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Research Report

Success factors of transformative learning for sustainable development

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75 FORUM



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Tobias Joachim Schnitzler
Dissertation

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Preface

The human capacity to learn through formal or informal education is considered a key resource for achieving sustainable development on a global scale. Accordingly, the UN-Agenda 2030 and the Sustainable Development Goals refer to education and its transformative power by integrating it both as a cross-cutting issue and as target 4.7.

However, there are many different practical, pedagogical and scientific approaches to what and, above all, how something is to be learned and how it shall contribute to change. The spectrum is broad and ranges from traditional educational concepts, education for sustainable development, global citizenship education to concepts of transgressive learning. While some of these concepts seek to extend traditional approaches to education by simply adding specific learning content, others are concerned with far-reaching transformations at individual (learners), collective (organisation) and, to varying degrees, structural (society) level.

This is the starting point of Tobias Schnitzler's dissertation, which focuses on the collective level and aims to investigate success factors of transformative learning for sustainable development in organisations. In his cumulative thesis, Tobias Schnitzler first analyses at a theoretical level the differences and possible bridges between Education for Sustainable Development and transformative learning. He concludes that critical reflection, participation and social engagement must be taken into account, if Education for Sustainable Development is to be transformative. The second and third sections contain empirical studies. Learning in start-ups and NGOs is examined with the help of innovative WeQ tests that focus on the collective „We“. On the other hand, Schnitzler analyses the possibilities and limits of creating a sustainable partnership between UN organisations that are cooperating in the context of the SDGs. Success factors for transformative learning within organisations are identified from these empirical studies.

Tobias Schnitzler's work offers a valuable insight into the dynamics of learning within organisations on a broad conceptual basis of transformative learning theories. Beyond the mere assumption of the effectiveness of learning, it thus makes an important contribution to understanding concrete prerequisites and conditions for making learning transformative and meaningful for sustainable development.

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Success factors of transformative learning for sustainable development

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Department of Socioeconomics

Submitted by

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Vienna, March 2020

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It was a great experience to write this thesis.

Abstract English

This dissertation analyses success factors of transformative learning for sustainable development. The focus of this dissertation lies on how collaborative and transformative learning (TL) could be linked to education for sustainable development (ESD).

Recently, applied researchers have become more and more interested in the role of transformative learning and education. However, few studies have examined we-qualities (WeQ) in the context of ESD. The neoclassical approach replicates unsustainable patterns and excludes the social dimension of humans. Such disregard is even more puzzling because of the need for transformative learning environments in achieving sustainable development. The dissertation gives some comprehensive approaches on this issue by studying the literature of transformative learning, education for sustainable development as well as collaborative theories. The dissertation reflects and shares experiences from establishing, testing and outlining examples of collaborative as well as transformative learning in start-ups, NGOs and the UN. In a sequence of four paper, various approaches towards learning practices were examined.

The first paper shows potential bridges between the two schools of ESD and TL. Strengthening the transformative aspect of education for sustainable development is an urgent issue. Paper 2 and 3 are outcomes of collaborative learning with different methodological approaches and empirical data gained from a WeQ-test, guided-interviews, an online-survey as well as case studies. Paper 2 contributes with a new, innovative WeQ-test. In more detail, the WeQ-test relates 42 statements, six topics and nine individual factors. The questionnaire asks for the participants' views and how they perceive the views of their team members. The WeQ-test evaluates the quality of a team. Regarding the use of the WeQ-test in start-ups and NGOs an empirical study was designed. With the findings gained from this research, the project more generally attempts to clarify what learning means with reference to a socio-ecological transformation. By doing so, this research project supported by the Academy for Co-creative Development, seeks to contribute to a broader scientific discussion in this interdisciplinary field. Paper 3 focuses on achieving sustainable partnership in the UN, especially in cooperation among UN organizations in the framework of the SDGs. A study was conducted and the success factors and restrictive of inter-agency cooperation identified. Paper 4 provides a deeper understanding on a number of key success factors of transformative learning theory as well as providing arguments that validate it. This paper lines out how transformative learning can improve teams in NGOs and start-ups to the direction of education for sustainable development and that social structures and belief systems can influence learning, that learners make transformation of their experiences in various ways.

In sum, the findings include results from collaborative and social learning, personal transformation, team spirit as well as learning environments. The case studies make use of new skills and values via interviews and subsequent focus groups. Data from the surveys and qualitative interviews are analysed and used to argue that transformative learning can be practiced, with success factors, in NGOs and start-ups. Consequently, this dissertation is of relevance for academic scholars from the sustainable development branch as well as for policy makers, practitioners, employees and citizen.

Abstract German

Diese Dissertation analysiert Erfolgsfaktoren des transformativen Lernens für eine nachhaltige Entwicklung. Der Schwerpunkt dieser Dissertation liegt auf der Frage, wie kollaboratives und transformatives Lernen mit der Bildung für nachhaltige Entwicklung verbunden werden kann.

In den letzten Jahren haben sich angewandte Forscher zunehmend für die Rolle des transformativen Lernens in den Bildungswissenschaften interessiert. In wenigen Studien wurden jedoch Wir-Qualitäten (WeQ) im Zusammenhang mit der Bildung für nachhaltige Entwicklung untersucht. Der neoklassische Ansatz reproduziert nicht nachhaltige Muster und behandelt die soziale Dimension des Menschen unzureichend. Eine solche Tendenz führt zu dem Schluss, dass eine transformative Lernumgebung für eine nachhaltige Entwicklung erforderlich ist. Die vorliegende Dissertation trägt zu diesem Thema bei, indem sie sich mit der Literatur des transformativen Lernens, der Bildung für nachhaltige Entwicklung sowie mit kollaborativen Theorien befasst. Die Dissertation reflektiert und teilt Erfahrungen aus der Etablierung, Erprobung und Darstellung von Beispielen für kollaboratives und transformatives Lernen in Start-ups, NGOs und in den Vereinten Nationen. In einer Abfolge von vier wissenschaftlichen Beiträgen wurden verschiedene Ansätze für Lernpraktiken untersucht.

Die erste Veröffentlichung zeigt mögliche Brücken zwischen Bildung für nachhaltige Entwicklung und transformativem Lernen. Um den transformativen Aspekt der Bildung für nachhaltige Entwicklung zu stärken, müssen kritische Reflexion, Partizipation und soziales Engagement berücksichtigt werden. Die zweite und dritte Veröffentlichung zeigen Ergebnisse des kollaborativen Lernens mit unterschiedlichen methodischen Ansätzen und empirischen Daten, die aus einem WeQ-Test, geführten Interviews, einer Online-Umfrage sowie Fallstudien gewonnen wurden. Die zweite Veröffentlichung trägt mit einem neuen, innovativen WeQ-Test bei. Im Einzelnen besteht dieser Test aus 42 Fragen zu sechs Themenfeldern. Die Form der Fragen erfordert einen Wechsel der eigenen Perspektive und der Perspektive anderer Teammitglieder. Eine eingehende Analyse dieser einzelnen Faktoren gibt Aufschluss darüber, wo die jeweiligen Stärken und Probleme in einem Team zu finden sind. Zur Verwendung des WeQ-Tests in Start-ups und NGOs wurde eine empirische Studie durchgeführt. Mit den Erkenntnissen aus dieser Forschung erklärt das Projekt allgemeiner, was Lernen in Bezug auf eine sozio-ökologische Transformation bedeutet. Mit diesem Forschungsprojekt möchte die Akademie für Potentialentfaltung einen Beitrag zu einer breiteren wissenschaftlichen Diskussion in diesem interdisziplinären Bereich leisten. Die dritte Veröffentlichung konzentriert sich auf das Erreichen einer nachhaltigen Partnerschaft in den Vereinten Nationen, insbesondere in der Zusammenarbeit zwischen UN-Organisationen im Rahmen der SDGs. Eine Studie wurde durchgeführt und die Erfolgsfaktoren

und Einschränkungen der Zusammenarbeit ermittelt. In der vierten Veröffentlichung wird ein tieferes Verständnis für eine Reihe wichtiger Erfolgsfaktoren der transformativen Lerntheorie vermittelt und es werden Argumente angegeben, die dies bestätigen. Dieser Beitrag zeigt auf, wie transformatives Lernen Teams in NGOs und Start-ups in die Richtung einer Bildung für nachhaltige Entwicklung verbessern kann und dass soziale Strukturen und Glaubenssysteme das Lernen beeinflussen können, indem Lernende ihre Erfahrungen auf verschiedene Arten transformieren.

Insgesamt umfassen die Ergebnisse Schnittstellen aus kollaborativem und sozialem Lernen, persönlicher Transformation, Teamgeist sowie Lernumgebungen. Die Fallstudien nutzen Erkenntnisse und Werte aus Interviews sowie Fokusgruppendifkussionen, Daten aus den Umfragen und qualitativen Interviews werden analysiert und verwendet, um zu untermauern, dass transformatives Lernen mit bestimmten Erfolgsfaktoren in NGOs und Start-ups praktiziert werden kann. Infolgedessen ist diese Dissertation sowohl für Wissenschaftler aus dem Bereich der nachhaltigen Entwicklung als auch für Entscheidungsträger, Praktiker, Mitarbeiter und Bürger von Bedeutung.

Abstract Spanish

Esta disertación analiza los factores de éxito en la transformación del aprendizaje para el desarrollo sostenible. El objetivo de esta disertación radica en cómo el aprendizaje colaborativo y transformador podría vincularse con la educación para el desarrollo sostenible.

En los últimos años, los investigadores se han interesado cada vez más en el rol transformador del aprendizaje y la educación. Sin embargo, pocos estudios han examinado las cualidades we (WeQ) de la educación para el desarrollo sostenible. El enfoque neoclásico replica patrones insostenibles y excluye la dimensión social. Tal desprecio es aún más desconcertante debido a la necesidad de entornos de aprendizaje transformadores para lograr el desarrollo sostenible. La disertación en cuestión pretende abordar este tema al estudiar la literatura del aprendizaje transformador, la educación para el desarrollo sostenible y las teorías colaborativas. Así mismo, refleja y comparte experiencias al establecer, probar y esbozar ejemplos de aprendizaje colaborativo y transformador en nuevas empresas, ONG´s y la ONU. En una secuencia de cuatro documentos, se examinaron varios enfoques hacia las prácticas de aprendizaje.

El primer documento muestra posibles puentes entre la educación para el desarrollo sostenible y el aprendizaje transformador. Fortalecer el aspecto transformador de la educación para el desarrollo sostenible requiere tener en cuenta la reflexión crítica, la participación y el compromiso social. Los documentos 2 y 3 son resultados del aprendizaje colaborativo con diferentes enfoques metodológicos y datos empíricos obtenidos de una prueba WeQ, entrevistas guiadas, una encuesta en línea y estudios de casos. El documento 2 contribuye con una nueva e innovadora prueba WeQ. Con más detalle, esta prueba consta de 42 preguntas sobre seis temas. La forma de las preguntas requiere cambiar entre su perspectiva y la perspectiva de otros miembros del equipo. Un análisis en profundidad de esos factores individuales proporciona información sobre dónde se pueden encontrar las fortalezas y problemas particulares en una comunidad. Con respecto al uso de la prueba WeQ en empresas emergentes y ONG´s, se diseñó un estudio empírico. Con los hallazgos obtenidos de esta investigación, el proyecto generalmente intenta aclarar qué significa el aprendizaje con referencia a una transformación socioecológica. Al hacerlo, este proyecto de investigación apoyado por la Academia para el Desarrollo Co-creativo, busca contribuir a una discusión científica más amplia en este campo interdisciplinario. El documento 3 se centra en lograr una asociación sostenible en las Naciones Unidas, especialmente en la cooperación entre las organizaciones de las Naciones Unidas en el marco de los ODS. En este marco, se realizó un estudio y se identificaron los factores de éxito y restrictivos de la cooperación interinstitucional. El documento 4 proporciona una comprensión más profunda sobre una serie de factores clave de éxito de la teoría del

aprendizaje transformador, así como también proporciona argumentos que lo validan. Este documento describe cómo el aprendizaje transformador puede mejorar los equipos en las ONG's y las nuevas empresas en la dirección de la educación para el desarrollo sostenible y que las estructuras sociales y los sistemas de creencias pueden influir en el aprendizaje, de modo que los alumnos realicen la transformación de sus experiencias de varias maneras.

En resumen, los resultados incluyen resultados del aprendizaje colaborativo y social, la transformación personal, el espíritu de equipo y los entornos de aprendizaje. Los estudios de caso hacen uso de nuevas habilidades y valores a través de entrevistas y grupos focales posteriores. Los datos de las encuestas y las entrevistas cualitativas se analizan y utilizan para argumentar que el aprendizaje transformador se puede practicar, con factores de éxito, en ONG's y empresas de nueva creación. En consecuencia, esta disertación es relevante para los académicos de la rama de desarrollo sostenible, así como para los responsables políticos, profesionales, empleados y ciudadanos.

List of Abbreviations

CCA	Common Country Analysis
CL	Collaborative Learning
CLS	Collaborative Learning Spaces
CSO	Civil Society Organization
CSSPS	Cross-Sector Partnerships
DaO	Delivering as One
DCO	Development Coordination Office
ESD	Education for Sustainable Development
EU	European Union
FAO	Food and Agriculture Organization
GSSC	Global Shared Service Centre
HE	Higher Education
HR	Human Resources
ICAT	Inter-Agency Coordination Group against Trafficking
IAEA	International Atomic Energy Agency
IEU	Independent Evaluation Unit
ILO	International Labour Organization
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
JEU	Joint Environment Unit
MAF	Management and Accountability Framework
MCO	Multi-Country Office
MDG	Millennium Development Goal
MoU	Memorandum of Understanding
MS	Member States
N	Number
NGO	Non-Governmental Organization
OCHA	Office for the Coordination of Humanitarian Affairs
QCPR	Quadrennial Comprehensive Policy Review
ODS	Objetivos de Desarrollo Sostenible
ONG	Organización no gubernamental

ONU	Organización des las Naciones Unidas
RAUN	Regional Academy on the United Nations
RC	Resident Coordinator
RCO	Resident Coordinator Office
SD	Standard Deviation
SDG	Sustainable Development Goal
SG	Secretary General
SOPs	Standard Operating Procedures
SPIA	Strategic Planning and Inter-Agency Affairs Unit
SWSD	System-Wide Strategic Document
TE	Transformative Education
TL	Transformative Learning
UN	United Nations
UNICEF	United Nations Children’s Fund
UNCT	United Nations Country Coordinator
UNDAF	United Nations Development Assistance Framework
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNDS	United Nations Development System
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNODC	United Nations Office on Drugs and Crime
UNSDG	United Nations Sustainable Development Group
WCO	World Customs Organization
WHIO	Wisconsin Health Information Organization
WHO	World Health Organization
WMO	World Meteorological Organization

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Compendium

Chapter 1

1. Introduction

This cumulative dissertation consists of a sequence of four papers on the topic of collaboration and transformative learning. The focus of this dissertation lies on how collaborative and transformative learning could be linked to education for sustainable development. The dissertation shows some comprehensive approaches on this issue by studying the literature of transformative learning, education for sustainable development as well as collaborative theories (Schnitzler, 2019). The dissertation reflects and shares experiences from establishing, testing and outlining examples of collaborative as well as transformative learning in start-ups, NGOs and the UN. In Figure 1, an overview of the dissertation outline is presented.

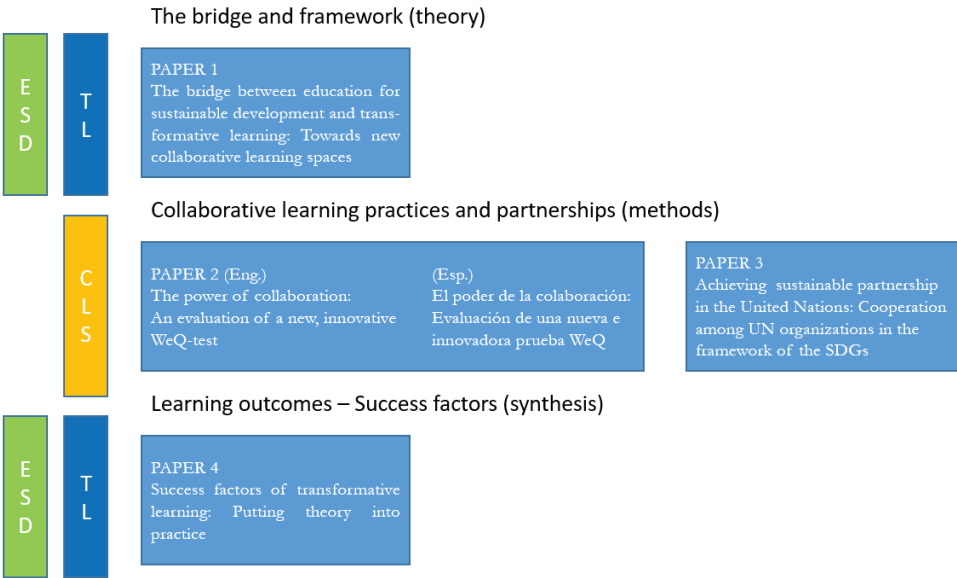


Figure 1: Outline of the thesis.

It provides two levels in the four papers. First, the structural and organizational level and second, the personal level. Based on different factors and interrelations, the overall contribution of this dissertation aims to find success factors of transformative learning for sustainable development. The presented work extends and enriches the fields explored and the arguments mentioned in the papers. The research questions are as follows:

Structural & organizational level

How did the introduction of the SDGs affect inter-agency cooperation within UN agencies? Which factors, practices and innovative approaches are supportive and which of them tend to be restrictive?

Personal Level

What are key aspects of collaborative and transformative learning? What are bridges between education for sustainable development and transformative learning and how could this be classified? How does a WeQ-test support learning?

Out of the four papers, paper 1 was published in a peer-reviewed journal, paper 2 (in English and Spanish) was revised and resubmit and paper 3 and 4 are under review. In detail, paper 1-4 are reprinted in the format of the respective journal guideline in this dissertation. The research was conducted at the Vienna University of Economics and Business (WU Vienna). Moreover, the research period was from 2017 to 2020 and the four papers are:

Paper 1: Schnitzler, Tobias (2019). The bridge between education for sustainable development and transformative learning: Towards new collaborative learning spaces. *Journal of Education for Sustainable Development*, 13(2) 242–253, <https://doi.org/10.1177/0973408219873827>

Paper 2: Schnitzler, Tobias; Hüther, Gerald; Dohne, Klaus-Dieter (2020). The power of collaboration: An evaluation of a new, innovative WeQ-test, revise and resubmit at *International Journal of Collaborative Enterprise*¹

El poder de la colaboración: Evaluación de una nueva e innovadora prueba WeQ, revise and resubmit at *International Journal of Collaborative-Dialogic Practices*

Paper 3: Schnitzler, Tobias; Seifert, Marcel; Tataje Gonzalez, Carolina (2020). Achieving Sustainable Partnership in the United Nations in the Framework of the Sustainable Development Goals, under review at *International Journal of Sustainable Development*²

Paper 4: Schnitzler, Tobias (2020). Success factors of transformative learning: Putting theory into practice, under review at *Journal of Transformative Education*

¹ By doing so, this research project supported by the Academy of Co-Creative Development seeks to contribute to a broader scientific discussion in this interdisciplinary field.

² Research conducted was based on intensive exchange between the Regional Academy on the United Nations and Gabriel Weibl.

Paper 1 shows potential bridges between the two schools of education for sustainable development and transformative learning. It is evident to consider that critical reflection, participation and social engagement were required to strengthen the transformative aspects of education for sustainable development. Paper 2 and 3 are outcomes of collaborative learning with different methodological approaches and empirical data gained from a WeQ-test, guided-interviews, an online-survey as well as case studies. Paper 2 contributes with a new, innovative WeQ-test. In sum, the WeQ-test relates 42 statements, six topics and nine individual factors. The WeQ-questionnaire asks for the participants' views and how they perceive the views of their team members. The WeQ-test assesses the quality of a team. Regarding the use of the WeQ-test in start-ups and NGOs, an empirical study was designed. With the findings gained from this research, the project more generally attempts to clarify what learning means with reference to a socio-ecological transformation. By doing so, this research project supported by the Academy for Co-creative Development, seeks to contribute to a broader scientific discussion in this interdisciplinary field. Paper 3 focuses on achieving sustainable partnership in the UN, especially on cooperation among UN organizations in the framework of the SDGs. The research design of the third paper is based on qualitative interviews and various success and restrictive factor of inter-agency cooperation were identified. Paper 4 provides a deeper understanding on a number of key success factors of transformative learning theory as well as providing arguments that validate it. This paper outlines how transformative learning can improve teams in NGOs and start-ups to the direction of education for sustainable development and that social structures and belief systems can influence learning, that learners make transformation of their experiences in various ways.

Chapter 1 focuses on research questions, list of articles and provides for an outline of the doctoral thesis motivating the interested reader. Chapter 1.1. shows the bridge between the two schools of education for sustainable development and transformative learning. Chapter 1.2. highlights the development of a new, innovative tool (WeQ). Chapter 1.3. focuses on how to achieve sustainable partnerships in the UN and defines the three terms; cooperation, collaboration and partnership. Chapter 1.4. outlines the learning outcomes from start-ups that considered transformative learning practices. Chapter 2 summarizes the contributions to research and its results. Chapter 3 presents a comprehensive summary and provides recommendations for future research.

1.1. The bridge between ESD and TL

Beginning with Mezirow’s foundational 1978 study on perspective transformation in returning female adult students, transformative learning has gone from an adult learning theory to a rapidly growing learning field, owing much of its development to its applicability in diverse contexts. For example, the theory of Mezirow was outlined as a structural change in the form of consciousness and how we recognize ourselves and our relationships (Goharimehr & Bysouth, 2017; Mezirow, 1978, p. 100). Taking into consideration that Mezirow’s theory has been evaluated in the past decades (Kitchenham, 2008; Watkins et al., 2018). Thus, as the principles of transformative learning persistently reach new audiences, it will undoubtedly continue to be shaped by those who consume and practice this theory, becoming more holistic as it grows (Watkins et al., 2018).

In fact, there have been many requests for expanded holism since Mezirow’s early work. Several voices including Boyd & Myers (1988), Cranton (2006), Dirkx (2006), Illeris (2004), Snyder (2008), Tisdell (2012), and Taylor (2007), have called to widen the approach to transformative learning from various perspectives. Furthermore, transformative learning is based on the various aspects how human beings communicate with each other (Mezirow, 1998). It is an important fact that Boyd (1989) interpreted transformation from a Jungian perspective and described it as a lifelong process of discovering new talents, developing confidence, becoming more empowered, deepening an understanding of the personal identity and developing a greater sense of self-empowerment and self-responsibility (Ferrell, 2014; O’Sullivan et al., 2002; Taylor, 2008).

Orders of change/learning	Seeks/leads to	Can be labeled as
First order change: <i>Cognition</i>	Effectiveness/Efficiency	<i>“Doing things better”</i> Conformative
Second order change: <i>Meta – cognition</i>	Examining and changing assumptions	<i>“Doing better things”</i> Reformative
Third order change: <i>Epistemic learning</i>	Paradigm change	<i>“Seeing things differently”</i> Transformative

Figure 2: Levels of learning (Sterling, 2011).

In Figure 2 “levels of learning”, transformative learning is connected with “seeing things differently” and could be seen as third order change (Sterling, 2011).

It is important to mention that it has been commonly accepted that transformative learning theory is uniquely-adult due to the hypothesis that adults have acquired a coherent body of experience (Mezirow, 1991, p. 5; Schnitzler, 2019; Watkins et al., 2018). In short, the majority of the empirical literature has focused on the development of TL in people who are older than 25 years (Grider, 2011). Recently, the work of Kerr (2014), Walsh (2007) and Whalley (1995) confirmed that various aspects of transformative learning are present in the experiences of those less than 25 years of age. Furthermore, transformative learning was outlined as a potential incentive for cognitive and emotional development (Grider, 2011). A goal is the growing maturity in young adults (Grider, 2011; Walsh, 2007). Taking into consideration that this has evident affects for the current design of the theory (Grider, 2011, Kerr, 2014; Walsh, 2007; Whalley, 1995).

Finally, ESD empowers people in learning to deal with sustainability challenges and issues (Balsinger et al., 2017; PCE, 2004; Sterling, 2011; Wals & Corcoran, 2012). Moreover, ESD is a growing field (Barth et al., 2016). One evident goal of ESD is to take responsibility for our actions (Schnitzler, 2019; Tilbury 1995; Tilbury & Wortman, 2004; UNESCO, 2002).

1.2. The development of a new, innovative tool (WeQ)

First of all, the establishment of the WeQ-test combines the two schools of ESD and TL. Furthermore, potentials in a group and CLS should be taken into consideration. The main part of the WeQ-test is the significant inter-correlation between learning and action. It is important to notice that the IQ-test shows data about the cognitive abilities of people (Robinson, 2010; Schnitzler, 2019). The new and innovative tool of a WeQ-test outlines information about the ability and willingness of each team member to collaborate (Hüther, 2017; Schnitzler, 2019). Consequently, the outstanding purpose of the WeQ-test is supporting each other in a team.

Furthermore, an aim of the WeQ-test is to show the quality of collaboration of all team members. It is important to mention that the competences in the cognitive, emotional as well as social field are highly interrelated in the WeQ-test (Schnitzler, 2019).

In figure 3, the structure of the WeQ-test shows the relationship between 42 statements, six topics and nine individual factors. One the one hand, the WeQ-questionnaire asks for the participants'

views. On the other hand, how they perceive the views of their team members. (Schnitzler, 2019). Finally, the evaluation should be done with enough time (Hüther et al., 2018; Schnitzler, 2019).

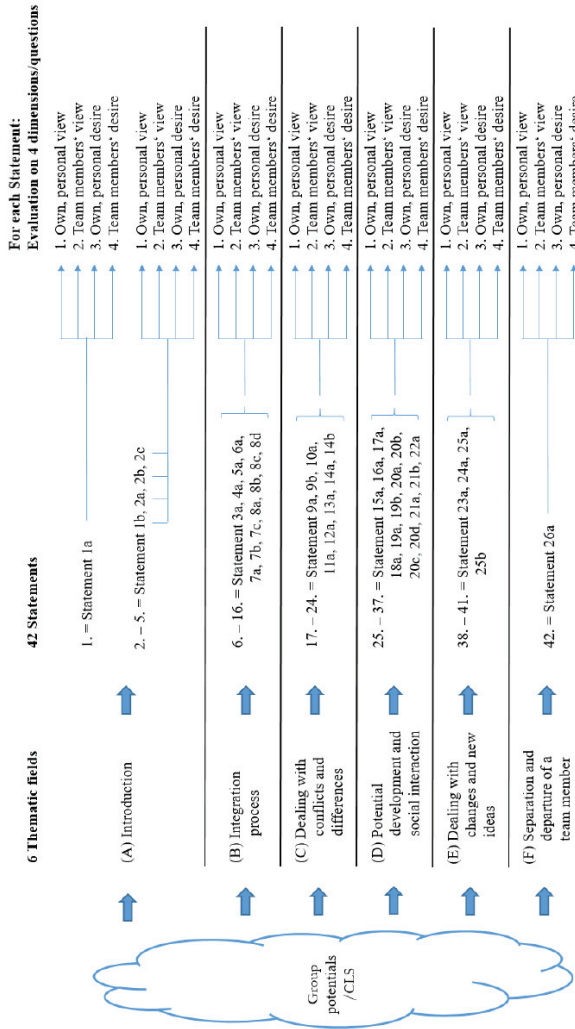


Figure 3: Structure of the WeQ-test (Schnitzler et al., 2020).

The individual results were kept anonymous, strictly confidential and were not be revealed to others. The questionnaire focused on the quality of one team and it was not an assessment of individuals (Hüther, 2017; Hüther et al., 2018, p. 239; Schnitzler, 2019).

1.3. Achieving sustainable partnerships

The 2030 Agenda and its Sustainable Development Goals (SDGs) introduced a new way to conduct international affairs on achieving global peace and prosperity by focusing on partnerships. Despite the high interconnection of the SDGs, which links mandates and activities of different United Nations' (UN) agencies making a strong case for enhanced inter-agency cooperation, only few studies provide input on this issue. After 2015, the UN has evidently increased its efforts for achieving sustainability. Linking the SDGs to the UN Development System (UNDS), the Dalberg report (2017) highlighted the comprehensive and integrated approach of the 2030 Agenda while it also pointed out that joint programmes only account for a small percentage of UNDS activities, mainly restricted by funding.

To support the implementation of the Agenda 2030, the UN Development System Reform objectives aim to improve cooperation. This is an imperative prerequisite for achieving sustainable development leaving no one behind, confirming the view that cooperation among UN organisations catalyzes action with complex transnational issues (Marek et al., 2015; Salignac et al., 2019; Thomson et al., 2007). The third paper focuses on the current situation of inter-agency cooperation and its flaws and strengths considering also the role of the SDGs. It first defines the three terms; cooperation, collaboration and partnership and it brings into focus their main objective, which was defined as working together to achieve a common goal (Carnwell, 2005; Kumar et al., 2016; Stibbe et al., 2019).

A mixed-methods study combining quantitative and qualitative research techniques was applied. Therefore, the data collection consists of two main parts: a thematic analysis of guided interviews with 12 UN staff in 11 cases and an online survey on cooperation and the SDGs. In Figure 4, a comprehensive final thematic map shows the underlying answers of the interviewees.

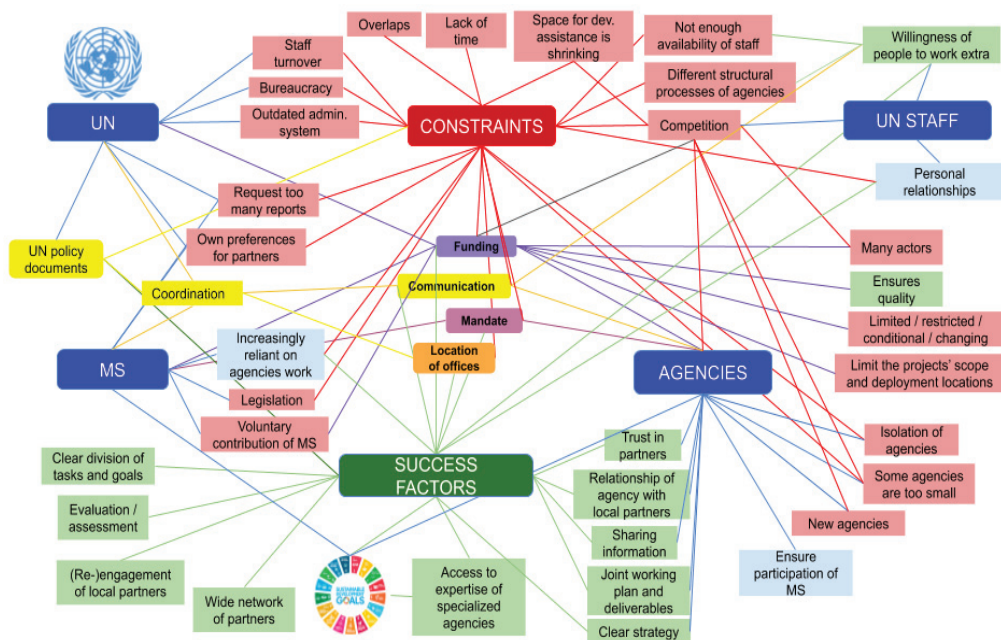


Figure 4: Final thematic map showing the overarching themes (Brown & Clarke, 2006).

Discussing the results in light of scholarly and UN literature as well as the current UN Development System Reform, this research provides concrete recommendations for the different actors involved that can help overcoming challenges of inter-agency cooperation. It also names current policies and strategies in place from institutions such as the UN itself and the European Union. In short, the SDGs were not identified as a driving factor for enhancing inter-agency cooperation, nevertheless, they can serve as a tool to map the efforts and to relate the aims and impacts of the agencies’ own work to other agencies’ actions. To improve inter-agency cooperation, the availability of funds is crucial, which can be improved by receiving more funds and introducing joint/pooled funds; therefore, enabling to have enough personnel and time as well as incentives to enter into partnerships.

When partnering, the clear formulation of needs, goals, responsibilities and tasks is of high importance. Moreover, monitoring and evaluation of collaborations is recommended to observe progress, to identify restrictions, learning processes and good practices, which can then be shared among the UN agencies. Comparing these needs to the current UNDS reform, it can be concluded that the reform seems to be a promising change and beneficial for UN cooperation on the ground by reducing competition, allowing better coordination, stabilising funding and pointing more

towards joint implementation. Nonetheless, it has to be kept in mind that the change of mindsets and ways of working will take time.

1.4. Learning outcomes

Transformation is not always improvement. Such disregard is even more puzzling because of the need of transformative learning environments for achieving a sustainable development. In my opinion, there is still a blind spot on new cultures of learning. The role of learning should be considered in this dissertation in the sense of being a creator of his own learning process (Hüther, 2017).

Collaboration as outlined in paper 2 and 3 is crucial for dealing with various sustainability challenges. Moreover, ESD is an open-ended learning process. It empowers learners to transform. The following factors (see Figure 5) were mentioned as success factors of transformative learning for SD: dealing with conflicting values, social-emotional communication, participation in interdisciplinary teams, common goals with a focus on SD, creative problem solving and changing the belief system in a positive manner (Hopkins, 2019; Thomas, 2009).

