall-Larenstein UAS	8						
5	Copenhagen Business School	8						
6	VSNU	17						

Table 3 SDG implementation progress Universities according to Global Compact Assessment steps

The steps Commitment, Assesment, Defining priorities as well as Communication are clearly covered in the HEI's SDG strategies by mapping the relevant SDGs connection to the HEIs' departments or faculties, and in some cases the competences. In a rare case the HEI's SDG mapping provide a selection of the 169 SDG targets that underlie the 17 SDGs. There is no mapping or descriptive reporting on the SDGs at SDG Indicator level available which would support evidence for step 4 Implementation strategy. Such an Implementation strategy would provide such an Institute with an SDG priority activity list followed by

step 5 the Measurement of Progress towards the ultimate SGD Goal or Target. Reporting on this progress would show Accountability and Communication.

Now the Communication in public documents and on websites show the potential Institutional SDG interconnection at Research and Educational activities and are still part of the Intended SDG Policy of these Institutes; Implemenation is so far understood as SDG affinity selection and priotisation. No examples exist in which HE-Institutions can provide a 'holistic approach' to the SDG Framework or clear examples of organisational Transdisciplinary approaches for the SDGs.

Boku University in Austria documents the SDG implementation progress as follows:

A deep and advanced SDG implementation example is provided by the Austrian University of Life Sciences BOKU. The Implementation examples works from six steps of the Global Compact Model as presented in figure 2 and is a good example of step 4 Implementation. The BOKU step by step approach is summarised as follows ;

At the operational level:

1   Formation of a Working Group on SDGs in Jan. 2017

2   Mapping SDGs vs. Departments (According to 6 clusters of SDGs :
1 Basic Human Needs
2 Universal Values
3 Sustainable Resource Use
4 Social and Economic Development
5 Earth preconditions
6 Governance and Partnerships (IISA 2016)

3   Mapping SDGs vs. Fields of Competences (8)

4   Educational Programmes with a specific SDG focus: Seminar „Sustainable land use in developing countries"
(3 ECTS) ICA 2017c :

5   *Organising country-wide SDG cooperation with Conferences in Spring 2018* (Glossl 2017)

Figure 3 Six SDG Clusters of BOKU -Austria to map Programmes and Competences (Source: Glossl 2017)

The Stockholm University (SLU)

SLU selected twelve SDGs representing the Awareness and Selection stage of the Implementation steps (wbcsd 5-step method fig 2) skipping five Goals.

The exclusion of Goal 8: Decent work and economic growth, Goal 9: Industry, Innovation and Infrastructure, Goal 10: Reduced Inequalities, Goal 16: Peace, Justice and strong Institutions, Goal 17: Partnerships for the Goals, is not accounted for nor motivated.

Figure 4 SDG Selection of SLU Stockhom : Source Hogberg. P. 2017

Rotterdam School of Management (RMS)

'In order to show our commitment to the UN Sustainable Development Goals (SDG's), we will report our activities and results in our education and research grouped according to the seventeen SDG clusters'.
PRME report 2017 p.10

RMS is a member of PRME and adheres in its Mission & Vision Statement 4 Values (Critical, Creative, Caring, Collaborative) and have therefore adopted as a reference framework of the United Nations' (website RSM). Recently a series of specific film footage on Research projects under most of the SDGs , except Goal 9, 14 and 15 have been released documenting 'Positive Change' initiatives in the light of the SDG Framework. RMS comes close to accomplishing the 6 cycle of the UN Global Compact

Management Model (figure 2)

Van Hall-Larenstein University of Applied Science

VHL have recently brought forward the IP Plan 2018-2021 in which the SDGs have a prominent position. A global agenda has been adopted by the United Nations comprising 17 goals ('Global Goals for Sustainable Development', see the list above), in order to bring an end to poverty, inequality and climate change by 2030.
It continues to attribute specific SDGs to specific Educational Programmes (BScs and MScs)and Research Professorships
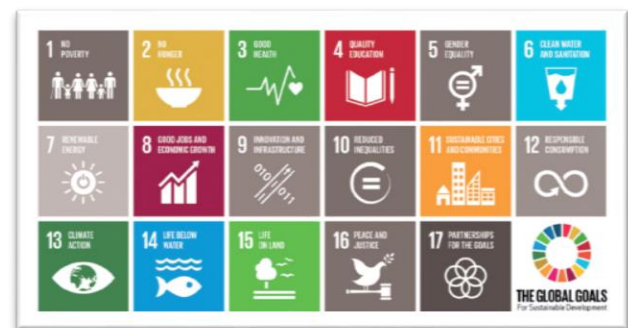
Figure 5 VHL SDG selection for Educational portfolio and Research Source Institutional Policy Plan 2018-2021

Copenhagen Business School

CBS takes an active role in addressing some of the
SDGs. The figure 6 below Goals displays a variety of activities that CBS has engaged in to achieve some of the 17 SDGs. The descriptions reference to page numbers in an Institution Reporting document on Sustainability operationalisation.

This agenda cannot be achieved by governments alone. As a green university of applied sciences, we are also in a position to contribute to this. Although we have an affinity with all 17 Global Goals, based on our teaching portfolio and research groups, we have decided to specifically focus on the following goals:
2. No hunger3. Good health
4. Quality education 6. Clean water and sanitation 11. Sustainable cities and communities 13. Climate action 14. Life below water 15. Life on land (VHL IP Plan 2018-2021)

Figure 6 Copenhagen Business School SDG clusters 2017 Source PRME cbs report 2017

The VSNU heading discloses under each SDG icon a UN summary description of the SDG. This short intro of each SDG icon is followed by a the question : How do the Dutch universities work on this development goal? This question is answered by showing the link to the specific University websites. It then shows the research programmes, involved heads of staff and publications that relate to sustainability in general. In some cases direct links to University's portals that address a certain SDG topic. Other Universities create links to their own websites for specific SDG projects

As a platform for Dutch Universities it provides an inventory of sustainability related research and related activities.The SDG icons serve as an overarching Framework to provide a communication platform how Dutch Universities work on the development goals.

This website overview is non exhaustive and provides different typologies of commucation strategies in public documents of Universities.

SDG selection as an unavoidable approach

As is discussed in Ch 2 in the Theoretical Framework on the complexity challenge and silo- challenge this research discussed four models to grapple with the SDG Framework by ranking, classifying and clustering the SDG Framework in related geographical zones or urgency time-frames (priority SDGs). There is a similar selection or priority tendency that is observed among the researched HEIs. None of the HEIs are able to come up with an integrated, holistic SDG implementation strategy that maintains the full attention on all the 17 SDGs although some Universities try to cover Education and Research activities in a wide range of SDG coverage .

There is no mapping or descriptive reporting on the SDGs at indicator selection available which would support evidence for step 4 *Implementation* strategy. Such an implementation strategy would provide a HEI priority activity list followed by step 5 the *Measurement of Progress* towards the ultimate SGD Goal or Target. Reporting on this progress would show Accountability and *Communication*. Now the Communication in public documents and on websites show the potential Institutional SDG interconnection at Research and Educational activities and are still part of the Intended SDG Policy of these Institutes and shows early Implementation Practices.

In all: Implemenation is so far understood as SDG affinity selection and priotisation.

Conclusive Remarks to the Ambiguity of the SDGs policies : Despite potential obstacles and challenges and future SDG measurement risks the SDGs have inspirational and aspirational potential provided that stakeholders engaging with the SDG Framework approach them as an opportunity for integral change.

5. Results of Professional Staff & Team perceptions on the SDGs

This chapter collects primary data on the sub-research question 3.2 *'Which perceptions exist at the VHL departments (Education and Applied Research) on the challenges and opportunities of adopting - and adapting to - the SDG framework?'*
In organisations Institutional Managers request Policy staff to formulate strategic Mission & Vision paragraphs for Institutional Strategy Plans. An Institutional Policy plan is a Plan and not yet reality. It needs adoption and dissemination among educational and research staff. An SDG paragraph may also become a contested value proposition because of its complex character and lack of SDG implementation practise. Ideally Policy Intentions find fertile ground among staff but in reality organisations' capacities and staff members' perceptions on Intended policies play a crucial role. Within an agile organisation the top-down and bottom –up interaction (Critten 2016 p.73, Heyden. M, et al 2016) are optimally integrated in change processes and ideally interaction is part of the SDG-orchestration as suggested Kanie and Bierman (2017).

Survey context:

Several interview sessions with Educational Teams and individual teammembers of Research Teams led to a total number of seventy-one surveys respondents over six Educational Teams that are organised in Result Responsible Teams (RRT). Ideally the RRT size is between minimum ten and maximum twenty staff members. (see textbox 2 Introduction chapter). Each session took on average one hour per team or indiviual. The researcher approached all VHL 16 BSc programs but did not put effort or institutional stimuli or force to convince Teams to participate in the survey. The researcher thought it best to start from a voluntary basis when Teams wanted to allocate time and effort to do the SDG survey scan. Deliberately, minor attention was given in the survey to methods of Learning for Sustainability with the SDGs or concepts of Learning Organisations, to avoid the impression the survey may serve Institutional Policy coercion. In the design of such a survey it is essential to avoid a top-down enforcement or coercion of Institutional Policy selection. Participants were able to freely reflect on their professional affinity with the deeper content of the SDG Framework without pre-notification of the SDG IP policy selection.
One could suggest an online survey (with survey-monkey or other digital tools) but the characteristics of the survey was designed in such a way that it was more or less an SDG workshop. The Resolution's Goals, Targets and Indicator Framework were available to all participants, on paper and digitally, so that reflection and affinity scores were based beyond SDG icon recognition. Self-reflection and short interactions between team members ultimately brought well-balanced team scores.

T&L	Garden & Landscape Design	19		27.4%
BNB	Management of Forested Landscapes	9		12.9%
LWM	Land and Water Management	8		11.8%
IDM	International Development Management	11		15.6%
FT	Food Technology (&VMT)	10		14,7%
ABA	AgriBusiness & Animals.	14		17.6%
		71		100%

Table 4 Six participating Teams and number of respondents per Team

The selection of six Educational Programs in table 4 in the total of 16 BSc is a representative number but generalising on the advice for all programs is not possible as each Program advise is tailor-made on

the basis of the Team scores. There are no relevant observation to be noted on age or gender (dis)balance: the teams mainly are male employees with up to 30 or 40% females, except for Team IDM which is predominantly a female Team (15% male). Age or gender differences in population has not been investigated as it was not part of the research objective to find age or gender SDG perception differences between the teams.

