Tanja Tuominen

Quality Assurance in Sustainability-Focused Business Education

Case Study: Knowledge Alliance for Business Opportunities in SDGs Project

Abstract

Author:	Tanja Tuominen
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This thesis examines the process of curriculum creation and development in sustainability-focused education. The focus was on quality assurance within the curriculum creation process. The SDG4BIZ-project was taken as a case study for this thesis. The objective was to evaluate and give recommendations on how to enhance quality assurance of the project's deliverables.

The main research method used in this thesis was participant observation. In addition, field notes were gathered from the project´s steering committee meetings and pre-piloting phase over a period of 11 months. Data analysis also included other materials and documents related to the project, such as the project description, quality plan, and evaluation plan.

The literature review focused on two topics, sustainability in HEIs and the SDGs and quality assurance in higher education. Based on the relevant elements of literature review, a conceptual framework was created. Finally, all the collected data was analysed against the conceptual framework. The findings highlighted the importance of modern teaching and learning methods and technologies, teachers' competences and skills, and inclusion of sustainability in internal, external, and institutional QA practices.

Based on the analysis conducted in this thesis, the project´s quality assurance related principles and planned actions were evaluated as relevant and comprehensive, and the observations confirmed that they were also carried out well in practice. A few recommendations were made regarding the usability of the learning platform, dissemination of the curriculum, and teachers' education. The current quality assurance practices combined with the recommendations given in the thesis will result in higher quality deliverables that are scalable for a wide use.

Keywords: Sustainable Development Goals, higher education, sustainability, curriculum, quality assurance

Tiivistelmä

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Tässä opinnäytetyössä tarkastellaan kestävään kehitykseen keskittyvän opintokokonaisuuden luonti- ja kehitysprosessia. Työ keskittyy prosessin laadunvarmistukseen. Kyseessä on tapaustutkimus, joka käsittelee SDG4BIZ -projektia. Tutkimuksen tavoitteena on arvioida projektin pilotointi- ja viimeistelyvaiheen laadunvarmistusta ja antaa kehitysehdotuksia siitä, kuinka projektin tuotoksia voidaan laadunvarmistuksen näkökulmasta parantaa.

Tutkimusmenetelmänä työssä käytettiin havainnointia. Muistiinpanoja kerättiin 11 kuukauden havainnointijakson aikana projektiryhmän palavereista, jotka käsittelivät projektin pilotointivaihetta. Analysointivaiheessa käytiin läpi myös muita projektiin liittyviä dokumentteja ja materiaaleja, kuten projektisuunnitelmaa, laatusuunnitelmaa sekä arviointisuunnitelmaa.

Tietoperusta jakautui kahteen aiheeseen, kestävän kehityksen korkeakouluopetukseen sekä laadunvarmistukseen korkeakoulutuksessa. Tietoperustan perusteella luotiin teoreettinen viitekehys siitä, miltä laadukas kestävän kehityksen korkeakouluopetus näyttää. Tutkimusvaiheessa kerättyä dataa arvioitiin tätä viitekehystä vasten. Analyysin tulokset korostivat modernien oppimisalustojen ja teknologian tärkeyttä, opettajien pätevyyttä sekä kestävän kehityksen linkittämistä instituutioiden laadunvarmistuksen käytäntöihin.

Analyysin pohjalta voitiin todeta, että projektin laadunvarmistuksen periaatteet ja suunnitellut toimenpiteet olivat relevantteja ja kattavia. Laadunvarmistus toteutui myös hyvin käytännössä. Kehitysehdotuksia annettiin liittyen oppimisalustan käyttökokemukseen ja sen kehittämiseen, opetussuunnitelman saavutettavuuteen ja opettajien kouluttamiseen. Projektin nykyiset toimenpiteet yhdistettynä annettuihin ehdotuksiin muodostavat laadukkaan opetusmateriaalin, joka on hyvin skaalattavissa laajaankin levitykseen.

Avainsanat: korkea-asteenkoulutus, kestävä kehitys, opetussuunnitelma, laadunvarmistus

Contents

1 Introduction

This thesis examines the process of curriculum and syllabus creation and development in sustainability-focused education. The focus is on quality assurance within the curriculum creation process and the Knowledge Alliance for Business Opportunities in SDGs project (or SDG4BIZ project in short) is taken as a case study for this thesis.

The SDG4BIZ project aims to create a multidisciplinary curriculum and set of training materials to enhance the awareness of business growth potential within the United Nations Sustainable Development Goals (SDGs) (SDG4BIZ 2020a). The SDG4BIZ project is divided into eight work packages and the research conducted in this thesis will focus on work packages four to seven, where the training materials are created, piloted, modified, and validated. The focus will mainly be on work package five's (WP5) process and outcomes, where the materials created in work package four (WP4) will be pre-piloted and piloted. Documents and other materials collected related to work package six (WP6) that focuses on quality assurance, and work package seven (WP7) focusing on evaluation will also be analysed in the results.