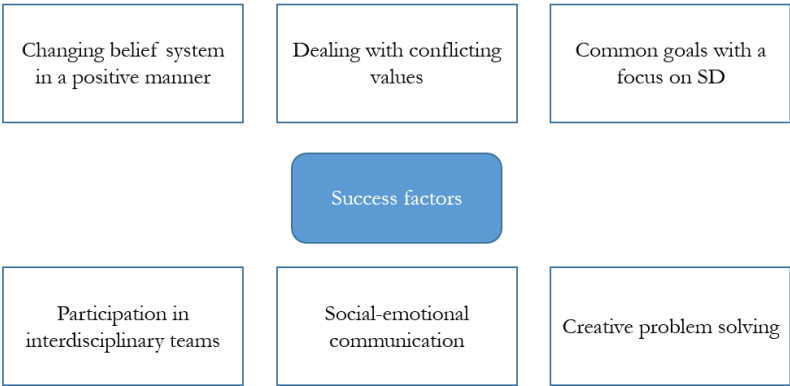


Figure 5: Success factors of transformative learning

To sum up, the enablement of action is related to an individual’s environment. Start-ups may give a framework in which transformative learning could be achieved. This dissertation emphasizes the strong connection between education for sustainable development, transformative learning as well

as transformative learning spaces (Schnitzler, 2019). In the following chapter, the contributions to research and its results will be presented.

Chapter 2

2. Contributions to research and results

Paper 1: Schnitzler, Tobias (2019). The bridge between education for sustainable development and transformative learning: Towards new collaborative learning spaces. *Journal of Education for Sustainable Development*, 13(2) 242–253, <https://doi.org/10.1177/0973408219873827>

This paper contributes to diverse areas of research:

- The bridge between ESD and TL will be outlined, taking a systematic sustainability challenge into consideration (Ny et al., 2006; Sterling, 2011; von Weizsäcker & Wijkman, 2018).
- The paper contributes to the field of ESD. It is important to mention that the mainstream education is very transmissive and focuses mainly on cognitive learning (Sterling, 2001, 2011).
- In terms of transformative learning, the paper offers approaches for the relationships between ourselves and other people (Schnitzler, 2019).

Results:

- From a sustainability point of view, our educational system is not sufficient (Schnitzler, 2019; Sterling, 2011). Taking into consideration critical reflection, participation and social engagement, it is evident to support the transformative aspect of education for sustainable development (Schnitzler, 2019).
- A WeQ-test was developed as a new and innovative tool to measure collaborative and TL (Schnitzler, 2019). Consequently, the WeQ-test assesses the quality of a team (Schnitzler, 2019).
- The results from a WeQ-test help to change our learning behaviour to how we could act and transform (Schnitzler, 2019).

Suggestions for further research:

- The impacts of collaborative learning spaces need further research elaborating on strong ESD and social transformation.
- It is valuable and recommendable to focus on relationships and potentials within teams. The WeQ-test could be applied in more start-ups and NGOs.

Paper 2: Schnitzler, Tobias; Hüther, Gerald, Dohne, Klaus-Dieter (2020). The power of collaboration: An evaluation of a new, innovative WeQ-test, revise and resubmit at *International Journal of Collaborative Enterprise*

El poder de la colaboración: Evaluación de una nueva e innovadora prueba WeQ, revise and resubmit at *International Journal of Collaborative-Dialogic Practices*

This paper contributes to concrete areas of research:

- The WeQ-test as a new, innovative tool is an important source and an evident factor of application for collaborative and transformative learning. It is a mixed method enriching the varieties of team interaction analyses (Hüther, 2017; Hüther et al., 2018). In more detail, this test consists of 42 propositions, six topics and nine individual factors. The form of the propositions needs to change between the own perspective and the perspective of other employees (Schnitzler, 2019). A detailed analysis of the nine factors distinguishes between a ‘subject’ culture and an ‘object’ culture within a group (Scharmer, 2016; Schnitzler, 2019).
- The theoretical background is based in social psychology, collaboration and collaborative learning approaches (Akhilesh, 2017; Hmelo-Silver, 2013; Redlich et al., 2019; Riemer et al., 2019; Salignac et al., 2019).

Results:

- Lessons learned (Hüther et al., 2018) and recommendations (Hüther, 2017; Scharmer, 2016) outlined that the current challenges are better suited in a team-oriented learning than within a unilaterally individualized competition learning (Schnitzler, 2019).
- Three main findings can be outlined from the evaluation of the WeQ-test: (1) Start-ups behave in a more collaborative way than NGOs and rather unfold processes of potential; (2) team members in NGO and start-ups assessed higher from a foreign perspective (“the perspective of other team members”) than from the internal point of view (“own perspective”) and (3) the greatest challenge for all participants is the social-emotional communication.
- With the WeQ-study at hand, the paper offers a comprehensive approach into the conceptualizing collaboration as practiced in start-ups and NGOs immediate surroundings (Gruszka, 2016).

Suggestions for further research:

- Further research is recommended towards applying the WeQ-test in a broader context.

- In particular, time series data and focus group discussions could be used to get a profound understanding of collaborative learning within groups in the context of CLS and ESD.
- It could be a crucial question for further research how co-creativity could be achieved (Gruszka, 2016). It is valuable and recommendable to focus on relationships and potentials within teams.

Paper 3: Schnitzler, Tobias; Seifert, Marcel, Tataje Gonzalez, Carolina (2020). Achieving sustainable partnership in the United Nations: Cooperation among UN organizations in the framework of the SDGs, under review at *International Journal of Sustainable Development*

This paper contributes to concrete areas of research:

- The paper is part of the “Regional Academy on the United Nations” from the RAUN programme in 2019-2020. It asks how to achieve sustainable partnership in the UN: Cooperation among UN institutions in the framework of the SDGs. In detail, the paper contributes to collaboration, cooperation and partnership by highlighting the importance of working together (Carnwell, 2005; Kumar et al., 2016; Stibbe et al., 2019).
- This research focuses on the current situation of inter-agency cooperation and its flaws and strengths considering also the role of the SDGs (Stibbe et al., 2019).
- Among others, the indicators cover the following dimensions: shared goals, shared resources, shared authority, shared accountability, whole-system engagement and communication, adaptive capacity and holding environment (Marek et al., 2015; Salignac et al., 2019; Thomson et al., 2007).

Results:

- The agenda 2030 shows the potential of education to start and support learning processes for sustainable solutions across the SDGs.
- When asked on cooperation and collaboration, interviewees responded very positively. They identified the benefits of using the following words: “enriching”, “better working” and “part of a team”.
- In short, the SDGs were not identified as a driving factor for enhancing inter-agency cooperation. Nevertheless, they can serve as a tool to map the efforts and to relate the aims and impacts of the agencies’ own work to other agencies’ actions.
- The strongest approval was found for the exchange of different viewpoints to find alternative solutions, formulating common goals, trust among partners and achieve own

objectives and results better than alone. Furthermore, gaps and overlaps, the absence of a clear framework, coordination of responsibilities and mandates were reported as restrictive.

Suggestions for further research:

- The scientific field ESD could be linked to sustainable lifestyles and promotion of a culture of peace in a more coherent way.
- Further studies on collective planning approaches to cover gaps and then maximize complementarities and alignment of activities to address the identified development needs, and internal accountability to work in unity of purpose. For greater collaboration and clearer responsibilities for joint results.
- Further research regarding inter-agency cooperation could include UN internal documents such as reports to the donors or internal correspondence, reporting on the results of partnerships. Moreover, it could also include research on the results of the reform of the UNDS and the achievement of the 17 SDGs.

Paper 4: Schnitzler, Tobias (2020). Success factors of transformative learning: Putting theory into practice, under review at *Journal of Transformative Education*

This paper contributes to concrete areas of research:

- As Mezirow showed, TL concentrates on the importance of meaning perspectives referring to sets of beliefs, values and assumptions (Mezirow, 1978, 2000). Mezirow's approach to TL has been changed and bridged with ESD (Balsinger et al., 2017; Wals & Corcoran, 2012) and empowers autonomous as well as critical thinking (Fleming, 2018) and judgement (Singer-Brodowski, 2016; Singer-Brodowski et al., 2018).
- The paper at hands lines out how TL could improve teams in start-ups and NGOs to the direction of ESD (Kovacs, 2018; Romano, 2017; Stuckey et al., 2013, Thomas, 2009). It contributes to research by integrating transformative issues that social structures and belief systems can influence learning (Elias, 1997).
- Laying a focus on the state of presencing, the paper is based on the opening of the mind, heart and will (Elias, 1997; Fisher & Torbert, 1995; Goleman et al., 2002; Scharmer, 2016).

Results:

- Based on 42 qualitative interviews with 18 team members from NGOs and 24 team members from Start-ups in Berlin and Vienna, six success factors of TL were identified: changing belief system in a positive manner, dealing with conflicting values, social-

emotional communication, participation in interdisciplinary teams, common goals with a focus on SD and creative problem solving. The empirical findings take the social technology of presencing (Scharmer, 2016) and the challenge of the assessment of processes and outcomes of TL into consideration (Kovacs, 2018; Romano, 2017; Thomas, 2009).

- The paper outlines four levels of learning and change (Scharmer, 2016), i.e. reacting, redesigning, reframing and presencing. The deep structures of the social field determine the quality of our actions.
- Further, the paper shifts light towards collaborative learning spaces. The non-formal learning environment (Richardson, 2018; Schapiro, 2009) in start-ups is different to NGOs and enterprises. The learning experience of employees in this cultural environment is evident.

Suggestions for further research:

- In particular, long-term approaches for introducing social learning processes in non-formal education are a crucial field of interest in start-ups and NGOs.
- Further research regarding the innovative approaches of TL and learning environments in start-ups and NGOs should be done to examine the possible potentials.

Chapter 3

3. Conclusions

This dissertation analysed success factors of transformative learning for sustainable development. The focus of this dissertation lied on how collaborative and transformative learning could be linked to education for sustainable development.

In this regards, the dissertation shows some comprehensive approaches by studying the theories of transformative learning, education for sustainable development as well as collaboration. The dissertation reflected and shared experiences from establishing, testing and outlining examples of collaborative as well as transformative learning in start-ups, NGOs and the UN. In a sequence of four paper, various approaches towards learning practices were examined.

The first paper showed potential bridges between education for sustainable development and transformative learning. Taking into consideration critical reflection, participation and social engagement, it is evident to support the transformative aspect of education for sustainable development. Consequently, new collaborative learning spaces and the application of a new, innovative WeQ-test assist to change the mindsets (Schnitzler, 2019).

Paper 2 and 3 were outcomes of collaborative learning with different methodological approaches and empirical data gained from a WeQ-test, guided-interviews, an online-survey as well as case studies. Paper 2 contributed with a new, innovative WeQ-test. Moreover, the WeQ-test has 42 statements, six topics and nine individual factors. A detailed analysis of the nine individual factors shows data about where the special strengths and challenges in a team can be identifies (Schnitzler, 2019). Regarding the use of the WeQ-test in start-ups and NGOs, an empirical study was designed. Lessons learned (Hüther et al., 2018) and recommendations (Hüther, 2017; Scharmer, 2016) outlined that the current challenges (see Paper 1 and 4) are better suited in a team-oriented learning than within a unilaterally individualized competition learning (Schnitzler, 2019). With the findings gained from this research, the author more generally attempted to clarify what learning means with reference to a socio-ecological transformation. It is valuable and recommendable to focus on relationships and potentials within teams.

Paper 3 focused on achieving sustainable partnership in the UN, especially in cooperation among UN organizations in the framework of the SDGs. A study was conducted and the success factors and restrictive of inter-agency cooperation identified. The strongest approval was found for the exchange of different viewpoints to find alternative solutions, formulating common goals, trust

among partners and achieve own objectives and results better than alone. Furthermore, gaps and overlaps, the absence of a clear framework, coordination of responsibilities and mandates were reported as restrictive.

Paper 4 provided a deeper understanding on a number of key success factors of transformative learning theory as well as providing arguments that validate it. This paper outlined how transformative learning can improve teams in NGOs and start-ups to the direction of education for sustainable development and that social structures and belief systems can influence learning, that learners make transformation of their experiences in various ways.

In conclusion, the findings include results from collaborative and social learning, personal transformation, team spirit, the social technology of presencing as well as learning environments. The case studies make use of new skills and values via interviews and subsequent focus groups. Data from the surveys and qualitative interviews are analysed and used to argue that transformative learning can be practiced in NGOs and start-ups. Consequently, this dissertation is of relevance for academic scholars from the sustainable development branch as well as for policy makers, practitioners, employees and citizen.

References

- Akhilesh, K. B. (2017). *Co-Creation and Learning: Concepts and Cases*. New Delhi: Springer India.
- Balsiger, J., Förster, R., Mader, C., Nagel, U., Sironi, H., Wilhelm, S. & Zimmermann, A. B. (2017). Transformative learning and education for sustainable development. *Gaia*, 26, 357–359. <https://doi.org/10.14512/gaia.26.4.15>
- Barth, M., Michelsen, G., Rieckmann, M. & Thomas, I. (2016). *Routledge Handbook of Higher Education for Sustainable Development*. London.
- Boyd, R. D. (1989). Facilitating personal transformations in small groups part I. *Small Group Research*, 20(4), 459–474. doi:10.1177/104649648902000406.
- Boyd, R. D. (1991). A case study of personal transformation in a small group. In R. D. Boyd & others (Eds.), *Personal transformation in small groups: A Jungian perspective* (pp. 179–202). London: Routledge.
- Boyd, R. D. & Myers, J. G. (1988). Transformative education. *International Journal of Lifelong Education*, 7(4), 261–284. doi:10.1080/0260137880070403.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Carnwell, R. & Carson, A. (2005). *Understanding partnerships and collaboration. Effective practice in health and social care: a partnership approach*. Open University Press: IN.
- Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults*. San Francisco: Jossey-Bass.
- Dalberg (2017). *System-wide outline of the functions and capacities of the UN development system*. New York, NY: The Dalberg Group.
- Dirkx, J. (2001). Images, transformative learning, and the work of soul. *Adult learning*, 12(3), pp. 15-16.
- Dirkx, J. M. (2006). Authenticity and imagination. *New Directions for Adult and Continuing Education*, 2006(111), 27–39. doi:10.1002/ace.22.
- Elias, D. (1997). It's time to change our minds: An introduction to transformative learning. *ReVision*, 20(1), 2-6.

- Ferrell, E. W. (2014). *Investigating the effects of facilitating a participatory action research study at a high school with small learning communities*. eCommons, Chicago.
- Fisher, G. C. & Torbert, W. R. (1995). *Personal and Organizational Transformations: The True Challenge of Continual Quality Improvement*. London: McGraw-Hill.
- Fleming, T. (2018). Mezirow and the Theory of Transformative Learning. In V. Wang, (Ed.), *Critical Theory and Transformative Learning* (pp. 120-136). Hershey, PA: IGI Global.
- Goharimehr, N. & Bysouth, D. (2017). *Transformative learning and critical thinking in Japanese higher education*, Osaka University Knowledge Archive. https://ir.library.osaka-u.ac.jp/repo/ouka/all/60580/hs43_215.pdf
- Goleman, D., Boyatzis, R. & McKee, A. (2002). *Primal Leadership: Realizing the Power of Emotional Intelligence*. Boston: Harvard Business School Press.
- Grider, C. F. (2011). *Tales and Testimonies of Transformational Learning in Young Adults*. Urbana, Illinois.
- Gruszka, K. (2016). Framing the Collaborative Economy. *Ecological Economic Papers*, 11(2), 1–12. https://epub.wu.ac.at/4911/1/EcolEcon_WorkingPaper_2016-11.pdf
- Hmelo-Silver, C. E. (2013). *The international handbook of collaborative learning*. New York, NY: Routledge.
- Hopkins, R. (2019). *From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want*. Vermont: Chelsea Green Publishing.
- Hüther, G. (2012). *Biologie der Angst. Wie aus Stress Gefühle werden*. Göttingen.
- Hüther, G. (2017). *Co-creativity and Community*. Göttingen.
- Hüther, G., Müller, S.O. & Bauer, N. (2018). *Wie Träume wahr werden*. München.
- Illeris, K. (2004). Transformative learning in the perspective of a comprehensive learning theory. *Journal of Transformative Education*, 2(2), 79–89. doi:10.1177/1541344603262315.
- Kerr, S. P. (2014). *Personal shift: The potential for transformative learning in youth through international service education programs* (Unpublished Doctoral dissertation). Royal Roads University, Victoria, B.C., Canada.
- Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education*, 6(2), 104–123. doi.org/10.1177/1541344608322678.

- Kovacs, Helena (2018). Change, challenge, transformation: a qualitative inquiry into transformative teacher learning. *CEPS Journal*, 8 (3), 99-118.
- Kumar, S., Kumar, N. & Vivekadhis, S. (2016). Millennium development goals (MDGs) to sustainable development goals (SDGs): Addressing unfinished agenda and strengthening sustainable development and partnership. *Indian Journal of Community Medicine*, 41(1), 1. <https://doi.org/10.4103/0970-0218.170955>
- Marek, L. I., Brock, D.-J. P. & Savla, J. (2015). Evaluating Collaboration for Effectiveness: Conceptualization and Measurement. *American Journal of Evaluation*, 36(1), 67–85. <https://doi.org/10.1177/1098214014531068>
- Mezirow, J. (1978). Perspective transformation. *Adult Education Quarterly*, 28(2), 100–110. doi:10.1177/074171367802800202.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.
- Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly*, 48(3), 185–198. doi:10.1177/074171369804800305.
- Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco, CA: Jossey-Bass.
- Napier, R. & Gershenfeld, M. (2004). *Groups: Theory and experience*. Boston: Houghton Mifflin.
- Ny, H., MacDonald, J., Broman, G., Yamamoto, R. & Robèrt, K.-H. (2006). Sustainability constraints as system boundaries: An approach to making life-cycle management strategic. *Journal of Industrial Ecology*, 10(1–2), 61–77.
- Orr, D. (2004). *Earth in mind: On education, environment and the human prospect* (2nd ed.). Chicago, IL: Island Press.
- O’Sullivan, E., Morrell, A. & O’Connor, M. A. (Eds.). (2002). *Expanding the boundaries of transformative learning*. doi:10.1007/978-1-349-63550-4.
- Parliamentary Commissioner for the Environment (PCE) (2004). *See Change: Learning and education for sustainability*. Wellington: PCE.
- Redlich, T., Moritz, M. & Wulfsberg, J. P. (2019). *Co-Creation: Reshaping Business and Society in the Era of Bottom-up Economics*. Cham: Springer International Publishing.
- Richardson, C. & Mishra, P. (2018). Learning environments that support student creativity: Developing the SCALE. *Thinking Skills and Creativity*, 27, 45-54.

- Riemer, K., Schellhammer, S. & Meinert, M. (2019). *Collaboration in the Digital Age: How Technology Enables Individuals, Teams and Businesses*. Cham: Springer International Publishing.
- Robinson, K. (2010). *In meinem Element. Wie wir von erfolgreichen Menschen lernen können, unser Potenzial zu entdecken*. München.
- Romano A. (2017). The challenge of the assessment of processes and outcomes of transformative learning. *Educational Reflective Practices*, 1, 184-219.
- Salignac, F., Marjolin, A., Noone, J. & Carey, G. (2019). Measuring dynamic collaborations: Collaborative health assessment tool, *Australian Journal of Public Administration*, 78(2), 227-249. <https://doi.org/10.1111/1467-8500.12386>
- Schapiro, S. (2009). Creating space for transformative learning. In B. Fischer, K.D. Geller and S. Schapiro (Eds.), *Innovations in transformative learning*. New York: Peter Lang.
- Scharmer, C. O. (2016). *Theory U: leading from the future as it emerges*. The social technology of presencing. Cambridge, MA.
- Schmid, B. (2014). *Systemische Organisationsentwicklung*, Schäffer-Poeschel Verlag, Stuttgart.
- Schnitzler, T. (2019). The bridge between education for sustainable development and transformative learning: Towards new collaborative learning spaces. *Journal of Education for Sustainable Development*, 13(2) 242–253. <https://doi.org/10.1177/0973408219873827>
- Singer-Brodowski, M. (2016). Transformative Bildung durch transformatives Lernen. Zur Notwendigkeit der erziehungswissenschaftlichen Fundierung einer neuen Idee. *ZEP – Zeitschrift für Int. Bild. und Entwicklungspädagogik* 31, 13–17.
- Singer-Brodowski, M., Beecroft, R. & Parodi, O. (2018). Learning in real-world laboratories: A systematic impulse for discussion. *GALA*. <https://doi.org/10.14512/gaia.27.S1.7>
- Snyder, C. (2008). Grabbing hold of a moving target: Identifying and measuring the transformative learning process. *Journal of Transformative Education*, 6(3), 159–181. doi:10.1177/1541344608327813.
- Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Devon, UK: Green Books.
- Sterling, S. (2011). Transformative learning and sustainability: Sketching the conceptual ground. *Learning and Higher Education*, 5, 17–33.
- Stibbe, D. T., Reid, S. & Gilbert, J. (2019). *Maximising the Impact of Partnerships for the SDGs*. The

Partnering Initiative and UN DESA.

- Stuckey, L., Taylor, E. & Cranton, P. (2013). Developing a Survey of Transformative Learning Outcomes and Processes Based on Theoretical Principles. *Journal of Transformative Education*, 11(4), 211-228.
- Taylor, E. W. (1998). *The theory and practice of transformative learning: A critical review*. Information Series No. 374. Columbus, OH: ERIC.
- Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International Journal of Lifelong Education*, 26(2), 173–191. doi:10.1080/02601370701219475.
- Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult and Continuing Education*, 119, 5–15.
- Taylor, E. W. & Cranton, P. (2012). *The handbook of transformative learning: Theory, research, and practice*. San Francisco, CA: Jossey-Bass.
- Thomas, I. (2009). Critical thinking, transformative learning, sustainable education, and Problem based learning in universities. *Journal of Transformative Education*, 7, 245–264. <https://doi.org/10.1177/1541344610385753>
- Thomson, A. M., Perry, J. L. & Miller, T. K. (2007). Conceptualizing and Measuring Collaboration. *Journal of Public Administration Research and Theory*, 19(1), 23–56. <https://doi.org/10.1093/jopart/mum036>
- Tilbury, D. (1995). Environmental education for sustainability: defining the new focus of environmental education in the 1990s. *Environmental Education Research*, 1(2), 195-212.
- Tilbury, D. & Wortman, D. (2004). *Engaging people in sustainability*. Commission on Education and Communication, IUCN. Gland, Switzerland and Cambridge, UK.
- Tisdell, E. J. (2012). Themes and variations of transformational learning: Interdisciplinary perspectives on forms that transform. In E. W. Taylor & P. Cranton (Eds.), *The handbook of transformative learning: Theory, research, and practice* (pp. 21–36). San Francisco, CA: Jossey-Bass.
- United Nations Educational, Scientific and Cultural Organization (2002). *Education for Sustainability. From Rio to Johannesburg: Lessons Learnt from a decade of commitment*. World Summit on Sustainable Development. Johannesburg, 26 August – 4 September 2002.

- von Weizsäcker, E.-U. & Wijkman, A. (2018). *Come On! Capitalism, short-termism, population and the destruction of the planet: A report to the club of Rome*. New York, NY: Springer Science+Business Media LLC.
- Wals, A. & Corcoran, P. B. (2012). Re-orienting, re-connecting and re-imagining: learningbased responses to the challenge of (un)sustainability. In A. Wals and P.B. Corcoran (Eds), *Learning for sustainability in times of accelerating change* (pp. 21-32). Wageningen: Wageningen Academic Publishers.
- Walsh, S. L. (2007). How do age and cognitive development affect transformational learning? In P. Cranton & E. Taylor (Eds.), *Transformative learning: Issues of difference and diversity*, (pp. 470–471). Paper presented at the Seventh International Transformative Learning Conference, Albuquerque, NM.
- Watkins, C. E., Davis, E. C. & Callahan, J. L. (2018). On disruption, disorientation, and development in clinical supervision: A transformative learning perspective. *The Clinical Supervisor*, 37(2), 257–277.
- Whalley, T. R. (1995). *Toward a theory of culture learning: A study based on journals written by Japanese and Canadian young adults in exchange programs* (Unpublished Doctoral dissertation). Simon Fraser University, Burnaby, B.C., Canada.

Paper contributions

Paper 1: The Bridge Between Education for Sustainable Development and Transformative Learning: Towards New Collaborative Learning Spaces

The Bridge Between Education for Sustainable Development and Transformative Learning: Towards New Collaborative Learning Spaces

TOBIAS SCHNITZLER

Abstract

Recent research has become increasingly interested in the concepts of education for sustainable development (ESD) and transformative learning (TL). However, even as ESD can be described as holistic and transformational education with the purpose to transform our society, only few studies have examined potential bridges between these two concepts. The article at hand gives an indication on this issue by studying the literature of ESD and TL. Strengthening the transformative aspect of ESD requires taking into account critical reflection, participation and social engagement, all of which all express key features of the new collaborative learning spaces (CLS). Subsequently, the potential of such CLS for the transformative mission of ESD are emphasized. In ESD as well as in CLS, the bridge between learning and action is crucial and a core element of social transformation. In order to clarify this, the new method of WeQ is described, aiming to better understand and develop CLS.

Keywords: ESD, transformative learning, collaborative learning spaces, WeQ

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INTRODUCTION

When examining Earth from a sustainable perspective, it is evident that society today is behaving in ways that are both socially and ecologically unsustainable. Our development since the industrial revolution of the nineteenth century has had significant impacts on the global environmental change, and we are now well within an era where the changes on Earth can be largely attributed to destructive, widespread human behaviours (Göpel, 2016; Rammel, 2005; Rockström et al., 2009, p. 472; Steffen et al., 2015; UNEP, 2012; von Weizsäcker & Wijkman, 2018; Wals & Corcoran, 2012, p. 26). Earth itself is a closed system to matter, but is open to energy, primarily in the form of solar energy (Common & Stagl, 2005; Victor, 1991).

Sub-systems such as the biosphere and lithosphere exist within our earth, between which matter and energy naturally flow and are exchanged. Life on earth inhabits the biosphere, wherein living organisms exchange matter and energy with their ecosystems through natural cycles (Common & Stagl, 2005). Without the interference of human activity, these cycles oscillate through natural rhythms. However, today, the growth and fatal actions of human society have resulted in negative impacts on these sub-systems, and we are therefore facing a systematic sustainability challenge (Ny, MacDonald, Broman, Yamamoto, & Robèrt, 2006). Examples of such can be seen through systematic increases of pollutants and man-made chemicals in the natural world (Law & Stohl, 2007), increasing levels of GHG due to the burning of fossil fuels (IPCC, 2018; Kennish, 2002).

It is important to mention that Steffen et al. (2015) gave an analysis about nine planetary boundaries. They are climate change, novel entities, stratospheric ozone depletion, atmospheric aerosol loading, ocean acidification, biogeochemical flows, freshwater use, land-system change and biosphere integrity¹ (Steffen et al., 2015). We may soon be approaching the boundaries for change in land use, global freshwater use, ocean acidification and interference with the global phosphorus cycle. The analysis proposes that climate change, rate of biodiversity loss and interference with the nitrogen cycle have already passed their boundaries (IPCC, 2018; Steffen et al., 2015; von Weizsäcker & Wijkman, 2018, p. 14). Moreover, the structure of society functions within a system that no longer allows all individuals to meet their basic human needs.² This can be observed through social problems such as inequality and an erosion of trust within our social structure (Gustavsson & Jordahl, 2008; UNEP, 2012). If we behave in this way, the Earth will lose its ability to provide us with the necessary resources and conditions to meet our human needs.

From an educational point of view, we require a fundamental shift—from learning how to understand to learning how to act and transform. The challenge is to develop in people a capacity for problem-solving and critical-thinking (von Weizsäcker & Wijkman, 2018, p. 196). Taking into consideration that the current educational system is not suitable to achieve sustainability, Sterling (2011) pointed out that it is a very transmissive,³ teacher-centred approach with an emphasis on cognitive learning and memorization.

Hence, the author believes that a bridge between education for sustainable development (ESD) and transformative learning (TL) is a very valuable approach. Few attempts have been made to guide the effort towards a single approach in

ESD and TL and to improve the communication between these two schools. As global reports indicate, TL approaches for ESD are rare and have yet to become a standard (Thoresen, Didham, Klein, & Doyle, 2015). Furthermore, in my opinion, the transformative aspect in ESD is weak and new collaborative learning spaces (CLS) are necessary. In sum, a bridge between learning and action is crucial and a core element of social transformation.

EDUCATION FOR SUSTAINABLE DEVELOPMENT

The United Nations launched a global project called the Decade of Education for Sustainable Development (2005–2014) with the goal of implementing ‘the principles, values, and practices of sustainable development into all aspects of education and learning’ (UNESCO, 2005, p. 6). Furthermore, ‘ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society’ (UNESCO, 2015, p. 12). However, several authors have joined in a critique of the current ways of learning and education. Orr (2004) observed that more education is useful when we reflect on what kind of education and for what purpose. Without critical reflection on the ends of education, we will become more effective vandals of the Earth (Orr, 1994, p. 5). Wals (2007) stated that our ability to learn is directly related to survival. Consequently, ‘the mainstream emphasis on cognitive learning, with a little values education thrown in, is simply insufficient to meet a sustainability challenge’ (Sterling, 2011, p. 27). In addition, Wals (2010) recalled a criticism of current ESD methodologies and mentioned that ‘most professors are still there to profess’, while most students are still there to ‘absorb it all’. In sum, it is important to mention that the strong instrumental character of the ESD agenda and its deterministic tendencies to achieve certain behaviour in the learner favours transmissive settings of education over more transformative ones. In short, it is the transmission of facts, skills and values. Learning is hereby a closed process (see Figure 1) and a unidirectional transmission of information. Education is about social efficiency and social reproduction (Jickling & Wals, 2008, p. 7). Almost all of these critical comments give a common understanding that ESD requires a stronger transformative setting to fulfil the requirements as a new educational paradigm. Taking into consideration that ESD has not succeeded in tackling the imperative of a balanced approach of ESD and TL, a bridge can help us to improve our understanding about multi-scale relationships between learning and education. Moreover, it seems obvious that a stronger integration of transformative learning into the conceptual setting of ESD would address the above-mentioned critique.

This also leads to a discussion about weak and strong ESD. The aims of weak ESD are efficiency gains and incremental system improvements towards concrete visions of sustainable development. Strong ESD aims at system transformations towards broader sustainability. We should enable open and participatory learning processes that are engaging and critically reflecting the beliefs and values which are underpinning weak ESD (Vare & Scott, 2007). So, it is necessary to shift from this transmissive, weak ESD to a transformative learning approach, in order to achieve

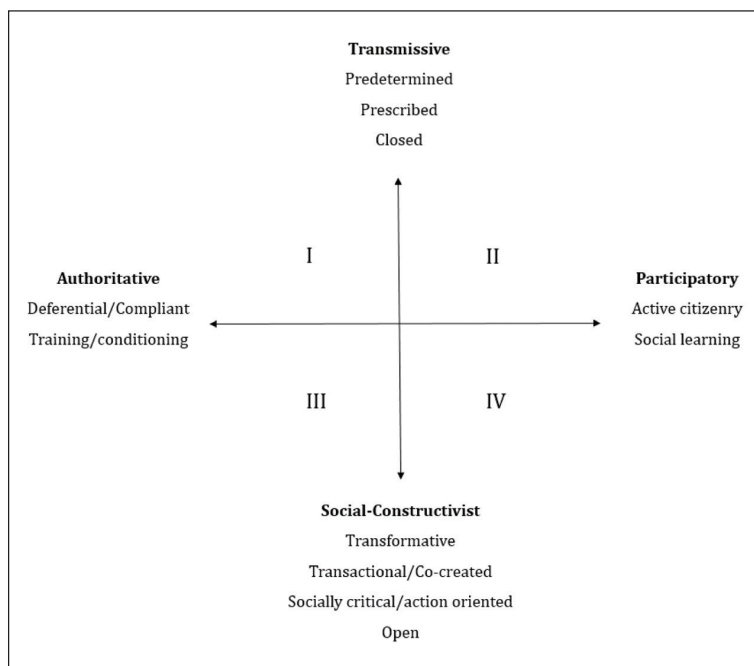


Figure 1 Positioning of Ideas About Education Alongside the Social Role of the Educated Person

Source: Jickling and Wals (2008, p. 7).

sustainability (Sterling, 2011). Missimer and Connell (2012) found new learning settings and methods for teaching sustainability. These methodologies include (1) social and (2) collaborative learning, (3) problem-based learning, (4) participative learning, (5) empowerment and (6) dialogue education. These interpretative settings could serve to (re-)frame perspectives on ESD and build the bridge between ESD and TL (Jickling & Wals, 2008, p. 8).

The degree of change and research required to achieve a single approach of ESD and TL is significant. It is this necessary change which will enhance education to prepare minds to create new ideas and new CLS which will be discussed in detail in the upcoming sections.

TRANSFORMATIVE LEARNING

Transformative learning offers not only change in what we know or are able to do, but also a shift in how we come to know and how we understand ourselves in relation to other humans and the natural world (Boyd, 1991; Cranton, 2006; Mezirow, 1991; Taylor, 2008).

Table 1 Levels of Learning

Orders of change/learning	Seeks/leads to	Can be labeled as
First order change: <i>Cognition</i>	Effectiveness/Efficiency	'Doing things better' Conformative
Second order change: <i>Meta – cognition</i>	Examining and changing assumptions	'Doing better things' Reformative
Third order change: <i>Epistemic learning</i>	Paradigm change	'Seeing things differently' Transformative

Source: Sterling (2011).