Output data is Team advice

The perceptions were aggregated at RR-Team level to provide advice how Teams can proceed in deeper engagement with the SDG Framework as is illustrated in textbox 3 . The data are agregated data in quantitative layout (absolute and relative) at Team level. The output data are again qualitatively interpreted in 6 files of Team advice for further SDG Team implementation strategies. This Team advice is a separate internal document of 36 pages available on request.

The scope of the survey

The survey requested participants to reflect on their professional affinity with each and every of the 17 SDGs, targets and indicators . Affinity is defined as having either the acquired knowledge or skills in the professional practise that have overlap with the descriptive parts of each of the 17 SDGs, its underlying 169 sub Goal targets , and if needed the 243 indicator definitions. Do the respondents see transformational focus from their own professional perspective with each and every SDG? (Q1) Additional reflection on the three claims of the SDGs -being Integrated, Indivisible, Universal- delivered an additional Team perception on the SDGs.(Q2)
The data contribute to understand whether educational specialists see a content-driven opportunity with the SDG Framework. The survey also aggregated data on models for Sustainable Development that staff already employ and whether the SDG Framework could be a useful supplementary or complementary tool. (Q3)The latter part of the survey aggregated awareness of staff on SDG Institutional Policy and on the personal or Professional Learning Need regarding the SDG Framework. (Q4+5)

Survey results:

Survey Task 1: Affinity Scoring

Respondents scored their professional affinity per Goal (seventeen individual scores) according to a 5-

		General anonymised information	Nn						
		Participant	19						
		Age	52,1						
		Domain	DAR						
		Department							
		Educational Programme	T&L						
	Questions								
	1	**SDG Awareness (in Education and Research)**							
		Transformative, Integrative and Indivisible SDG functions			Your focus between low and high				
		SDGs ask for a Transformational change and create Transformational challenges							
				Low				**High**	
5Ps	**SDG**	**Please score the SDG against the transformation focus from your professional perspective.**	**T&L**	**- -**	**-**	**~**	**+**	**+ +**	N sum
People	1	No Poverty	1	13	4	2	0	0	19
People	2	Zero Hunger	2	3	4	6	6	1	20
People	3	Good Health and Well-Being	3	1	4	9	4	2	20
People	4	Quality Education	4	1	2	4	12	0	19
People	5	Gender Equality	5	7	4	4	2	2	19
Planet	6	Clean Water and Sanitation	6	0	4	2	9	5	20
Planet	12	Responsible Consumption and Production	12	0	4	3	12	0	19
Planet	13	Climate Action	13	0	0	4	5	9	18
Planet	14	Life below Water	14	11	3	3	1	1	19
Planet	15	Life on Land	15	2	0	2	9	6	19
Prosperity	7	Affordable and Clean Energy	7	3	6	3	6	1	19
Prosperity	8	Decent Work and Economic Growth	8	5	5	5	4	0	19
Prosperity	9	Industry, Innovations and Infrastructure	9	0	5	4	10	1	20
Prosperity	10	Reduced Inequalities	10	10	6	2	1	0	19
Prosperity	11	Sustainable Cities and Communities	11	0	0	0	6	13	19
Peace&Justice	16	Peace, Justice and strong Institutions	16	9	7	3	0	0	19
Partnership	17	Partnerships for the Goals	17	4	6	5	4	0	19
		Totals for T&L		69	64	61	91	41	326

Table 5 Example of T&L Team affinity scores, clustered according the 5 P concept

type scale ranging from low affinity focus (- -) to high affinity focus (++). The individual data are brought together as Team scores of which one of the six teams is depicted in table 5 for the largest Team T&L/Garden Landscape Programme with nineteen team members. Note that the data are presented in a 5-P cluster according to the UN 5-P concept and subsequently the SDGs are not presented in numeric sequence. This form of data representation serves to advise the Teams on the priority cluster on the basis of the 5 P concept; either Educational Teams are more People, Planet or other Ps oriented etc. The 17 SDGs during the survey were presented in a normal, numeric sequence , not according to the 5 P – concept to avoid interpretative modelling confusion. The 17 SDGs were presented in full detail as the UN described them in the UN resolution 70/1.

The nineteen team members of T&L in total attributed 326 scores distributed over the 17 SDGs. Looking at the totals for this team we observe 69 scores representing 21,3% of the total scores showing no affinity (- -) mainly clustered in three Goals (Goal 1 , 14 and 10). Similarly we observe moderately high (+) affinity scores of 91 scores, representing nearly 28% of the total scores, mainly clustered in three other Goals (Goal 4, 12 and 9). When including the full positive (++) scores and combine these with moderately positive (+) affinity scores three priority Goals come to the fore. In order of highest to less high the T&L priority Goals would be: Goal 11, Sustainable Cities and Communities, Goal 15 Life on Land, and Goal 13, Climate Action. (see red blocks in table 4).

On the basis of these scores and the results of survey question 2 the researcher advises each team on the aggregated scores and the highest Team affinity priority scores. Such an advice is shown in textbox 3. The T&L team elaboration serves as an example, the remaining five teams have been scored similarly but are not presented in this article. Each team has been informed in detail on the Team SDGs affinity results including advice.

> Priorities 1,2,3 General Conclusion: T&L professionals have a high transformational focus on Planet aspects in order to build resilient human settlements . Looking into new, unexpected SDG challenges may bring about new interdisciplinary learning trajectories .This is supported by the respondents underpinning that SDGs are indivisible as well as the importance of Integrated character of the SDGs. Especially discuss low scores for Goal 1 , 14 and 10

Textbox 3 Example of Team advice for T&L on the basis of survey question 1 and 2

Totalising all Team scores

In table 6 the scores of all six teams are presented in one overview showing the Team affinity perception on the entire SDG Framework. It serves no other purpose than indicating a general acceptance or rejection profile of the entire SDG Framework of the researched teams. In contrast to table 5 the affinity scores are presented in percentages indicating the relative distribution over the Likert scale.

The six Teams behave differently: IDM and ABA teams generally score towards positive affinity results. The remaining four Teams spread scores more distinctly between Low (--) affinity and some (+) affinity. The four Teams that score relatively low overall SDG affinity (low - -) < 20% reveal that the broad set of 17 SDGs only hold a few SDGs that are directly relevant to the Team and point toward selection and priotisation. This result indicates that SDGs implementation at the heart of the educational programme from a holistic and integrated perspective is more difficult to achieve than in teams with higher positive affinity scores across the full range of the 17 SDGs.

Summative scores for 6 Teams on the entire set of 17 SDGs

Nn			Low				High
			- -	-	~	+	+ +
19	Totals for T&L	T&L	21,3%	19,6%	18,6%	27,8%	12,7%
9	Totals for BNB	BNB	30,1%	12,4%	22,9%	25,5%	9,2%
8	Totals LWM	LWM	21,5%	13,3%	20,2%	25,0%	20,0%
11	Totals IDM	IDM	9,6%	11,8%	23,6%	33,4%	21,5%
10	Totals FT & VMT	FT&VMT	25,6%	16,2%	27,4%	20,4%	10,4%
14	Totals ABA Velp - Leeuwarden	ABA	20,3%	14,5%	19,3%	30,7%	15,3%
71	Average over all 6 teams		21,4%	14,6%	22,0%	27,1%	14,8%

Relative distribution

Scores of + and ++   42,0%
Scores of ~ and +   49,1%
Scores of - and ~   36,6%
Sores of -- and -   36,0%

☐ SDG Team affinity scores accumulated between neigbouring scores
▨ highest scores per team and overall average

Table 6 Summative Team affinity scores on the entire set of the SDG Framework

The bottom part of the table 6 again aggregates the overall scores of all researched 6 teams. Positive affinity (+ and ++) aggregate to 42 % whereas Low affinity (- - and -) aggregate to 36%. When including the neutral scores (~) in both sections the distinction becomes slightly more prominent; Positive 49,1% against Low affinity remains 36,6%. One could conclude that the professional affinity perceptions of the researched 6 teams show a moderately positive appreciation of the SDG Framework.

Survey Task 2: Priority selection

On the basis of the individual affinity scores of the 17 SDGs the respondents prioritised three[4] (obvious) SDGs as focus SDG for the Program; the result is presented in table 7 can be understood with the legend in table 8 with the corresponding number and use of colours for the 5-P concept.
Most Teams neglect the Peace (Goal 16) and Partnership (Goal 17) methodological SDG approaches and selected SDGs that are categorised under the Social, Planetary or Economic dimensions of sustainability.
This Learning outcome of the survey workshops is compared to the VHL's IP SDG priority selection in the subchapter 'Survey Task 4 Perceptions on VHL IP 2018-2021 in table 9 and 10 further down in this result chapter. There are hardly major selection discrepancies between the SDG IP selections and the Team's survey priority selections. The outcome of both processes may be similar but the engagement of a Learning Organisation SDG process reflects the value of the survey and the SDG Team advice as a result of that.

---

[4] One team BNB prioritised only 2 SDGs and in the case of LWM the 4 priority scores over 4 SDGs were more or less equally distributed.

SDG priorities	1	2	3	4
T&L	11	13	15	
BNB	15	11		
LWM	6	13	15	11
IDM	2	1	13	
FT&VMT	3	12	2	
ABA	2	8	12	

Table 7 SDG Priority scores: Red (People) Green (Planet) Blue (Prosperity-Economic)

5Ps	SDG	
People	1	No Poverty
	2	Zero Hunger
	3	Good Health and Well-Being
	4	Quality Education
	5	Gender Equality
Planet	6	Clean Water and Sanitation
	12	Responsible Consumption and Production
	13	Climate Action
	14	Life below Water
	15	Life on Land
Prosperity	7	Affordable and Clean Energy
	8	Decent Work and Economic Growth
	9	Industry, Innovations and Infrastructure
	10	Reduced Inequalities
	11	Sustainable Cities and Communities
Peace&Justice	16	Peace, Justice and strong Institutions
Partnership	17	Partnerships for the Goals

Table 8 : Legend to table 7. Clustering of SDGs against the 5P principles (based on Unitar)

Survey Task 3: Viewpoints on the Transformational SDG claims: 'Integrated, Indivisible and Universal'