The transformative learning theory 'explains this learning process of constructing and appropriating new and revised interpretations of the meaning of an experience in the world' (Taylor, 2008). It is a shift of consciousness (Elias, 1997) and a learner's openness to new experiences and new perspectives (Robinson, Doberneck, Kenney, Fear, & Sterner, 2005).

Learning of the third order (see Table 1), which goes by the name of epistemic learning, is concerned with the transformative learning itself and aspires to help the learner to 'see things differently' (Sterling, 2011).

Jickling and Wals (2008, p. 7) pointed out that a socio-constructivist, transformative approach of education is more open. On the part of the learner, it gives space for autonomy and self-determination. Furthermore, Wals (2010, p. 388) suggested that 'education for sustainability above all means the creation of space for transformative social learning'. Sterling (2001) supported sustainability education, as this approach embraces participation and ambiguity. Thus, transformative learning for ESD is participatory, integrative and reflective (Singer-Brodowski, 2016). TL can enhance ESD, and with this bridge, it is capable to support critical self-reflection, leading to different worldviews and to behaviour change. In sum, TL is often presented as an agent of change on the part of an individual (Taylor, 2008), and the transformation to sustainable development certainly requires societal change. So, we should look for the interaction between individual and societal change. There can be no societal transformation without individual transformation.

This research article underlines the importance of the creation of space for action and collaborative learning. Consequently, the relevant issue is not only what builds TL in general, but also what stimulates individuals and communities to participate actively in collaborative learning processes guiding to an as-yet hardly discernible sustainable future.

COLLABORATIVE LEARNING SPACES

In CLS, the bridge between learning and action is crucial and a core element. As Wals (2010) pointed out, 'education for sustainability above all means the creation of space for transformative social learning'.

Von Weizsäcker and Wijkman (2018) mentioned that comprehension is lowest for passive pedagogical methods and that learning is at maximum when it is collaborative.⁴ It is important to build up an atmosphere of collaboration. Hereby, learners are allowed to make mistakes (Richardson & Mishra, 2018).

Although there is much variation across the different perspectives and experiences of ESD and TL, there is much that they have in common, and that will form a bridge and lead to CLS. In detail, we can begin to set some common characteristics of CLS: (1) learning happens in relationships, in which (2) there is a shared ownership, (3) room for the whole person, for example, feelings as well as thoughts, body, soul and mind and (4) sufficient time for collaboration, action, reflection and integration and (5) to pursue a process of inquiry driven by needs, questions and goals of the learners (Schapiro, 2009).

Depending on the bridge of ESD and TL, the CLS is trying to work towards a new and innovative WeQ-test that can be used as a methodical tool to assess this collaborative and transformative learning.

HOW TO MEASURE?

From Collaborative Learning Spaces to a New, Innovative WeQ-test

Each member of a group, but also each group as a whole, has a wide range of possibilities for his/her own development. This potential has been created in the members and in learning spaces, but it has rarely come to fruition. The quality of a group is determined by the extent to which it succeeds in bringing the potentials created in its members and in the whole group to fruition. In the course of such a potential development process, it comes to the development of skills and attitudes that have not yet been developed. The first hidden potentials are transformed into very tangible, visible and effective resources (Schmid, 2014).

The ability to learn quickly and to improve oneself, as also a group or an organization, for example, is an important potential. This ability can be extended by, for example, deliberate CLS and trying out again and again a self-reflection cycle through the approaches and success strategies one is going through. Gradually, experience and new skills are formed to deal with (yet) unsolvable problems. The knowledge and skills acquired through the development of this potential are resources available to the person concerned as well as to the group. However, if this CLS is not available for development, important potentials are given away. There is a basic rule: as long as the members of a community are mutually dependent on objects of their evaluations, expectations, intentions, transmissions, goals, measures as well as arrangements, it is not possible to develop the potential created in these members and in the group concerned (Hüther, Müller, & Bauer, 2018, p. 241).

Furthermore, as soon as the members of a group begin to see each other as subjects, to invite, encourage and inspire each other, the development of the potentials created in these members and in the group concerned is unavoidable. Only if people meet at the same level, they can develop a stable and viable basis for shared values in joint exchange. Therefore, the extent to which members of a group are able to confront

each other as self-determined, creative and self-responsible subjects is crucial to the quality of the group concerned. The author calls this way of dealing with each other as 'subject culture' and contrasts it with the opposite, the 'object culture'.

The WeQ-test was developed to make it measurable as to how strong a group is still rooted in an object culture or how well a group has already succeeded in developing the subject culture required for all potential development processes (Hüther, 2012, 2017).

The creative potential that comes up when different people share their unique experiences, their respective knowledge and their specific skills within a group and merge into one common force can only be guessed at present. The aim of my research is to explore this potential in a targeted manner (WeQ-test) and to show it through practical implementation projects in CLS.

Two or more people develop in the long run an internal framework that is very close to that of the human brain in many respects (Hüther, 2012). In fact, all non-constrained, interconnected, viable groups work in the same way as time-capable brains: They learn through trial and error, they develop flat, highly networked structures, gain experience and maintain an inner organization that is constantly adapting (Schmid, 2014). For human groups, this means that in order to develop their potentials and evolve, they are dependent on collaboration and exchanges with other groups. In the collaboration with others, the person can release potentials that they are not conscious of themselves and which they cannot open up on their own. Buber's (2009) 'The dialogical principle' shows very vividly how we are, that is, our unique, unmistakable personality is first contoured in the dialogue between myself and you. His investigation confirms that the creativity is also a result of a process between human collaborations.

In every human group, there is something that holds them together like an inner bond. Due to the significant expansion of the range of attitudes in a collaborative-oriented education, it is not only the cognitive abilities that are further developed significantly better, because, in a team-oriented learning, the learning experiences and qualities of the team members are much better for an individual's own learning curves than with a unilaterally individualized competition learning. We-qualities such as sense of responsibility, commitment or cooperative design desire an incomparably stronger life-practical reference. A life-related and experiential learning strengthens the experience of self-efficacy, the enthusiasm for lifelong learning and also the personal and social usability of everything learned (Hüther, 2012, 2017).

The aim of WeQ-test is to present a useful foundation and bridge of ESD, TL and CLS. A large group intervention occurs after the results have been obtained. The background for this study is the theoretical bridge between ESD and TL as well as CLS. The core element in this is the link between learning and action. The IQ gives information about the cognitive abilities of individuals. This was developed and disseminated in the twentieth century worldwide, when economic, social and cultural developments were primarily determined by the analytical and creative achievements of individuals. Today, we face the increasing challenges, complexity and the manifold interdependence of the twenty-first century, and innovative developments are increasingly determined by the quality of collaboration in groups. The 'Intelligence quotient of a group' (WeQ) gives information about the ability and willingness of

members of a group to collaborate. The purpose of this test is to help them to grow together as a team and to make the potentials of each individual member and group more prosperous and sustainable in the future (Hüther, 2017; Hüther et al., 2018, p. 239).

The WeQ-test was developed in order to make the quality of the collaboration of all team members visible. It provides insights into the extent to which the individual cognitive, social and emotional competences of the members are linked. The WeQ-test consists of 42 questions on six topics. The form of the questions requires the respondent to switch between his/her perspective and the perspective of other members of the group. The change between an inner and an outer perspective is particularly stressful for a human brain and requires a great amount of mental energy (Hüther, 2012; Hüther et al., 2018, p. 244; Robinson, 2010; Schmid, 2014).

The members of the group will complete the WeQ-test individually and anonymously. In each case, according to the subjective assessments of the present and the desired state of collaboration in the group, there will be a series of questions that one will be asked to evaluate on the following four dimensions:

1. Your own personal assessment (i.e., your personal view).
2. How you think other members of your team would answer the question: There is no right or wrong answer, but respond on how you think others would answer the question (i.e., other members' view).
3. What you would wish for your team (i.e., your personal desire).
4. What you think others would wish for in your team (i.e., desire of the other members).

The answers to each of these questions are to be provided on a scale from 1 to 6, where 1 = 'not at all' and 6 = 'fully'.

	not at all					fully
	1	2	3	4	5	6
Q. 1	o	o	o	o	o	o
Q. 2	o	o	o	o	o	o
Q. 3	o	o	o	o	o	o
Q. 4	o	o	o	o	o	o

The result is most meaningful when all members of the group or team have completed the test.

There are nine important factors in the WeQ-test. An in-depth analysis of those individual factors provides information about where the particular strengths and problems in a group can be found. The (1) team support factor captures how well it is possible to integrate new members into an existing social system without unduly irritating the existing order. The newcomers should be accepted in a stable and benevolent manner (Taylor, 2008; von Weizsäcker & Wijkman, 2018). The (2) social-emotional communication factor records in detail, whether the positive calming of the social-emotional evaluation levels in the brain or whether irritation,

fear and disorientation determine the co-existence and the communication (Hüther, 2012; Taylor, 2008). The (3) objective-related communication factor describes to what extent all members receive all the relevant information they need for good participation in the group's tasks. Furthermore, this factor captures the degree of tolerance given to dissenting beliefs and opinions (Hüther et al., 2018, p. 246; Taylor, 2008). In dealing with the (4) diversity factor, each group learns from the different personalities, competences, experiences, knowledge and cultural values of its members (Sterling, 2011). The (5) participation factor provides information on the extent to which individual members of the group feel invited and encouraged to express their subjective beliefs, opinions and interests, and to seek workable agreements and solutions in an open and constructive dialogue with other members (Missimer & Connell, 2012; Sterling, 2011). Moreover, the (6) shared-value-factor makes it possible to estimate how well one's group has succeeded in defining a common concern, goal or shared vision (Hüther et al., 2018, p. 250; Schapiro, 2009). The (7) cooperativity factor reflects the degree of collaboration of the members in one's group. Every group thrives on the openness and the testing of new ideas (Missimer & Connell, 2012; Schapiro, 2009). In addition, the (8) openness for change factor also includes the willingness to question old convictions, values and attitudes (Robinson et al., 2005). The (9) culture of mistakes factor makes it clear whether mistakes are really understood as a challenge for the group, or whether mistakes that occur are more likely to be attributed to individuals or few members (Hüther, 2017; Hüther et al., 2018, p. 251; Richardson & Mishra, 2018).

Generally speaking, the WeQ-test supports the creation of CLS.

OUTLOOK

The findings of this article will redound to the benefit of groups considering a bridge between ESD and TL as well as the creation of new CLS. The greater demand for collaboration within groups justifies the need for more open-minded and collaborative learning spaces. Thus, start-ups, NGOs as well as universities that apply the recommended WeQ-method derived from the results of this study will be able to train groups better. For the researcher (or researchers if it is a group study), the study will help them uncover success criteria for CLS in groups that earlier researchers were not able to explore. Thus, a new approach of ESD and TL may be arrived at. A CLS as mentioned in the WeQ-test is enabled not just because of the brilliance of single team members, but because of the openness and intensity with which ideas are exchanged and constructively composed in the search for a joint solution. The key to it is the unique way the team members approach each other: from subject to subject (Hüther, 2017).

Since there is still only a limited number of scientific case studies regarding the use of CLS in enterprises and NGOs (as a control group), an empirical study will be designed to examine the possible potentials of collaboration within a group. A comparison with enterprises and NGOs that do not employ such a test will be made. Later, an upcoming paper with the title "The Power of Collaboration - An Evaluation by means of a new, innovative WeQ-test" will address the application of

the test and review the results as to how they describe the potential for ESD and TL. Furthermore, the current research is one of the first to examine bridges between ESD and TL towards CLS in groups.

In sum, new CLSs and the application of a WeQ-test support a shift from learning how to understand to learning how to act and transform.

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Notes

1. Biological integrity is associated with how 'pristine' an environment is and its function relative to the potential or original state of an ecosystem before human alterations were imposed. Biological integrity is built on the assumption that a decline in the values of an ecosystem's functions are primarily caused by human activity or alterations.
2. A traditional list of immediate basic needs is food (including water), shelter and clothing. Many modern lists emphasize the minimum level of consumption of basic needs of not just food, water, clothing and shelter, but also sanitation, education and healthcare.
3. This is a teacher-centred approach in which the teacher is the dispenser of knowledge, the arbitrator of truth, and the final evaluator of learning.
4. Collaborative means that it is produced by or involving two or more parties working together.

References

- Boyd, R. D. (1991). A case study of personal transformation in a small group. In R. D. Boyd & others (Eds.), *Personal transformation in small groups: A Jungian perspective* (pp. 179-202). London: Routledge.
- Buber, M. (2009). *Das dialogische prinzip [The Dialogical Principle]*. Gütersloh: Gütersloher Verlagshaus.
- Common, M., & Stagl, S. (2005). *Ecological economics: An introduction*. Cambridge, MA: Cambridge University Press.
- Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults*. San Francisco, CA: Jossey-Bass.
- Elias, D. (1997). It's time to change our minds: An introduction to transformative learning. *ReVision*, 20(1), 2-6.
- Gustavsson, M., & Jordahl, H. (2008). Inequality and trust in Sweden: Some inequalities are more harmful than others. *Journal of Public Economics*, 67(3), 348-365.
- Göpel, M. (2016). The great mindshift: How a new economic paradigm and sustainability transformations go hand in hand. Retrieved from <https://www.springer.com/de/book/9783319437651>

- Hüther, G. (2012). *Biologie der Angst. Wie aus Stress Gefühle werden [Biology of fear. How stress turns into feelings]*. Göttingen: Vandenhoeck & Ruprecht.
- . (2017). *Co-creativity and community*. Göttingen: Vandenhoeck & Ruprecht.
- Hüther, G., Müller, S. O., & Bauer, N. (2018). *Wie Träume wahr werden [How dreams come true]*. München: Goldmann Verlag.
- IPCC. (2018). Global warming of 1.5°C. *An IPCC special report*. Retrieved from http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf
- Jickling, B., & Wals, A. (2008). Globalization and environmental education: Looking beyond sustainable development. *Journal of Curriculum Studies*, 40(1), 1-21.
- Kennish, M. J. (2002). Environmental threats and environmental future of estuaries. *Environmental Conservation*, 29(1), 78-107.
- Law, K., & Stohl, A. (2007). Article air pollution: Origins and impacts. *Science*, 315(5818), 1537-1540.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.
- Missimer, M., & Connell, T. (2012). Pedagogical approaches and design aspects to enable leadership for sustainable development. *Sustainability*, 5(3), 172-181.
- Ny, H., MacDonald, J., Broman, G., Yamamoto, R., & Robèrt, K.-H. (2006). Sustainability constraints as system boundaries: An approach to making life-cycle management strategic. *Journal of Industrial Ecology*, 10(1-2), 61-77.
- Orr, D. (1994). *Earth in mind: On education, environment and the human prospect*. Washington, DC: Island Press.
- . (2004). *Earth in mind: On education, environment and the human prospect* (2nd ed.). Chicago, IL: Island Press.
- Rammel, C. (2005). The paradox of sustainable development. In A. Maples (Ed.), *Sustainable development: New research* (pp. 1-30). Hauppauge, NY: Nova Science Publishers.
- Richardson, C., & Mishra, P. (2018). Learning environments that support student creativity: Developing the SCALE. *Thinking Skills and Creativity*, 27, 45-54.
- Robinson, C. F., Doberneck, D. M., Kenney, P., Fear, F., & Sterner, G. (2005). Through the looking glass: Our transformative experiences in wonderland. *The Sixth International Transformative Conference*. New York, NY: Columbia University.
- Robinson, K. (2010). *In meinem Element. Wie wir von erfolgreichen Menschen lernen können, unser Potenzial zu entdecken [In my element. How can we learn from successful people to discover our potential?]*. München: Arkana.
- Rockström, J., Steffen, W., Noone, K., Persson, A., Chapin F. S., Lambin, E. F., . . . Foley, J. A. (2009). A safe operating space for humanity. *Nature*, 461(7263), 472-475.
- Schapiro, S. (2009). Creating space for transformative learning. In B. Fischer, K. D. Geller, & S. Schapiro (Eds.), *Innovations in transformative learning* (pp. 111-114). New York, NY: Peter Lang.
- Schmid, B. (2014). *Systemische Organisationsentwicklung [Systemic organizational development]*. Stuttgart: Schäffer-Poeschel publishing house.
- Singer-Brodowski, M. (2016). Transformative Bildung durch transformatives Lernen. Zur Notwendigkeit der erziehungswissenschaftlichen Fundierung einer neuen Idee. *Zeitschrift für internationale Bildungsforschung und Entwicklungspädagogik*, 39(1), 13-17.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., . . . Sorlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223). doi:10.1126/science.1259855
- Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Devon, UK: Green Books.
- . (2011). Transformative learning and sustainability: Sketching the conceptual ground. *Learning and Higher Education*, 5, 17-33.

- Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult and Continuing Education*, 119, 5-15.
- Thoresen, V. W., Didham, R. J., Klein, J., & Doyle, D. (2015). *Responsible living: Concepts, education and future perspectives*. Cham: Springer International Publishing.
- UNEP. (2012). *Global Environment Outlook 5: Environment for the future we want*. Malta: Progress Press.
- UNESCO. (2005). United Nations Decade of Education for Sustainable Development (2005-2014). *International Implementation Scheme*. Retrieved from <http://unesdoc.unesco.org/images/0014/001486/148654e.pdf>
- . (2015). *Roadmap for Implementing the global action programme on education for sustainable development*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Vare, P., & Scott, W. (2007). Learning for a change: Exploring the relationship between education and sustainable development. *Journal of Education for Sustainable Development*, 1(2), 191-198.
- Victor, P. A. (1991). Capital theory. *Ecological Economics*, 4(3), 191-213.
- von Weizsäcker, E.-U., & Wijkman, A. (2018). *Come On! Capitalism, short-termism, population and the destruction of the planet: A report to the club of Rome*. New York, NY: Springer Science+Business Media LLC.
- Wals, A. (2007). *Social learning toward a more sustainable world: Principles, perspectives, and praxis*. Wageningen: Wageningen Academic Publishers.
- . (2010). Mirroring, Gestaltswitching and transformative social learning: Stepping stones for developing sustainability competence. *International Journal of Sustainability in Higher Education*, 11(4), 380-390.
- Wals, A., & Corcoran, P. B. (2012). Re-orienting, re-connecting and re-imagining: Learning-based responses to the challenge of (un)sustainability. In A. Wals & P. B. Corcoran (Eds.), *Learning for sustainability in times of accelerating change* (pp. 21-32). Wageningen: Wageningen Academic Publishers.

**Paper 2: The Power of Collaboration – An Evaluation of a new,
innovative WeQ-test**

The Power of Collaboration – An Evaluation of a new, innovative WeQ-test

Abstract: Within the last ten years there has been an increase in research on the concept of collaboration. While collaboration and collaborative learning are able to transform our society, only a few tools and methods were developed. In this paper, we will introduce a new and innovative method for measuring team quality that we call the WeQ-test. The test relates six topics, 42 propositions and nine individual factors. divided into six topics. The questionnaire asks for the participants' views and how they perceive the views of their team members. Regarding the use of the WeQ-test in NGOs and start-ups, an empirical study will be designed. The results of this research paper could contribute greatly to the benefit of groups considering the own perspective and the perspective of other team members. With the findings gained from this research, the project attempts to clarify on a broader scale what learning means with reference to collaboration.

Keywords: Collaboration; collaborative learning; WeQ-test; start-ups; NGOs.

1 Introduction

Against the backdrop of diverse challenges, a variety of tools were considered under the nexus of collaboration and collaborative learning achieved reasonable attention (Akhilesh, 2017; Gruszka, 2016; Hmelo-Silver, 2013; Redlich et al., 2019; Riemer et al., 2019). It is evident to focus on relationships and potentials within teams (Levine, 2013; Vidyasagar and Hatti, 2018). From another point of view, relationships in which people view and treat one another as objects have been formed because they allow educational, work, and administrative processes to be more easily controlled (Hüther, 2017). Eventually, these historically formed relational patterns, i.e. those between supervisors and their employees, officers and soldiers, and between teachers and students change all on their own, once they become increasingly problematic, insufficient and unsuitable in the face of new societal developments (Franz et al., 2012). Currently, given the increasing complexities, interdependencies, and interconnections of the 21st century, innovative advances are increasingly determined by the quality of interactions of members of teams (Levi, 2017; Levine, 2013). The results from a WeQ-test show comprehensive data on the collaboration, co-creation and potentials of team members¹ (Schnitzler, 2019). The new, innovative WeQ test entails a set of propositions that represent the discourse surrounding collaboration and collaborative learning (Hmelo-Silver, 2013).

Chapter 2 presents a selection of theoretical perspectives as it regards collaboration and collaborative learning. Chapter 3 guides the reader through the essentials of a new, innovative WeQ-test, and outlines the nine identified factors. Chapter 4 sums up with a brief discussion. A overarching goal was to set the identified factors in relation with results from case studies, and to conclude with remarks on further research.

2 Collaboration – the concept

According to the McMillan dictionary (2019), collaboration is defined as “the process of working with someone to produce something”. Salignac et al. (2019) further define it as “an overarching structure that can take multiple forms (Larsen, 2017); a stage on a continuum of inter-organisational connections (Hrelja et al., 2016); a cross-sectoral working arrangement (Guarneros-Meza et al., 2018); and a relational system in which stakeholders pool resources to meet objectives they cannot meet on their own (Stout et al., 2018)”. They argue that collaboration is currently an intrinsic component of public and private institutions. Therefore, these institutions should attempt to be flexible in collaborating, and increase efficiency by measuring the “health” of their collaborations

Academics and non-academics in a variety of educational settings have been using collaborative approaches to teach and assess people for a long time (Dillenbourg, 1999; Franz et al., 2012; Hmelo-Silver, 2013). In recent years, educators and policy makers, especially in the field of climate change, have found the necessary opportunity to collaborate as a key result (Amponsah et al., 2018). In detail, the use of a common language is essential to ensure collaboration. For example, collaboration has been a huge help in creating a shared goal within a group. Consequently, collaboration could be seen as a comprehensive support of participants in an approach to tackle various challenges (Amponsah et al., 2018; Dillenbourg et al., 1996, p. 2; Schnitzler, 2019). It is also important to question what leads individuals to participate actively in projects and processes (Schnitzler, 2019).

The purposes of the research are to (i) explore how researchers have identified collaboration (Schnitzler, 2019); (ii) learn how mentors could support the socio-emotional competences in their employees (Lai, 2011); and (iii) find best practices for collaboration, as well as presenting the WeQ-test and its evaluation (Lai, 2011; Schnitzler, 2019). Taking the term of collaborative learning into consideration, it could be seen as “joint problem solving” (Akhilesh, 2017).

The range of interlinkages within a framework of collaborative learning may have two or more people (Dillenbourg, 1999; Lai, 2011).

Collaborative learning refers to a process wherein students or employees can learn together (Biberhofer et al., 2016). If employees learn collaboratively within a group, they are able to share expertise and further develop their own competences and skills (Biberhofer et al., 2016; Cincera et al. 2018; Levi, 2017). In addition, the employees could discuss their behaviour and experiences about collaboration (Biberhofer et al., 2016; 2018; Cörvers et al., 2016; Klarsfeld et al., 2016). With this encouragement, learning is perceived to be a more dynamic and motivating process (Cincera et al., 2018). It is also important to mention that successful collaboration considers different opinions as well as shared learning experiences (Barth, 2015; Biberhofer et al., 2016; Cincera et al., 2018; Hmelo-Silver, 2013; Vidyasagar and Hatti, 2018). The WeQ-test can be seen as a tool, when it comes to the assessment of collaboration skills.

3 Study design

The design of the WeQ-test represents a practical nexus of collaboration, collaborative learning and potential development. Regarding the use of the WeQ-test, an empirical study was designed, including four NGOs and four start-ups coming from a variety of collaborative learning backgrounds (i.e. four from the social sector and four from the education sector).

The start-up companies from the social sector were Nano-Join, Mablo, VGV Daun Vulkaneifel (VGV) and RAAM Racer Development (RAAM). Participating NGOs from the education sector were Wiener Familienbund (WFB), Weltumspannend arbeiten, Bank für Gemeinwohl (BfG) and Katarina Turnauer Privatstiftung (KTP). The CEOs were contacted and invited with the request for participating in an interview and later on in an online survey. "During the first step, CEOs were contacted, and asked to participate first in an 60 minute face-to-face interview, and then in an online survey. In the second step, all employees of the participating companies were informed about the WeQ-survey by the CEO, and invited to participate in the WeQ-study. The participants were promised that their anonymity would be preserved. In the third step, all employees that completed the WeQ-test were offered a 60 minute long supervisory conversation, either face-to-face or via Skype.

In this study, the role of the researcher was different and the WeQ-test could be seen as an instrument of data collection (Denzin and Lincoln, 2003). Consequently, the WeQ-test was introduced and mediated through the researchers. Taking into consideration that the participants of the study need to know about the instrument and thematic fields.

The questionnaire itself is a quantitative, standardized online-questionnaire. The WeQ-test applies purposive sampling, typically including 2-11 participants from a group, and runs through 6 thematic fields (see Annex I). These were reflected in a final set of 42 propositions. Data was collected between April and November of 2018. Each participant had four weeks to complete the WeQ-test. In detail, eight companies participated in the WeQ-survey from April to November in 2018. The groups were very heterogeneous in terms of age, length of service to the company, language, professional background or income. It is important to mention that collaboration is significantly related by relationships. 42 individuals² were contacted with a 65.62% response rate.

The fact that all participants were involved from the beginning and able to contribute their experience in answering a set of close-ended questions has been valuable. The close-ended Likert-type questions focused on assessing the six thematic fields, (A) Introduction, (B) Integration process, (C) Dealing with conflicts and differences, (D) Potential development and social interaction, (E) Dealing with changes and new ideas, and (F) Separation and departure of a member (see Annex I). In November 2018, after the completion of the WeQ-test, the respondents were asked to participate in a reflective conversation via Skype. Specifically, they were asked to reflect on what was new for them, and in what ways their participation in their professional environment had changed because of this experience.

4 Framing collaboration and collaborative learning with the use of the WeQ-test

A WeQ-study with participants in the collaborative scenes³ in Berlin and Vienna was introduced. The following parts show the WeQ-methodology in detail and sum up with statistical analyses of nine identified factors (Schnitzler, 2019).

Applied really often in social psychology - the WeQ-test is a mixed method enriching the tools of team-interaction analyses (Gruszka, 2016, Schnitzler, 2019). Each group member and each group has a extensive range of possibilities for their development (Schnitzler, 2019). The quality of a group is correlated with the potentials created in its members (Franz et al., 2012; Levine, 2013; Schnitzler, 2019). The process of developing latent potential can also lead to the development of new skills and attitudes. Initial latent potentials can then be changed into positive action (Hüther, 2017; Schmid, 2014; Schnitzler, 2019).

The WeQ-test was introduced to articulate the quality of collaboration within a team (Hüther, 2017; Levi, 2017; Schnitzler, 2019). Three pilot groups were organized to test the quality of the research instrument in regards to its comprehensiveness, readability, and balanced content. It is evident to mention that the cognitive, emotional and social skills could be made visible within a group (Decety and Ickes, 2009; Förstl, 2012; Schnitzler, 2019).

Moreover, the operationalization (WeQ) of group dynamics and potentials on a scale from 1 to 6 (where 1 = "Proposition applies not at all" and 6 = "Proposition fully applies") was outlined (Phan et al., 2004). Particularly Hüther's (2017) insights to co-creativity and community were taken into account. Teaching and learning, mutual learning as well as exchange learning, i.e. between old and young, self-helpers and professionals, interdisciplinary experts then becomes a process of co-creativity – a genuinely integrative concept that we have created. Co-creativity creates a confluence of the competence and performance of those involved in the process (Hüther, 2017; Hüther et al., 2018; Lukesch and Petzold, 2011; Schnitzler, 2019; Schuck-Zöllner et al., 2017).

As outlined above, six thematic fields were identified from a comprehensive literature review of group dynamics and potentials, namely (A) Introduction, (B) Integration process, (C) Dealing with conflicts and differences, (D) Potential development and social interaction, (E) Dealing with changes and new ideas, and (F) Separation and departure of a member (Hüther et al., 2018; Levi, 2017; North and Kumta, 2018).

The six fields consider the complex process of dynamics in groups, and how the relationships between human experiences occur within groups (Phan et al., 2004). Forty-two propositions were extracted from a variety of comprehensive assessments of group dynamics (Akhilesh, 2017; Hüther, 2017; Hüther et al., 2018; Levi, 2017; North and Kumta, 2018; Phan et al., 2004; Schmid, 2014). Furthermore, each proposition is linked to one thematic field. For instance, Proposition 3a ("There is generally an interest in my team to accept differences in opinion and consider them to an opportunity to learn about different perspectives.") is linked to the thematic field (B) Integration process.

In the upcoming section, the six thematic fields are set out with propositions in the WeQ-test below:

Propositions in the final WeQ-test (some examples)⁴

A. Introduction

1. **When a new member joins the team, there are various ways to welcome a new member in different teams. Some teams openly and actively welcome a new member that requires a lot of time and attention, while others are less formal and they leave it up to the new member and existing members to interact freely. These are two examples of different ways to welcome a new member and they can shape the integration of the new to the team.**
 - 1a. In my team, the reception of a new member is actively shaped (e.g., by greeting rituals) and there is a consensus that this sensitive phase of the integration requires a lot of attention.

2. **The integration of a new member into the team is a very sensitive and risky phase for the existing members as well as for the new member.**

Therefore, many teams believe that this adaption phase is important and they need to allow new and existing members to openly discuss about possible problems and conflicts that may arise during the integration phase

- 2a. To avoid potential irritations and conflicts that may arise during the integration phase, from the beginning the “existing” and “new” members are made aware of the process and about possible problems, irritations and fears that may arise during the adaption process.
- 2b. New members receive transparent information about the social rules and role in my team in a supportive manner, in order that they do not incur any disadvantages.

B. Integration process

3. **Finding goals and a common purpose in a team can be done by all members in a democratic and engaged fashion. In such a team, every contribution and opinion is welcomed, even if it does not fit the majority opinion.**

- 3a. There is generally an interest in my team to accept differences in opinion and consider them to an opportunity to learn about different perspectives.

[...]

8. **In this team, personality differences between people can be perceived as distracting and annoying. To avoid potential conflict and irritation, existing rules and guidelines should be upheld and followed. If members do not follow these guidelines, they need to worry about potential sanctions and disadvantages that may follow.**

- 8a. Diversity of individual members is perceived as distracting and annoying in my team.

C. Dealing with conflicts and differences

9. **In all social groups and teams, conflicts are part of everyday life and it is important to find effective coping mechanisms. Members need to negotiate with each other and reach an agreement with others with different background and personalities. The greater the variation in members’ background in terms of personality, talents and skills, the greater the likelihood of conflicts that may arise in the team. In the heterogeneous team, team viability and development are important goals and result in a high potential for success and survival. These teams acknowledge, respect and utilize the differences among individual members. The participants accept that differences in perspectives can increase conflict but they should be discussed openly and negotiated.**

- 9a. In my team, there is an acknowledgement that an open discussion can increase conflict. The focus is placed on investing the necessary time, energy and resources to find a solution and viable negotiation processes.

[...]

D. Potential development and social interaction

15. **Members are often cautious and use restraint in providing others with evaluations and feedback of their behavior. Members are encouraged to reflect how their behavior may affect others. Members understand that speculations can lead to misunderstandings and create difficulties in dealing with each other. A true understanding of how their own behavior is perceived by others is difficult to achieve. To further develop social relationships, it is important to reflect on their own behavior, how it can be perceived by others and to receive feedback on how to regulate their behavior with the help of others.**

- 15a. Members receive timely, direct and open suggestions and feedback about their behavior and how it can be perceived by others so that they can improve their social relationship and work together with others well.

[...]

21. **There are people who are at risk in some teams, as they tend to focus their attention only on issues that are important and relevant to themselves. They neglect other important aspects for the functioning of the team.**

In some teams, equal value is placed upon social issues and factual issues and they are discussed in meetings. Specifically, it means that the discussions focus not only on factual and economic issues, but also on the emotional and social problems within the team and ways to find appropriate solutions.

- 21a. In the meetings, social issues are discussed in addition to factual issues and how it is perceived and experienced by the members.
22. **Teams work particularly well if the members working on a common goal see a common purpose in this goal.**
When the team members forget their common purpose, they can become fragmented and social cohesiveness can be at risk. It is therefore important to invest adequate time and resources establishing a common purpose, process and goals.
- 22a. My team invests significant time and resources to establish a common purpose, process and goals.

E. Dealing with changes and new ideas

23. **New ideas often call into question previous behavior patterns and practices in a team. This requires a high degree of willingness of team members to make adjustments in the team. As new ideas and views can call into question previously accepted beliefs, it can be perceived and blocked by other members as a potential threat. This can cause the team to hold onto the old, unsuitable beliefs and strategies for a long time.**
- 23a. Members encourage one another and ask each other to question the existing beliefs and ideas.

[...]

F. Separation and departure of a member

26. **Teams develop different rules in dealing with each other and in dealing with “disrupters.” Deviant behaviour of individual members can be appreciated as an important contribution for the development of the team.**
However, if an agreement or cooperation cannot be found for an individual case, it is necessary to implement a separation and seek the departure of the member. If separation is not successful, it can create conflicts, struggles and pejorative evaluations of each other which result in “open wounds”.
In some teams a lot of relationships break because of conflicts and result in a regular separation of team members.
- 26a. In my team, the separation and departure of a member is managed well so that it does not “open wounds” and create lingering conflicts.
- 26b. The separation of a member from my team begins with conflicts and creating shame and ends in a breakup of the relationship.

[...]

These are some examples from 42 propositions in the WeQ-test. As mentioned in before, it is important to outline the link between the propositions and the assessment of each proposition in four dimensions. The human brain⁵ needs a lot of energy for the switch between two inner and two perspectives (Förstl, 2012; Hüther, 2012, 2014; Hüther et al., 2018; Robinson, 2010; Schnitzler, 2019). It is the core of the WeQ-test. It is also important to mention the creative brain concept:

“Perhaps the most essential feature of the creative brain is its degree of connectivity - both inter-hemispheric and intra-hemispheric. Connectivity correlates or binds together functions of apparently structurally isolated domains on brain modules sub-serving different functions. It is felt that creative cognition is a self-rewarding process where divergent thinking would promote connectivity through development of new synapses. In addition, the phenomenon of synaesthesia has often been observed in creative visual artists” (Chakravarty, 2010).

The individual results will be kept anonymous, strictly confidential and will not be revealed to others. Following a brief introduction, there will be the 42 propositions that participants' will be asked to evaluate on the following four dimensions, as described in Schnitzler (2019).

1. Your own personal assessment (i.e., your personal view)?
2. How you think other members of your team would answer the question. There is no right or wrong answer, but please answer how you think others would answer the question (i.e., other members' view)?
3. What you would wish for your team (i.e., your personal desire)?
4. What you think others would wish for in your team (i.e., desire of the other members)?

Respondents are to provide their answer to each of these questions on a scale from 1 to 6, whereas 1 = "Proposition is not applicable" and 6 = "Proposition fully applies".

	applies not at all					fully applies
	1	2	3	4	5	6
Q. 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q. 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q. 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q. 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For example, based on proposition 1a "in my team, the reception of a new member is actively shaped (e.g., by greeting rituals) and there is a consensus that this sensitive phase of the integration requires a lot of attention", each participant should answer the four questions. In detail, what is your own personal assessment (Question 1) about proposition 1a? It would be valuable when all team members would have completed the WeQ-test (Schnitzler, 2019).

The ability to learn quickly, but also a start-up or a NGO, is an important enfolder for development (Akhilesh, 2017).

On the one hand, the authors name the behaviour to invite, encourage and inspire each other of a team, as "subject culture" and on the other hand, it is called "object culture" (Hüther, 2012, 2017; Schnitzler, 2019).

Consequently, collaboration, co-creativity and potentials are highly significant for teams and a crucial factor for the future (Brief, 2008; Darling-Hammonds et al., 2019; Hüther, 2012, 2017; Klarsfeld et al., 2016; Redlich et al., 2019, Schnitzler, 2019).

The nine individual factors (see Annex II) were described in Schnitzler (2019) and are as follows:

- (1) **Team support factor** (Levi, 2017; Schnitzler, 2019).
- (2) **Social-emotional communication factor** (Buber, 2009; Decety and Ickes, 2009; Hüther, 2012; Schnitzler, 2019; Taylor, 2008).
- (3) **Objective-related communication factor** (Hüther et al., 2018, p. 246; Schnitzler, 2019; Taylor, 2008).
- (4) **Diversity factor** (Brief, 2008; Klarsfeld et al., 2016; Schnitzler, 2019; Sterling, 2011).
- (5) **Participation factor** (Barth, 2015; Missimer and Connell, 2012; Schnitzler, 2019; Sterling, 2011).
- (6) **Shared-value-factor** (Hüther et al., 2018, p. 250; North and Kumta, 2018; Schapiro, 2009; Schnitzler, 2019).

- (7) **Cooperativity factor** (Missimer and Connell, 2012; Schapiro, 2009, Schnitzler, 2019).
- (8) **Openness to change factor** (Robinson et al., 2005; Schnitzler, 2019; Szabla et al., 2018).
- (9) **Culture of mistakes factor** (Richardson and Mishra, 2018; Schnitzler, 2019).

On the one hand, the nine individual factors show information about the specific strengths within a start-up or NGO. On the other hand, it presents data about the challenges in a start-up or NGO (Schnitzler, 2019). For example, the WeQ outcome in factor 4 could be very strong and the WeQ factor 8 very weak. In sum, the WeQ outcome means the average of the evaluation for the nine factors. The WeQ outcome represents the kind of relationship on a scale between 0 and 100. Taking into consideration that the "subject relationship" is defined as 100 and contrasts it with the opposite, the "object relationship", which is defined as 0 (Hüther, 2017; Hüther et al., 2018; Levi, 2017).

5 Statistical analysis

The core element of the test, the so-called WeQ outcome, is a direct link to the collaboration potential within an entity's team, i.e. a high WeQ outcome relates to a high collaboration within this team and is an evidence for a subject culture. A low WeQ outcome indicates low levels of collaboration within a team, and suggests a prevailing object culture."

Comparing the results, it becomes clear that Mablo has the highest WeQ outcome of 97, followed by VGV with a WeQ value of 94 and KTP (WeQ value: 86). On the other side, Weltumspannend arbeiten shows the lowest WeQ outcome of 46, followed by Bank für Gemeinwohl (WeQ value: 51) and Wiener Familienbund (WeQ value; 50). The factors, therefore, show a range of WeQ outcomes from 46 to 97. Comparing the two sub-groups, it becomes clear that 58.25 is the average of the WeQ-test by NGOs, compared to 86.5 as average in start-ups. As a result, the collaboration in NGOs is relatively low and the collaboration in start-ups is relatively high. There is a clear distinction in the manner in which team members collaborate with one another, and the kind of company culture currently in place (object vs. subject culture).

Furthermore, the internal point of view ("own perspective") of the team members was analysed. This was done in the questionnaire by the question of personal assessment ("How much does this apply to your team from your very personal point of view?"), as well as a question that asked respondents to articulate their own desires ("How much do you personally wish this to apply to your team?"). The current assessment of the situation ("is") and the desired situation ("intended") are presented in the nine factors. The individual consideration of various factors shows where particular strengths as well as greatest areas of action lie. The higher a value, the more a subject-culture is already lived for this factor. The factors with the lowest values in the "is" range may be those where a change is easiest to implement and would lead to noticeable positive changes the quickest.

The challenge of NGOs is factor (2), the social-emotional communication factor. Current problems in the social-emotional communication become visible (propositions 19b and 21a) in NGOs. Social conflicts and emotionally charged topics are difficult to articulate and solve. In fact, this is a core topic that should be addressed by NGOs. Furthermore, the most distinctive difference between "is" and "intended" is factor (4), the objective-related communication factor. The best outcome was achieved in factor (1), the team support factor. Team members of NGOs see themselves well in integrating new members (Schnitzler, 2019). The new team members were accepted in a stable way. All in all, the desire for change is significant in all areas (see Annex III).

Startups are challenged by factor (2), the social-emotional communication factor. Further challenges are factor (9), the culture of mistakes factor and factor (8), the openness for change factor. In a direct comparison of start-ups and NGOs, it is important to point out that the outcomes in all nine factors are significantly higher in start-ups than in NGOs. From a collaborative point of view, start-ups rather behave in a subject-culture and collaborate with each other to a higher extent (see Annex IV).

In the next step, the foreign perspective (“the perspective of other team members”) is being analyzed. Team members in NGOs were asked in the questionnaire, "How much do the other members think this proposition applies to your team?" as well as, "How much do you think the other members would like this to apply to your team?". This was about how other members are likely to rate what is happening in your team. Greater deviations from the results from an individual perspective suggest that individual team members subscribe to a different, possibly distorted view of team events.

The challenges of NGOs from the perspective of other team members are factor (2), the social-emotional communication, factor (6), the shared-value-factor; and factor (4), the objective-related communication factor. It is interesting to outline that the outcomes of the perspective of other team members are higher than in the own perspective. To be precise, it is factor (1), the team support factor, which is lower in the perspective of other team members (65.5%) than in the x of NGOs (66.75%). In terms of all nine factors, the distance between desire (“intended”) and reality (“is”) is significant. In sum, the desire for change as a whole is particularly strong (see Annex V).

The challenge of start-ups from the perspective of other team members is also factor (2), social-emotional communication. Further challenges are factor (5), the participation factor, and factor (9), the culture of mistakes factor (see Annex VI).

It is interesting to compare the outcomes from four NGOs and four start-ups. The questionnaire asked for the participants’ views and how they perceive the views of their team members (Schnitzler, 2019). Again comparing start-ups and NGOs from a foreign perspective, it is important to point out that the outcomes in all nine factor are significantly higher in start-ups than in NGOs. Too, from a collaborative point of view, start-ups rather behave in a subject-culture and collaborate with each other. In sum, the own perspective differs from the perspective of other team members: It is significantly lower. Secondly, the current assessment of the situation ("is") and the desired situation ("intended") are close in start-ups and differ in NGOs. That means that start-ups have a relatively low gap between the actual and the desired situation in the nine factors.

6 Conclusion

The following closing section summarizes the outcomes in a wider perspective and setting them in a context of change. The results of this research paper could contribute greatly to the benefit of groups considering the own perspective and the perspective of other team members. In sum, collaborative learning and evaluation via WeQ-test supports a change in level of consciousness (Schnitzler, 2019). The new and innovative framing of the WeQ-test changes how we think, act, and approach the individual as subjects, creating a more collaborative society in which latent potential can be activated and incorporated.

As shown by this study, collaboration and collaborative learning are fertile grounds for research.

Three main findings can be outlined from the evaluation of the WeQ-test: (1) Start-ups behave in a more collaborative way than NGOs and rather enfold processes of potential; (2) team members in NGO and start-ups assessed higher from a foreign perspective (“the perspective of other team members”) than from the internal point of view (“own perspective”);

and (3) the greatest challenge for all participants is the factor of social-emotional communication.

With the WeQ-study at hand, this research give a comprehensive look into visualizing collaboration as practiced in start-ups and the immediate surroundings of NGO's and startups. The WeQ-test aims to offer a new, innovative tool for enfolding potentials within teams.

Against a background of crisis and change, the concept of co-creativity stands to gain considerable attention. It is therefore advisable to focus on the latent potential and relationships with teams. In conclusion, co-creativity can play a key role in the future.

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Notes

1. Team members could be 'all employees' from a start-up or a NGO.
2. Concerning the number of participants within each company's team, in the group of start-ups, Nano-Join, two out of three employees; Mablo, three out of four employees; VGV eleven out of 15 employees; and RAAM, eight out of eight employees, took part. In comparison, in the group of NGOs, Wiener Familienbund, four out of 15 employees; Weltumspannend arbeiten, four out of four employees; Bank für Gemeinwohl, six out of ten employees; and KTP, 4 out of 5 employees answered the questionnaire.
3. In detail, the start-up companies from the social sector were Nano-Join, Mablo, VGV and RAAM. Participating NGOs from the education sector were Wiener Familienbund, Weltumspannend arbeiten, Bank für Gemeinwohl and KTP.
4. The numbers 1, 2, 3, etc. give some information to the thematic field. In detail, 1a, 2a, 2b, 3a, etc. are the 'propositions'. The participants could rank them on a scale from 1 to 6 (whereas 1 = "Proposition applies not at all" and 6 = "Proposition fully applies").
5. It is evident to consider the human brain's ability to reorganize its neuronal connectivity throughout lifetime (Hüther, 2014).

References

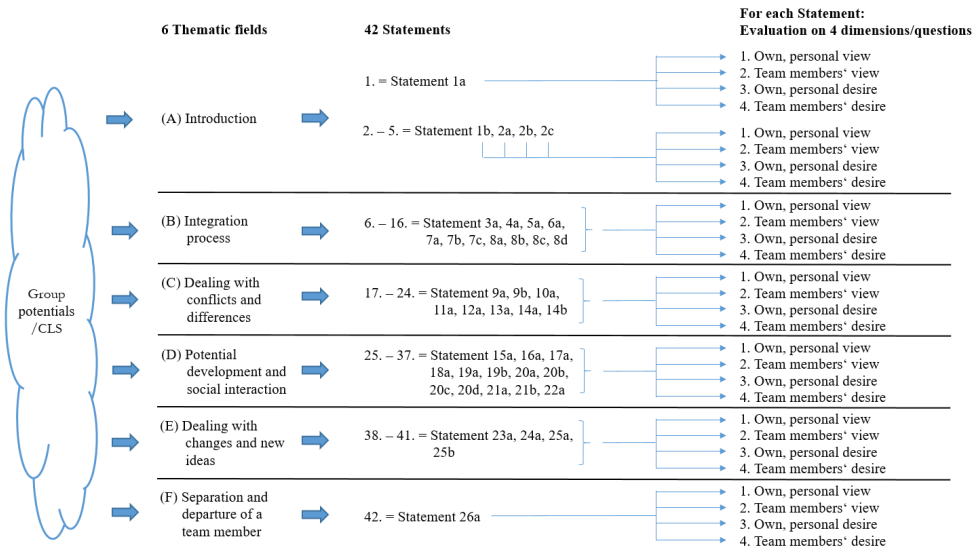
- Akhilesh, K.B. (2017) *Co-Creation and Learning: Concepts and Cases*, Springer India, New Delhi.
- Amponsah, K.D., Kotoka, J.K., Beccles, C. and Dlamini, S.N. (2018) 'Effectiveness of Collaboration on Low and High Achieving School Students' Comprehension of Electrochemistry in South Africa', *European Journal of STEM Education*, Vol. 3, No. 2, pp.1-15.
- Barth, M. (2015) *Implementing sustainability in higher education: learning in an age of Transformation*, Routledge, London.
- Biberhofer, P., Bockwoldt, L., Rieckmann, M. et al. (2016) *Joint CASE Report on Content and Methods for the Joint Master Program on Sustainability-driven Entrepreneurship*, Accessible at: <https://www.case-ka.eu/wp/wp-content/uploads/2018/03/D3.1-D4.1-Assessme-nt-Report-WPs-34.pdf> (accessed 14 March 2020).
- Biberhofer, P., Lindner, C., Bernhardt, J. and Rieckmann, M. (2018) 'Facilitating work performance of sustainability-driven entrepreneurs through higher education: The relevance of competencies, values, worldviews and opportunities', *The International Journal of Entrepreneurship and Innovation*, Vol. 20, No. 1, pp.21-38. <http://dx.doi.org/10.1177/1465750318755881>
- Brief, A.P. (2008) *Diversity at work*, Cambridge University Press, Cambridge.
- Buber, M. (2009) *Das Dialogische Prinzip*, Gütersloher Verlagshaus, Gütersloh.
- Chakravarty, A. (2010) 'The creative brain - revisiting concepts', *Med. Hypotheses*, Vol. 3, pp.606-12.
- Cincera, J., Biberhofer, P., Binka, B., Boman, J., Mindt, L. and Rieckmann (2018) 'Designing a sustainability-driven entrepreneurship curriculum as a social learning process: A case study from an international knowledge alliance project', *Journal of Cleaner Production*, Vol. 172, pp.4357-4366. <https://doi.org/10.1016/j.jclepro.2017.05.051>
- Cörvers R., Wiek, A., de Kraker, J., Lang, D.J. and Martens, P. (2016) 'Problem-Based and Project-Based Learning for Sustainable Development', in: H. Heinrichs, P. Martens, G. Michelsen and A. Wiek (Eds.), *Sustainability Science*, Springer, Dordrecht, pp. 349-358.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B. and Osher, D. (2019) 'Implications for educational practice of the science of learning and development', *Applied Developmental Science*, Vol. 1, pp.1-44.
- Decety, J. and Ickes, W. (2009) *Social neuroscience. The social neuroscience of empathy*, MIT Press, Cambridge, MA.
- Denzin, N.K. and Lincoln, Y. (2003) *The Landscape of Qualitative Research: Theories and Issues*. Sage, London.
- Dillenbourg, P., Baker, M., Blaye, A. and O'Malley, C. (1996) 'The evolution of research on collaborative learning', in: E. Spada and P. Reiman (Eds.), *Learning in humans and machine: Towards an interdisciplinary learning science*, Elsevier, Oxford, pp.189-211.
- Dillenbourg, P. (1999) 'What do you mean by collaborative learning?', in: P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and computational approaches*, Elsevier, Oxford, pp.1-19.
- Förstl, H. (2012) *Theory of Mind*, Springer, Berlin.
- Franz, H.-W., Hochgener, J. and Howaldt, J. (2012) *Challenge Social Innovation: Potentials for Business, Social Entrepreneurship, Welfare and Civil Society*, Springer, Berlin.
- Gruszka, K. (2016) 'Framing the Collaborative Economy', *Ecological Economic Papers*, Vol. 11, No. 2, pp.1-12. https://epub.wu.ac.at/4911/1/EcolEcon_WorkingPaper_2016-11.pdf

- Guarneros-Meza, V., Downe, J. and Martin, S. (2018) 'Defining, achieving, and evaluating collaborative outcomes: A theory of change approach', *Public Management Review*, Vol. 20, No. 10, pp.1562–1580. <https://doi.org/10.1080/14719037.2017.1383782>
- Hmelo-Silver, C.E. (2013) *The international handbook of collaborative learning*, Routledge, New York.
- Hrelja, R., Pettersson, F. and Westerdahl, S. (2016) 'The Qualities Needed for a Successful Collaboration: A Contribution to the Conceptual Understanding of Collaboration for Efficient Public Transport', *Sustainability*, Vol. 8, No. 6, p.542. <https://doi.org/10.3390/su8060542>
- Hüther, G. (2012) *Biologie der Angst, Wie aus Stress Gefühle werden*, Vandenhoeck and Ruprecht, Göttingen.
- Hüther, G. (2014) 'Lifelong plasticity of the human brain and its implications for the Prevention and Treatment of Mental Disorders', *Internationale Zeitschrift für Psychotherapie*, Vol. 2-3, No. 206-263, pp.108-125.
- Hüther, G. (2017) *Co-creativity and community*, Vandenhoeck and Ruprecht, Göttingen.
- Hüther, G., Müller, S.O. and Bauer, N. (2018) *Wie Träume wahr werden*, Goldmann, Munich.
- Klarsfeld, A., Ny, E.S., Booyens, L.A.E., Christiansen, L.C. and Kuvaas, B. (2016) *Research handbook of international and comparative perspectives on diversity management*, Edwar Elgar Publishing, Cheltenham, UK.
- Lai, E.R. (2011) *Collaboration: A Literature Review*, Pearson, New York.
- Larsen, P.W. (2017) 'Delineating partnerships from other forms of collaboration in regional development planning', *International Planning Studies*, Vol. 22, No. 3, pp.242–255. <https://doi.org/10.1080/13563475.2016.1253459>
- Levi, D. (2017) *Group dynamics for teams*, SAGE, Washington, DC.
- Levine, J.M. (2013) *Group processes*, Psychology Press, New York.
- Lewis, D.K. (1986) *On the Plurality of Worlds*, Blackwell, Oxford.
- Lukesch, B. and Petzold, H.G. (2011) *Lernen und Lehren in der Supervision – ein komplexes, kokreatives Geschehen*, Accessible at: https://www.fpi-publikation.de/downloads/?doc=supervision_lukesch-petzold-lernen_in_der_supervision-supervision-05-2011.pdf (accessed 02 January 2020)
- McMillan (2019) *McMillan dictionary*, Springer Nature Limited, London.
- Missimer, M. and Connell, T. (2012) 'Pedagogical approaches and design aspects to enable leadership for sustainable development', *Sustainability*, Vol. 5, No. 3, pp.172-181. doi: 10.1089/sus.2012.9961
- North, K. and Kumta, G. (2018) *Knowledge Management: Value Creation Through Organizational Learning*, Springer International Publishing, Cham.
- Phan, L.T., Rivera, E.T., Volker, M.A. and Garrett M.T. (2004) 'Measuring Group Dynamics: An Exploratory Trial', *Canadian Journal of Counselling*, Vol. 38, No. 4, pp. 234-245. <https://files.eric.ed.gov/fulltext/EJ719911.pdf>
- Redlich, T., Moritz, M. and Wulfsberg, J.P. (2019) *Co-Creation: Reshaping Business and Society in the Era of Bottom-up Economics*, Springer International Publishing, Cham.
- Richardson, C. and Mishra, P. (2018) 'Learning environments that support student creativity: Developing the SCALE', *Thinking Skills and Creativity*, Vol. 27, pp.45-54. doi: 10.1016/j.tsc.2017.11.004
- Riemer, K., Schellhammer, S. and Meinert, M. (2019) *Collaboration in the Digital Age: How Technology Enables Individuals, Teams and Businesses*, Springer International Publishing, Cham.
- Robinson, C.F., Doberneck, D.M., Kenney, P., Fear, F. and Sterner, G. (2005) *Through the looking glass: Our transformative experiences in wonderland*, Conference Paper, Columbia University, New York.

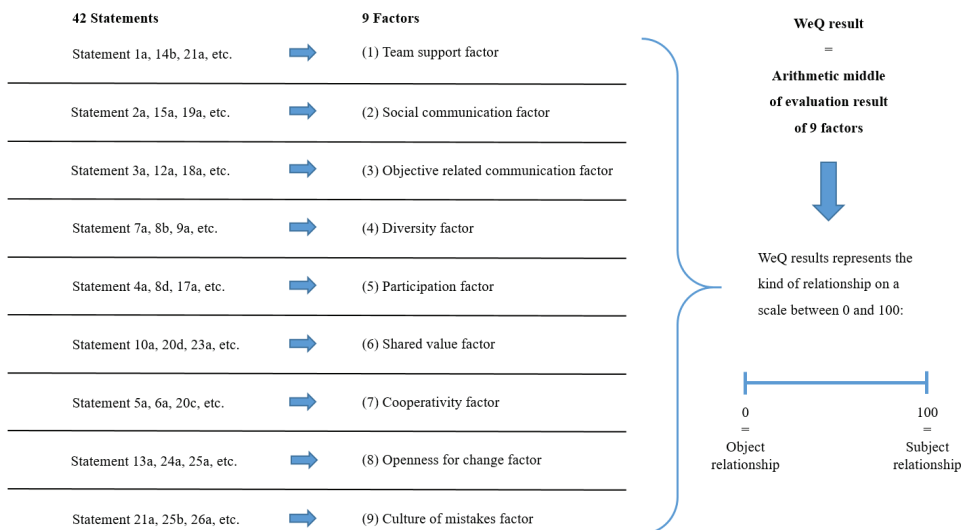
- Robinson, K. (2010) *In meinem Element. Wie wir von erfolgreichen Menschen lernen können, unser Potenzial zu entdecken*, Arkana, Munich.
- Salignac, F., Marjolin, A., Noone, J. and Carey, G. (2019) 'Measuring dynamic collaborations: Collaborative health assessment tool', *Australian Journal of Public Administration*, Vol. 78, No. 2, pp.227-249. <https://doi.org/10.1111/1467-8500.12386>
- Schapiro, S. (2009) 'Creating space for transformative learning', in: B. Fischer, K. D. Geller and S. Schapiro (Eds.), *Innovations in transformative learning*, Peter Lang. New York. pp.23-38.
- Schmid, B. (2014) *Systemische Organisationsentwicklung*, Schäffer-Poeschel Verlag, Stuttgart.
- Schnitzler, T. (2019) 'The Bridge Between Education for Sustainable Development and Transformative Learning: Towards New Collaborative Learning Spaces', *Journal of Education for Sustainable Development*, Vol. 13, No. 2, pp.242-253. <https://doi.org/10.1177/0973408219873827>
- Schuck-Zöllner, S., Cortekar, J. and Jacob, D. (2017) 'Evaluating co-creation of knowledge: from quality criteria and indicators to methods', *Advances in Sciences and Research*, Vol. 14, pp.305–312. <https://doi.org/10.5194/asr-14-305-2017>
- Sterling, S. (2011) 'Transformative learning and sustainability: sketching the conceptual ground', *Learning and higher education*, Vol. 5, pp.17-33.
- Stout, M., Bartels, K.P.R. and Love, J.M. (2018) 'Clarifying Collaborative Dynamics in Governance Networks', in: M. Stout (Ed.), *Critical Perspectives on International Public Sector Management*, pp. 91–115. <https://doi.org/10.1108/S2045-794420180000006005>
- Szabla, D.B., Pasmore, W.A., Barnes, M.A. and Gipson, A.N. (2018) *The Palgrave handbook of organizational change thinkers*, Palgrave Macmillan, Cham.
- Taylor, E.W. (2008) 'Transformative Learning Theory', *New directions for adult and continuing education*, No. 119, pp.5-15. doi: 10.1002/ace.301
- Vidyasagar, S. and Hatti, P. (2018) *Leadership and Role Modelling: Understanding Workplace Dynamics*, Springer International Publishing, Cham.
- Zima, P.V. (2010) *Theorie des Subjekts. Subjektivität und Identität zwischen Moderne und Postmoderne*, Francke, Tübingen und Basel.
- von Weizsäcker, E.-U. and Wijkman, A. (2018) *Come On! Capitalism, short-termism, population and the destruction of the planet*, Springer, New York.

Annexes

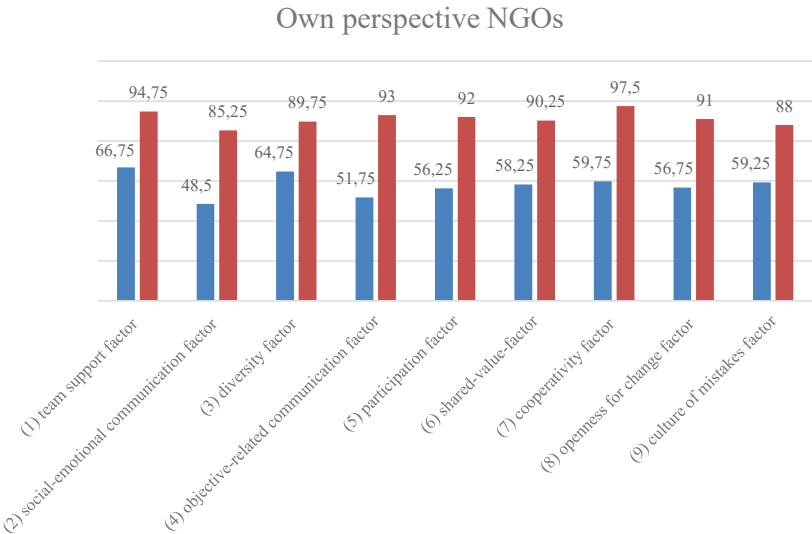
Annex I: Relation between thematic fields, statements and dimensions



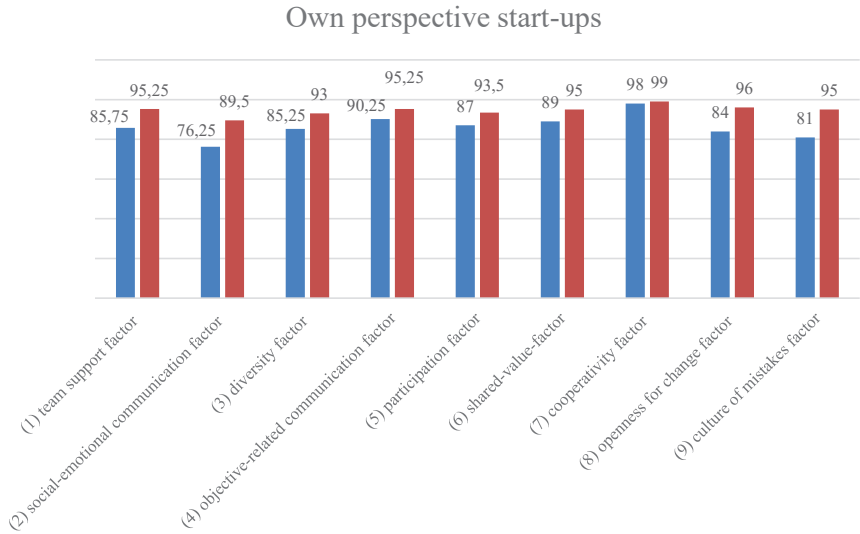
Annex II: Relation between statements, factors and WeQ outcome



Annex III: Own perspective of team members in NGOs (n=18)

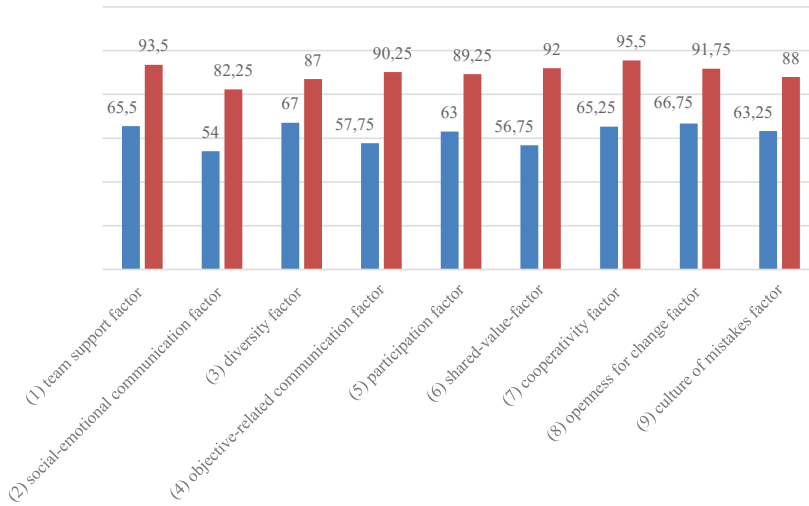


Annex IV: Own perspective of team members in start-ups (n=24)



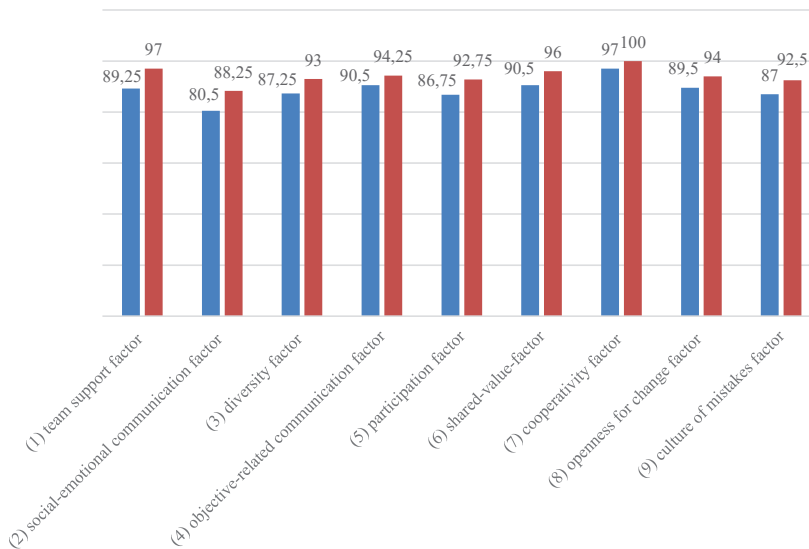
Annex V: The perspective of other team members in NGOs (n=18)

Perspective of other team members NGOs



Annex VI: The perspective of other team members in start-ups (n=24)

Perspective of other team members start-ups



El poder de la colaboración: Evaluación de una nueva e innovadora prueba WeQ

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Resumen

Las investigaciones recientes se han interesado cada vez más en el concepto de colaboración. Sin embargo, aun cuando la colaboración y el aprendizaje colaborativo tienen el propósito de transformar nuestra sociedad, sólo algunas herramientas y métodos han sido desarrolladas al respecto. Empíricamente, se introducirá una nueva e innovadora prueba llamada prueba WeQ. En detalle, esta prueba consta de 42 afirmaciones en el contexto de seis temas. La forma de las afirmaciones requiere intercalar entre la perspectiva propia y la de otros miembros del equipo. Un análisis en profundidad de esos factores individuales proporciona información sobre dónde pueden localizarse las fortalezas y problemas particulares de un grupo. Se diseñará un estudio empírico respecto al uso de la prueba WeQ en ONG y startups (empresas emergentes). Con los hallazgos obtenidos de esta investigación, el proyecto busca, de manera general, aclarar qué significa el aprendizaje en relación con la colaboración.

Palabras clave: *colaboración, aprendizaje colaborativo, prueba WeQ, start-ups.*

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Introducción

En el contexto de múltiples crisis y cambios, una serie de prácticas discutidas en el contexto de colaboración y aprendizaje colaborativo han recibido considerable atención (Akhilesh, 2017; Hmelo-Silver, 2013; Redlich et al., 2019; Riemer et al., 2019). Es evidente el centrarse en las relaciones y los potenciales dentro de los equipos (Levine, 2013; Vidyasagar & Hatti, 2018). Desde un retador punto de vista, al examinar las relaciones en las que las personas se ven y se tratan las unas a las otras como objetos incrementan porque permiten controlar más fácilmente los procesos educativos, laborales y administrativos (Hüther, 2017). Tarde o temprano, estos patrones relacionales formados históricamente, por ejemplo, entre supervisores y sus empleados, oficiales y sus soldados, y entre maestros y sus estudiantes, cambian por sí solos, una vez que se vuelven cada vez más problemáticos, insuficientes e inadecuados frente a los nuevos desarrollos sociales (Franz et al., 2012). Hoy en día, dada la creciente complejidad y las múltiples interdependencias e interconexiones del siglo XXI, los avances innovadores están cada vez más influenciados por la calidad de la interacción entre miembros de los equipos (Levi, 2017; Levine, 2013). El "coeficiente intelectual de un equipo" (es decir, el WeQ) proporciona información sobre la capacidad y la voluntad de los miembros del equipo⁴ para colaborar y co-crear. Como tal, el nuevo e innovador método WeQ implica un conjunto de afirmaciones⁵ que presentan el discurso de colaboración y aprendizaje colaborativo en cuestión (Hmelo-Silver, 2013).