SDG Priority selection as an implementation strategy was surveyed against the SDG Transformational three claims of being 'Integrated , Indivisible and Universal' (UN Resolution 70/1). The survey data on these three claims were aggregated in the same Likert affinity scoring method and provided generally wide support on the claim that SDGs have an integrated character; no team scores this aspect as entirely low. A majority of 59.6 % (++) and 19.3% (+) rank it as important to relatively important. The two remaining SDG claims (Indivisible and Universal) show less coherent results; with mixed average result, except for the two Internationally oriented educational programs (IDM and ABA) which appreciate the universal character of the SDGs higher than other Teams. The claim of indivisibility, as presented to the respondents as '*allowing no strategic or tactical room for compromises'*, finds no clear support. This survey result supports the practise that SDGs selection is a preferred operational implementation strategy against the integral implementation strategies as described and required in the UN Resolution 70/1. It furthermore supports the practise that Teams know best where their core activities optimally relate to the SDG Framework, the obvious links. When Teams' results show mixed support on the Transformational SDG claims of being - integrated, indivisible and universal-, the Teams are advised to research and explore the opportunities for a broader SDG coverage (obvious versus less-obvious affinity scores) as is illustrated in textbox 3 and 4. The Team advice also indicates to dialogue within the team when the affinity and priority ranking show opposed SDG interpretation and affinity ranking.
The SDG effects -Synergies, Trade-offs and Spill-overs (SDG Index 2017) as discussed in chapter 2 was surveyed among respondents in order to understand respondents SDG selection awareness: *Your key-SDG may affect other SDGs? Do you know of any?* A majority of respondents were able to provide several synergy effects on the basis of their priority selection , individual but also at team level. Fewer respondents were able to detect the trade-offs in relation to the selected priority SDGs. It is recommended to take these Team results as a point of departure for Team Discussion and SDG Trainings alongside the Affinity and Priority scores. In line with the mixed results as shown in table 9 it is a sign of the SDG complexity challenges where support is given for the Integrated character of the SDGs but respondents find it hard to find examples in their field of expertise how this integrated character is expressed in trade-offs and choice-decision making. In regard the negative spill-over effects the respondents provided a rich list of comments on issues that can be used for multi-disciplinary SDG team cooperation. The comments made to the survey question *'Which spillover effect is dominant in your field*

of expertise?' give support to the understanding that several , but not all, Teams are well aware of the specific responsibility of more affluent economies to address spill-over effects. Causal relations between and among the SDGs are indicated and provide a rich ground for further interdisciplinary Team cooperation and points towards the development of system thinking competences within and between teams.

SDG Effects	Description and Survey Question	Results Discussion
Synergies **3a**	One SDG (or target) positively enforces another SDG (target) **Your key-SDG may positively affect other SDG? Do you know of any?**	A majority of respondents were able to provide several synergy effects. It is recommended to take these as a point of departure for Team Discussion and SDG Trainings alongside the Affinity and Priority scores.
Trade-offs **3b**	A trade-off involves sacrificing one aspect of a goal in return for gaining improvements in another **Your key-SDG may affect other SDG? Do you know of any?**	Fewer respondents were able to analyse the trade-offs in relation to priority SDGs. In line with the mixed answers on the 3 SDG claims it is more difficult to address the SDG complexity challenges.
Adverse "spillovers" effects **3c**	Richer countries generate greater negative spillovers than poorer economies. Many of these adverse spillovers tend to be neglected or poorly measured in official development statistics. Also defined as externalising social and environmental costs. **Which spillover effect is dominant in your field of expertise?**	The respondents provided a rich list of comments on issues that can be used for multi-disciplinary SDG research. Teams are well aware of the complex responsibility of more affluent economies to address spill-over effects.

Table 9 Summary of perceptions on Synergies, Trade-offs and Spillover - effect

Survey Task 4: Perceptions on the VHLs IP 2018-2021

This survey section explores the staff's perceptions on the SDG VHL IP paragraphs and here the key research hypothesis is explored and it illustrated that in a Learning Organisation a dual process of top-down and bottom-up adoption of strategic policies may challenge the culture and ethos of an organisation that go beyond the capacities of the management structure of such organisation. The gap between Intended SDG Policy and SDG practise is illustrated with the low number of respondents (40%) that have taken notice of VHL's SDG paragraph in the IP 2018-2021 and 60% of the respondents are not aware the VHL's IP SDG paragraph is a starting point for the Team's sustainability strategy. In itself not a meaningful research finding; it is common knowledge that Policy Plans are guiding documents that are not frequently consulted for day-to-day practise but also cannot be ignored in terms of strategic, tactical and operational decision making at Team level.
Staff's influence on the focus of SDG policy paragraph, however, shows a remarkable results which provides food for thought on the top-down and bottom–up interaction in change processes . On a Likert scale 81.2% of the respondents stated to have had no influence (- -) .

	- -	-	~	+	+ +		- -	-	~	+	+ +	Teams
Have you had an influence on the SDG focus of the SDG paragraph in Policy Plan 2018-2021?	17	2	0	0	0	19	89,5%	10,5%	0,0%	0,0%	0,0%	T&L
	7	1	0	0	1	9	77,8%	11,1%	0,0%	0,0%	11,1%	BNB
	7	1	0	0	0	8	87,5%	12,5%	0,0%	0,0%	0,0%	LWM
	7	1	1	0	0	9	77,8%	11,1%	11,1%	0,0%	0,0%	IDM
	7	2	1	0	0	10	70,0%	20,0%	10,0%	0,0%	0,0%	FT&VMT
	11	0	1	0	1	13	84,6%	0,0%	7,7%	0,0%	7,7%	ABA

Table 10 Team Survey respondents on SDG focus of IP

If the composition process of the VHL IP 2018-2021 was meant as a participative process it is not expressed in the perception of respondents. From the perspective of the ultimate SDG selections there are hardly any selection discrepancies between the SDG Policy selections and the Team's survey priority selections (compare table 7 and table 11). Universities of Life sciences predominantly operate in the domain of Planetary and Social Sciences. The differences show in additional SDG Team selection such as Abolish poverty (Goal 1) and Economic growth (Goal 8) Sustainable Production & Consumption (Goal 12) priority SDGs in the 6 researched Teams. More differences may surface when all remaining Teams would explore their affinity and priority SDGs during an SDG Workshop.

When such an all-encompassing SDG Framework is introduced as an Institutional Sustainability strategy staff expertise and staff perceptions cannot be overlooked. When SDG priority setting and exploration on the synergies, trade-offs and spill-over effects is done at the operational level of Education programs and Research, most likely the SDG Framework is embedded more effectively at Team level and meets the bottom-up requirement of change processes. The survey furthermore explored existing 'Sustainability Tools' that are already applied in the programs and that either cover or are supplementary to the SDG Framework. It found that there is no pattern to be observed except that Elkington's 3P-concept (People-Planet-Profit) and the Assessment Instrument for Sustainability in Higher Education (Aishe[5]) are frequently mentioned.

Priorities 1,2,3 General Conclusion: Full scores on Q2 on the interdependence of social, economic, and environmental aspects, whereas the IDM understands the GG claims on Indivisibility and Universal applicability quite differently. The differences between the three SDG claims of Transformational Impact (Integrative, Indivisibility and Universal) needs deeper exploration within the IDM team. Results of Q1 show the high priority on 'People oriented GG' and is a subject for further IDM discussion, with a low focus on Planet and Prosperity scores. Four of 11 Team members score priority 1 under other Ps than People oriented GG. IDM sees priorities in Goal 16 and 17 and no other VHL team does so. Sequence of IDM Team focus is 1) End Hunger 2) End

Textbox 4 Extract of Team Advice for International Development Management (BSc)

IP 2018-2021 SDG selection (in order of presentation for Education and Research)		
People	4	Quality Education
	2	Zero Hunger
	3	Good Health and Well-Being
Planet	6	Clean Water and Sanitation
	13	Climate Action
	14	Life below Water
	15	Life on Land
Prosperity	11	Sustainable Cities and Communities

Table 11 VHL's IP SDG Priority selection. Colour legend. – see table 7.

Training and Learning needs to be able to internalize the SDG Framework show that a majority of staff wants to engage deeper in Learning with the SDG Framework either on an individual or Team basis.

Each of the six teams were informed on the SDG affinity scan in a 36 page SDG advice (see examples in textbox 3 and 4) available on request. It is recommended to take the SDG Team results and advice as a point of departure for Team Discussion and SDG Trainings alongside the Affinity and Priority scores.

---

[5] Aishe: Assessment Instrument for Sustainability in Higher Education.

6. Results of SDG Workshops

On the basis of SDG implementation training materials made available through UN affiliated International Training Centre for Authorities & Leaders (UNITAR) and through the UN Global Compact , Global Reporting Initiative, the World Business Council for Sustainable Development (UN Global Compact SDG Compass 2015) the researcher has designed a series of 11 adaptable exercises for the workshops. An overview of the exercises can be found in Annex 11.1

Exercises for SDG implementation

Most of the 11 exercises for the workshops are supported with online tools (databanks such as UN SDG Knowledge platform, Standards Map or MVO-NL platform) to select appropriate themes, issues, international standards and multi-lateral agreements which are relevant for the participants.

Due to the diverse type and audience of the SDG workshops the Learning Objectives and Outcomes of the workshops are diverse and unmeasurable and are described as perceived Learning outcomes or Impact. Below in the descriptive part of this chapter the effects and relevance of the experimental workshop space is explained for this narrative inquiry research.

	Type of Workshop	Audience	Nr	Learning Objectives	Perceived Learning Outcome or Impact
1	SDG and ARCs scan	Applied Research Centres (ARCs)	2	Finding affinity with the SDG Framework for Research cohesion	Start of an independent SDG trajectory of ARCs with l'Ecxpeditia[6] (see annex 11.2)
2	SDG Affinity workshops or Survey	VHL Educational Teams on two locations	8	Assessing the professional affinity of Educational Teams	Educational Team Advice (see survey results Ch 5)
3	Introduction to SDGs	Prospect Students and Parents	8	Awareness raising on SDGs and profile of VHL	Prospects have become aware of the 5 P principles and the relation with the SDGs and became knowledgeable on sustainability profile of their future studies
4	Networking SDG Workshops	Visiting stakeholders and Municipality meetings e.g. Bhutan delegation, CITO group	3	Awareness raising for target group's sectoral connection to the SDGs	Awareness raising and building Partnerships for the SDGs
5	SDGs and Global Network scan	Applied VHL Master APCM and MoD	3	Sensitising and awareness raising of International Development Master community	International Master candidates (approx. 50) become aware of SDG progress in home country and find SDG opportunities for thesis research with the SDG Framework

---

[6] L'Expeditia: work title of Policy Meetings of Applied Research Centres

	Type of Workshop	Audience	Nr	Learning Objectives	Perceived Learning Outcome or Impact
6	SDG Demonstrator workshops	Four Regional stakeholders in a Learning Organisation constellation (SIA funded project)	6 + Intro session	Learning curve of SDG operationalisation. Co-creating with diverse stakeholders	SDG Demonstrator; → 2 films NL and EN. (released February 2019): according 5 step SDG Implementation of the SDG Compass 2015

Table 12 Overview SDG Workshops during Research period

Effects of the different workshops

The most effective result of the workshop series has been obtained with the Applied Research Centre (table 12.1) and with the SDG Demonstrator (table 12.6).
For the ARCs (table 12.1) the SDG workshops ignited an independent SDG trajectory among the Professorships and the research assistants, predominantly in the largest ARC for Food and Dairy. A strategic Contour profile 2018-2021 with dedicated SDG paragraphs is an example of an Implementation step 4 according to the UN Global Compact Management Model (see fig 2).