⁴ Los miembros del equipo pueden ser 'todos los empleados' de una startup o una ONG.

⁵ El término 'afirmación' tiene un uso general en psicología social. Es utilizado para referirse a algunos de los siguientes contextos: los objetos de una creencia y otras "actitudes afirmativas" (es decir, lo que se cree o se duda), así como los referentes de ----- (Lewis, 1986).

Colaboración - El concepto

Según el Diccionario McMillan (2019), la colaboración se define como "el proceso de trabajar con alguien para producir algo". Salignac y otros (2019) recogen también algunas definiciones: "una estructura global que puede adoptar múltiples formas (Larsen, 2017); una etapa en un continuo de conexiones interorganizacionales (Hrelja, Pettersson, & Westerdahl, 2016); un acuerdo de trabajo intersectorial (Guarneros-Meza, Downe, & Martin, 2018); y un sistema relacional en el que las partes interesadas ponen en común recursos para alcanzar objetivos que no pueden cumplir por sí mismos (Stout, Bartels, & Love, 2018)". Sostienen que la colaboración hoy en día es algo intrínseco a las instituciones públicas o privadas y que ambas deben hacer esfuerzos para ser flexibles a la hora de colaborar y medir su "salud" al colaborar para hacerlo de forma eficiente

Por un largo tiempo, tanto académicos como no-académicos han usado enfoques de colaboración para enseñar y evaluar a las personas en distintos escenarios educativos (Dillenbourg, 1999; Franz et al., 2012; Hmelo-Silver, 2013). En los últimos años, los educadores y los responsables políticos, especialmente en el campo del cambio climático⁶, han identificado la capacidad de colaborar como un resultado importante por sí mismo y no como un mero medio para alcanzar un fin. En concreto, el uso de un lenguaje común es esencial para asegurar la colaboración. Por ejemplo, la colaboración ha sido de gran ayuda en la creación de una meta común dentro de un grupo. Roschelle y Teasley dan una definición más específica de la colaboración al aseverar que es un "compromiso mutuo de los participantes en un esfuerzo coordinado para resolver juntos un problema," (como ha sido citado en Dillenbourg et al., 1996, p. 2). Schnitzler (2019) menciona que es importante construir una atmósfera de colaboración,

⁶ Por ejemplo, la Conferencia de las Naciones Unidas sobre el Cambio Climático COP 25 (2 - 13 de diciembre de 2019) se celebró en Madrid bajo la Presidencia del Gobierno de Chile y fue organizada con el apoyo logístico del Gobierno de España.

lo cual significa tiempo suficiente para la colaboración, acción, reflexión e integración o para llevar a cabo un proceso de investigación impulsado por las necesidades, preguntas y objetivos de quienes aprenden.

Los propósitos de esta investigación son (i) explorar cómo los investigadores han definido la colaboración; (ii) aprender cómo los educadores pueden fomentar el desarrollo de habilidades de colaboración en sus estudiantes y empleados; y (iii) revisar las mejores prácticas en la evaluación de las habilidades de colaboración y presentar la prueba WeQ así como su evaluación. El aprendizaje colaborativo se define como "una situación en la cual dos o más personas aprenden o intentan aprender algo juntos" (Dillenbourg, 1999, p. 1) y en detalle como solución conjunta de problemas (Akhilesh, 2017). Roschelle y Teasley definen la colaboración más específicamente como "el compromiso mutuo de los participantes en un esfuerzo coordinado para resolver un problema juntos" (como es citado en Dillenbourg et al., 1996, p. 2). Además, Dillenbourg menciona la dificultad de concordar en una definición de aprendizaje colaborativo. La ambigüedad en el significado del aprendizaje colaborativo proviene de varias fuentes. Primero, la escala de las interacciones puede variar de dos a miles de personas, con diversas herramientas teóricas necesarias para analizar las interacciones que ocurren en diferentes niveles. En segundo lugar, la pregunta sobre lo que constituye el aprendizaje es una fuente de incertidumbre (Akhilesh, 2017). Como señala Dillenbourg (1999), los investigadores utilizan el término "aprendizaje" para referirse a las actividades, es decir, "aprender del trabajo colaborativo, lo cual se refiere a la adquisición de experticia a lo largo de toda la vida dentro de una comunidad profesional", por ejemplo, en las Organizaciones No Gubernamentales ONG (p. 4).

Por lo tanto, el aprendizaje colaborativo significa que los estudiantes o los empleados aprenden juntos. Lo que ocurre específicamente en esta situación -es decir, en la que los estudiantes o los empleados aprenden juntos de forma colaborativa en pequeños grupos- es que pueden compartir conocimientos y desarrollar sus propias habilidades (Levi, 2017). Adicionalmente, pueden cuestionar y discutir sus conocimientos, actitudes y creencias, de modo que se puedan maximizar los efectos del aprendizaje (Cörvers et al., 2016; Klarsfeld et al., 2016). Con este estímulo, el aprendizaje se percibe como un proceso más dinámico y motivador. Los miembros de los equipos "sintetizan, comunican y discuten ideas en formas que mejoran la comprensión conceptual" (Slavich & Zimbardo, 2012, p. 571). Por lo tanto, el aprendizaje colaborativo enfatiza el desarrollo de competencias como una actividad social. "Implica procesos de aprendizaje conjunto con la participación y la empatía como factores críticos" (Barth, 2015, p. 93). También es importante destacar la diferencia con aprendizaje cooperativo ya que en éste último quienes aprenden se dividen las tareas y trabajan en ellas por separado. La colaboración exitosa se basa en objetivos de aprendizaje compartidos y en la apreciación de diferentes opiniones o enfoques (Barth, 2015; Hmelo-Silver, 2013; Vidyasagar & Hatti, 2018). La nueva e innovadora prueba WeQ puede ser vista como una herramienta, cuando se trata de la evaluación de las habilidades de colaboración.

Diseño del estudio

El diseño del test WeQ representa un nexo práctico de colaboración, aprendizaje colaborativo y desarrollo de potencial. En cuanto al uso del test WeQ, se diseñó un estudio empírico que incluyó a cuatro ONGs y cuatro startups provenientes de una variedad de entornos de aprendizaje colaborativo (es decir, cuatro del sector social y cuatro del sector educativo).

Basándose en este enfoque, las startups del sector social fueron Nano-Join, Mablo, VGV y RAAM. Las ONG participantes del sector educativo fueron Wiener Familienbund, Weltumspannend arbeiten, Bank für Gemeinwohl y KTP. Se contactó e invitó a los directores ejecutivos con la solicitud de participar en una entrevista y posteriormente en una encuesta en línea. Un primer paso fue la conversación introductoria cara a cara (60 minutos) con el CEO. En un segundo paso, todos los empleados de la respectiva empresa fueron informados por el director ejecutivo sobre la encuesta WeQ en línea y fueron invitados a participar en el estudio. Se aseguró el anonimato de los participantes. En un tercer paso, después de la finalización del test WeQ, se ofreció a todos los empleados una conversación de supervisión cara a cara o en Skype (60min).

En este estudio, el papel del investigador fue bastante diferente. La investigación fue considerada como un instrumento de recolección de datos. Esto significa que la prueba de WeQ fue introducida y mediada por los investigadores. Para cumplir con este papel, los participantes del estudio necesitan saber sobre el instrumento y los campos temáticos. El investigador necesita describir los aspectos relevantes de sí mismo, incluyendo cualquier sesgo y suposiciones, cualquier expectativa y experiencias.

En cuanto al uso de la prueba WeQ, fue diseñado un estudio empírico, incluyendo Organizaciones no gubernamentales y empresas emergentes de diversas experiencias de aprendizaje en el sector social. En detalle, ocho empresas participantes en la encuesta WeQ en 2018: Las *start-up* fueron *Nano-Join*, *Mablo*, *VGV* y *RAAM*. Las organizaciones no gubernamentales participantes fueron *Wiener Familienbund*, *Weltumspannend arbeiten*, *Bank für Gemeinwohl* y *KTP*. Los miembros individuales de las respectivas unidades de negocio de

dichas empresas fueron informados por el supervisor sobre la encuesta WeQ y han sido invitados a participar en el estudio. A los participantes les fue garantizado anonimato.

El cuestionario como tal es un cuestionario cuantitativo, estandarizado y en línea. La prueba WeQ aplica muestreo intencional incluyendo usualmente de 2 a 11 participantes de un grupo y se desarrolla en 6 campos temáticos. Estos fueron reflejados en un conjunto final de 42 afirmaciones. Respecto a los tiempos de trabajo, los datos fueron recolectados de Abril a Noviembre 2018. En detalle, ocho empresas participaron en la encuesta de WeQ de abril a noviembre de 2018. Los grupos fueron muy heterogéneos en cuanto a edad, antigüedad en la empresa, idioma, antecedentes profesionales o ingresos. Es importante mencionar que la colaboración está influenciada por las relaciones. Con 42 afirmaciones alcanzadas⁷, el número final de participantes fue de casi 65.62 % de índice de respuesta.

Ha sido valioso el hecho de que todos los participantes se involucraron desde el principio y contribuyeron con mucha experiencia para responder a una serie de preguntas cerradas. Las preguntas cerradas tipo Likert se centraron en la evaluación de los 6 campos temáticos, (A) Introducción, (B) Proceso de integración, (C) Tratamiento de conflictos y diferencias, (D) Desarrollo potencial e interacción social, (E) Tratamiento de cambios y nuevas ideas, y (F) Separación y salida de un miembro. Finalmente, al final del test de coeficiente intelectual y en noviembre de 2018, se pidió a los encuestados que participaran en una conversación reflexiva a través de Skype. Específicamente, se les pidió que reflexionaran sobre lo que habían aprendido de su participación en el test de CI, sobre las formas particulares en que su participación había cambiado debido a esta experiencia y sobre lo que había sido nuevo para

⁷ En cuanto al número de participantes dentro del equipo de cada empresa, en el grupo de las Startups, participaron Nano-Join, dos de tres empleados; Mablo, tres de cuatro empleados; VGV once de 15 empleados; y RAAM, ocho de ocho empleados. En comparación, en el grupo de ONGs, Wiener Familienbund, cuatro de 15 empleados; Weltumspannend arbeiten, cuatro de cuatro empleados; Bank für Gemeinwohl, seis de diez empleados; y KTP, cuatro de cinco empleados respondieron al cuestionario..

ellos.

El objetivo del análisis presentado en la sección de análisis estadístico no es discutir cada iniciativa en detalle, sino más bien detectar patrones que puedan ayudar a entender una lógica global, vinculando el aprendizaje colaborativo en grupos y el desarrollo potencial.

Formular la colaboración y el aprendizaje colaborativo con el uso de la prueba WeQ

En este contexto, se llevó a cabo una prueba WeQ con participantes del área colaborativa en Berlín y Viena.⁸ Las siguientes secciones introducen una metodología WeQ en mayor detalle, cerrando con análisis estadísticos de los nueve factores identificados.

Aplicado con mayor frecuencia en sus disciplinas originales, es decir la psicología social, la prueba WeQ es un método mixto que enriquece las variedades de los análisis de interacción de equipos. Cada miembro de un grupo, pero también cada grupo en su conjunto, tiene un amplio abanico de posibilidades para su propio desarrollo. Este potencial ha sido creado en los miembros y en los espacios de aprendizaje, pero rara vez se ha materializado (Hüther, 2017). La calidad de un grupo está determinada por la medida en que logra manifestar los potenciales creados en sus miembros y en todo el grupo (Franz et al., 2012; Levine, 2013). En el curso de dicho proceso de desarrollo potencial, se conduce al desarrollo de habilidades y actitudes que aún no han sido desarrolladas. Los primeros potenciales ocultos se transforman en recursos muy tangibles, visibles y efectivos (Hüther, 2017; Schmid, 2014).

⁸ Tobias Schnitzler realizó las entrevistas en Viena. Conoce muy bien la escena colaborativa. Gerald Hüther y Tobias Schnitzler realizaron las entrevistas en Berlín. El Sr. Hüther tiene amplia experiencia con las empresas en Berlín. Tobias Schnitzler es doctorando y Gerald Hüther es uno de sus supervisores. Gerald Hüther y Klaus-Dieter Dohne trabajan juntos en la Academia para el Desarrollo Co-Creativo con sede en Göttingen. En concreto, las Startups del sector social fueron Nano-Join, Mablo, VGV y RAAM. Las ONG participantes del sector educativo fueron Wiener Familienbund, Weltumspannend arbeiten, Bank für Gemeinwohl y KTP.

La prueba WeQ se desarrolló para hacer visible la calidad de la colaboración de todos los miembros del equipo (Hüther, 2017; Levi, 2017). Se organizaron tres grupos piloto para probar la calidad de la herramienta de investigación en cuanto a su exhaustividad, legibilidad y equilibrio del contenido. Proporciona información sobre el grado en que se vinculan las competencias cognitivas, sociales y emocionales individuales de los miembros (Decety & Ickes, 2009; Förstl, 2012).

Adicionalmente, la operacionalización (WeQ) de las dinámicas y potenciales de grupo en una escala de 1 a 6 (donde 1 = "La propuesta no aplica en absoluto" y 6 = "La propuesta aplica plenamente") se desarrolló utilizando la literatura relacionada con dinámicas de grupo, en particular las percepciones de Hüther (2017) sobre la co-creatividad y la comunidad. La enseñanza y el aprendizaje, el aprendizaje mutuo así como el aprendizaje de intercambio, es decir, entre viejos y jóvenes, autónomos y profesionales, expertos interdisciplinarios se convierte entonces en un proceso de co-creatividad - un concepto genuinamente integrador iniciado por nosotros. Se creó un confluencia de todas las competencias y actuaciones de todos los que participan en el proceso (Hüther, 2017; Hüther et al., 2018; Lukesch & Petzold, 2011; Schuck-Zöller et al., 2017).

Como se ha señalado anteriormente, se identificaron seis campos temáticos a partir de una revisión bibliográfica exhaustiva de las dinámicas y potenciales de los grupos, a saber: (A) Introducción, (B) Proceso de integración, (C) Manejo de conflictos y diferencias, (D) Desarrollo potencial e interacción social, (E) Manejo de cambios e ideas nuevas, y (F) Separación y partida de un miembro (Hüther et al., 2018; Levi, 2017; North & Kumta, 2018).

Los seis campos consideran el complejo proceso de las dinámicas en grupos y cómo la interrelación de las experiencias humanas ocurre en un entorno grupal. Se extrajeron cuarenta y dos afirmaciones de varias medidas de dinámica de grupos, tal como se presentaron en varios estudios de investigación sobre dinámica de grupos y potencial de grupos (Akhilesh, 2017; Hüther, 2017; Hüther et al., 2018; Levi, 2017; North & Kumta, 2018; Schmid, 2014). Además, cada declaración está vinculada a un campo temático. Por ejemplo, la declaración 3a (“En mi equipo hay un interés general de aceptar las diferencias de opinión y considerarlas como una oportunidad de aprendizaje sobre distintas perspectivas.”) está vinculada al campo temático (B) Proceso de integración. En detalle, los seis campos temáticos se exponen con afirmaciones en la prueba WeQ que se presentan a continuación:

Afirmaciones en la prueba WeQ final (algunos ejemplos)⁹

A. Introducción

1. Cuando un nuevo miembro se une al equipo, hay varias maneras de vincular a un nuevo miembro en distintos equipos. Algunos equipos dan la bienvenida abierta y activamente a un nuevo miembro que requiera mucho tiempo y atención. Otros equipos son menos formales y dejan la interacción libre en manos del nuevo miembro y los ya existentes. Éstos son dos ejemplos de dos modos diferentes de dar la bienvenida a un nuevo integrante y éstos pueden determinar la integración del nuevo miembro al equipo.

1a. En mi equipo, la bienvenida de un nuevo miembro es definida activamente (por ejemplo, con rituales de bienvenida) y hay un consenso respecto a la gran cantidad de atención que esta sensible fase de integración requiere.

⁹ Los números 1,2,3, etc. dan algo de información sobre el campo temático. En concreto, 1a, 2a, 2b, 3a, etc. son las “afirmaciones”. Los participantes podían clasificarlas de una escala del 1 al 6 (donde 1= “Esta afirmación No aplica en lo absoluto” y “6= Esta afirmación aplica totalmente”).

2. La integración de un nuevo miembro en un equipo es una fase sensible y riesgosa tanto para los miembros ya existentes como para el nuevo integrante.

Por lo tanto, muchos equipos creen que esta fase de adaptación es importante y necesitan permitir a los miembros nuevos y previamente existentes el discutir abiertamente los posibles problemas y conflictos que pueden presentarse durante la fase de integración.

2a. Para evitar conflictos e incomodidades potenciales que pueden presentarse durante la fase de integración, los miembros “ya existentes” y los “nuevos” son informados desde el principio sobre el proceso y los posibles problemas y miedos que pueden presentarse durante el proceso de adaptación.

2b. Los nuevos miembros reciben información transparente sobre las reglas sociales y los roles en mi equipo, de una manera comprensiva, de modo a que no sufran desventajas.

B. Proceso de integración

3. Encontrar metas y un propósito común en un equipo puede ser alcanzado por todos los miembros de forma democrática y comprometida. En dicho equipo, cada contribución y opinión es bienvenida, incluso si no encaja con la opinión de la mayoría.

3a. En mi equipo hay un interés general de aceptar las diferencias de Opinión y considerarlas como una oportunidad de aprendizaje sobre distintas perspectivas.

[...]

C. Manejo de conflictos y diferencias

9. En todos los grupos sociales y equipos, los conflictos son parte de la vida diaria y es importante encontrar mecanismos de adaptación efectivos. Los miembros necesitan negociar entre ellos y llegar a un acuerdo con otras personas de distintos antecedentes y personalidades.

A mayor sea la variedad en los contextos de los miembros, en términos de personalidad, talentos y capacidades, mayor es la probabilidad de aparición de conflictos en el equipo. En los equipos heterogéneos, la viabilidad y desarrollo del equipo son metas importantes y resulta en un alto potencial de éxito de supervivencia. Estos equipos reconocen, respetan y utilizan las diferencias entre los individuos. Los participantes aceptan que las diferencias en perspectivas pueden incrementar el conflicto, pero deberían ser discutidas abiertamente y negociadas.

9a. En mi equipo, se reconoce que las discusiones abiertas pueden incrementar el conflicto. El foco está puesto en invertir el tiempo, la energía y los recursos necesarios en encontrar una solución y procesos de negociación viables.

[...]

D. Desarrollo potencial e interacción social

15. Con frecuencia, los miembros son cautelosos y se moderan en proporcionar a otros evaluaciones o retroalimentación sobre su comportamiento. Se les anima a los miembros a reflexionar cómo su comportamiento puede afectar a otros. Los miembros comprenden que las especulaciones pueden llevar a malos entendidos y crear dificultades en lidiar con el otro. Es difícil alcanzar un verdadero entendimiento de cómo su propio comportamiento es percibido por otros. Para un mayor desarrollo de las relaciones sociales, es importante reflexionar sobre el comportamiento propio, cómo puede ser percibido por otros y recibir retroalimentación en cómo regular sus comportamientos con la ayuda de otros

15a. Los miembros reciben sugerencias oportunas, directas y abiertas sobre su comportamiento y cómo pueden ser percibidos por otros para mejorar su relación social y trabajar bien con otros.

[...]

E. Manejo de cambios e ideas nuevas

23. Con frecuencia, las nuevas ideas cuestionan previos patrones de comportamientos y prácticas en un equipo. Esto requiere un alto grado de voluntad de los miembros del equipo para hacer ajustes en el equipo. Como las nuevas ideas y visiones pueden cuestionar creencias aceptadas previamente, pueden ser bloqueadas por otros miembros y consideradas como una amenaza. Esto puede causar que el equipo conserve por un largo tiempo las creencias viejas e inadecuadas así como las mismas estrategias.

23a. Los miembros se motivan el uno al otro y se solicitan el cuestionar las creencias e ideas ya existentes

[...]

F. Separación y partida de un miembro

26. Los equipos desarrollan distintas reglas para lidiar entre ellos y lidiar con “disruptores”. El comportamiento anómalo de individuos miembros puede ser apreciado como una contribución interesante al desarrollo del equipo.

Sin embargo, si no se puede llegar a un acuerdo de colaboración para un caso individual, es necesario asumir una separación y buscar la partida del miembro. Si la separación no es exitosa, puede crear conflictos, dificultades y evaluaciones peyorativas entre ellos lo que resulta en “heridas abiertas”. En algunos equipos, muchas relaciones se rompen por los conflictos y resulta en una separación de los miembros de equipo

26a. En mi equipo, la separación y partida de un miembro es bien manejada de modo a que no “abra heridas” y los conflictos permanezcan.

26b. La separación de un miembro de mi equipo comienza con conflictos, crea vergüenza y termina en el rompimiento de la relación.

[...]

Estos son algunos ejemplos de las 42 afirmaciones en la prueba WeQ. Tal como fue mencionado anteriormente, es importante destacar la relación entre las afirmaciones y las evaluaciones en cuatro dimensiones/ preguntas. Esta interacción entre dos perspectivas internas y dos perspectivas externas es particularmente estresante para un cerebro humano¹⁰ y exige una gran cantidad de energía mental (Förstl, 2012; Schmid, 2014). Ese es el núcleo de la prueba WeQ.

También es importante mencionar el concepto de cerebro creativo: "Tal vez la característica más esencial del cerebro creativo es su grado de conectividad, tanto interhemisférica como intra hemisférica. La conectividad correlaciona o une las funciones de dominios aparentemente aislados estructuralmente en módulos cerebrales que sirven a diferentes funciones. Se

¹⁰ Es evidente que hay que considerar la habilidad del cerebro humano para reorganizar su conectividad neuronal a lo largo de la vida (Hüther, 2014).

considera que la cognición creativa es un proceso de auto-recompensa en el que el pensamiento divergente promovería la conectividad a través del desarrollo de nuevas sinapsis. Además, el fenómeno de la sinestesia se ha observado a menudo en los artistas visuales creativos" (Chakravarty, 2010).

Los miembros del grupo completarán la prueba WeQ individualmente y de forma anónima. En cada caso, de acuerdo a la evaluación subjetiva del presente y el estado deseado de la colaboración en el grupo, habrá una serie de preguntas que se formularán al participante de la prueba para evaluar cada declaración en las siguientes cuatro dimensiones / preguntas:

1. ¿Cuál es tu evaluación personal? (es decir, tu opinión personal)
2. La manera en que consideras que los demás miembros del equipo responderían a esta pregunta. No hay una respuesta correcta o incorrecta, pero por favor responde: ¿Cómo piensas que los demás responderían esta pregunta? (es decir, la opinión de otras personas)
3. ¿Qué desearías para tu equipo? (es decir, tu deseo personal)
4. ¿Qué crees que otros miembros de tu equipo desearían? (es decir, deseos de los demás miembros)

Quienes responden deben proveer sus respuestas a cada una de las preguntas en una escala de 1 a 6 donde 1= "Esta declaración No aplica en lo absoluto" y "6= Esta declaración aplica totalmente"

1= no aplica en absoluto

6= aplica totalmente

	1	2	3	4	5	6
D. 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D. 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por ejemplo, en la declaración 1a. “En mi equipo, la bienvenida de un nuevo miembro es definida activamente (por ejemplo, con rituales de bienvenida) y hay un consenso respecto a la gran cantidad de atención que esta sensible fase de integración requiere”, cada participante debe responder cuatro preguntas. En detalle ¿Cuál es su evaluación personal sobre la declaración 1a? El resultado es más significativo cuando todos los miembros del grupo o equipo han completado la prueba.

La habilidad de aprender rápidamente, así como a un grupo o una organización, es un elemento importante del desarrollo (Akhilesh, 2017). Además, un ciclo de auto reflexión podría iniciarse a través de las perspectivas propias y las estrategias de éxito que están sucediendo (Vidyasagar & Hatti, 2018). Gradualmente, se forman experiencia y habilidades para lidiar con problemas (aún) irresolubles. El conocimiento y las habilidades adquiridas a través del desarrollo de este potencial son recursos disponibles tanto para la persona en cuestión como para el grupo (Levi, 2017). Sin embargo, si este EAC (“espacio de aprendizaje colaborativo”) no está disponible

para el desarrollo, se pierden potenciales importantes. Hay una regla básica: siempre y cuando los miembros de una comunidad se traten entre ellos como los objetos de la evaluación, expectativas, intenciones, transmisiones de pensamiento, metas, medidas y disposiciones, no es posible desarrollar el potencial creado en dichos miembros ni en el grupo en cuestión (Förstl, 2012; Hüther et al., 2018; Levi, 2017).

Adicionalmente, tan pronto los miembros de un grupo comienzan a verse como sujetos¹¹ para motivarse e inspirarse entre ellos, es inevitable la manifestación de los potenciales ocultos en estos miembros y en el grupo en cuestión. Cuando las personas se encuentran al mismo nivel, solo entonces pueden desarrollar una base viable y estable para el intercambio de valores compartidos. Por lo tanto, la medida en la que los miembros de un grupo pueden confrontarse entre ellos como individuos comprometidos, creativos y responsables de sí mismos, es crucial para la calidad del grupo en cuestión. Los autores llaman a este modo de lidiar entre personas, como “cultura de sujeto” en contraste con su opuesto, la “cultura de objeto”. La prueba WeQ fue desarrollada para hacer medible qué tan fuerte es un grupo cuando aún está en la cultura de objeto o qué tanto ha logrado desarrollar la cultura de sujeto requerida para manifestar los procesos de potencial (Hüther, 2012, 2017).

Actualmente, el potencial creativo que surge cuando las personas comparten sus experiencias únicas, su respectivo conocimiento y sus habilidades específicas dentro de un grupo y se unen en una fuerza común, sólo puede ser conjeturado (Brief, 2008; Hüther, 2017; Klarsfeld et al., 2016; Redlich et al., 2019). El propósito de mi investigación es explorar el potencial de una forma selectiva por medio de aplicar la prueba WeQ y mostrarla a través de proyectos de implementación práctica en espacios de conocimiento colaborativo. Dos o más personas

¹¹ Las siguientes son las características sostenibles del sujeto: (1) los pronombres personales, (2) el yo autorreferencial (3) la consciencia cognitiva individual (4) el sujeto responsable, y (5) la dignidad (Zima, 2010).

desarrollan a largo plazo un marco de trabajo interno que es muy similar en varios sentidos al del cerebro humano (Hüther, 2012). En función de las experiencias, el cerebro y las capacidades humanas crecen a lo largo del enfoque de todo el continuo del desarrollo y a lo largo del espectro del desarrollo (físico, cognitivo, afectivo) de forma interactiva. Es importante mencionar que lo que sucede en un dominio influye en lo que sucede en otros. En detalle, las emociones pueden desencadenar o bloquear el aprendizaje (Darling-Hammond et al., 2019).

De hecho, todos los grupos sin restricciones, interconectados y viables trabajan de la misma manera que cerebros ágiles y adaptables. Aprenden del ensayo y error, desarrollan estructuras altamente interconectadas, ganan experiencia y se adapta constantemente una organización innata (Riemer et al., 2019; Schmid, 2014). Para los grupos humanos, esto significa que de modo a manifestar los potenciales y evolucionar, dependen de la colaboración e intercambios con otros grupos (Levi, 2017). En la colaboración con el otro, la persona puede liberar potenciales de los cuales ella misma no es consciente y los cuales no puede manifestar por su propia cuenta. "*The dialogical principle*" de Martin Buber (2009) muestra vívidamente cómo somos, por ejemplo, nuestra única, irrefutable personalidad¹² es moldeada primeramente en el diálogo entre tú y yo. Su investigación confirma que la creatividad es también el resultado de un proceso de colaboración humana.

En cada grupo humano, hay algo que conserva a los miembros juntos, como un lazo interno. Debido a la expansión significativa de los rangos de actitudes en la educación basada en la colaboración, no sólo las habilidades cognitivas son desarrolladas de manera significativamente superior, ya que en un ambiente cuyo enfoque de aprendizaje es en equipo, las experiencias de aprendizaje y cualidades de los miembros del equipo son mucho mejores

¹² El enfoque del autor sobre la personalidad está fuertemente relacionado con la teoría interpersonal de Buber. El propósito es mostrar que las relaciones interpersonales son valiosas para la teoría de categorización de personalidad.

para sus propias curvas de aprendizaje, a diferencia de un aprendizaje competitivo y unilateral. Las We-qualities (“cualidades conjuntas”) como el sentido de responsabilidad, el compromiso o el diseño cooperativo, requieren una referencia vida-práctica significativamente más fuerte. El aprendizaje experiencial y relacionado con la vida fortalece la experiencia de eficacia personal, el entusiasmo por aprendizajes para toda la vida así como la usabilidad personal y social de todo lo aprendido (Hüther, 2012, 2017).

Un coeficiente intelectual da información sobre las habilidades cognitivas individuales. Esto fue desarrollado y diseminado en el siglo 20, cuando los desarrollos económicos, sociales y culturales se determinaban principalmente por los logros creativos y analíticos individuales. Hoy, nos enfrentamos a retos, complejidad y las múltiples interdependencias del siglo XXI. Los desarrollos innovadores están cada vez más determinados por la calidad de la colaboración en los grupos. El “coeficiente de inteligencia de un grupo” (WeQ) provee información sobre la habilidad y voluntad de un grupo para colaborar. El propósito de esta prueba es ayudarlos a crecer como equipo y hacer más prósperos y sostenibles en el futuro los potenciales de cada miembro y del grupo. (Hüther et al., 2018, p. 239).

Las 42 afirmaciones son descriptivas y son evaluadas con una escala similar en cuatro dimensiones / preguntas. Hüther et al. (2018) operacionaliza estas afirmaciones en nueve factores y logra un resultado de WeQ para cada factor The (1) Factor de apoyo de equipo, captura cuán posible es integrar a un nuevo miembro en un sistema social ya existente sin alterar indebidamente el orden existente. Los nuevos integrantes deberían ser aceptados de forma benévola y estable. (Levi, 2017; Taylor 2008; von Weizsäcker & Wijkman, 2018). El factor (2) social-emocional retrata en detalle, si se trata de una evaluación social-emocional positiva y calmada de los niveles del cerebro o si la comunicación y la coexistencia están

determinadas por la molestia, el miedo y la desorientación (Decety & Ickes, 2009; Hüther, 2012; Taylor, 2008). El factor (3) de comunicación relacionado con el objetivo, describe en qué medida todos los miembros reciben la información relevante y necesaria para una buena participación en las labores del grupo. Adicionalmente, este factor captura el grado de tolerancia dado a las creencias y opiniones discrepantes Hüther et al., 2018, p. 246; Taylor, 2008). Al lidiar con el factor (4) diversidad, cada grupo cuenta con distintas personalidades, competencias, experiencias, conocimiento, y valores culturales de sus miembros (Brief, 2008; Klarsfeld et al., 2016; Sterling, 2011). El factor (5) de participación provee información sobre la medida en que los individuos miembros de un grupo se sienten invitados o motivados a expresar sus creencias personales, opiniones e intereses, y a buscar acuerdos y soluciones a través de un diálogo abierto y constructivo con otros miembros (Barth, 2015; Missimer & Connell, 2012; Sterling, 2011). Por otra parte, el factor (6) de valor compartido, hace posible estimar qué tanto tu grupo ha logrado definir un propósito común, así como una meta y una visión compartida (Hüther et al., 2018; North & Kumta, 2018). El factor (7) cooperativo refleja el grado de colaboración de los miembros en un grupo. Cada grupo se nutre de la apertura y el poner nuevas ideas a prueba (Missimer & Connell, 2012; Schapiro, 2009; Schnitzler, 2019).

Adicionalmente, el de apertura (8) al cambio también incluye la voluntad de cuestionar viejas convicciones, valores y actitudes (Robinson et al., 2005; Szabla et al., 2018). El factor (9) de cultura del error, aclara si los errores son verdaderamente asumidos como un reto para el grupo o si los errores ocurridos son más propensos a ser atribuidos a individuos o algunos miembros (Hüther, 2017; Richardson & Mishra, 2018, Schnitzler, 2019).

Un análisis a profundidad de estos factores individuales provee información sobre dónde pueden encontrarse las fortalezas y problemas particulares de un grupo. Por ejemplo, el

resultado WeQ en el factor 4 puede ser muy fuerte y el resultado WeQ del factor 8 muy débil. En suma, el resultado WeQ significa el promedio de la evaluación de los 9 factores. El resultado WeQ representa el tipo de relación en un escala del 0 al 100. Este modo de lidiar el uno con el otro es definido como una “relación sujeto” (definida como 100) y contrasta con su opuesto, la “relación objeto” (definida como 0) (Hüther, 2017; Hüther et al., 2018; Levi, 2017).

Análisis estadístico

El elemento principal de la prueba, el llamado resultado WeQ, es un enlace directo con la colaboración potencial dentro de un equipo, por ejemplo, un resultado WeQ alto indica una alta colaboración dentro del equipo y es la evidencia de una cultura de sujeto. Por otro lado, un resultado WeQ bajo indica una colaboración baja dentro del equipo y sugiere una cultura de objeto.

Comparando los resultados, se hace claro que Mablo tiene el resultado WeQ más alto con 97, seguido de VGV con un resultado WeQ de 94 y KTP (resultado WeQ de 86). Por otra parte, Weltumspannend arbeiten muestra el resultado WeQ más bajo con 46, seguido de Bank für Gemeinwohl (valor WeQ: 51) y Wiener Familienbund (valor WeQ: 50). Los factores, por lo tanto, muestran un rango de resultados WeQ de 46 a 97. Comparando los dos sub-grupos, se hace claro que 58.25 es el promedio de la prueba WeQ para organizaciones no gubernamentales, comparada con un promedio de 86.5 para start-ups. Como resultado, la colaboración en las ONG es relativamente baja y la colaboración en las start-ups es relativamente alta. Esto muestra una distinción en cómo los miembros de equipos colaboran entre ellos y qué tipo de cultura empresarial se desarrolla actualmente (cultura de objeto vs. cultura de sujeto).

Además, el punto de vista interno (“perspectiva propia”) de los miembros del equipo fue analizada. Esto fue definido en el cuestionario con la pregunta de evaluación personal (“¿Qué tanto aplica esto en tu equipo desde tu punto de vista personal?”). La evaluación actual de la situación (“es”) y la situación deseada (“proyectada”) son presentadas en los nueve factores. Adicionalmente, las consideraciones individuales de los factores muestra dónde están las fortalezas particulares y también los mejores campos de acción. A mayor sea un valor, más se experimenta una cultura de sujeto, para este factor. Los factores con los valores más bajos en el rango “es” pueden ser en los que un cambio es más sencillo de implementar y llevaría a notorios cambios positivos de forma más rápida.

El reto de las ONG es el factor (2) llamado comunicación social- emocional. Problemas actuales en la comunicación social- emocional se hacen visibles (afirmaciones 19b y 21a) en ONGs. Los temas cargados de conflictos sociales y emocionales son difíciles de articular y de resolver. De hecho, este es un tema principal que debe ser atendido por ONGs. Además, la diferencia más sobresaliente entre el “es” y el “proyectado” es el factor (3), el factor de comunicación relacionada con objetivos. El mejor resultado fue logrado en (1) el factor de apoyo del equipo. Los miembros de equipos de las ONGs se perciben bien a sí mismos en el proceso de integración de nuevos miembros en un sistema social ya existente sin alterar indebidamente el orden existente. Los nuevos integrantes fueron aceptados de forma benévola y estable. En definitiva, el deseo por cambio como un conjunto, y en todas las áreas es significativamente fuerte.

El reto para las startups es también el factor (2) llamado comunicación social-emocional. Otros retos son los factores (9) el factor de cultura del error y el factor (8) apertura al cambio. En una comparación directa entre startups y ONGs, es importante señalar que los resultados de los

nueve factores son significativamente más altos en las startups que en las ONGs. Desde un punto de vista colaborativo, las startups se comportan dentro de una cultura de sujeto y colaboran en mayor proporción entre ellos.

En un siguiente paso, se analiza la perspectiva externa (“la perspectiva de los otros miembros”). A los miembros de los equipos de las ONG se les preguntó en el cuestionario “¿En qué grado consideran los demás miembros que esta declaración aplica para el equipo?” y “¿Qué tanto crees que a los demás miembros les gustaría que esta declaración aplicara al equipo?”. Esto se basó en cómo otros miembros tienden a calificar lo que está pasando en el equipo. Las mayores variaciones de los resultados desde una perspectiva individual sugieren que cada miembro del equipo atribuye al otro una visión distinta, tal vez distorsionada de lo que ocurre en el equipo.

Los retos de las ONGs desde la perspectiva de otros miembros del equipo son el factor (2) la comunicación social-emocional, el factor (6) de valor compartido y el factor (3) de comunicación relacionada con objetivos. Es interesante señalar que los resultados de la perspectiva de otros miembros del equipo son mayores que en la perspectiva propia. En detalle, es el factor (1), de soporte de equipo el más bajo en la perspectiva de otros miembros del equipo (65.5) que en la perspectiva propia para ONGs (66.75). En términos de los nueve factores, la diferencia entre el deseado (“proyectado”) y la realidad (“es”) es significativo. En definitiva, el deseo por un cambio integral y en todas las áreas es particularmente fuerte.

El reto de las startups desde la perspectiva de otros miembros del equipo es también el factor (2) la comunicación social-emocional. Otros retos son el factor (5) la participación y el factor (9) la cultura del error.

Es interesante comparar los resultados de cuatro ONGs y cuatro startups. El cambio entre la perspectiva propia y la perspectiva de otros miembros del equipo fue evidente. De nuevo, comparando startups y ONGs desde una perspectiva externa, es importante señalar que los resultados de los nueve factores son significativamente más altos en las startups que en las ONGs. Así mismo, desde un punto de vista colaborativo, las startups se comportan más dentro de una cultura de sujeto y colaboran entre ellos. En definitiva, la perspectiva propia difiere de la perspectiva de otros miembros del equipo: es significativamente más baja. Segundo, la evaluación actual de la situación (“es”) y la deseada (“proyectado”) son cercanas entre las startups y difieren en las ONGs. Eso significa que las startups tienen una diferencia menor entre la situación actual y la deseada en los nueve factores.

Resumen

La siguiente sección de cierre resume los resultados en una perspectiva más amplia y ubicándolos en un contexto de cambio. Los hallazgos de esta investigación aportarán en beneficio de los grupos considerando la perspectiva propia y la perspectiva de otros miembros. En definitiva, el aprendizaje colaborativo y la evaluación de una prueba WeQ soportan un cambio desde “aprender cómo comprender” hacia “aprender cómo actuar y transformar”. El nuevo e innovador marco de esta prueba WeQ es el cambio en el que pensamos y sobre el cual actuamos, así como cómo nos acercamos al individuo como un sujeto, transformando la sociedad hacia mayor colaboración y aprendizaje colaborativo así como descubrir potenciales ocultos.

En el estudio, la colaboración y el aprendizaje colaborativo tienen un suelo de investigación fértil. En detalle, tan pronto los miembros de un grupo comienzan a verse como sujetos, para

invitarse, motivarse e inspirarse entre ellos, es inevitable la manifestación de los potenciales ocultos en estos miembros y en el grupo en cuestión. Si las personas se encuentran al mismo nivel, pueden desarrollar una base viable y estable para el aprendizaje colaborativo en un intercambio conjunto.

Tres descubrimientos importantes pueden ser destacados de esta evaluación de la prueba WeQ:

(1) Las Startups se comportan de manera más colaborativa que las ONGs y así mismo manifiestan procesos de potencial. (2) miembros de equipos en las ONGs y startups evalúan de forma más alta desde una perspectiva externa (“la perspectiva de otros miembros”) que desde un puesto de vista interno (“perspectiva propia”) y (3) el reto principal de todos los participantes es la comunicación social-emocional. Esto significa, en detalle, que ya sea que -- -- resulte en la -- positive calming --- de la evaluación social-emocional de los niveles del cerebro, o ya sea molestia, la molestia, el miedo y la desorientación los que determinen la coexistencia y la comunicación .

Con el estudio WeQ en mente, este trabajo ofrece una visión exploratoria para la conceptualización de la colaboración practicada en las startups, ONGs y sus entornos inmediatos. La finalidad del análisis presentado en la sección de análisis estadístico no es la de discutir cada iniciativa con minucioso detalle, sino la de detectar patrones que puedan ayudar a comprender una lógica general, conectado aprendizaje colaborativo en grupos con el desarrollo potencial. En su lugar, pretende ofrecer una herramienta nueva e innovadora para manifestar los potenciales en los equipos.

Finalmente, en términos de lecciones aprendidas y recomendaciones para futuras investigaciones, necesitamos asumir mayor sensibilidad hacia el contexto, así como técnicas

exploratorias para lo que es percibido como co-creatividad. En el contexto de múltiples crisis y cambios, un concepto de co-creatividad más profundo podría recibir considerable atención. Es valioso y recomendable concentrarse en las relaciones y potenciales dentro de los equipos. Por lo tanto, la co-creatividad podría jugar un rol clave en el futuro.

Referencias

- Akhilesh, K. B. (2017). *Co-Creation and Learning: Concepts and Cases*. New Delhi: Springer India.
- Barth, M. (2015). *Implementing sustainability in higher education: learning in an age of transformation*. London, UK: Routledge.
- Brief, A. P. (2008). *Diversity at work*. Cambridge, UK: Cambridge University Press.
- Buber, M. (2009). *Das Dialogische Prinzip*. Gütersloh: Gütersloher Verlagshaus.
- Chakravarty, A. (2010). The creative brain - revisiting concepts, *Med. Hypotheses*, 3, 606-12.
- Cörvers R., Wiek, A., de Kraker, J., Lang, D. J. & Martens, P. (2016). Problem-Based and Project-Based Learning for Sustainable Development. In H. Heinrichs, P. Martens, G. Michelsen & A. Wiek (Eds.), *Sustainability Science* (pp. 349-358). Dordrecht: Springer.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B. & Osher, D. (2019). Implications for educational practice of the science of learning and development, *Applied Developmental Science*, 1, 1-44.
<https://doi.org/10.1080/10888691.2018.1537791>
- Decety, J. & Ickes, W. (2009). *Social neuroscience. The social neuroscience of empathy*. Cambridge, MA: MIT Press.

- Dillenbourg, P., Baker, M., Blaye, A., & O'Malley, C. (1996). The evolution of research on collaborative learning. In E. Spada & P. Reiman (Eds.), *Learning in humans and machine: Towards an interdisciplinary learning science* (pp. 189-211). Oxford, UK: Elsevier.
- Dillenbourg, P. (1999). What do you mean by collaborative learning? In P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and computational approaches* (pp. 1-19). Oxford, UK: Elsevier.
- Förstl, H. (2012). *Theory of Mind*. Berlin: Springer.
- Franz, H.-W., Hochgerner, J. & Howaldt, J. (2012). *Challenge Social Innovation: Potentials for Business, Social Entrepreneurship, Welfare and Civil Society*. Berlin: Springer.
- Guarneros-Meza, V., Downe, J., & Martin, S. (2018). Defining, achieving, and evaluating collaborative outcomes: A theory of change approach, *Public Management Review*, 20(10), 1562–1580. <https://doi.org/10.1080/14719037.2017.1383782>
- Hmelo-Silver, C. E. (2013). *The international handbook of collaborative learning*. New York, NY: Routledge.
- Hrelja, R., Pettersson, F., & Westerdahl, S. (2016). The Qualities Needed for a Successful Collaboration: A Contribution to the Conceptual Understanding of Collaboration for Efficient Public Transport, *Sustainability*, 8(6), 542. <https://doi.org/10.3390/su8060542>
- Hüther, G. (2012). *Biologie der Angst, Wie aus Stress Gefühle werden*. Göttingen: Vandenhoeck & Ruprecht.
- Hüther, G. (2014). Lifelong plasticity of the human brain and its implications for the Prevention and Treatment of Mental Disorders, *Internationale Zeitschrift für Psychotherapie*, 2-3, 206-263, 108-125.
- Hüther, G. (2017). *Co-creativity and community*. Göttingen: Vandenhoeck & Ruprecht.

- Hüther, G., Müller, S. O. & Bauer, N. (2018). *Wie Träume wahr werden*. München: Goldmann.
- Klarsfeld, A., Ny, E. S., Booyen, L. A. E., Christiansen, L. C., Kuvaas, B. (2016). *Research handbook of international and comparative perspectives on diversity management*. Cheltenham, UK: Edwar Elgar Publishing.
- Larsen, P. W. (2017). Delineating partnerships from other forms of collaboration in regional development planning, *International Planning Studies*, 22(3), 242–255.
<https://doi.org/10.1080/13563475.2016.1253459>
- Levi, D. (2017). *Group dynamics for teams*. Washington, DC: SAGE.
- Levine, J. M. (2013). *Group processes*. New York, NY: Psychology Press.
- Lewis, David K. (1986). *On the Plurality of Worlds*. Oxford, UK: Blackwell.
- Lukesch, B. & Petzold, H. G. (2011). Lernen und Lehren in der Supervision – ein komplexes, kokreatives Geschehen, https://www.fpi-publikation.de/downloads/?doc=supervision_lukesch-petzold-lernen_in_der_supervision-supervision-05-2011.pdf
- McMillan (2019). *McMillan dictionary*. London, UK: Springer Nature Limited.
- Missimer, M. & Connell, T. (2012). Pedagogical approaches and design aspects to enable leadership for sustainable development. *Sustainability*, 5(3), 172-181. doi: 10.1089/sus.2012.9961
- North, K. & Kumta, G. (2018). *Knowledge Management: Value Creation Through Organizational Learning*. Cham: Springer International Publishing.
- Redlich, T., Moritz, M. & Wulfsberg, J. P. (2019). *Co-Creation: Reshaping Business and Society in the Era of Bottom-up Economics*. Cham: Springer International Publishing.

- Richardson, C. & Mishra, P. (2018). Learning environments that support student creativity: Developing the SCALE. *Thinking Skills and Creativity*, 27, 45-54. doi: 10.1016/j.tsc.2017.11.004
- Riemer, K., Schellhammer, S. & Meinert, M. (2019). *Collaboration in the Digital Age: How Technology Enables Individuals, Teams and Businesses*. Cham: Springer International Publishing.
- Robinson, C. F., Doberneck, D. M., Kenney, P., Fear, F. & Sterner, G. (2005). *Through the looking glass: Our transformative experiences in wonderland*. New York, NY: Columbia University.
- Robinson, K. (2010). *In meinem Element. Wie wir von erfolgreichen Menschen lernen können, unser Potenzial zu entdecken*. München: Arkana.
- Salignac, F., Marjolin, A., Noone, J., & Carey, G. (2019). Measuring dynamic collaborations: Collaborative health assessment tool, *Australian Journal of Public Administration*, 78(2), 227-249. <https://doi.org/10.1111/1467-8500.12386>
- Schapiro, S. (2009). Creating space for transformative learning. In B. Fischer, K. D. Geller & S. Schapiro (Eds.), *Innovations in transformative learning* (pp.23-38). New York, NY: Peter Lang.
- Schmid, B. (2014). *Systemische Organisationsentwicklung*. Stuttgart: Schäffer-Poeschel Verlag.
- Schnitzler, T. (2019). The Bridge Between Education for Sustainable Development and Transformative Learning: Towards New Collaborative Learning Spaces, *Journal of Education for Sustainable Development*, 1-12. <https://doi.org/10.1177/0973408219873827>

- Schuck-Zöllner, S., Cortekar, J., & Jacob, D. (2017). Evaluating co-creation of knowledge: from quality criteria and indicators to methods, *Advances in Sciences and Research*, 14, 305–312. <https://doi.org/10.5194/asr-14-305-2017>
- Slavich, G. M., & Zimbardo, P. G. (2012). Transformational Teaching: Theoretical Underpinnings, Basic Principles, and Core Methods. *Educational Psychology Review*, 24(4), 569-608. doi: 10.1007/s10648-012-9199-6
- Sterling, S. (2011). Transformative learning and sustainability: sketching the conceptual ground. *Learning and higher education*, 5, 17-33.
- Stout, M., Bartels, K. P. R., & Love, J. M. (2018). Clarifying Collaborative Dynamics in Governance Networks. In M. Stout (Ed.), *Critical Perspectives on International Public Sector Management* (pp. 91–115). <https://doi.org/10.1108/S2045-794420180000006005>
- Szabla, D. B., Pasmore, W. A., Barnes, M. A. & Gipson, A. N. (2018). *The Palgrave handbook of organizational change thinkers*. Cham: Palgrave Macmillan.
- Taylor, E W 2008, 'Transformative Learning Theory', *New directions for adult and continuing education*, no. 119, pp. 5-15. doi: 10.1002/ace.301
- Vidyasagar, S. & Hatti, P. (2018). *Leadership and Role Modelling: Understanding Workplace Dynamics*. Cham: Springer International Publishing.
- Zima, P. V. (2010). *Theorie des Subjekts. Subjektivität und Identität zwischen Moderne und Postmoderne*. Tübingen und Basel: Francke.
- von Weizsäcker, E.-U. & Wijkman, A. (2018). *Come On! Capitalism, short-termism, population and the destruction of the planet*. New York, NY: Springer.

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Paper 3: Achieving Sustainable Partnership in the United Nations in the Framework of the Sustainable Development Goals

Achieving Sustainable Partnership in the United Nations in the Framework of the Sustainable Development Goals

Abstract

Since 2015, the 2030 Agenda and its Sustainable Development Goals (SDGs) introduced a way to conduct international affairs on achieving global peace and prosperity. Despite the high interconnectedness of the SDGs, which links mandates and activities of different United Nations' (UN) agencies, making a strong case for enhanced inter-agency cooperation, only few studies provide input on this issue. The research at hand closes this gap by studying literature on cooperation, collaboration and partnerships and considering recent UN policy and reform documents. Empirically, a thematic analysis of guided interviews (N = 12) and an online survey (N = 17) were conducted. Results indicated, that the impact of the SDGs on cooperation was low, although representing a great visual tool. As success factors of inter-agency cooperation, communications, partners and resources were identified, restricted by lack of funding, personnel and clear strategies. By doing so, the research project seeks to contribute to a broader scientific discussion in achieving sustainable partnerships in the UN.

Keywords: Cooperation; collaboration; partnership; working together; United Nations; inter-agency cooperation; Sustainable Development Goals.

1 Introduction

In recent years, the 2030 Agenda for Sustainable Development was introduced and the 17 Sustainable Development Goals (SDGs) were adopted in Resolution A/70/1 (D’Odorico et al., 2018; United Nations General Assembly, 2015). They serve as benchmarks for the Member States of the United Nations (UN) to achieve sustainability for the people and the planet by 2030, with the pledge to leave no one behind. The SDGs are strongly interrelated; to achieve a specific goal, interaction with other goals is highly desired, often necessary. This interaction also allows efforts on one goal to contribute to other goals (UNODC Guidance Note, 2018). In the framework of the recent multiple crises, such as climate change, the refugee crisis, biodiversity extinction; humanity faces the greatest challenges of its time (von Weizsäcker and Wijkman, 2018). Working with like-minded partners in a global partnership for sustainable development through cooperation, collaboration and partnerships is needed (United Nations General Assembly, 2015; UNODC, Guidance Note, 2018) and might have never before been more important for the UN. In fact, the role of sustainable cooperation is an imperative prerequisite for achieving the SDGs, confirming the view that cooperation among UN organisations catalyses in coping with complex transnational issues. Nevertheless, scholars like Biermann (2015), Biermann et al. (2007) and Hüther (2017) state that there is a general lack of cooperation which is not new and is not only present in the UN system, but it is a global governance problem; it is becoming more visible since the number of international organisations has significantly increased and their missions overlap. Currently, the SDGs are greatly supportive as a toolkit for agencies and national governments to have a goal at the end of the path (Nature Sustainability, 2018). Moreover, the necessity of common action is widely emphasised. However, when it comes to the UN agencies, are they fully benefiting from their wealth of knowledge and expertise? What needs to be done to increase cooperation?

Facing the above-mentioned challenges, we have developed the following research questions (RQ):

RQ 1: Which factors, practices and innovative approaches are supportive of inter-agency cooperation and which of them tend to be restrictive?

RQ 2: How did the introduction of the SDGs affect the inter-agency cooperation within UN agencies?

To answer these questions and others related to it, this research paper focuses on the challenges of inter-agency cooperation within the UN agencies in the framework of the SDGs. In the interest of readability, the term “UN agency” is used in this paper for specialised UN agencies as well as UN funds, programmes, organisations and departments of the UN Secretariat. Our work underlines the importance of creating cooperation mechanisms among UN organisations. The key aspect is not just what forms cooperation and partnerships. It is also important to question what leads individuals to participate actively in projects and processes (Schnitzler, 2019). Therefore, the authors believe there is a need for identifying the factors that make cooperation effective.

2 Theoretical Framework and literature review

The following theoretical framework provides a background research on cooperation, collaboration and partnership through the years and gives us perspectives on how it has evolved and by which common base those concepts are unified. Additionally, we have included a literature review on recent UN resolutions, reports and reforms which aim to improve cooperation among UN agencies at the country and regional level.

2.1 Cooperation

In the context of the human behaviours in a work situation, the term cooperation could be linked with a strong relationships between people (Chiocchio et al., 2012; West et al., 2003). Moreover, cooperation becomes a result of collaboration (Chiocchio et al., 2012). When cooperating people believe their goals are positively related; therefore, the results in the relationships are characterised by positive regard, openness, and productivity. However, when they perceive their goals as competitive, they conclude that they are better off when others act ineffectively. The result will be restricted information and resource exchange. When it comes to cooperation among organisations, other factors are also included. One attempt to measure levels of cooperation could be classified and defined as follows:

“Cooperation is strong when partners engage in joint decision-making on major issues, often involving ambitious projects with shared responsibility and division of labor. Cooperation is moderate when partners engage in joint decision-making but exclude essential issues. Cooperation of this level experiences ups and downs such as serious delays in decisionmaking. Cooperation is minimal when joint decisions are rare or nonexistent and cooperation is largely confined to occasional representation in joint meetings and inconsistent sharing of basic information. Cooperation is absent when partners who would profit from cooperation forego cooperation in favor of unilateralism” (Biermann, 2015, p. 46).

Furthermore, Rhinard and Sundelius (2016) stated that cooperation involves actors pursuing their own interests through collaborative means. Cooperation, nonetheless, takes place within some forms of institutions: set of rules, procedures and principles that structure behaviour and shape interests.

2.2 Collaboration

Salignac et al. (2019) collected some definitions for collaboration: “an overarching structure that can take multiple forms (Larsen, 2017); a stage on a continuum of inter-organisational connections (Hrelja et al., 2016); a cross-sectoral working arrangement (Guarneros-Meza et al., 2018); and a relational system in which resources were pooled (Stout et al., 2018)”. They argued that collaboration nowadays is something intrinsic to public or private institutions and both should make efforts to be flexible to collaborate and to measure their “health” when collaborating to do it efficiently. Academics and non-academics in a variety of educational settings have been using collaborative approaches to teach and assess people for a long time (Amponsah et al., 2018; Dillenbourg, 1999; Hmelo-Silver, 2013). In detail, collaboration is also seen as joint problem solving (Akhilesh, 2017). It is important to mention that the term collaboration is based on the application of different opinions and on shared learning objectives (Biberhofer et al., 2016; Biberhofer et al., 2018; Hmelo-Silver, 2013). Taking the atmosphere of collaboration into consideration, especially action, reflection and integration are highly significant (Schnitzler, 2019).

2.3 Partnership

Literature on partnership for sustainability started in the mid-1990s and although it supported cooperation, it also called for a clear definition of sustainability. Literature shows that partnership was practiced under different names, for example as “public-private partnerships” (LaFrance and Lehmann, 2005) or “self-governing network” (Stoker, 1998). Taking into consideration that Reinicke (1999), Selsky and Parker (2005), Waddell (2003) and Van Huijstee et al. (2007) were working on the definitions of partnership. Among the benefits of partnership are mentioned more financial help for NGOs, expertise and knowledge of the partner, creative and innovative solutions

and image of the institution (“eco-marketing reason”). On the other hand, the risks are avoidance of responsibility, losing legitimacy when not working on their expertise area, cultural differences, and partnerships outcomes being insecure. Ijsselmuiden et al. (2004) also gave some principles of good partnerships including communication, resources and monitoring. Furthermore, an interesting theory came from Biermann, Man-san Chan, and Pattberg (2007), who argued that multi-stakeholder partnerships are successful if they fill the gap of implementation coming from national governments.

2.4 Working together

Hord (1981) stated that both cooperation and collaboration are used interchangeably in describing the efforts of two institutions in working together. Carnwell and Carson (2005) concluded that nowadays the terms partnership and collaboration are being used distinctively and they refer to working together. In this paper and in line with Le et al. (2018), those three terms are used synonymously and interchangeably and bring into focus their main objective: working together to achieve a common goal.

2.5 UN efforts that enhance inter-agency cooperation after the introduction of the SDGs

In the last five years there have been important resolutions accepted by the General Assembly, that strongly suggest a shift in business as usual is taking place. In these, we have identified that development cooperation is a crucial topic. The following documents provide an overview of UN efforts in order to enhance cooperation.

In 2015, the 2030 Agenda for Sustainable Development introduced not only the 17 SDGs but it also made clear that in order to achieve sustainability, a multi-stakeholder approach was necessary (Beisheim and Simon, 2016; United Nations, 2019; United Nations General Assembly; 2015; UNSDG, 2019a). “The Agenda, including the SDGs, can be met within the framework of a revitalized global partnership for sustainable development, (...)” (United Nations General Assembly, 2015, p. 10). In addition, it encourages the public, private and civil society to partner and to further build upon the experience and resourcing strategies of partnerships. Focusing specifically on the SDGs, these were introduced to call for improvement on various topics through global cooperation (Kumar et al., 2016; United Nations General Assembly, 2015). According to UNDESA’s Guidebook “Maximising the impact of partnerships for the SDGs” (Stibbe et al., 2019), when collaborating for the SDGS, two added values are created: the collaborative advantage, which is the intrinsic value partnership can bring to the goal, and the partnership delta, which is that the impact of the outcomes is greater compared to the sum of individual goals achieved. Despite the positive, synergistic relationships, also trade-offs occur, where progress on one goal impedes progress on another (Pradhan et al., 2017). Therefore, the goals and targets have to be viewed from different perspectives and interdependence among the UN agencies needs to be recognised (UNODC Guidance Note, 2018).

Linking the SDGs to the UN Development System (UNDS), the Dalberg report (2017) highlighted the comprehensive and integrated approach of the 2030 Agenda. Further, the authors of the Dalberg report stated, that although the UNDS could contribute to the Agenda 2030, also reforms were needed. Zooming into inter-agency cooperation, the report summarises that even though there is joint planning at country level, integration often does not take place. Joint programmes only account for a small percentage of UNDS activities, mainly restricted by funding. Despite the interrelation of the SDGs, also for knowledge creation the entities work mostly on their own. The coordination mechanisms on global, regional and country level were described as loose. Therefore, it was concluded that achieving sustainable partnerships included joint planning rather

than simply grouping independent activities, linking activities to a clear results framework, pooling funding as well as introducing common work-plans.

In accordance with this and to set measures to implement the Agenda 2030 as well as to address the Sustainable Development Goals at country level, the UN General Assembly adopted resolution A/RES/72/279 in May 2018, resulting in the UN Development System Reform by the Secretary General (United Nations General Assembly, 2018). The main objective of this reform is to set development at the core of the UN work plan, using the 2030 Agenda as the path. The SDGs are the reference and the ultimate objective of the reform. Among its many proposed changes – reinvigorating the role of the Resident Coordinator system and clearer accountability –, it seeks to improve cooperation at the regional and global level and to ensure sustainable funding. Funding has contributed for long to the fragmented approach of the UNDS. Therefore, a change in funding towards more predictable and flexible resources as well as core and pooled funding gained more attention (UNSDG, 2019a). The upgraded role of the Resident Coordinators, who drive collaboration at country level, makes them supportive of delivering better results on the ground. Moreover, they lead the United Nations Country Team (UNCT), which is the core inter-agency mechanism in a country for the issues of coordination and decision making (UNSDG, 2019b). UNCTs deliver shared results, inter alia using the redesigned United Nations Development Assistance Framework (UNDAF), which was changed to the United Nations Development Cooperation Framework (UNSDG, 2019a).

2.6 Importance of inter-agency cooperation

In spite of considerable efforts on the SDGs, current publications (Nature Sustainability, 2018), the current Sustainable Development Goals Report (United Nations, 2019) and a report which was published by the Independent Group of Scientists appointed by the Secretary-General (2019) show that despite progress in critical areas, the overall progress towards the attainment of the SDGs is slow and the countries are far from reaching the goals by 2030 (Kyle, 2020). For the further development towards the success of the Agenda 2030, the latter report emphasises the importance of cooperation among various partners, including the UN agencies and therefore also inter-agency cooperation. The high relevance of cooperation can, inter alia, be observed in the evaluation reports, for example those of the UNODC, where a section on cooperation, partnership and in some cases even inter-agency cooperation can be found in most reports of the last seven years. A recent meta-analysis of the evaluation reports of 2015 and 2016, conducted by the Independent Evaluation Unit (UNODC-IEU, 2017), reported an increased number of references on cooperation and coordination, compared to the previous report of 2011 to 2014 (UNODC-IEU, 2015).

2.7 Hypotheses

Taking the theoretical framework and the research questions into consideration, three hypotheses have been suggested as follows:

- I. Different factors, practices and innovative approaches have a positive or negative influence on the success of inter-agency cooperation.
- II. The introduction of the SDGs did not have a positive influence between the UN agencies because there are other issues that need to be solved first, such as competition for funding.
- III. The introduction of the SDGs has a positive influence on UN inter-agency cooperation because it inter-relates the tasks of officers working within the UN. When people believe their goals are positively related; the results are characterised by positive regard, openness, and productivity.

3 Research design and methodology

In order to test our hypothesis, a mixed-methods study combining quantitative and qualitative research techniques was applied. Therefore, the data collection consisted of two main parts: guided interviews with UN staff (N = 12) in 11 cases and an online survey (N = 17) on cooperation and the role of the SDGs. Afterwards, the results of these two were compared to the findings of the literature review.

Based on the above-mentioned literature review, we have gained the first insights into the topic and its core themes and factors of influence. Therefore, suitable indicators in order to quantify and assess cooperation in the projects have been found in different sources. Thomson et al. (2007) and Marek et al. (2015) suggested possible sets of indicators. Combining and optimising those two sets, Salignac et al. (2019) published a list of 28 indicators, covering a manageable amount of critical points, which were used to formulate the questions for the interviews and online survey to the UN staff. Among others, the indicators cover the following dimensions of cooperation: shared goals, shared resources, shared authority, shared accountability, whole-system engagement and communication (Salignac et al., 2019). Suitable projects and agencies have been identified through the literature review. The preselection of projects or programmes was made after the following criteria:

- involvement of two or more UN agencies,
- existing inter-agency cooperation,
- projects / programmes are still running and
- the online availability of a reasonable amount of information, such as contact points.

Based on these criteria, UN staff responsible were contacted and requested to participate. As a result, UN staff working on the following projects, networks, centres and units were interviewed: Environmental Emergencies (JEU); GLO.ACT; Joint Programme on Drug Dependence Treatment and Care; Inter-Agency Coordination Group against Trafficking in Persons (ICAT); UN Network on Migration; Global Programme for Combating Wildlife and Forest Crime; Finance, Technology and Capacity-building programme (UNFCCC); Strategic Planning and Inter-Agency Affairs Unit (SPIA; UNODC); UNODC Division for Management: Change Management and Business Transformation (UN-Secretariat); Global Shared Service Centre (GSSC; UNICEF); Strategic Planning and Coordination Division (ODG/SPQ/SPC; UNIDO). When conducting the interviews with the UN staff, it could not be taken for granted, that questions concerning sensitive or critical issues, were answered without any bias, to avoid possible negative consequences for the interviewees. These challenges were resolved by guaranteeing the confidentiality of the data and anonymity of personal information shared.

3.1 Guided Interviews

Guided, semi-structured interviews with UN staff (N = 12) in 11 cases were conducted to get a comprehensive understanding of the cooperation within the selected cases and the impact of the SDGs. Semi-structured interviews were chosen to gain deeper insights by allowing flexible answers and follow-up questions, while still ensuring comparability between the different case studies (Bryman, 2012). The interview followed a questionnaire and lasted in average about 45 minutes. Relying on Bryman (2012), we developed an interview guide, which relied on important factors to assess cooperation, taken from the indicator set by Salignac et al. (2019). The questions focused on the role of the SDGs, cooperation between UN agencies within a certain project and personal experiences of the UN staff. Recommendations, practices and innovative approaches that

are supportive for cooperation and collaboration as well as gaps and restrictions should be identified. The first approach to contact the UN staff was to send a one-pager letter. The selection of interview mode (face-to-face or Skype), interview leader and the participation of interviewers was mainly determined by location and availability at the time of the appointment. The interviews were conducted between 29 August 2019 and 07 November 2019. The interviewees were made aware that their names will be kept private due to the sensibility of the content.

The collected data was classified in patterns, trends or themes that focus on working together in terms of good practices and difficulties, for a clear and compelling story. The analysis and interpretation followed a thematic analysis which is based on the work of Braun and Clarke (2006). It was considered as the most efficient and suitable tool for our research. Six essential phases of the analysis are listed. It is important to

- familiarize with the gained data - phase 1
- establish initial codes - phase 2
- look for themes - phase 3
- assess themes - phase 4
- define and name themes - phase 5
- write the report - phase 6 (Braun and Clarke, 2006, p. 87).

The selected method is flexible and allows to summarize the data, generate unanticipated insights and find the overarching themes while still being easy to learn and conduct, even without prior experience. Following the six phases of thematic analysis, the interviews were transcribed, partly with the help of online tools, whereby manual correction was necessary. In order to ensure inter-rater consistency and consensus on the procedure and to guarantee a common coding standard within the researchers, a randomly selected interview was coded by all three team members and the coding was discussed afterwards. The codes of all interviews were then put together and sorted into potential overarching themes, which then were depicted with the help of a mind-map - the initial thematic map. After these steps, which correspond to phase I, II and III, we continued with phases IV, V and IV, which entailed the identification of fewer themes in a cyclic review and refinement process. The result was the final thematic map, depicting the main themes identified in the interviews.

3.2 Online survey

For the online survey the one-page letter was sent to a new set of participants, whereby the target group consisted of UN staff, who have worked or were still working on a project with inter-agency cooperation. In order to increase the willingness to participate by availing existing relationships, we asked the already interviewed UN employees to spread the invitation for participating among their colleagues. Therefore, the exact number of people who received the request could not be determined. In total, the final sample consisted of 17 completed surveys from various UN agencies.