The exercises have been applied to the full extent between July- October 2018 in an MSP program of six Workshop of 3hrs for knowledge co-creation with middle-management employees in the vicinity of VHL network and have been documented a video registrated SDG Demonstrator. (see table 12.6 for direct links to the video) The SDG Workshops ultimately have contributed to the prototyping of SDG implementation trajectory in the 7 SDG Demonstrator workshops (see table 12 –under 6) in a Learning Organisation constellation in order to pre-test and experiment with SDG Transformational Competences at Team or at middle management level of Institutions and Organisations.

 The workshops have also contributed to VHL primary target group (existing student groups, prospect students and parents), Stakeholders and Partners SDG awareness (table 12 under 3, 4, 5).

7. Discussion Chapter

Reflecting on the objectives of research, its process and Results chapters this chapter indicates whether the narrative of the research process accomplished what it tried to achieve: a deeper insight in the opportunities and challenges for HEIs in order to recommend from Intended SDG policies towards Actual SD practise as formulated in the Main Research question; Which opportunities and challenges arise, knowing its complexity, with the SDG implementation process for research and educational departments for HEIs, and most specifically for VHL, and how to advise on Intended SDG policy towards Actual SDG practise? And in the sub-research question: What are staff's and the departmental and organisational capacity requirements to be able to implement the SDG transformative functions into the research and educational departments?

Is it possible to achieve the Transformational change that is suggested by using the explicit formulations of the SDGs with its 17 Goals, 169 targets and 243 Indicators as a realistic starting point? Or should we have other approaches which involve constructivists theories of Learning Organisations and Collective Leadership approaches for sustainability to be able to catalyse staff agency? Are SDGs truly aspirational or merely inspirational? And should the Framework be considered as a temporarily binding guidance rather than an enforcement mechanism to avoid future catastrophy?

For one the SDG literature analysis in Chapter 2 does not unambiguously provide HEIs with a holistic or integrated guideline for implementation strategies, earlier we find SDG clustering models that suggest to prioritise SDG between the Goals which cause interpretation ambiguity towards the three Transformational claims of the Resolution 70/1 being integrated, indivisible and universal. This ambiguity is replicated in the examples of HEIs SDG implementation strategies (Ch. 4 Scan of HEIs); many HEIs adopt a Sustainability policy that is inspired by the SDG Framework but most of the researched examples, however, show an SDG selection and priotisation that indicates a void or lack of knowledge how to embed the SDG Framework in an integrated way into the primary functions.

Staff agency in the primary functions is therefore crucial: Survey results in Ch. 5 show staff perceptions with a positive inclination towards the SDG Framework although it is merely a first Team affinity inventory. The Team advice and deeper integration in the curricula is the next proposed step and will play a crucial role with the adoption of this complex and ambiguous SDG Framework.

Despite only small discrepancies of SDG selections (Ch.5 Results Survey table 7 and 11) between IP and staff survey the Institutional management policies may be challenged when professional SDG perceptions are not taken as the starting point of the SDG implementation practise and facilitated for. Whether the current delegated Result Responsible Team task-division structure is the ultimate and only basis for the SDG implementation practise is doubtful and will be discussed in the next sub-chapter.

Learning Organisation (LO) and Collective Leadership approach

This research wants to discuss that the LO approach (Kools and Stoll 2016) at the lowest possible responsibility level of the Organisation potentially and hypothetically is the best SDG implementation approach. This in combination with a Mind-set shift from a result-driven Transformation to a Process or Co-creation Transformation in which the SDG Framework is considered *a temporarily binding guidance*. (Kuenkel 2018). The Mind-set shift has been exercised during SDG Demonstrator workshops (Ch. 6 Results of SDG Workshops) and shows promising results for the four companies and organisations involved on the Learning Outcomes of a LO trajectory and indeed serves as an SDG Demonstrator. However for the eight Survey Workshops (Ch. 5 Survey Results) the effect is too early to document progress against the criteria of the LO dimensions (Ch. 2 Literature paragraph Dimensions of a LO). These eight RRT Affinity survey Workshops provided an initial SDG scan and Team advice and did not

collect data on Team's capacities or willingness to contribute to cross-overs, multi or Transdisciplinary educational approaches. As indicated in the intro Chapter 1 HEI's organisational structure often follow a Result Responsible Teams (RRT) design. These RRT units of operations provide opportunities for SDG implementation strategies as they form coherent focus teams for education or research.

However RRT structures, with small productive units of staff members between 10 to 20 professionals, have a risk of insufficiently looking beyond own expertise, workload and budgetary responsibilities. Incentives for Inter, Multi or Transdisciplinarity Learning with other RR-Teams are not intrinsically present. At a higher aggregated governance responsibility level, at departmental domain level, even more obstacles may occur. The segmentation in departmental domains with separate financial accountability, as in many HEIs, hinders boundary-crossing experiments and cross-learning activities: the time-per-student allocation of personel remains a responsibility of higher management and is a result of managerial line-decisions.

More flux structures exist for the Applied Research Centres (in Living Labs and projects) where access to external funding opportunities provide project-design monotoring and evaluative accountability which have the intention to be financially self-supporting. ARCs are also organised in RRT units and can play a leading role by collectively, consciously and consistently Integrating the Agenda 2030 in the formulation of running and future projects and can play a broker role to provide a trans-disciplinary Learning trajectory and stimulate a Nexus approach (Yillia. P, 2016 p3) for cross-cutting issues over the Educational and Research Teams.

The LO principles applied to organisational Result Responsible Educational Team-units bears risks and may not be effective as RRTs have no intrinsic need nor incentives to contribute to cross-overs or multi-disciplinary educational approaches. This is less restrictive for RR Research Teams in Professorships and Living Labs teams as these Teams are project based and often externally funded.

Regarding the Institutional Intended SDG policy and the management responsibilities the research has indicated that principles of Collective Leadership approach for the SDGs may challenge the culture and ethos of the Organisation. It requires a culture and management ethos that facilitates and provisions Learning with the SDG Framework from a 'SDG orchestration' approach (Bernstein 2017) instead of a managerial implementation approach. *The normative agenda of the SDGs will need a form of 'orchestration' , as an indirect form of governance,* as Bernstein 2017 calls it (Bernstein 2017 cited by in Kanie and Bierman 2017 p 217). Orchestration for Policy coherence under Institutional Requirements is a form of (inter)Institutional coordination. In such a constellation new Competences emerge that enable the progress from an Institute of Higher Learning towards a Learning Organisation for Higher Education.

Capacity building for staff in a Learning Organisation

Simultaneously the analysis of staff SDG perceptions, as exemplified in the SDG Team advice (Ch 5 textbox examples 3 and 4) , also indicate a need of SDG implementation capacity for Education for Sustainable Development (Wals. A, Corcoran. P 2012, Wiek et al 2011, 2016) or as Unesco calls it SDG Competences. (Riekmann 2017 Unesco Report). The key SDG competencies are: Systems thinking competence, Futures thinking (or anticipatory) competence, Values thinking (or normative)competence, Strategic thinking (or action-oriented) competence, Collaboration (or interpersonal) competence (Wiek et al 2011, 2016) Similarly the Unesco adds to this set of five , three more competences: Critical Thinking, Self-Awareness and Integrated problem-solving competences (Riekmann 2017) The Unesco report 2018 clusters for each and every of the 17 SDG the competences needed in three domains: The cognitive domain, the socio-emotional domain and the behavioural domain.(Riekmann 2017)

This research has not researched which of these competences for the implementation of the SDG Framework are most relevant, in general for HEIs or for VHLs staff's Learning Need but wants to discuss

in this chapter that it is most relevant to do further research on the SDG competences of staff and ultimately in the curricula for students. This viewpoint is supported by the SDG Framework's call to prevent siloisation and come with integrated multi-disciplinary solutions based on systems thinking. Further research is needed for staff's -and ultimately students'- capacities in the direction of Boundary crossing competences. Boundary crossing competence is defined as *the ability to manage and integrate multiple discourses and practices across different sociocultural boundaries* (Akkerman & Bakker, 2011, Umemoto, 2001, Walker & Nocon, 2007 as cited by Oonk 2016 p 70) Other scholars argue that a whole new profession is emerging , that of the sustainability professional. (Perez Salgado 2017). The SDG Framework demands new professional action-oriented competences that can break through silos of knowledge and decision making processes. Perez Salgado introduces the Intervention Competence for sustainability and defines *seven professional dimensions of competences associated with these change processes to devise, propose and conduct appropriate interventions that address sustainability issues*. (Perez Salgado 2017) These seven professional dimensions are*: reaching decisions or interventions, learn from lived experience of practice & connect to scientific knowledge, engage in political-strategic thinking, deliberations and actions, ability for showing goal-oriented, adequate action, adopting and communicating ethical practices, cope with the degree of complexity, translate stakeholder diversity into collectively produced interventions (actions) towards sustainability* (Perez Salgado 2017 p. 174).
Rich and valuable Competency Theory research is available but what is lacking is the operationalisation for the different levels of Educational and /or Professional practice in Research. Operationalisation in terms of developing an SDG competence assessment framework and training material at the appropriate educational performance level.

Conclusive remarks Discussion chapter

The researcher's Institutional observations and experiences drawn between 2014-2018 (see annex 11.iii) that have been discussed in this paragraph of the Discussion chapter are summarised and benchmarked against the Overarching 'action-oriented' dimensions of LO (Kools and Stoll 2016) and thus contrutes to the narrative inquiry methodology of this Research.
The research recognises the complexity and ambiguity of the SDG Framework as a potential and evidenced obstacle for an integrated SDG implementation approach. A potentially optimal SDG implementation trajectory is suggested via the Learning Organisational approach and advises to bridge the Intended SDG policies towards SDG practise via an 'SDG orchestration' approach. Both elements are not self-evident and have been researched mainly through Literature Research and a series of SDG Workshops. The limitations of the research are that it has not researched the perceptions towards a LO dimensions, Collective Leadership and SDG Orchestration approach among staff or management. Finding support for these approaches may well touch upon vested cultural and ethical organisational and management principles that need a long time-frame for change. There are indications that the vocabulary and the concepts of the LO principles, delegated management (Collective Leadership) and societal SDG engagement (Orchestration) is recurring more frequently in VHL policy briefs in 2018. The Discussion chapter furthermore reflected on the need for future HEIs' Research for SDG Competences to develop an SDG competence assessment framework and training material.