The change in projects with the implementation of the SDGs as well a selected set of indicators for measuring and assessing cooperation (taken from Salignac et al., 2019) were rated by the participants using 10-point Likert scales from “strongly disagree” to “strongly agree”. Moreover, factors influencing successful working together had to be ranked by importance. The survey was completed by open questions on changes of inter-agency cooperation with the Agenda 2030, on supportive and restrictive factors on cooperation and on the personal opinion what could be improved in the future.

The data collected with the online survey was described and analysed quantitatively as well as qualitatively. For the latter, the main messages of the responses to open questions were extracted

for the discussion. Moreover, descriptive statistics were produced and outliers were identified and discussed. The collected data of the two parts was cross-examined, seeking to identify factors that are supportive or restrictive of inter-agency partnership. Moreover, information on the development of inter-agency cooperation after the implementation of the SDGs was outlined based on the collected data.

4 Results

The obtained data from the interviews and the online survey were analysed as described in the methods above. Detailed results of both collections are given in this chapter and then compared.

4.1 Results from the guided interviews

When asked on cooperation, interviewees responded very positively. They identified the benefits using the following words: “enriching”, “better working” and “part of a team”. According to the interviewees, a very meaningful part when agencies cooperate is that the expertise can be shared and that the impact of the project or programme is greater. They said that “we cannot pretend to be experts in every area.” Some interviewees mentioned that there is a trade-off from cooperating, which is the complexity and the use of more resources; however, the impact of joining efforts was in the end more valuable. There were some statements indicating that the topic cooperation in the UN – delivering as one or delivering collectively– is a challenge that is still open, and that the UN is failing to tackle. It was also stated that Member States had also asked to provide better coordination.

The final thematic map (Fig. 1), developed following Braun and Clarke (2006), depicts the whole range of themes which came up in the course of all transcribed and coded interviews. These themes and factors were visually contextualised by showing their interrelations. Therefore, also colour coding was used in order to highlight restrictive (red) and supportive impact (green) on working together. Blue was chosen for stakeholders, such as the United Nations in its entirety, UN staff, Member States and the agencies.

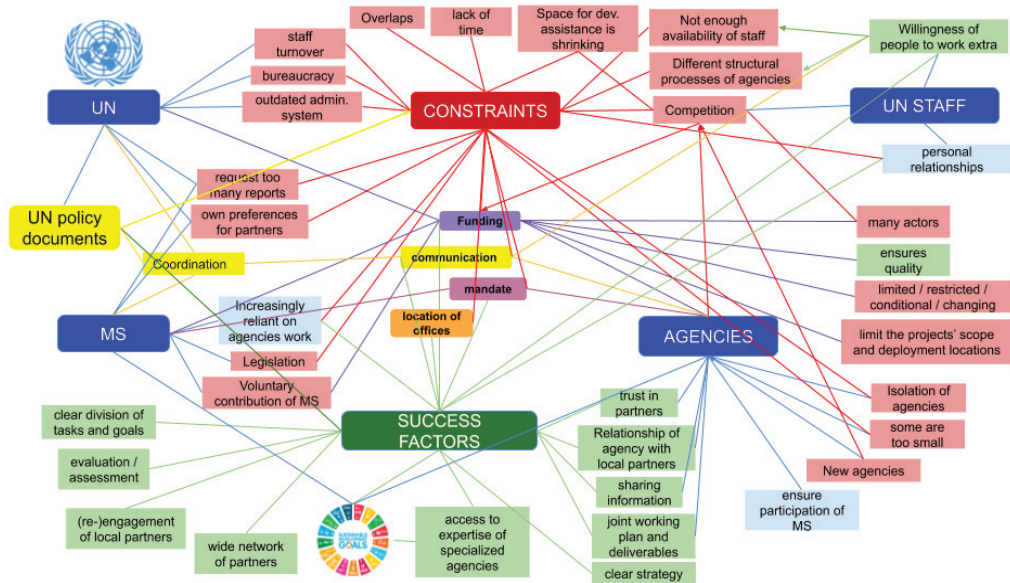


Fig. 1. Final thematic map showing the overarching themes based on the coding of the transcribed interviews, following Brown & Clarke (2006). Factors restrictive of cooperation are highlighted in red and those in green depict supportive factors. The stakeholders are depicted in blue. Other colours were used for other processes of factors, for example those which can be supportive or restrictive, depending on the context.

According to the thematic map, we have gathered the main success factors and the constraints for cooperation as named by the participants in the interviews. Several of the following points, topics and keywords have come up in interviews, listed here without ranking according to relevance or frequency of naming: funding and competition for funding, lack of time and staff, isolation of agencies and duplication of work as well as gaps. Clear formulation and definition of goals and the division of tasks, coordination and communication were emphasised as supportive key factors.

Considering the interview results, the key factor for succeeding when cooperating is having enough funds. This will allow the UN staff in charge of projects and programme to look for more action space and, hence, look for partners. If the funds, on the contrary, are limited, UN staff will only focus on delivering the initial objectives and will not engage on extra-activities. One of the interviewees added that successful fundraising means that there is credibility from the Member States in the programme or project and that the Member States are aware of the benefits of having two specialised agencies working together for a target population. Some participants stated that the re-engagement of partners and the (new or re-)engagement of local partners was a decisive factor for successful cooperation. This way you connect with people who have worked with you in the past and know your administrative process and that know themselves on the ground. This leads to the "trust in partners" which was named as well as positive. Regular communication with partner agencies was also named as a factor leading to success and to trust. This way partner agencies but also partners in the ground are engaged in the planning and have access to information. Once communication is not anymore an issue, joint working plans and deliverables are to be introduced. Regarding monitoring, information collected is rather limited. Monitoring mechanisms were reported to be in set up in several cases The aims were for example to monitor how quickly responses to requests of Members States or the UN system or to which extent recommendations

are accepted. Furthermore, agencies stated, that they have an internal monitoring system linking their activities to the SDGs. It was also repeatedly mentioned, that SDGs are used as monitoring tools. Evaluation functions were as well reported, conducted as self-evaluation and by the UN Evaluation Group. Effectiveness of the projects and achievement of the SDGs were part of these evaluations.

Among participants there was a strong consensus that fundraising and human resources were the biggest constraints for cooperation within the UN system. These two factors have created high levels of competition between agencies and limit the willingness of people to invest time in looking for ways to cooperate. As a result of competition, gaps and overlaps of information occur. There are duplicated efforts for certain areas since it is known that funds are available, many new agencies are born, and the other way around, there are huge gaps for totally unaddressed areas. Another factor named by a few - and related to the aforementioned - is that, space for development assistance is shrinking, resulting again in competition. Furthermore, we found repeatedly that the fact that agencies (not all, but most of them) received voluntary contributions from the Member States, having no fixed budget, limited initiatives of UN staff to organise plans for cooperating. The words used that related to funding were: "limited", "restrictive", "conditional", and "changing". Funding was identified as a factor that limits the projects' scope and deployment locations. Additionally, some participants also mentioned that sometimes the legislation of certain Member States can be an impediment to start projects on the ground. Some interviewees added that a framework for sustainable development cooperation is missing within the UN system, a clear plan and a logical division, which can provide an understanding of tasks and allows for more accountability. Moreover, it was stated that less bureaucracy can improve cooperation: different structural processes of UN agencies become burdensome when sharing information and resources. In this context, United Nations policy documents such as the UNDS reform, the DaO initiative, the Dalberg report (2017), MAF and UNDAF were brought up, as these were considered to alleviate some of the listed constraints.

From the interviews some factors were identified as success factor but also as constraints, depending on how they were managed. This lists includes funding, communication between agencies, location of the offices and the mandate of the agencies given by the Member States. When it comes to funding, when there is a fixed budget people are able to invest time in cooperation, when there is no funding, agencies will compete for it. Communications, or more specifically, the willingness of people to communicate and engage in meetings or calls, will conditionate the results of programmes and projects creating synergies or not. The locations of offices have the same effect, it depends on the human relations, on the coordination at the regional level and on the administrative procedures of each agency. Finally, the mandate given by the Member States plays a decisive role since it limits or fosters actions initiated by the agencies.

The results from the interviews in the area of the performance of the SDGs were mostly positive. The SDGs, according to the interviewees, have helped to provide a "united vision", "common goals" and "common language" for all people working in development cooperation. In short, they have raised awareness and understanding for a broad and cross-cutting nature issue. There was, however, a group that stated that there have been no real changes after the introduction of the SDGs, as they did not really change the nature of the agencies' work and their work "fits under this SDGs anyway." The same holds true when it comes to cooperation, because there has always been cooperation and because the SDGs don't provide a coordination framework, which is what it is missing. In the same direction, a couple of interviewees said that the SDGs are only used "to satisfy the paper" or as a "visual" tool.

4.2 Results from the Online survey

Regarding the use of an online survey, an empirical study was designed. In total, 17 participants answered the survey. The following UN agencies and organisations took part: UN Evaluation Group, UNIDO, UNODC, FAO, UNICEF, IAEA, UNEP and OCHA. The change in projects with the implementation of the SDGs as well as a selected set of indicators measuring and assessing cooperation were rated by the participants using 10-point Likert scales from “strongly disagree” (0 points) to “strongly agree” (10 points), depicted in Tab. 1. Most of the mean values were located around six, indicating that basic needs for working together are met. The strongest approval was found for the exchange of different viewpoints to find alternative solutions, formulating common goals, trust among partners and achieve own objectives and results better than alone. Least agreement was detected for having an assessment system for partners needs and resources, followed by having separate funding and access to the partner’s data.

Tab. 1. The 17 respondents were asked to indicate their agreement to the following statements from “strongly disagree” (0 points) to “strongly agree” (10 points). The questions are grouped into four covered dimensions. Number of valid answers (*N*), mean values and standard deviation (*SD*) are shown.

		<i>N</i>	<i>Mean</i>	<i>SD</i>
Shared goals and resources	Common goals formulated together with partnering institutions	16	7.19	2.32
	Separate funding for coordinating your collaboration’s activities	16	5.50	3.98
	Have access from your partners to the data you need.	17	6.00	2.48
	Able to get the skills/expertise/specialisation to address goals	16	6.13	2.75
	Feel it worthwhile to stay and work within the collaboration	16	7.13	2.39
Shared authority and accountability	All partners participate in the decision-making process	17	6.35	2.71
	Shared indicators/methods/evaluation systems for shared goals	17	6.88	2.32
	Have a system to assess the partner’s needs and resources.	17	4.94	3.23
	Monitor and share its findings among the partners	17	6.71	2.05
	Partners feel ownership in the results/products of their work	16	6.69	2.18
Communication, adaptive capacity and effectiveness	Communication between the partners	16	6.69	2.33
	Exchange different viewpoints to find alternative solutions	16	7.69	2.60
	Collaboration members trust one another.	15	7.00	2.39
	Achieve own objectives and expected results better than alone	16	7.00	2.28
SDGs	SDGs improved the extent of inter-agency cooperation	13	6.46	2.99

Most of the mean values were located around six, indicating that basic needs for working together are met. The strongest approval was found for the exchange of different viewpoints to find alternative solutions, formulating common goals, trust among partners and achieve own objectives and results better than alone. Least agreement was detected for having an assessment system for partners’ needs and resources, followed by having separate funding and access to the partners’ data. In the open questions, “joint programmes”, “inter-agency programmatic approaches”, “dedicated donor funding that requires inter-agency submissions” were the mentioned aspects that bring successful results for inter-agency cooperation. The specified constraints were “lack of field offices”, “HR capacity and time” (inter-agency cooperation takes more time to design, implement and evaluate) or the “competition for funds”. Furthermore, the “strengthened enforcement of agency mandate to avoid overlaps,” “stabilise agency funding to stop competition and ensure long term commitment” and “focusing on developing more integrated approaches” were stated to ensure constant improvements and consolidation for inter-agency cooperation. It was observed that funding was a topic concerning success factors and restrictive factors, as well as in the respondents’ recommendations on future cooperation.

The first dimension covered shared goals and resources. Regarding the common goals formulation with the partnering institution, the average was 7.19 points. When cooperating with

other agencies, Ø 5.50 points were answered that they have separate funding. Furthermore, Ø 6.00 points were outlined that they have access from partners to the data. Taking the management of skills/expertise/ specialization to address the goals of the collaboration into consideration, the responses were in Ø 6.13 points. In addition, Ø 7.13 points were answered that their organization feel it worthwhile to stay and work within the collaboration.

The second dimension covered shared authority and accountability. Ø 6.35 points were reported that all partners participate in the decision-making process. Furthermore, Ø 6.88 points were given that the use of shared indicators/methods/evaluation systems by which progress towards shared goals is measured. Ø 4.94 points were answered that the collaborations have a system to regularly assess the partner’s needs and resources. Ø 6.71 points were responded that the collaboration monitor and share its findings among the partners. In addition, Ø 6.69 points were given that they take ownership into consideration..

The third dimension covered communication, adaptive capacity and effectiveness. The participants rated the communication between partners with Ø 6.69 points. The ability to exchange different viewpoints to find alternative solutions was reported with Ø 7.69 points. Moreover, Ø 7.00 points were answered that collaboration members trust one another. It is also important to mention that Ø 7.00 points were stated that their organization achieve its own objectives and expected results better working with partner organizations than working alone.

Another task of the online survey included placing factors for successfully working together according to its importance (Fig. 2). In this task, the most important points were having a clear definition of the addressed issues, having a clear definition of the areas of responsibility and a system that assesses the partner’s needs. The lowest ranking was observed for formal and informal communication with partners and being located closely to the partners. A remarkable difference from the first six elements to the last five elements, which mainly concerned personal factors and communication, can be observed.

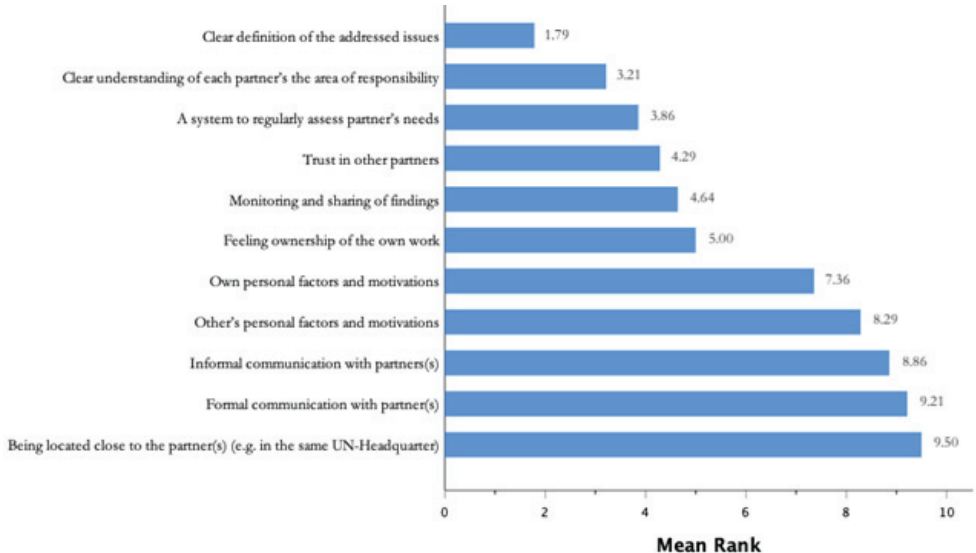


Fig. 2. Participants (N = 15) were asked to order the following eleven elements according to their importance for working together successfully. The graph depicts the mean rank for every element, with 1 being the most important and 11 the least important.

For the first, top ranked variables, the rankings match the above-mentioned results of the assessment of the collaborations, which in both cases were ranked as relevant: interactively

understanding the issues that have to be addressed, including each partner's responsibilities, finally leading to shared goals. Even though the exchange of viewpoints and the formulation of common goals were highly rated as existent in the collaborations, communication itself was ranked low. From the more personal factors, trust and the feeling of ownership were of importance in the assessment as well as in the rankings.

The fourth dimension covered the SDGs. On \bar{O} 6.46 points were responded that the implementation of the 17 SDGs improved the extent of cooperation/collaboration within different UN agencies. The answers from the open questions can be summarised as follows: except for two cases in which it was stated that cooperation already worked well before 2015 and that the SDGs do not directly contribute to inter-agency cooperation; 6 out of 11 respondents indicated that by visualising and mapping (joint) efforts or serving as a framework, the SDGs could contribute to inter-agency partnerships. It is important to mention that the SDGs are a framework for UN agencies to identify entry points for their interventions as well as for new areas of collaboration between them. If some of the projects have been started after 2015, 83.33% of the participants answered that one or more of the 17 SDGs have been included in the planning and realisation of the project. For the other 16.67%, this was not applicable.

5 Discussion

The collected data from the interviews and online surveys concerning the importance of cooperation pointed towards the same direction: working together is beneficial at UN as well as personal level. Moreover, the results represented a broad variety of experiences and viewpoints on UN inter-agency cooperation in the framework of the SDGs. First, success factors of cooperation are described, followed by restrictions. In relation to these factors, the role of the SDGs is discussed and the findings matched with current UN policy documents

5.1 Supportive of cooperation

A comprehensive list of principles of good partnerships were given by Ijsselmuiden et al. (2004) which include the communication, resources and monitoring. According to the open questions, regular communication during which information was shared was fundamental and it allowed to create a bond among the partners. On the other hand, people themselves, if unwilling to stay in touch, become a strong barrier for all partners and stops synergies. The same is valid for funding. These two factors were called in the results bivalent factors. Funding was considered as the most relevant factor for a successful partnership since it allows UN staff to invest time in setting new cooperations and because it ensures the continuation of the programme. Monitoring the progress and success of the work, also linking it to the SDGs, who themselves were used as monitoring tools in some cases. In this context self- and external evaluation were reported, whereby effectiveness and the attainment of the SDGs were part of these evaluations. Regarding the results of our both sources of information, communications was definitely a decisive factor. It was ranked with $\pm \bar{O}$ 7 points and mentioned as constraining and successful factor.

Van Huijstee et al. (2007) named as success factors for intersectoral partnerships: choice of partners. Even though, among the interviews and online surveys, negative experiences were not shared, there a couple of successful stories in which the choice of partner was a key success factor of the programme. The main reason behind was that the mandate of the agencies was complimentary. Both agencies had the expertise on the issue, the contacts on the ground and the funds needed for the implementation of the programme. It is safe to say that the right choice of a partner can result into a chain of positive factors adding up. Given the years that the UN has been actively working in delivering assistance, some agencies have become well-known for their

expertise. Likewise, when cooperation has taken place and it has been successful, it builds for future working together. This way it is also easier for UN agencies to go through all formal procedures.

Along the interviews and according to the points given in the online survey, participants considered “joint decision-making on major issues”, “shared responsibility” and “division of labour” – also named as successful factors by Biermann (2015) – as very important in order to maintain a healthy cooperation. Among the participants, voices were divided. All interviewees agreed that the UN has a framework upon which partnerships are created and this includes the division of tasks and decision-making; however, there was also a consensus that for initiating new partnerships, this framework was missing. In other words, it is easier to engage in a partnership with an old partner than looking for new ones. This fits with what Rhinard and Sundelius (2016) identified as necessary for a successful cooperation which includes “set of rules, procedures and principles that structure behaviour and shape interests.” Even though the UN has a set of procedures, it seems that they have to be updated to keep up with the new challenges., Rhinard and Sundelius (2016) state that “institutions must be willing to go under ongoing and long interactions; they must be “fit for purpose”, meaning flexible enough to keep “delivering” under new and unexpected circumstances. This statement tackles two points: it reaffirms that the UN has to be flexible to keep delivering and that the people involved have to be willing to run an extra mile for cooperating.

Moreover, a common vision and goals setting with a clear problem definition and clear measurable goals were stated. These goals should also be in line with other frameworks such as the SDGs to reduce the risk of fragmentation. In our opinion this points twice towards the importance and function of the SDGs: first, the SDGs can serve as this required common vision and goals, although some interviewees stated, that on project level the goals and indicators SDGs are not sufficient. Second, if the SDGs themselves are the basis for common goals, formulated for the partnership, the mapping of these goals will automatically be consistent with the goals of the SDGs and thus limit the possibility of fragmentation.

5.2 Restrictions on cooperation

West et al. (2003) stated that the perception of goals being competitive will lead to the conclusion that people’s own goals are better achieved when the others are ineffective. Restricted information and resource exchange are the consequence. Although the SDGs here can work as the common goal or vision, for the agencies the first and most proximate goal is the funding, as it is the basis for their work. This also matches Biermann (2015) statement, that cooperation is absent, when it is more profitable not to cooperate and unilateralism is chosen. In order to not only have a common goal and vision for the world (the SDGs) but also for the organisation of the agency’s work, it could also be said that joint planning, funding and benefits for working in inter-agency projects would help agencies work towards a common goal on all levels.). Nevertheless, for building up an atmosphere of collaboration sufficient time for collaboration, action, reflection and integration are necessary (Schnitzler, 2019). Limited funding for cooperative activities and, partly therefore, limited human resources inhibit this process. Nonetheless, restrictions can be observed especially in the following two principles: the optimisation of local resources and consistent donor investment policies.

Van Huijstee et al. (2007) listed success factors for intersectoral partnerships including the choice of partners and goals among others. The selection of partners was often indicated by the interviewees as being relatively clear, since there are often only a few big players or known partners from previous projects. With the choice of partner and also the common goals being more obvious, the mandates and responsibilities of each agency were reported as not so clear. Insecurities about

the division of tasks as well as gaps and overlaps in the work occurred. It was further stated in the interviews, that UN bureaucracy as well as differences structural processes within agencies complicated inter-agency cooperation.

Funding and therefore lack of (human) resources was identified as one main constraint for cooperation. This was reported in the interviews. Furthermore, it was stated in the online survey repeatedly. In line with scholars, the limited availability leads to weakness or absence of working together. The willingness and ability to cooperate decreases. Moreover, in several cases, a clear plan, logical division of work and defined responsibilities are absent.

Considering the reported gaps and overlaps in the agency's work, stabilised funding that ensures the capacity and (human) resources to enable these joint processes is needed. Further, for successful inter-agency cooperation, the Member States play an important role due to their voluntary financial contributions and conditions on the ground.

5.3 After the introduction of the SDGs

The impression on the impact of the SDGs seems to be mixed: questions on the role of the SDGs and changes with their implementation in 2015, some interviewees indicated that the SDGs can be a good tool to visualise and map their own work and serve as the bigger picture to bring everything more in one direction. We believe that the SDGs provide UN staff with a common vision. UN staff identifies with the SDGs and understand their cross-cutting nature. Therefore, we argue that an environment in which people have common objectives serves as the perfect pool for future collaboration. Similar conclusions on the importance of goals, as which the SDGs were interpreted, could be drawn when comparing the results to other different forms of partnerships presented in scholarly literature such as Carnwell and Carson (2005), Ijsselmuiden et al. (2004), Rhinard and Sundelius (2016), Pattberg and Widerberg (2016), Van Huijstee et al. (2007), West et al. (2003). As Prescott and Stibbe (2015) stated, the global, single issue perspective of the MDGs needs to be exchanged for a more local and integrated perspective for the SDGs. A holistic system approach, considering local contexts, which are more tangible could bring the nature of partnerships toward local networks, collaborating towards the SDGs. Also, the interrelation of single projects with other topics may thereby be discovered and highlighted, which seems to be in line with the aims of the 2030 Agenda (UNODC, Guidance Note, 2018).

5.4 UN Policy Documents and reforms

In summary, the current UNDS reform process initiatives and policy documents, which aim to improve the delivery of the United Nations and contribute to the attainment of the SDGs, also contributing to inter-agency cooperation and partnership. Looking at the interviewees' work practices, the main constraints for inter-agency cooperation identified in this research are being tackled by these changes and could indirectly help to alleviate the impact of these constraints, leading to facilitate inter-agency cooperation and therefore reducing competition. Nevertheless, the reform will take time until the changes have reached all levels and minds.

6 Conclusion

In light of implementing a set of ambitious Sustainable Development Goals with the Agenda 2030, the 75-year-old United Nations faces pressing challenges of the 21st century and the need of developing itself further. Given the size of the UN and its numerous diverse agencies, a vital necessity arises for coordinating their efforts and combining their expertise for sustainable inter-agency cooperation.

Answering Research Question 1 and verifying Hypothesis I, factors that are supportive and restrictive of inter-agency cooperation were identified. When comparing our qualitative and quantitative results to scholarly and UN literature many basic principles and needs for cooperation are met. The following decisive factors were identified: goals positively related, communication between partners, resources, monitoring, choice of partner and joint decision-making and planning. One of the factors often reported as a crucial restriction was funding and linked to it, lack of (human) resources. In the absence of sufficient time and financial resources, unwillingness of working together could be observed. Further, gaps and overlaps, the absence of a clear framework, coordination of responsibilities and mandates, were reported as restrictive.

Regarding Research Question 2 and its correspondent Hypothesis II, which states that the introduction of the SDGs did not have a positive influence on cooperation between the UN agencies because there are other issues that need to be solved first, our results are mixed. Cooperation among the UN agencies has not significantly changed after the introduction of the SDGs. They are perceived by the UN staff members as a very positive set of tools and most of them are well acquainted with them; however, there are other factors considered decisive for supporting cooperation. The most urgent constraint seems to be the overlapping of work in certain field areas which causes competition for funding. In addition, internal procedures constrain staff to engage in cooperation, apart from the fact that they do not have the time and the funding for engaging in cooperation projects.

For the Hypothesis III and the second part of Research Question 2, even though the introduction of the SDGs did not really change how business is done within the UN, the SDGs did become a very positive factor that motivated UN staff to work together, to realise that they all have a common goal and to see themselves as part of one “united” United Nations. According to West, Tjosvold, and Smith’s (2003) theory that results improve greatly when workers see their goals related, we agree that this is the case for the UN staff members, but that we stand now in the initial phase – only four years since the SDGs were introduced– and major results are to be identified in the success of the projects on the ground and in how the MS will have achieved their targets by 2030. The current UN Development System reform, aiming to improve UN delivery and progress towards the success of the Agenda 2030, tackles the major restrictions on inter-agency cooperation that were identified in this research. Reforming the UNDS therefore seems a promising change and beneficial for UN cooperation on the ground by reducing competition, better coordination, stabilising funding and pointing more toward joint working. Nonetheless, it has to be kept in mind that the change of mindsets and ways of working will take time.

Further research regarding inter-agency cooperation could include UN internal documents such as reports to the donors or internal correspondence, reporting on the results of partnerships. Moreover, it could also include research on the results of the reform of the UNDS and the achievement of the 17 Goals by the Member States – especially in the light of definite changes for inter-agency cooperation. This research foremostly covers the perspective of the UN agencies’ personnel and their insights working in the headquarters. Therefore, the research project sought to contribute to a broader scientific discussion in achieving sustainable partnerships in the UN. Future research in the countries at the level of implementation and especially from the Member State perspective could add valuable knowledge. Moreover, a particular focus should be placed on UN funding mechanisms and ways to identify and overcome current gaps in these processes, as funding constituted a main restriction for successfully working together within the United Nations.

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References

- Akhilesh, K.B. (2017) *Co-Creation and Learning: Concepts and Cases*, Springer India, New Delhi.
- Amponsah, K. D., Kotoka, J. K., Beccles, C. and Dlamini, S. N. (2018) 'Effectiveness of Collaboration on Low and High Achieving School Students' Comprehension of Electrochemistry in South Africa', *European Journal of STEM Education*, Vol. 3, No. 2, pp.1-15. <https://doi.org/10.20897/ejsteme/2685>
- Beisheim, M. and Simon, N. (2016) *Multi-stakeholder partnerships for implementing the 2030 Agenda: Improving accountability and transparency*, Berlin [online] <https://www.un.org/ecosoc/sites/www.un.org.ecosoc/files/files/en/2016doc/partnership-forum-beisheim-simon.pdf> (accessed 12 December 2019).
- Biberhofer, P., Bockwoldt, L., Rieckmann, M. et al. (2016) *Joint CASE Report on Content and Methods for the Joint Master Program on Sustainability-driven Entrepreneurship*, Vienna [online] <https://www.case-ka.eu/wp/wp-content/uploads/2018/03/D3.1-D4.1-Assessment-Report-WPs-34.pdf> (accessed 14 December 2019).
- Biberhofer, P., Lindner, C., Bernhardt, J. and Rieckmann, M. (2018) 'Facilitating work performance of sustainability-driven entrepreneurs through higher education: The relevance of competencies, values, worldviews and opportunities', *The International Journal of Entrepreneurship and Innovation*, Vol. 20, No. 1, pp. 21-38. <http://dx.doi.org/10.1177/1465750318755881>
- Biermann, R. (2015) 'Designing cooperation among international organisations: the quest for autonomy, the dual-consensus rule, and cooperation failure', *Journal of international organisations studies*, Vol. 6, No. 2, pp.45-66.
- Biermann, F., Man-san Chan, A.M. and Pattberg, P. (2007) *11. Multi-stakeholder partnerships for sustainable development: does the promise hold? Partnerships, governance and sustainable development: Reflections on theory and practice*, 239.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, Vol. 3, No. 2, pp.77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bryman, A. (2012) *Social research methods*, Oxford University Press, Oxford.
- Carnwell, R. and Carson, A. (2005) *Understanding partnerships and collaboration. Effective practice in health and social care: a partnership approach*, Open University Press: IN.
- Chiocchio, F, Grenier, S., O'Neill, T. A. and Savaria, K. (2012) 'The effects of collaboration on performance: A multilevel validation in project teams', *International Journal of Project Organisation and Management*, Vol. 4, No. 1, pp.1-37. <https://doi.org/10.1504/IJPOM.2012.045362>
- Dalberg (2017) *System-wide outline of the functions and capacities of the UN development system*, The Dalberg Group, New York.

- Dillenbourg, P., Baker, M., Blaye, A. and O'Malley, C. (1996) 'The evolution of research on collaborative learning', in: E. Spada and P. Reiman (Eds.), *Learning in humans and machine: Towards an interdisciplinary learning science*, Elsevier, Oxford, pp.189-211.
- Dillenbourg, P. (1999) 'What do you mean by collaborative learning?', in: P. Dillenbourg (Ed), *Collaborative-learning: Cognitive and computational approaches*, Elsevier, Oxford, pp.1-19.
- D'Odorico, P., Davis, K. F., Rosa, L. et al. (2018) 'The Global Food-Energy-Water Nexus', *Reviews of Geophysics*, Vol. 56, No. 3, pp.1-76.
- Guarneros-Meza, V., Downe, J. and Martin, S. (2018) 'Defining, achieving, and evaluating collaborative outcomes: A theory of change approach', *Public Management Review*, Vol. 20, No. 10, pp.1562–1580. <https://doi.org/10.1080/14719037.2017.1383782>
- Hmelo-Silver, C.E. (2013) *The international handbook of collaborative learning*, Routledge, New York.
- Hrelja, R., Pettersson, F. and Westerdahl, S. (2016) 'The Qualities Needed for a Successful Collaboration: A Contribution to the Conceptual Understanding of Collaboration for Efficient Public Transport', *Sustainability*, Vol. 8, No. 6, p.542. <https://doi.org/10.3390/su8060542>
- Hüther, G. (2017) *Co-creativity and community*, Vandenhoeck and Ruprecht, Göttingen.
- Ijsselmuiden, C.B., Duale, S. and Nchinda, T.C. (2004) *Principles of Good Partnerships for Strengthening Public Health Education Capacity in Africa*, Council on Health Research for Development and the Academy for Educational Development, Washington, DC.
- Independent Group of Scientists appointed by the Secretary-General (2019) *Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development*, New York [online] https://sustainabledevelopment.un.org/content/document/s/24797GSDR_report_2019.pdf (accessed 15 December 2019).
- Kumar, S., Kumar, N. and Vivekadhish, S. (2016) 'Millennium development goals (MDGs) to sustainable development goals (SDGs): Addressing unfinished agenda and strengthening sustainable development and partnership', *Indian Journal of Community Medicine*, Vol. 41, No. 1, p.1. <https://doi.org/10.4103/0970-0218.170955>
- Kyle, W.C. (2020) 'Expanding our views of science education to address sustainable development, empowerment, and social transformation', *Disciplinary and Interdisciplinary Science Education Research*, Vol. 2, No. 2. <https://doi.org/10.1186/s43031-019-0018-5>
- LaFrance, J. and Lehmann, M. (2005) 'Corporate awakening—Why (some) corporations embrace public–private partnerships', *Business Strategy and the Environment*, Vol. 14, No. 4, pp.216–229.