Embedded Research ; an outsider in one's own organisation.

Doing embedded research in which the researcher is employed comes with challenges: the position of the researcher between the commissioner, the management, that has intentional objectives with the research and the staff that react to the power relations of institutes. In all cases this research narrative of the SDG implementation process has tried to avoid enforcement or coersion mechanisms towards the

different governance levels of the VHL organisation. That meant that in this process of finding an objective narrative of this process this has led to being an outsider in one's own organisation.

Reflection on the design of the research

The primary data that are presented in Ch 4 Professional Staff perceptions come from a survey that was used during several Team workshops. The design of the survey turned out quite demanding despite the availability of the supportive SDG Framework materials. Initially several respondents were switching between personal or professional affinity scoring (Q1). The professional assessment (Q2) of the three Transformational claims of the SDG Framework being Integrated, Indivisible and Universal caused for some confusion and interpretation ambiguity and in some cases a certain sustainability fatigue among respondents. The same accounted for Q3 on the synergies, trade-offs and spill-over of the selected SDG focus. Aggregating the individual scores towards Team scores is still justified, despite the short timeframe of one hour and challenging character of the survey as the instructions were clearly stated that professional perceptions were the subject or research.

The survey may need upgrading whereby different Team Discussion rounds between the survey steps are relevant interventions; with that the survey will be upgraded into an SDG affinity Training Workshop. Refecting on results of SDG workshops of Ch. 6 it can be stated that discriminating between awareness raising or sensitizing typologies of workshops and implementation workshops is relevant. The most relevant type of workshops are the ones that contributed to co-creational SDG implementation trajectories; several progressive steps contributed to the full 6 step cycle of the UN Global Compact implementation assessment criteria (see table 12). The short-lived awareness raising SDG workshops, however, have also served their purpose towards this research narrative: the wider community of VHL has become acquainted with SDG ambition VHL's SDG ambition. This will boost the expectation level towards decision making process for deeper SDG implementation in Research Agenda, Educational curricula and operations.

Open issues that remain after this Research, as these were not part of the research framework and research questions, are: To which extend is the SDG Framework at Indicator level a suitable aspirational framework for the strategic sustainability progress for HEIs? What perceptions exists on Team Learning principles as defined by the LO principles (Kools and Stoll 2016 p 61) at management level and among Teams?

8. Recommendations and Conclusion

Reflecting on the main Research Question and sub research questions.

The survey results of the six Teams and the Team advice examples show that Teams find moderately positive opportunities with the SDG Framework for the educational Programs. One Applied Research Centre (ARC), Food and Dairy, with seven Applied Professorships have performed an SDG scan (Ch. 6 table 12) and identified applicable SDGs for its Domain.

The series of SDG workshops during the timeframe of this Research have sensitised awareness for the SDG Framework and the SDG Institutional Policies at different Institutional Governance levels. The advice however to move from SDG Intended Policy to SDG practise is less concrete as it assumes a bottom-up SDG adoption process via a Learning Organisational approach and the development Collective Leadership and SDG competences. As such it has delivered an SDG narrative with an increased SDG awareness and active commitment at more levels of the VHL community which can now move from a project or initiative-based approach towards a systemic interconnected larger transformation system. In terms of becoming a 'civic university' this would mean a holistic institution-wide approach instead of specific units or teams-approach that bridges the SDG IP towards an integrated SDG practise.

This may ask for 'SDG orchestration' in terms of organisational reforms. Existing RRT structures come with challenges knowing that RRTs lack the intrinsic motivation and incentives and knowing that LO approaches work best in multi-disciplinary education and research teams. The Research preludes on 'SDG orchestration' as a form of (inter)Institutional coordination for organisational reform and points towards new Nexus nodes of clusters of SDGs that go beyond the current RRT structures, as these RRT structures, mainly in educational RR-Teams, lack the incentives to work in transdisciplinary ways that are required for a more integral SDG implementation.

Summary of Results on the basis of the Main Research Question

A summary table (Annex 11.iv) with opportunities , challenges and (potential) implementation action shows the outcomes for six, partly overlapping, governance levels. It is a detailed list of actions and is an extension of annex 11.iii Overarching 'action-oriented' dimensions of LO (Kools and Stoll 2016) and thus both tables document the answers to the narrative inquiry methodology of this Research.

The six partly overlapping, governance levels are :
1   Institutional Management & Policy Level
2   General for Research and Education
3   Research + Living Labs
4   Educational Programs
5   Individual staff member level
6   Partnerships & Relation Management for SDs.

The table 11.iv with opportunities , challenges and potential implementation action is clustered into four summative recommendations which will be discussed here below.

Four summative Recommendations : Building the case for SDGs in HEIs.

Before closing this research with conclusive remarks this Ch. 8 summarises the recommendation advice for HEIs in general and for VHL specific and can be read as Conditions for successful SDG implementation. The Discussion paragraphs in Ch. 7 already preluded on capacity building for Staff

members and student generations-to-come and points towards future academic and applied Competences research. As such, the literature review on the SDG Competences are not presented as part of the Result chapters; literature research however is rich and points towards the third recommendation on capacity building for staff and students.

The following set of summative recommendations will be discussed and are suggestions for follow-up on the outcome of the Main and sub research questions;

1. Involve Staff Professional SDG perception in SDG Policy Practise
2. Adopt Principles of Learning Organisations and Collective Leadership to achieve the SDGs
3. Develop Transformational SDG Capacity Competences at staff and student level
4. Strengthen HEIs' Third Mission with the methodological SDGs 16 and 17

1   Start with staff expertise and staff perceptions on the SDG Framework

When such an all-encompassing Framework is introduced into the Institutional Policy strategy staff expertise and staff perceptions on the opportunities and challenges with such a Framework cannot be overlooked. It is not sufficient to follow the formal approval trajectory of the participation council (MR) or consultation rounds with involved or interested staff. When SDG priority setting and exploration on the synergies, trade-offs and spill-over effects is done at the operational level of Education and Research programs most likely the SDG Framework is deeply embedded at executing Team level. The Team workshop SDG survey that was used for this research (Survey Results Ch. 5) is a workable model to collect data at Team level for further implementation advice. It is recommended to upgrade the survey with the experiences and feedback of the six researched teams to plan the SDG survey scans with the remaining VHL's RR-Teams.
In that way an Institute-wide SDG profile will become manifest. After the SDG scan the operationalisation process can find its way in all RR-Team's responsibilities such as curricula, student assessment, professional training. Research agendas and curricula will become 'SDG-proof' or 'SDG Competent'. This exercise will anticipate on requirements of the professional workfield and future sustainability assessment requirements for MVO, Accreditations and Aishe certification audits[7].

2   Learning Organisations and Collective Leadership for SDGs

The second recommendation is to adopt the dimensions of a LO as a guiding principle (Literature review Ch 2) in Teams for the annual Team Development Plans which are currently part of the RRT responsibilities. This requires Institutional training provision at Team level, beneficial for RRT structures as organisational units of operations. But not necessarily only at RRT level. As indicated Discussion Chapter 8 that limiting the LO principles to organisational RR Team-units bears risks as RRTs have no intrinsic need nor incentives to work from boundary-crossing drivers to contribute to cross-overs or multi-disciplinary educational approaches. This is less restrictive for Research RR-Teams in Professorships and Living Labs teams. Learning Organisation dimensions may therefore be best applied in newly established Units of operations for Cross-over Educational Programs or Project Research Programs under the leadership of Professorships (Lectorates) that follow the Nexus approach (Stafford-Smith 2016, Yillia P 2016, Boas . I, Biermann. F, Kani. N, 2016 p.451 ,van Tulder 2018) or prioritise LO training to RR-Teams that show dimensions of Collective Leadership capacities. Examples of new

---

[7] AISHE: Assessment Instrument for Sustainability in Higher Education. Currently under review at Hobeon

organisational units of such SDG Nexus clusters are rare and will require a dual bottom-up (identify SDG overlaps in Educational and Research programs) and a top-down approach (SDG orchestration).

3   The SDG Capacity building : Transformational Competences

What then is the current knowledge base for the Competences needed to be able to perform to the SDG aspirations? The Discussion chapter 8 provides some insights how recent SDG competence research has evolved on ESD and the SDG competences with the Unesco Report (Riekmann 2018) but also indicates the lack of an SDG competence assessment framework. Simultaneously Staff capacities to implement the SDG Framework from a Transdisciplinary perspective is not a given. The changing role of HEIs to engage deeper with its civic role of the Public Good function (Ch. 2 and recommendation 4) also requires of HEIs' educational staff to become involved in projects and partnerships for which the 'brokering capacities' need to be developed. Self-awareness or self-efficacy comes with age, experience, and level of education and cannot be assumed to be operable at all levels of the educational system but it is assumed to be optimally developed in HEIs' role of the broker, a boundary spanner or as a Transformational Leader in The Third Mission of HEIs in Multi-Stakeholder Partnership settings or in partnership on climate change, circular economy and other system changes (Baidenmann, J.D. (2017). Perez Salgado's (2017 p 174) whole new profession, that of the sustainability professional with its 7 dimensions , is what HEIs educational specialists and Research staff may need to develop, in the light of accomplishing the SDG Frameworks's requirements.

The research recommendation is therefore to continue on development of the Competences for such sustainability professionals with a Research Consortium between Academic and Applied HEIs, Public and Private partners on what is called : Transformational Competences Research for the SDGs. This Research Consortium finds its embedding in the SDG UAS (University of Applied Sciences) Coalition which was established in summer 2018.

4   Strengthen HEIs' Third Mission with SDGs with the methodological SDGs 16 and 17

The 4th and last recommendation advice for HEIs in general and for VHL specific relates to HEIs' functions in relation to the SDG Framework. The first two functions, research and teaching, go alongside an explicit Third Mission which research calls a civic role (Goddard. J et al 2016) in which engagement would mean *'service to the community'* of The Public Good- function of HEIs.(Hazelkorn 2016 p 47). Covering and providing an 'SDG commitment' in the first two functions of HEIs -Education and Research- is simply not enough. Engagement with societal stakeholders, organised or unorganised citizens on the main challenges , as expressed in Goal 16 Peace & Justice and 17 Partnerships for the Goals, is providing an effective methodological approach for HEIs. Both Goals 16 and 17 contribute to the role that HEIs can fulfil in the civic Third Mission.

> Goal 16 : Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
> Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

HEIs SDG web research (Ch. 4) showed there is an SDG selection or priority tendency that is observed among the researched HEIs. None of the HEIs are able to come up with an integrated, holistic SDG implementation strategy that maintains the full attention on all the 17 SDGs.

So at Institutional Policies' Mission and Vision statements the recommendation is to embrace the entire, integral SDG Framework , focus on the methodological SDGs Goal 16 and 17 and shy away from an SDG selection and prioritisation strategy. Such SDG selection and prioritisation strategy is best done at Educational Program, Research and project level where SDG progress measurement and Performance

Indicators regarding the SDGs can be formulated. With that the risk of Intended SDG policy statements being framed as 'SDG –washing' (OECD 2017) can be avoided. Instead the research recommends towards SDG Communication at Institutional Policy strategies to document statements of an engaged civic university with full focus on the Third Mission for the Public Good, provided the HEIs can honestly provide engagement evidence of this.

9. Conclusive remarks

The SDG Framework, inpirational as it may be and aspirational in its future ambition, challenges HEIs in its intentional sustainability policy of its Primary, Secondary and most of all Third Mission. Fundamentally the SDG Framework is a confrontational, unescapable Agenda and for HEIs a complex operational implementation challenge. The Research shows results that support the HEIs practise that SDGs priority selection is a preferred operational strategy against the integral implementation strategies as described and required in the Resolution70/1. A University of Life sciences predominantly operates in the domain of Planetary and Social Sciences and may not cover all sustainability issues of the 17 Goals and Targets as any HEI has its specialisations. Differing SDG selection between IP plan and Staff SDG selection does not need to be problematic as the content- and expert driven SDG affinity scores of educational and research teams are prevailing over the Intended policy strategy. Too many divergent SDG priority selections , however, are to be prevented and mitigated.

So far HEI's SDG policies are understood as SDG affinity selection and do not integrate holistically the entire SDG Framework, let alone that outcomes or impact towards the selected SDG indicators is reported. Neither have the Transformative claims of the SDG Framework, being integrative, indivisible and universal, provided innovative, workable examples in HEI's existing organisational structures. A conclusive statement is that the managerial approach towards the SDGs implementation as a top-down process fails to bring the essential organisational change, fundamental to this Agenda, albeit inspirational early adopters' and pioneers' ground-breaking work. An SDG orchestration role of management, instead, that facilitates the dimensions of a Learning Organisation (LO) may provide the incentives and can positively affect the culture and ethos of an organisation. This is part of the dual bottom-up and top-down SDG orchestration.

The role of strategic management should not prescribe which SDGs educational and research teams should focus on. Instead future Institutional Plans should focus on the methodological SDG evidence that the Institute intends to achieve under the Third Mission: Engagement with societal stakeholders and organised citizens under Goal 16 Peace & Justice and 17 Partnerships for the Goals, both are providing an effective methodological SDG approach for HEIs.

A deep SDG affinity survey and SDG workshops showed that aligning existing Staff expertise on sustainable development with staff perceptions on the SDG Framework is the first step. The research hypothises that the pathway of a Learning Organisational to be able to embed the SDG Framework at the heart of the organisation is the prefered pathway. This learning process can tackle the SDG complexity challenge as well as the silo-challenge through multi-disciplinary and transdiciplinairy synergetic collaboration within existing educational and research teams in order to create Transformational societal change. Existing organisational RRT structures, however, may also hinder, lacking the incentives, and there again SDG orchestration by management through the establishment of Nexus nodes of Transdisciplinary SDG Teams can meet the bottom-up approach of SDG implementation. The research hypothises that HE professionals, currently staff and students, able to work on the fundamental Transformations in line with the ambitions of the Agenda 2030, essentially need action-oriented capacities. This action-oriented capacity needs research in the direction of a progressively defined set of Boundary crossing Competences in combination with an Intervention Competences. The Research suggest to do further research on such contours of an SDG Transformational Competence in order to develop assessment criteria in line with The Unesco Report (2018) on SDG Competences. Competences operationalising did, so far, not entail delivering an assessment framework for competence acquisition for the SDGs. Such a Research Consortium may find fertile soil in the SDG UAS Coalition (Dutch Universities of Applied Sciences) which was established in summer 2018.

Intended SDG policies need adoption and adaption via staff SDG perception analysis on the SDG implementation opportunities and challenges. The hypothesis is that implementing the SDG Framework's opportunities and combatting the challenges - the complexity challenge and the silo challenge-, is best served in a Learning Organisational constellation which may challenge the culture and ethos of an organisation that go beyond the capacities of the management structure of such organisation and mimicks elements of 'SDG Orchestration' instead of Management of SDGs into the Institutional Profile.

10.   References

Baidenmann, J.D. (2017). The attitudes of the broker of a transforming partnership: What does it take to broker a partnership on climate change, circular economy and other system changes?.(2018, June 25) Retrieved from
http://www.mspguide.org/sites/default/files/resource/article_the_attitudes_of_the_broker_of_a_transforming_partnership_j.d._baidenmann_2017.pdf.

Boas. I, Biermann. F, Kani. N, (2016) *Cross-sectoral strategies in global sustainability governance: towards a nexus approach International Environmental Agreements: Politics, Law and Economics*
2016 vol: 16 (3) pp: 449-464 DOI 10.1007/s10784-016-9321-1

Bowen, Kathryn J, et al (2017) Implementing the "Sustainable Development Goals": towards addressing three key governance challenges— collective action, trade-offs, and accountability. Current Opinion in Environmental Sustainability 2017 vol: 26-27 pp: 90-96 DOI 10.1016/J.COSUST.2017.05.002

Campagnolo. L, et al 2018 *Supporting the UN SDGs transition: methodology for sustainability assessment and current worldwide ranking. Economics: The Open-Access, Open-Assessment E-Journal*
2018 vol: 12 (2018-10) pp: 1-19 DOI 10.5018/economics-ejournal.ja.2018-10

Copenhagen Business School website retrieved http://www.unprme.org/reports/cbsprme.pdf 2 May 2018.

Critten. P 2016 *A radical agenda for enabling organisation transformation through work-applied learning Journal of Work-Applied Management 2016 vol: 8 (1) pp: 65-78. DOI 10.1108/JWAM-05-2016-0006*

Davis. A, et al (2015) Measuring the SDGs: a two-track solution. Lancet (London, England) 2015 vol: 386 (9990) pp: 221-2 https://doi.org/10.1016/S0140-6736(15)61081-9

Gratzer. G 2017. ICA Conference: *Life Science Universities Deliver Impact in Addressing the Sustainable Development Goals.* Louvain leNeuve (Belgium October 2017) Keynote: The Agenda 2030 – claims, challenges and imperatives Georg Gratzer, Professor, Department of Forest and Soil Sciences, University for Natural Resources and Life Sciences (BOKU), Vienna, (AT) Materials retrieved October 2017

Hajer. M, et al 2015. *"Beyond Cockpit-ism: Four Insights to Enhance the Transformative Potential of the Sustainable Development Goals."* Sustainability 2015, 7 (2): 1651-1660. Sustainability
2015 vol: 7 (2) pp: 1651-1660 DOI 10.3390/su7021651

Heyden. M et al 2016 Rethinking 'Top-Down' and 'Bottom-Up' Roles of Top and Middle Managers in Organizational Change: Implications for Employee Support Journal of Management Studies
2017 vol: 54 (7) pp: 961-985 https://doi.org/10.1111/joms.12258

ICA 2017a : 19 & 20 October 2017: website retrieved November 2017 *Life Science Universities Deliver Impact in Addressing the Sustainable Development Goals*.
http://www.ica-ls.com/index.php?option=com_content&view=article&id=216:2017-ica-rectors-and-deans-froum&catid=38:past-ica-conferences&Itemid=158

ICA 2017b: Alex Evans. Summary report: *Challenge for Life Science Universities to deliver impact in addressing the Sustainable Development Goals (SDGs)* Retrieved Nov 2017

ICA 2017c: GLÖSSL, J. 2017 *Four key actions taken by BOKU in delivering on the Sustainable Development Goals* Retrieved November 2017

Kanie. N, Bierman. F, 2017. *Governing through Goals. Sustainable Development Goals as Governance Innovation.*
https://books.google.nl/books?hl=en&lr=&id=fbvaDgAAQBAJ&oi=fnd&pg=PR5&dq=Kanie.+N,+Bierman.+F,+2017.+Governing+through+Goals.+Sustainable+Development+Goals+as+Governance+Innovation&ots=WFwC_352-T&sig=WoIzaM06mSAv7jXOLnlRO-RwFaA&redir_esc=y#v=onepage&q=Kan&f=false

Kools, M. and Stoll L. (2016), "What Makes a School a Learning Organisation?", OECD Education Working Papers, No. 137, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlwm62b3bvh-en

Kopnina. H,(2017): Teaching Sustainable Development Goals in The Netherlands: a critical approach, Environmental Education Research, DOI: 10.1080/13504622.2017.1303819

Kuenkel, P. (2018). *A Pattern Approach to Stewarding Sustainability Transformation – How the 17 SDG Can Become a Starting Point for Systemic Change, Collective Leadership Studies Vol. 5*; Collective Leadership Institute: Potsdam/Germany, ISSN **2569-1171**.

Morehouse, R.E 2012: Beginning Interpretative Inquiry A step-by-step approach to research and evaluation. Routeledge https://www.taylorfrancis.com/books/9780203818244 DOI 10.4324/9780203818244 .

Nilsson, M., Griggs, D. and Visbeck, M. (2016). *Map the interactions between Sustainable Development Goals*, Nature, Vol. 534, 16 June, pp. 320 – 322. Nature 2016 vol: 534 (7607) pp: 320-322 DOI 10.1038/534320a

Nilsson. M, , David Griggs ,Martin Visbeck ,Claudia Ringler ,David McCollum , 2017. *UNDERSTANDING SUSTAINABLE DEVELOPMENT GOAL INTERACTIONS 2017*
https://sustainabledevelopment.un.org/?menu=1300.