- Larsen, P.W. (2017) 'Delineating partnerships from other forms of collaboration in regional development planning', *International Planning Studies*, Vol. 22, No. 3, pp.242–255. <https://doi.org/10.1080/13563475.2016.1253459>
- Marek, L.I., Brock, D.-J. P. and Savla, J. (2015) 'Evaluating Collaboration for Effectiveness: Conceptualization and Measurement', *American Journal of Evaluation*, Vol. 36, No. 1, pp.67–85. <https://doi.org/10.1177/1098214014531068>
- Nature Sustainability (2018) *Tracking progress on the SDGs*, London [online] <https://doi.org/10.1038/s41893-018-0131-z> (accessed 07 October 2019).
- Pattberg, P. and Widerberg, O. (2016) 'Transnational multistakeholder partnerships for sustainable development: Conditions for success', *Ambio*, Vol. 45, No. 1, pp.42–51. <https://doi.org/10.1007/s13280-015-0684-2>
- Pradhan, P., Costa, L., Rybski, D., Lucht, W. and Kropp, J.P. (2017) 'A Systematic Study of Sustainable Development Goal (SDG) Interactions', *Earth's Future*, Vol. 5, No. 11, pp.1169–1179. <https://doi.org/10.1002/2017EF000632>
- Prescott, D. and Stibbe, D. (2015) *Collaboration for the SDGs: Exploring the support system for Effective Partnering*, The Partnering Initiative, Oxford.
- Reinicke, W.H. (1999) 'The other world wide web: global public policy networks' *Foreign Policy*, Vol. 117, No. 44.
- Rhinard, M. and Sundelius, B. (2016) *Stronger Together: Enhancing Cooperation Capacity for Forward Resilience*, IOS Press Ebooks, Amsterdam.
- Salignac, F., Marjolin, A., Noone, J. and Carey, G. (2019) 'Measuring dynamic collaborations: Collaborative health assessment tool', *Australian Journal of Public Administration*, 1467-8500.12386. <https://doi.org/10.1111/1467-8500.12386>
- Schnitzler, T. (2019) 'The Bridge Between Education for Sustainable Development and Transformative Learning: Towards New Collaborative Learning Spaces', *Journal of Education for Sustainable Development*, Vol. 13, No. 2, pp.242-253. <https://doi.org/10.1177/0973408219873827>
- Selsky, J.W. and Parker, B. (2005) 'Cross-sector partnerships to address social issues: Challenges to theory and practice', *Journal of Management*, Vol. 31, No. 6, pp.849–873.
- Stibbe, D.T., Reid, S. and Gilbert, J. (2019) *Maximising the Impact of Partnerships for the SDGs*, The Partnering Initiative and UNDESA, New York.
- Stoker, G. (1998) 'Governance as theory: five propositions', *International Social Science Journal*, Vol. 50, No. 155, pp.17–28.
- Stout, M., Bartels, K.P.R. and Love, J.M. (2018) 'Clarifying Collaborative Dynamics in Governance Networks', in: M. Stout (Ed.), *Critical Perspectives on International Public*

Sector Management (Vol. 6, pp.91–115). <https://doi.org/10.1108/S2045-794420180000006005>

Thomson, A.M., Perry, J.L., and Miller, T.K. (2007) ‘Conceptualizing and Measuring Collaboration’ *Journal of Public Administration Research and Theory*, Vol. 19, No. 1, pp.23–56. <https://doi.org/10.1093/jopart/mum036>

United Nations (2019) *The Sustainable Development Goals Report 2019*, New York.

United Nations General Assembly (2015) A/RES/70/1: *Transforming our world: The 2030 agenda for sustainable development*, New York [online] <https://undocs.org/a/res/70/1> (accessed 18 November 2019).

United Nations General Assembly (2018). A/RES/72/279: *Repositioning of the United Nations development system in the context of the quadrennial comprehensive policy review of operational activities for development of the United Nations system*, New York [online] <https://undocs.org/a/res/72/279> (accessed 19 November 2019).

UNODC-IEU (2015) *Meta-Analysis of Evaluation Reports 01/2011-12/2014*, New York.

UNODC-IEU (2017) *Meta-Analysis of Evaluation Reports 01/2015-12/2016*, New York.

UNSDG (2019a) *United Nations Sustainable Development Cooperation Framework - Internal Guidance*, New York.

UNSDG (2019b) *Management and Accountability Framework of the UN Development and Resident Coordinator System*, New York

UNODC (2018) *The SDGs, Human Rights, Gender, and Sustainable Development in the 2030 Agenda*, Vienna.

Van Huijstee, M.M., Francken, M. and Leroy, P. (2007) ‘Partnerships for sustainable development: a review of current literature’, *Environmental sciences*, Vol. 4, No. 2, pp.75-89.

von Weizsäcker, E.-U. and Wijkman, A. (2018) *Come On! Capitalism, short-termism, population and the destruction of the planet: A report to the club of Rome*, Springer Science+Business Media LLC, New York.

Waddell, S. (2003) ‘Global Action Networks: A Global Invention Helping Business Make Globalisation Work for All’, in: *Globalization and Corporate Citizenship: The Alternative Gaze* (pp. 27–42), Corporate Citizenship.

West, M.A., Tjosvold, D. and Smith, K.G. (2003) *International Handbook of organisational Teamwork and Cooperative Working*: West/International. <https://doi.org/10.1002/9780470696712>

Paper 4: Success factors of transformative learning: Putting theory into practice.

Success factors of transformative learning: Putting theory into practice

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Abstract

This paper elaborates on a number of key success factors of transformative learning (TL) theory and tries to provide arguments that validate them. The paper at hand lines out how transformative learning can improve teams in start-ups and NGOs to the direction of education for sustainable development (ESD). Moreover, social structures and belief systems can influence learning in a way that learners make transformation of their experiences in various means. It exemplifies how Mezirow's theory can be put into practice and includes results from collaborative and social learning, personal transformation, team spirit as well as learning environments. The case studies make use of new skills and values via guided interviews. Data from 42 qualitative interviews are analysed and used to argue that transformative learning can be practiced, with success factors, in start-ups and NGOs.

Keywords: Transformative learning; collaboration, success factors; practice; qualitative interviews.

Introduction

TL leading to the direction of ESD is a growing field in sustainability science (Schnitzler, 2019). With the background of several crises (i.e. climate change, COVID-19 or social inequality), a variety of practices led to a discussion and the term of transformative learning have been gaining considerable attention (Akhilesh, 2017; Göpel, 2016; Gruszka, 2016; Hüther, 2017; Romano, 2017, 2018; Scharmer, 2016; Schnitzler, 2019; Wals & Corcoran, 2012).

It is evident to focus on social structures and belief systems (Kitchenham, 2008; Mezirow, 2000; Taylor, 2008). Scharmer (2016) argues that we have several divides. The ecological and social divide are of interest and these systemic disconnects leads us to results that nobody wants (Scharmer, 2016; von Weizsäcker & Wijkman, 2018). Taking into consideration that the ecological system was highly influenced by the industrial revolution that began in the 18th century (Göpel, 2016; Rammel, 2005; UNEP, 2012). As a consequence, an imbalance in the socio-ecological system came up (Schnitzler, 2019; von Weizsäcker & Wijkman, 2018; Wals & Corcoran, 2012).

However, these disconnect behaviour of most people led to destructive impacts (Schnitzler, 2019). Ny et al. (2006) defined this as a “*systematic sustainability challenge*”.

A special focus should be laid on how we could come from cognitive learning to transformative learning as well as taking the education of sustainable development into consideration (Göpel, 2016, Schnitzler, 2019). Hereby, crucial elements are social learning, personal transformation, team spirit as well as reflection (Scharmer & Kaufer, 2015; Wals, 2010). Skills such as interdisciplinary thinking, problem solving and holistic thinking are frequently mentioned (Balsinger et al., 2017; Thomas, 2009; von Weizsäcker & Wijkman, 2018).

Sterling (2011) highlighted that our teaching and learning are not up-to-date and that it is very transmissive.

For this reason, the author tries to show that a link between the two schools of ESD and TL is a very worthy way. Less literature is available that combines the two schools of ESD and TL (Schnitzler, 2019; Sterling, 2011) as well as TL approaches for ESD are seldom (Thoresen et al., 2015). An aim is to improve the communication and dialogue (Balsinger et al., 2017; Sterling, 2011; Wals, 2010). Moreover, it is evident to notice that the transformative aspect in the school of ESD is almost not existent (Schnitzler, 2019). In short and very often, pain is a source of transformation (Braun & Clarke, 2006; Hüther, 2017). Kovan and Dirkx (2003) added the “*being called awake*” as a crucial factor.

Therefore, the author shows that there is a need for identifying the factors that make transformative learning visible. The structure of the paper is the following: First, a comprehensive literature review on TL and ESD is outlined. Second, the research design and methodology is described, followed by data analysis. Third, the results are presented. The paper sums up with the conclusion.

Literature review

Transformative learning

Beginning with Mezirow’s foundational 1978 study on perspective transformation in returning female adult students, transformative learning has gone from an adult learning theory to a rapidly growing learning field, owing much of its development to its applicability in diverse contexts. The theory of Mezirow could be described as a structural shift in the form of consciousness and how we recognize ourselves and our relationships (Goharimehr & Bysouth, 2017; Mezirow, 1978, p. 100). It was subsequently changed to the procedure by which people transform their taken-for-granted frames of reference. An evident part is to widen our behaviour in an inclusive, open and emotionally capable of change and reflective manner (D’Amato & Krasny, 2011; Mezirow, 2000, p. 7; Watkins et al., 2018). As a consequence, the

principles of transformative learning persistently reach new audiences, it will undoubtedly continue to be shaped by those who consume and practice this theory, becoming more holistic as it grows.

In fact, there have been many requests for expanded holism since Mezirow's early work. Several voices including Boyd and Myers (1988), Cranton (2006), Dirkx (2006), Illeris (2004), Snyder (2008), Tisdell (2012) and Taylor (2008), have emphasized the need to widen the approach to transformative learning from various perspectives. Mezirow (1998) emphasized transformative learning is grounded how people communicate together. He did not combine it significantly with life events of the learner (Mezirow, 1998, 2000); but other theorists such as Boyd (1989) interpreted transformation from a Jungian perspective and described it as a lifelong process of discovering new talents, developing confidence, becoming more empowered, deepening an understanding of the personal identity and developing a greater sense of self-empowerment and self-responsibility (Ferrell, 2014; Taylor, 2008).

Moreover, others see TL as a significant change in consciousness which allows people to structurally alter their way of being (Dalby; 2017; Meyer et al., 2010; O'Sullivan et al., 2002). In addition, it is important to mention that it has been commonly accepted that transformative learning theory is uniquely adult, due to the premise that "*adults have acquired a coherent body of experience-assumptions, concepts, values, feelings, and conditioned responses-frames of reference that define their world*" (Mezirow, 1991). However, the majority of the empirical literature has focused on the ten phases of TL in adults who are older than 25 years (Grider, 2011). Recently, the work of Kerr (2014), Walsh (2007) and Whalley (1995) confirmed that various aspects of transformative learning are present in the experiences of those less than 25 years of age. Furthermore, TL is valuable for the development of cognitive and emotional skills. TL is strengthening the maturity of people less than 25 years of age (Grider, 2011; Walsh, 2007).

Transformative learning and education for sustainable development

As Mezirow's work outlined, TL pay attention on the importance of meaning perspectives referring to sets of beliefs, values and assumptions (Mezirow, 1978, 2000). Mezirow's approach to TL has been changed and bridged with education for sustainable development (Balsinger et al., 2017; Wals & Corcoran, 2012) and empowers autonomous as well as critical thinking (Fleming, 2018) and judgement (Singer-Brodowski, 2016; Singer-Brodowski et al., 2018).

Moreover, one definition for the bridge between the two schools of TL and ESD could be the following: "*Education for sustainability above all means the creation of space for transformative social learning*" (Wals, 2010). Consequently, the transformative aspect could empower the school of ESD (Schnitzler, 2019). Grenni et al. (2019) argue that the "*inner dimension*" is a core element in achieving sustainable futures. Furthermore, TL was shown as a crucial factor on the part of human beings (Schnitzler, 2019; Taylor, 2008; von Weizsäcker & Wijkman, 2018).

This paper elaborates on a number of key success factors of transformative learning theory as well as providing arguments that validate it. The paper at hands lines out how transformative learning can improve teams in start-ups and NGOs to the direction of education for sustainable development and that social structures and belief systems can influence learning, that learners make transformation of their experiences in various ways (Katzenbach et al., 1994; Scharmer & Kaufer, 2015).

It lines out how TL could improve teams in start-ups and NGOs to the direction of ESD (Kovacs, 2018; Romano, 2016, 2017; Stuckey at al., 2013, Thomas, 2009). It contributes to research by integrating transformative issues that social structures and belief systems can influence learning (Elias, 1997). Laying a focus on the state of presencing, the paper is based on the opening of the mind, heart and will (Elias, 1997; Fisher & Torbert, 1995; Goleman et al., 2002; Scharmer, 2016).

Research design and methodology

Guided interviews

To gain a broader picture for answering the transformative learning issue, a semi-standardized interview guideline was developed, in order to conduct guided interviews.

Based on the above mentioned literature review conducted, the first insights into the topic were gained through guided interviews and its core themes and influence factors. Therefore, suitable indicators to quantify and assess transformative learning in start-ups and NGOs have been found in different sources. Stuckey et al. (2013), Kovacs (2018) and Romano (2018) suggested possible sets of indicators.

Semi-structured interviews were conducted to gain deeper insights by allowing flexible answers and follow-up questions, while still ensuring comparability between the different case studies (Bryman, 2012). The interview followed a questionnaire and lasted in average 45 minutes. Relying on Bryman (2012), an interview guideline was developed, which was also relying on the important factors to assess transformative learning, taken out of the indicator set by Stuckey et al. (2013) and Romano (2018). The questions focused on transformative learning in start-ups and NGOs to the direction of education for sustainable development within a certain project and personal experiences of the staff. The full list of indicators can be found in Annex I, arranged according to the dimensions and subdimensions covered.

Suitable start-ups and NGOs have been identified in an earlier research by Schnitzler et al. (2020). Based on this, the following cases were chosen and 42 responsible people were contacted with the request for participating. With this background, the start-up companies from the social sector were Nano-Join, Mablo, VGV and RAAM. Participating NGOs from the education sector were Wiener Familienbund, Weltumspannend arbeiten, Bank für Gemeinwohl and KTP. All employees were contacted and invited with the request for participating in an interview, after the completion of a WeQ-test. The participants were assured anonymity. As it regards the fieldwork time, the data was collected from October 2019 to January 2020. The

groups were very heterogeneous in terms of age, length of service to the company, language, professional background or income.

In total, 42 individuals¹ reached participated in the study. The openness of the participants seemed to be relatively good and in the course of the interviews, there were also critical statements on different topics. The interview partners were in general very communicative and informative.

The aim of data analysis is not to discuss each initiative in minute detail. The goal is to find an overarching logic that links transformative learning to the direction of education for sustainable development and to find reasons that social structures and belief systems can influence learning

Data analysis

After the separate analysis, more thoroughly described below, collected and analysed data sets of the interviews were interrelated with another. Success factors were identified, whereby it had to be considered that this term is highly context-dependent and challenges and demands of assessed start-ups and NGOs may vary. The thorough description of the data analysis parts is as follows:

The collected data was classified in patterns, trends or themes that focus on transformative learning, for a clear and compelling story. The analysis and interpretation followed a thematic analysis, grounded on the work of Braun and Clarke (2006). It was considered as the most efficient and suitable tool for the research. Six essential phases of the analysis are listed. It is important (I) to familiarize with the gained data, (II) to establish initial codes, (III) to look for themes, (IV) to assess themes, (V) to define and name themes and (VI) to write the report (Braun and Clarke, 2006). The selected method is flexible and allows to

¹ Concerning the number of participants within each company's team, in the group of start-ups, Nano-Join, two out of three employees; Mablo, three out of four employees; VGV eleven out of 15 employees; and RAAM, eight out of eight employees, took part. In comparison, in the group of NGOs, Wiener Familienbund, four out of 15 employees; Weltumspannend arbeiten, four out of four employees; Bank für Gemeinwohl, six out of ten employees; and KTP, 4 out of 5 employees answered the questionnaire.

summarize the data, generate unanticipated insights and find the overarching themes. Following the six phases of thematic analysis, the interviews were transcribed, partly with the help of online tools, whereby manual correction was necessary.

The codes of all interviews were then put together and sorted into potential overarching themes, which then were depicted with the help of a mind-map - the initial thematic map. After these steps, which correspond to phase I, II and III, we continued with phases IV, V and IV, which entailed the identification of fewer themes in a cyclic review and refinement process. The result was the final thematic map, depicting the main themes identified in the interviews.

Results

The developed thematic map (Figure 1), developed following Braun and Clarke (2006), depicts the whole range of themes that came up in the course of all transcribed and coded interviews. These themes and factors were visually contextualized by showing their interrelations.

Based on 42 qualitative interviews with 24 team members from start-ups and 18 team members from NGOs in Berlin and Vienna, six success factors of TL were identified: changing belief system in a positive manner, dealing with conflicting values, social-emotional communication, participation in interdisciplinary teams, common goals with a focus on SD and creative problem solving. Moreover, the empirical findings take the social technology of presencing (Scharmer, 2016) and the challenge of the evaluation of processes (Romano, 2017) as well as outcomes of TL into consideration (Kovacs, 2018; Thomas, 2009).

When asked on transformative learning, interviewees responded very comprehensive. They identified the benefits using the following words: “*emotions*”, “*creative problem solving*” and “*part of an interdisciplinary team*”. According to the interviewees, a very meaningful part when people work together is that they have common goals with a focus on sustainable development.

It emerges with a transformed sense of identity and a change of belief system in a positive manner. Some interviewees mentioned that there is a trade-off from dealing with conflicting values. There were some statements indicating that the structures and dynamics of the unconscious are crucial and not yet discovered. Furthermore, four levels of learning and change could be linked (Scharmer, 2016), i.e. reacting, redesigning, reframing and presencing. The deep structures of the social field determine the quality of our actions.

Some participants stated that “*reflection*” and “*responsibility*” are evident. Hence, humans need humility, realizing they are part of, not above, ecosystems. Moreover, a coherence among knowledge, acting and space was mentioned.

Another common factor named was that “*engagement in dialogue with the self and the others*” is one of the main factors of transformative learning. There was also a consensus that personal dialogue is the crucial factor for transformative issues (Mezirow, 1991). Taking into consideration that the skills of critical reflection and social learning can grow with a worthfully dialogue (Taylor, 1998; Schnitzler, 2019). “*Trustful communication*” with colleagues was also named as a factor leading to success and transformation. Once communication is not an issue anymore, reflection on assumptions and belief systems are not questioned any more.

Further, “*collaborative learning spaces*” were added. The non-formal learning environment in start-ups is supportive for TL to ESD. Hence, the learning experience of employees in this cultural environment is crucial.

Conclusion

It is important to mention that transformation does not always automatically imply improvement. Such disregard is even more puzzling because of the need of transformative learning environments for achieving a sustainable development. In conclusion, there is still a blind spot on new cultures of learning (Scharmer, 2016). The role of learning should be considered in this paper in the sense of being a creator of the own learning process (Hüther, 2017).

Collaboration as outlined in Schnitzler (2019) and Schnitzler et al. (2020) is a crucial factor for dealing with various sustainability challenges. Moreover, ESD is an open-ended learning process. It empowers learners to transform. The following factors were mentioned as success factors of transformative learning for ESD: dealing with conflicting values, social-emotional communication, participation in interdisciplinary teams, common goals with a focus on SD, creative problem solving (Hopkins, 2019; Thomas, 2009).

The emergence for this paper was personal experience with transformative learning to the direction of education for sustainable development. This study explored four start-ups and four NGOs to better understand the process of transformation. The gained data provided by the 42 participants of the study showed that the participants are willing to behave with critical reflection, rational discourse and reflective action (Grider, 2011; Schnitzler, 2019). It considers Mezirow's (1998) aspects on critical reflection as well as Taylor's (2008) transformative learning theory.

To sum up, the enablement of action is related to an individual's environment. Start-ups may give a framework in which transformative learning could be achieved to education for sustainable development. In practice, taking the findings of the guided interviews into consideration, when young people are subjected to the topic. With the goal to bring transformative experiences into consciousness, there is an evident opportunity to support employees in start-ups and NGOs to question their social structures and belief systems (Grider, 2011). Moreover, it significantly links to Scharmer's (2016) theory U and co-creation that prototypes the new in order to explore the future by doing. An inherent goal is to tackle the three divides ecological, social and spiritual as well as to achieve coherence. In the following, the suggestions for further research will be presented.

As it regards suggestions for further research, in particular, long-term approaches for introducing social learning processes in non-formal education are a crucial field of interest in start-ups and NGOs. It is also important to mention that further research regarding the

innovative approaches of TL and learning environments in start-ups and NGOs should be done to examine the possible potentials.

References

- Akhilesh, K. B. (2017). *Co-creation and learning: concepts and cases*. Springer India.
- Balsiger, J., Förster, R., Mader, C., Nagel, U., Sironi, H., Wilhelm, S., & Zimmermann, A. B. (2017). Transformative learning and education for sustainable development. *Gaia*, 26, 357–359. <https://doi.org/10.14512/gaia.26.4.15>
- Bester, A. (2015). *Scoping study on monitoring, review and accountability for development cooperation to support implementation of a post-2015 development agenda*. UNDESA. https://www.un.org/ecosoc/sites/www.un.org.ecosoc/files/publications/ma_scoping_study_report.pdf
- Boyd, R. D. (1989). Facilitating personal transformations in small groups part I. *Small Group Research*, 20(4), 459–474. <https://doi.org/10.1177/104649648902000406>
- Boyd, R. D., & Myers, J. G. (1988). Transformative education. *International Journal of Lifelong Education*, 7(4), 261–284. doi:10.1080/0260137880070403
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bryman, A. (2012). *Social research methods* (4th ed). Oxford University Press.
- Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults*. Jossey-Bass.
- Dalby, T. P. (2017). *Space for a change? An exploration of power, privilege and transformative pedagogy in a gap year education programme in South America*. [Doctoral dissertation, University of East Anglia]. Ueaprints. https://ueaprints.uea.ac.uk/id/eprint/67811/1/Pablo_Dalby_PhD_Thesis_Final_Version.pdf
- D’Amato, L. G., & Krasny, M. E. (2011). Outdoor adventure education: Applying transformative learning theory to understanding instrumental learning and personal growth in environmental education. *Journal of Environmental Education*, 42(4), 237–254. <https://doi.org/10.1080/00958964.2011.581313>

- Dirkx, J. M. (2006). Authenticity and imagination. *New Directions for Adult and Continuing Education*, 2006(111), 27–39. doi:10.1002/ace.22
- Elias, D. (1997). It's time to change our minds: An introduction to transformative learning. *ReVision*, 20(1), 2–6.
- Ferrell, E. W. (2014). *Investigating the effects of facilitating a participatory action research study at a high school with small learning communities*. [Doctoral dissertation, Loyola University Chicago]. eCommons. https://ecommons.luc.edu/cgi/viewcontent.cgi?amp=&article=2080&context=luc_diss
- Fisher, G. C., & Torbert, W. R. (1995). *Personal and organizational transformations: The true challenge of continual quality improvement*. McGraw-Hill.
- Fleming, T. (2018). Mezirow and the theory of transformative learning. In V. Wang, (Ed.), *Critical theory and transformative learning* (pp. 120–136). IGI Global.
- Goharimehr, N., & Bysouth, D. (2017). *Transformative learning and critical thinking in Japanese higher education*, Osaka University Knowledge Archive. https://ir.library.osaka-u.ac.jp/repo/ouka/all/60580/hs43_215.pdf
- Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Harvard Business School Press.
- Göpel, M. (2016). The great mindshift. How a new economic paradigm and sustainability transformations go hand in hand. <https://www.springer.com/de/book/9783319437651>
- Grenni, S., Soini, K., & Horling, L. G. (2019). The inner dimension of sustainability transformation: How sense of place and values can support sustainable place-shaping. *Sustainability Science*, 1, 1–12. <https://doi.org/10.1007/s11625-019-00743-3>
- Grider, C. F. (2011). *Tales and testimonies of transformational learning in young adults*. [Doctoral dissertation, University of Illinois]. Ideals. https://www.ideals.illinois.edu/bitstream/handle/2142/24193/grider_charles.pdf?sequence=1&isAllowed=y

- Gruszka, K. (2016). Framing the collaborative economy. *Ecological Economic Papers*, 11(2), 1–12. https://epub.wu.ac.at/4911/1/EcolEcon_WorkingPaper_2016-11.pdf
- Hopkins, R. (2019). *From what is to what if: Unleashing the power of imagination to create the future we want*. Chelsea Green Publishing.
- Hüther, G. (2017). *Co-creativity and community*. Göttingen.
- Illeris, K. (2004). Transformative learning in the perspective of a comprehensive learning theory. *Journal of Transformative Education*, 2(2), 79–89. doi:10.1177/1541344603262315.
- Katzenbach, J. R., & Douglas, K. S. (1994). *The wisdom of teams: Creating the high-performance organization*. HaperBusiness.
- Kelly, L. (2017, August 3). Analysing Visitor Conversations. *Musdigi*.
<https://musdigi.wordpress.com/2017/08/03/analysing-visitor-conversations-tbt-musdigi/>
- Kerr, S. P. (2014). *Personal shift: The potential for transformative learning in youth through international service education programs* (Unpublished Doctoral dissertation). Royal Roads University, Victoria, B.C., Canada.
- Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education*, 6(2), 104–123. doi.org/10.1177/1541344608322678.
- Kovacs, H. (2018). Change, challenge, transformation: A qualitative inquiry into transformative teacher learning. *CEPS Journal*, 8(3), 99–118. doi: 10.26529/cepsj.510
- Kovan, J. T., & Dirks, J. M. (2003). 'Being called awake': The role of transformative learning in the lives of environmental activists. *Adult Education Quarterly*, 53, 99–118. doi: 10.1177/0741713602238906.
- Kroth, M., & Cranton, P. (2014). *Stories of transformative learning*. Sense Publishing.

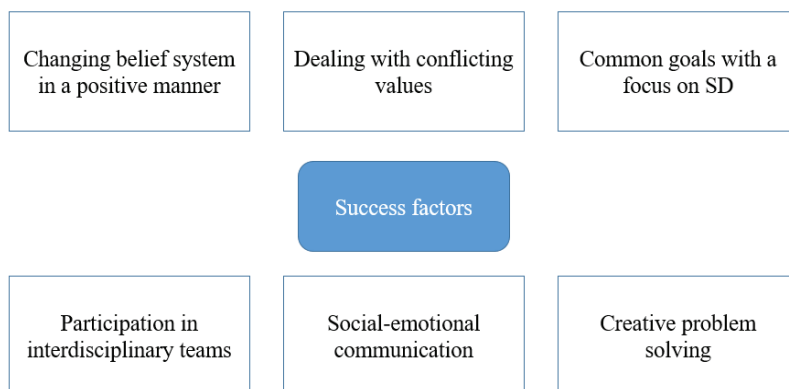
- Meyer, J. H. F., Land, R., & Baillie, C. (2010). *Threshold concepts and transformational learning*. Sense Publishers.
- Mezirow, J. (1978). Perspective transformation. *Adult Education Quarterly*, 28(2), 100–110. doi:10.1177/074171367802800202.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly*, 48(3), 185–198. doi:10.1177/074171369804800305.
- Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. Jossey-Bass.
- Ny, H., MacDonald, J., Broman, G., Yamamoto, R., & Robèrt, K.-H. (2006). Sustainability constraints as system boundaries. An approach to making life-cycle management strategic. *Journal of Industrial Ecology*, 10(1–2), 61–77.
- O’Sullivan, E., Morrell, A., & O’Connor, M. A. (2002). *Expanding the boundaries of transformative learning*. Palgrave Macmillan.
- Rammel, C. (2005). The Paradox of Sustainable development. In A. Maples (Ed.), *Sustainable development: New research* (pp. 1–30). Nova Science Publishers.
- Romano, A. (2016). *Quando l’apprendimento trasforma. Percorsi teorici e strategie didattiche per l’educazione nei contesti sociali*. FrancoAngeli.
- Romano A. (2017). The challenge of the assessment of processes and outcomes of transformative learning. *Educational Reflective Practices*, 1, 184–219.
- Romano, A. (2018). Transformative learning: A review of the assessment tools. *The Journal of Transformative Learning*, 5(1), 53–70.
- Scharmer, C. O. (2016). *Theory U: leading from the future as it emerges*. Berrett-Koehler Publishers.
- Scharmer, C. O., & Kaufer, K. (2015). *Awareness-based action research: Catching social reality creation in flight*. Sage.

- Schnitzler, T. (2019). The bridge between education for sustainable development and transformative learning: Towards new collaborative learning spaces. *Journal of Education for Sustainable Development*, 13(2), 242–253, <https://doi.org/10.1177/0973408219873827>
- Schnitzler, T., Seifert, M., & Tataje, C. (2020). *Achieving sustainable partnership in the UN: Cooperation among UN organisations in the framework of the SDGs*. RAUN. <http://www.ra-un.org/publications>.
- Singer-Brodowski, M. (2016). Transformative Bildung durch transformatives Lernen. Zur Notwendigkeit der erziehungswissenschaftlichen Fundierung einer neuen Idee. *ZEP – Zeitschrift für Int. Bild. und Entwicklungspädagogik* 31, 13–17.
- Singer-Brodowski, M., Beecroft, R., & Parodi, O. (2018). Learning in real-world laboratories: A systematic impulse for discussion. *GAI A*, 27(1), 23–27, <https://doi.org/10.14512/gaia.27.S1.7>
- Snyder, C. (2008). Grabbing hold of a moving target: Identifying and measuring the transformative learning process. *Journal of Transformative Education*, 6(3), 159–181. doi:10.1177/1541344608327813.
- Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Green Books.
- Sterling, S. (2011). Transformative learning and sustainability: Sketching the conceptual ground. *Learning and Higher Education*, 5, 17–33.
- Stuckey, L., Taylor, E., & Cranton, P. (2013). Developing a survey of transformative learning outcomes and processes based on theoretical principles. *Journal of Transformative Education*, 11(4), 211–228.
- Taylor, E. W. (1998). *The theory and practice of transformative learning: A critical review*. ERIC.
- Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult and Continuing Education*, 119, 5–15.

- Thomas, I. (2009). Critical thinking, transformative learning, sustainable education and Problem based learning in universities. *Journal of Transformative Education*, 7, 245–264. <https://doi.org/10.1177/1541344610385753>
- Thoresen, V. W., Didham, R. J., Klein, J., & Doyle, D. (2015). *Responsible living: Concepts, education and future perspectives*. Springer International Publishing.
- UNEP (2012). *Global Environment Outlook 5: Environment for the future we want*. Progress Press.
- von Weizsäcker, E.-U., & Wijkman, A. (2018). *Come on! Capitalism, short-termism, population and the destruction of the planet*. Springer Science+Business Media LLC.
- Wals, A. (2010). Mirroring, Gestaltswitching and transformative social learning: Stepping stones for developing sustainability competence. *International Journal of Sustainability in Higher Education*, 11(4), 380–390.
- Wals, A., & Corcoran, P. B. (2012). Re-orienting, re-connecting and re-imagining: Learning based responses to the challenge of (un)sustainability. In A. Wals & P. B. Corcoran (Eds.), *Learning for sustainability in times of accelerating change* (pp. 21–32). Wageningen Academic Publishers.
- Walsh, S. L. (2007, October 24-26). *How do age and cognitive development affect transformational learning?* [Conference presentation]. 7th International Transformative Learning Conference, Albuquerque, New Mexico. <https://storage.ning.com/topology/rest/1.0/file/get/2865641110?profile=original>
- Watkins, C. E., Davis, E. C., & Callahan, J. L. (2018). On disruption, disorientation, and development in clinical supervision: A transformative learning perspective. *The Clinical Supervisor*, 37(2), 257–277.
- Whalley, T. R. (1995). *Toward a theory of culture learning: A study based on journals written by Japanese and Canadian young adults in exchange programs* [Unpublished doctoral dissertation]. Simon Fraser University.

Figure 1

Success factors of transformative learning



Note. Developed thematic map highlighting the success factors of transformative learning.

Annexes

Annex I

Interview Questions – TL

Name:

Project:

Thank you for your time and participation, I appreciate this very much!

Introduction

1. Please think about a specific life changing experience in your project that changed your perspective as an adult learner, particularly in relationship to employment success. This should be an event(s) which altered your perspective in a fundamental way. Take a few minutes to describe the experience below. What were the circumstances? What happened? When did it happen? Where did it happen (school, work, or community)? Who was involved? How were you feeling?
2. As a result of my life-changing experience:

	Mostly disagree			Mostly agree
<i>Something I previously believed about myself or my world no longer held true</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>I am more authentic than I once was</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>I am more open to views of others than I was before</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<i>I see different sides of controversial issue</i>	o	o	o	o
<i>When I have a problem, I see different solutions</i>	o	o	o	o
<i>I feel empowered to act in ways I once never would have imagined</i>	o	o	o	o
<i>I feel more confident acting on my beliefs</i>	o	o	o	o
<i>Overtime, I have become better able to articulate my values</i>	o	o	o	o
<i>I have changed the way I learn something new</i>	o	o	o	o
<i>I have greater empathy for others' positions than I used to have</i>	o	o	o	o
<i>I am okay with uncertainty</i>	o	o	o	o

Collaboration

3. If you think of the project, how was the collaboration with others in the company?
4. What are the criteria and key indicators for success?

Shared goals

5. Were you told the common goals of the project?
6. And also the goals your project was supposed to achieve through collaboration?

Communication

7. How was the communication between the employees/project managers? How and to what extent did you exchange data, knowledge and other resources?

Assessment

8. Did you have any shared indicators/methods/evaluation system?
9. In your opinion, what made the transformation successful/unsuccessful?
10. In your personal experience, what are the crucial factors to promote and keep up transformation?
11. What are the factors that inhibit transformation?
12. In the view of transformation, what could be improved in this project or in future projects?

Transformation

13. To what extent, did the whole outcome of the project shift your social structure?
14. To what extent, did the whole outcome of the project shift your belief systems?
15. Is this linked to education for sustainable development?
16. Do the learning outcomes go to the direction of education for sustainable development?

Thank you very much again for your participation! It is very helpful!

Annex 2

The Iceberg Model