Nicolai. S, Hoy. C, Berliner.T, Aedy.T. *ODI 2015 Projecting progress*
https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9839.pdf

Nicolai. S, Sarwar. B. 2016. Four actions to drive and deliver SDG progress: lessons from ODI research High-income countries https://www.odi.org/sites/odi.org.uk/files/resource-documents/11659.pdf

OECD 2017 Roel Nieuwenkamp ,public article SDG- washing. https://oecd-development-matters.org/2017/09/25/ever-heard-of-sdg-washing-the-urgency-of-sdg-due-diligence/ accessed June 2018

Oonk, C. (2016). *Learning and teaching in the regional learning environment: enabling students and teachers to cross boundaries in multi-stakeholder practices* (Doctoral dissertation, Wageningen University). https://library.wur.nl/WebQuery/wurpubs/fulltext/391709

Örtenblad. A, (2001) *"On differences between organizational learning and learning organization",* The Learning Organization, Vol. 8 Issue: 3, pp.125-133, DOI 10.1108/09696470110391211

Osborn. D, Cutter.A and Ullah.F, 2015 *Understanding the Transformational Challenge for Developed Countries.* sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf

Phillips, T. J. 2015 et al *Transactionalism: An Historical and Interpretive Study.* Influence Ecology. pp. 26–7. ASIN B018EOAAPI. ISBN-13: 9789330851861 https://books.google.nl/books?hl=en&lr=&id=qTByBgAAQBAJ&oi=fnd&pg=PT8&dq=Phillips,+T.+J.+2015+et+al+Transactionalism:+An+Historical+and+Interpretive+Study.+&ots=xhBbHAW071&sig=exs4VFnw2nFTfqFrMBWA4aeEqn0&redir_esc=y#v=onepage&q&f=false

Pinnegard. S, Daynes. J.G 2007: Locating Narrative Inquiry Historically: Thematics in the Turn to Narrative. Ch 1 in HandBook of Narrative Inquiry. Mapping a Methodology ed Clandinn. J.D, Sage publishers

Perez Salgado. F, 2017 *Dimensions of professional competences for interventions towards sustainability* DOI 10.1007/s11625-017-0439-z Sustainability Science 2018 vol: 13 (1) pp: 163-177

Persson. A, et al 2016 : *Follow-up and Review of the Sustainable Develop ment Goals: Alignment vs. Internalization* Review of European, Comparative & International Environmental Law 2016 vol: 25 (1) pp: 59-68 DOI 10.1111/reel.12150

Rieckmann. M, et all 2017 United Nation Educational Scientific and Cultural Organization. (2017). *Education for Sustainable Development Goals* (pp. 1–62). Retrieved Juny 2018 https://developmenteducation.ie/resource/education-sustainable-development-goals-learning-objectives/ Open Access under the Attribution-ShareAlike 3.0 IGO (CC-BY-SA 3.0 IGO)

Roloff. K, et al 2011 *The Contribution of Teams to Organizational Learning* – Ch 12 p 249 Handbook of Organisational Learning and Knowledge Management

Rotterdam School of Management website retrieved 2-5-2018 https://www.rsm.nl/positive-change/

Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2017): *SDG Index and Dashboards Report 2017*. Global Responsibilities - International spillovers. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2018): *SDG Index and Dashboards Report 2018. Global Responsibilities- Implementing the Goals.* New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Stafford-Smith M, et al 2016. *Integration: the key to implementing the Sustainable Development Goals Sustainability Science 2017 vol: 12 (6) pp: 911-919 DOI 10.1007/s11625-016-0383-3*

Tulder, R. van (2018), Business & The Sustainable Development Goals: A Framework for Effective Corporate Involvement, Rotterdam School of Management, Erasmus University, Rotterdam.

UNESCO : *2015 Global Citizenship Education: Topics and learning objectives*

UNESCO: GEM. *Accountability in education: Global Education Monitoring Report 2017/2018* Retrieved 4-5-2018

UN Global Compact SDG Compass 2015: *The guide for business action on the SDGs* https://sdgcompass.org/ retrieved september 2017 Copyright © 2015   GRI, UN Global Compact, and WBCSD. All Rights Reserved.

UN *Resolution 70/1* Transforming Our World: The 2030 Agenda for Sustainable Develop- ment (UNGA Resolution A/RES/70/1, 25 September 2015) ('2030 Agenda') UN website http://www.un.org/sustainabledevelopment/development-agenda/ (retrieved 5 -12-2017)

UN *SDG Indicators Metadata repository* UN website United Nations Department of Economic and Social Affairs Statistics Division   https://unstats.un.org/sdgs/metadata/ (retrieved April 2018)

UNITAR *affiliated International Training Centre for Authorities & Leaders* (website: retrieved Oct 2017)

Waage, J, et al (2015) *Governing the UN Sustainable Development Goals: interactions, infrastructures, and institutions. The Lancet. Global health 2015 vol: 3(5) pp: e251-2 DOI 10.1016/S2214-09X(15)70112-9*

Waddell. S, et al (2015), Large Systems Change: An Emerging Field of Transformation and Transitions, The Journal of Corporate Citizenship, Vol. 58, pp. 5-30 DOI 10.2307/jcorpciti.58.5

Wals. A, Corcoran. P 2012. *Learning for sustainability in times of accellerating change*. https://DOI.org/10.3920/978-90-8686-757-8

wbcsd : *World Business Council for Sustainable Development The SDG compass* https://sdgcompass.org/ Retrieved   9th July 2018

Westendorp. A, et al 2017 *Professorship on Sustainable Development Goals.* Internal VHL policy brief.

Wiek. A, Withycombe. L, *2011 Key competencies in sustainability: a reference framework for academic program development* Sustainability Science 2011 vol: 6 (2) pp: 203-218 DOI 10.1007/s11625-011-0132-6

Wiek A, et al (2016) *Operationalising competencies in higher education for sustainable development.*

Witteveen. L, Eweg. R, Smits. T, Voskamp-Harkema.W. 2016 *Design principles for Living Labs aiming at sustainable development: The role of higher education in Living Labs.*
https://www.researchgate.net/publication/311456793

Yang, B., K.E. Watkins and V.J. Marsick (2004), "*The construct of the learning organization: Dimensions,*" Human Resource Development Quarterly 2004 vol: 15 (1) pp: 31-55 DOI 10.1002/hrdq.1086

Yillia. P, 2017 *Water-Energy-Food nexus: framing the opportunities, challenges and synergies for implementing the SDGs* Österreichische Wasser- und Abfallwirtschaft 2016 vol: 68 (3-4) pp: 86-98 DOI 10.1007/s00506-016-0297-4

11. Annexes

i. SDG Exercises for the workshops

Based on materials of UNITAR and the SDG Compass of wbcsd

Exercise	Step 1-5 (according to SDG Compass)	Learning Objective	Output
Exercise 1 : New arrangements SDGs and 5 Ps	1 Understanding the SDGs	Learn what is beneath the 17 SDGs and what interlinkages exist between the SDGs.	A poster with 5 P clusters according to team discussion
Exercise 2 : New arrangements SDGs and 5 Ps	1 Understanding the SDGs	Find other ways to cluster the SDGs; Use a different perspective than the 5 Ps.	Two arrangements of clusters of related SDGs according to the team's perspective
Exercise 3: Focus on 1 existing Research Topic	1 Understanding the SDGs	Learn to relate a specific research topic to ALL possible SDGs. Understand why SDGs hold the indivisibility claim and are Intertwined and cross cutting	One poster with graphic network of obvious (primary) + unobvious (secondary) interlinkages between SDGs
Exercise 4: From Understanding the SDG complexity challenge (step 01) to defining priorities (02) addressing the silo-challenge.	1 Understanding the SDGs → Step 2 Defining priorities	Learn How SDGs can affect your circles of influence in your work or personal environment	Discuss with your team what you can do from your position in your organisation and write down your ideas
Exercise 5: SDGs can activate your circles of influence for sustainable consumption.	1 Understanding the SDGs → Step 2 Defining priorities	Learn How SDGs can affect your circles of influence in your work to contribute actively to sustainable consumption and production (Goal 12).	Discuss with your team what you can do from your position at Home and from Work to contribute actively to sustainable consumption and production (Goal 12) Write down the ideas
Exercise 6a + 6b: Compare Research SDG latest clustering models ; Clustering and Urgency Priority Ranking for Developed Economies..	2 Defining priorities	Learn how SDG Research offers models to look at sustainability and pathways for prioritisation. Understand what is meant with Transformational Change.	Discuss the Pyramid Model and agree or disagree with the clustering. Write down some arguments :Discuss whether you agree with the 3R model Write down some arguments. Rank the SDG priorities for Developed countries.
Exercise 7: Mission and Vision statements	2 Defining priorities	How do I invite people into a more free floating and deep, unstructured reflection, creating space for new thoughts to come into being? And discover linkages to the SDGs (learning to bridge)	A mindmap on A-0 SIZE of Mission & Vision
Exercise 8 : Sustainability Standards applied and benchmarked.	2 Defining priorities 3 Setting Goals	Apply the organisational sustainability strengths and weaknesses against the SDGs (learning to bridge)	An overview of sustainability standards that are currently used in the organisations (Mandatory and Voluntary)
Exercise 9a: What are we actually doing? What does it mean to me and my organisation/company? **Exercise 9b**: Write out the Logic Model	3 Setting Goals → step 4 Integrating	Map the value chain to identify impact areas and define priorities.	Select SDG indicators and collect data. The baseline responsibilities for organisation or business: Are these in place? Write out an organisation Logic Model
Exercise 10: Present The Logic Model : Define scope of SDG goals and select Key Performance Indicators.	Step 4 Integrating Step 5: Reporting & Communicating	Negotiate with Directors and/or Teamleaders of organisation (learning to discuss and negotiate)	Scope of SDG goals and selected Key Performance Indicators. Pathway WHEN and HOW to Announce commitment to SDGs
Exercise 11: Write a message to Future Me? Make a Video Synthesis Metaphore Mapping	Step 5: Reporting & Communicating	Reflection on the achievements of the 5 Workshops and the outcomes and possible Impact	Collective Reflection output on the 5 workshops. Pathways how to to continue. Assessment Matrix of success and failure of the series of workshops

Notes on the Workshop on SDGs, October 10, 2017 for L'Ecxpedition Meeting ARCs

Presence: 13 Professors and ARC staff + Annemarie Westendorp and Annelies Heijmans and Jos van Hal (Team Development Studies- Master of Development & International Development Management)

- Introduction with Background SDGs by Jos van Hal
  - o Historical overview of sustainable development – MDGs – SDGs
  - o Currently available SDG implementation tools
- Workshop Activity 1: think of obvious links with SDGs + + think of what you would ideally like to reach/achieve + think of un thought links with SDGs
- Workshop Activity 2: Policy coherence SDGs and VHL from the perspective of the ARCs
- Explains 4 roles: The Expert, The Dreamer, The Creator and the Inquirer

- Conclusions/ Next steps:

  (1) focus on cross-overs and design three transdisciplinary projects to operationalize SDGs and reflect on practice

  (2) How to link VHL research budget to local problems (living labs) and generating budget from stakeholders (also HAN, NWO, province). VHL makes an offer for research agenda on SDGs in 5 years. We work on wicked problems through professorships and could use SDG scan (Development Studies ambition) to attract funds. SDG-scan can serve as a quality indicator. While professorship could focus on expertise, Development Studies Team could act as SDG quality monitor/scanner

  (3) Compensate through green seats, green search engines

  (4) As Professorships like to go into content Development Studies Team could play an important role to monitor SDG achievements of VHL research outcomes

  (5) DS team makes an offer to continue for the next steps with SDGs with L'Ecxpedition

iii. Action Oriented dimensions of Learning Organisations and Perceived Organisational Practise

#	Overarching 'action-oriented' dimensions of LO (Kools and Stoll 2016)	Researcher's Institutional observations and experiences drawn between 2014-2018
1	Developing and sharing a vision centred on the learning of all students	This research promotes a shared Vision as an outcome of staff involvement. This research advises to connect LO Vision for the entire Institute on the basis of Agenda 2030 in the direction of the Competences for ESD– Transformational Competence which has been elaborated.
2	Creating and supporting continuous learning opportunities for all staff	The realisation of a continuous learning process goes beyond Key Performance Indicators of measuring the number of staff with BSc, MSc or PhDs in teams or supporting Didactical Qualifications which fall in the category of Professional Development. Here the concept of (continuous) Professional Learning must be a provision that is part of the Institutional culture which promotes professional learning.
3	Promoting team learning and collaboration among staff	A good basis has been laid regarding promoting team learning and collaboration among staff in the organisational structure which builds on Result Responsible Teams (RRTs) . RRTs are not by definition a model for succesful team learning, or a Learning Organisation culture, but it provides useful organisational units although (Roloff. K, a.o 2011) suggests multiple team membership, so that team learning can cross-fertilize across teams, building organizational learning in that way. Single RRT teams make yearly Team Plans and Team Development Plans but they ideally should reflect Team Learning. Requirements for successful Team Learning from an LO perspective emphasise collective learning with core values as trust and mutal respect. This does not come easy and may require guidance of Team Learning process.
4	Establishing a culture of inquiry, innovation and exploration	A professional who is able to learn in self-improvement which ultimately leads to the improvement in learning of students can do this in the culture where a spirit of inquiry, initiative and willingness to experiment with new ideas and practices predominates (Watkins and Marsick, 2004). When RRTs have not been sufficiently equipped with budget or competences to perfom the Team's tasks or when hybrid responsibility distribution between Management and RRT limit Team's initiatives, this may lead to friction and frustration between Team members or between a Team and the Domain Director. In a Learning Organisation culture staff want to learn how to take initiative, experiment and dare.
5	Establishing embedded systems for collecting and exchanging knowledge and learning	The design of Institutional Plans that rest on a consultative process will find an echo with staff members when new Frameworks such as the Agenda 2030 and the SDGs are introduced. The embedded systems for ICT, storage and exchange of knowledge , Communication between departments in a Learning Organisation find better support within a consultative development phase. Embedded systems such as Querio or a new Student Service System Osiris have given evidence of this.
6	Learning with and from the external environment and larger learning system	The selection of the Research Agenda, the Research partners and selection of focus countries is part of the General Management responsibilities and does not meet the definition of an open systems approach as promoted in a Learning Organisation. As a possible side effect Educational Teams and RRT predominantly maintain their own partnerships and networks. The effects are that little synergy can be expected from this layered and oftentimes

#	Overarching 'action-oriented' dimensions of LO (Kools and Stoll 2016)	Researcher's Institutional observations and experiences drawn between 2014-2018
		regionally divided external environment. Projects initiated within the ARCs seem to evolve incidently ,exceptions with Indian Institutes, and show no Institute–wide pattern. Peer learning with other, different or similar, Institutes of Higher Learning needs further exploration.
7	Modelling and growing learning leadership[8]	Learning leadership is cited by Kools and Stoll 2016 p 58 as : *Leadership ultimately provides direction for learning, takes responsibility for putting learning at the centre and keeping it there, and using it strategically, translating vision into strategy so that the organisation's actions are consistent with its vision, goals and values.* (Kools and Stoll 2016 p58) This responsibility of Leadership for Learning as meant in a Learning Organisation adds to the second action-oriented dimension : creating and supporting continuous learning opportunities for all staff. The Learning Leadership interpretation also emphasises that in LO there is distribution of Leadership: School leaders model learning leadership, distribute leadership and help grow other leaders, including students (Kools and Stoll p 58.)

---

[8] The research interprets the frequent use of School Leaders in the Theory of LO as the VHL Management of the Three Domains (3 directors + 3 deputee directors), 2 Operations Directors, the 3 Leading Professorships of the Applied esearch Centres (ARCs) and the two CEOs. In all the Management Staff of VHL which consist in all of 13 positions and similar number of persons.(situation as of 31-12-2018)

iv. Summary of Results on the basis of the Main Research Question

Governance level	Opportunities	Challenges	(Potential) Implementation Action
Institutional Management & Policy Level	-The momentum is positive to associate with local, national and International SDG platforms in order to develop Competences for SD at staff level & Educational Programs (HEI SDG Coalition + HEI SDG Consortia). -'SDG orchestration' is a form of thematic leadership by default. - The Public Good perspective of HEIs is a fundamental opportunity to engage with SDGs- there is no escaping- .	- SDG commitment at institutional level is hard to prescribe and needs intense dialogue. -Sustainability profiling is a dual process (top down and bottom up). The IP 2018-2021 SDG selection needs further adoption among staff regarding the awareness, priotisation and implementation in Research and Education. -SDG implementation trajectories require more than SDG selection and prioritisation. - Sustainability Policy coherence is hard to assess but unsustainability sink-holes need to be detected.	-When reviewing the Institutional Plan on Mission and Vision Statement do research on the Third Mission -'Public Good' and the concepts of -Learning Organisations. -The complex nature of the SDGs require SDGs Learning Trajectories & at low governance level. -Associate with SDG Platforms and provide incentives at all levels of the organisation. -Associate with collective Research on Education for Sustainable Development - Stimulate dialogue in and outside existing teams on the Sustainability Strategy. -Teams and departments can assess the SDG performance at departmental level. -A quick scan of Institutional spill-over effects in Research and Education provides clarity on unsustainable practices. -Showing and communicating trust & confidence that Agenda 2030 will contribute to the Sustainability Transformation. -Focus on two methodological SDGs Goal 16 and Goal 17 for future Institutional Policies.
General for Research and Education	- Team YearPlans + Team Development Plans are part of the RRT structure. - SDG Tools are available and show some advanced methods for early steps of SDG implementation. -SDGs provide a wide arrangement of sustainability Goals , Targets and Indicators and which in their turn will	- Team YearPlans + Development Plans do not yet cultivate the collective Team Learning of LO dimension nr 3 - SDG Tools are relatively young in design and provide so far immature implementation practise -SDGs are a complex set of challenges (complexity challenge)	- Research the difference between the Nature of the Team Development Plans into Team Learning Plans - Research the requirements of a Learning Organisation for Sustainable Development according to the dimension nr 3 of a LO : *Promote Team Learning and collaboration among staff*

Governance level	Opportunities	Challenges	(Potential) Implementation Action
	define Sustainability Research financing opportunities for the mid near future (Agenda 2030)	-SDGs challenge Researchers & Educationers to go beyond own expertise (silo challenge)	- Take ownership at the lowest possible responsibility level to select, prioritise and implement SDGs in Research and Education - Co-learning experiments with SDG implementation Tools are a pathway that association with other HEIs (National and International).
Research + Living Labs	-A clearly defined SDG profile of ARCs will support funding opportunities and is becoming a pre-requisite for funding applications. -SDG profiling in Living Labs partners in MSP settings can help to make progress towards Sustainability Outcomes and Impact.	-Not all ARCs have completed the SDG survey scan. Follow-up of initial SDG scan is essential to integrate SDG deeper in Research Profile of ARCs. -Some ARCs have doubts on the effectiveness of implementing SDGs in the sustainability profile. -Living Labs are not yet equipped with an SDG scan.	-Sensitize Leading Professorships to collectively integrate SDGs and the Agenda 2030 into the VHL Research Agenda. -Living Labs of VHL can adapt and adopt an SDG scan for its own SDG analysis
Educational Programs	-SDG affinity & SDG priority selection show cohesion of results and promising commitment of staff. -Teams are aware of the SDG Interactions (synergies, trade-offs) but less aware on the trade-offs of priority SDGs. -The fundamental claims of SDG (Integrated , Indivisible and Universal) are found important and are generally supported. -Transformational Competences for SDGs are available for implementation -Aishe **** audits will benefit from a clearly defined SDG profile.	-In some Teams SDG affinity scores are narrowly focusing on one or two SDGs: wider affinity does not show and raises questions on the three claims of the SDGs (Integrated, Indivisible and Universal) -Results of SDG affinity and SDG selections will challenge Teams to align SDG viewpoints and trade-offs better of priority SDGs. -Educational Teams do not systematically integrate Competences for ESD (Transformational Competences) in Educational Programs. -Programs that abstain from SDG profiling and implementation trajectories work against the Institutional Plans and will lose	-All Educational Teams perform an Team SDG scan (on the basis of the SDG Survey applied in this Research) -On the basis of the scan : Design with Result Responsible Teams specific SDG training and implementation trajectories. -Teams need to align how to monitor sustainability and the use of sustainability tools in the Program. -Teams can co-create and contribute, develop and apply the Transformational Competence. -The IP plan prioritises Aishe **** (4 star) for half of the EducationalProgrammes (IP p 20); stimulate that SDG scan and an SDG

Governance level	Opportunities	Challenges	(Potential) Implementation Action
		momentum for e.g Aishe **** or other auditing instruments.	implementation trajectory at Program is completed. -Do Research on the applicability of newly developed Sustainability Tests such as the SULI-Sustainability Literacy –test or PISA Global Competence tests.
Individual staff member level	-A professional who is able to learn in self-improvement on the basis of self reflection is a valuable asset to any organisation	-Personal Development Plans have not a prominent position in H&R cycle of VHL and professionals should interpret the opportunities for self-improvement in the direction of professional learning Plans	-H&R train staff members in a Learning Organisation 'How to make a Professional Learning Plans(PLP) instead of a Personal Development Plan (PDP)'.
Partnerships & Relation Management for SDs.	-Partners in LL , in projects and in Consortia may expect a leading role of HEIs and specifically of VHL on the integration of SDGs (Based on the SustainaBul score 2018.) -HEIs and VH (Vereniging HogeScholen) expect VHL to contribute to Coalition and Consortium building for SDGs.	- SDGs implementation trajectories in Partnerships go beyond RRT capacities and need budgettairy support. Representative persons for SDG Coalition and Consortium need to be appointed and commissioned	-Learn from other HEIs how Sustainability Profile is coordinated . -Distributed coordination of sustainability policy on the basis of 'SDG orchestration' will most likely stimulate Teams to embrace SDG implementation trajectories with the respective Workfield and PACs (Programme Advisory Committees). -Stimulate Teams to adapt and offer the SDG Manual as a service to the respective Networks.