1.1 Research objectives and outcome

The objective of this thesis is to find out how relevant and comprehensive the SDG4BIZ project's quality assurance practices are, and to give recommendations on how to enhance the quality assurance of the project's deliverables. Projects deliverables are the created training materials, and the research focuses on the process of creating, testing, and validating the curriculum itself. This will be done by observing and evaluating the SDG4BIZ project from the perspective of quality assurance in sustainability-focused business education. The recommendations will then be based on the learnings made from comparing the empirical observations to the literature review and the conceptual framework created based on the literature review.

Recommendations are intended to improve quality assurance implementation in this sustainable business education project.

The literature review of this thesis in divided into two major topics: sustainability-related business education; and quality assurance in higher education. Discussion of the sustainable development topic will aim to give an overview of the historical development of sustainability-related business-focused content in higher education institutions and what is the current situation. The quality assurance discussion charts the evolution of quality assurance in higher education to the present.

Thereafter each topic is linked together in order to demonstrate what quality assurance means in sustainability-focused higher education. And so, the conceptual framework will be based on the outcomes of a comprehensive literature review encompassing quality assurance methods and objectives in higher education, best practices from sustainability-focused education and business opportunity recognition resulting from the publication of the United Nations' 17 Sustainable Development Goals.

In order to analyse the current quality assurance practices and develop recommendations on how to enhance the quality assurance of the process and its deliverables, the case study will be conducted with qualitative research methods. The main research method used will be participant observation. Evaluation and analysis of the findings from the observation phase will be done based on the conceptual framework created for the thesis.

1.2 Business context

The topic of the thesis was chosen because there is a need to study and enhance the quality assurance aspect of the process of creating a sustainability-focused curriculum in the SDG4BIZ project. After discussions with the person responsible for the work package five (WP5) of the project, a conclusion was made, that the best way to enhance the quality assurance of the

process and its outcomes is participant observation and the evaluation conducted based on that observation process.

During WP4 the training materials are created with efforts from all participant universities and during WP5 the training materials are pre-piloted, piloted and modified according to user feedback and expert evaluation. During WP6 the quality of activities and results are evaluated and ensured and during WP7 evaluation reports are used to assess project deliverables. Participant observation will take place during the WP5's steering committee meetings, which relates mainly to the piloting and modification phases of the project.

The curriculum and training materials created by the SDG4BIZ project will not only be used in higher education institutions but also promoted for private businesses and other enterprises where appropriate. Companies are hoped to use their resources to train their employees for better business opportunity recognition consistent with the Sustainable Development Goals.

Different educational institutions and consulting companies have started to recognize the business opportunities in training materials and courses regarding the business opportunity recognition within the Sustainable Development Goals. They offer different kinds of certification to bring additional value to their offerings and promote the quality of their education. The amount and quality of competition is intensifying and so the quality of the project's deliverables needs to be up to a high standard for them to compete with other, alternative training possibilities that companies offer.

1.3 Research timetable and execution

The preparation of the thesis started in February 2022. The literature review and the methodology description were mostly concluded by the end of September 2022. This was done before the proper observation period began so that the participant observer will have gained sufficient knowledge of the topic to be able to later give recommendations. From May 2022 the project moved on to

peer review (formally the last part of WP4), pre-piloting, piloting, and modification of the curriculum in accordance with feedback received. The first thesis seminar was held in May 2022. The participant observation and evaluation were done by the end of March 2023 and the thesis is finalized with results, suggestions, and conclusion by the end of April 2023. The second thesis seminar will take place in late April 2023.

2 Project background

2.1 Knowledge Alliance for Business Opportunities in SDGs project

The SDG4BIZ project aims for business opportunity recognition within the United Nations Sustainable Development Goals (SDGs). During the project a multidisciplinary curriculum and set of training materials will be created and tested to enhance the awareness of business growth potential within the Sustainable Development Goals. (SDG4BIZ 2020a.)

Currently most of the training efforts of the SDGs are focusing on awareness creation rather than business opportunity recognition and so higher educational institutions don't sufficiently support building the competences of future leaders and policy makers. If the SDGs were reached by the target year of 2030, 380 million jobs could be created and business opportunities worth of €10 trillion could be unlocked. But with current efforts the SDGs are most likely not going to be met by the target year and so an innovative, cross-border curriculum and training material is needed to reach the Sustainable Development Goals. (SDG4BIZ 2020a.)

The SDG4BIZ project is co-funded by the Erasmus+ programme of the European Union and it is a partnership of both public and private organizations that includes higher education institutions, research institutions, foundations, and companies. The project is divided into eight work packages and was kick-started with project planning and preparation in November 2020 followed by current state analysis in June 2021. Content creation and piloting took place

from 2022 to 2023 and training materials will become available later in 2023. (SDG4BIZ 2019, 24.) Below is an illustration of the project's original timeline and the milestones.
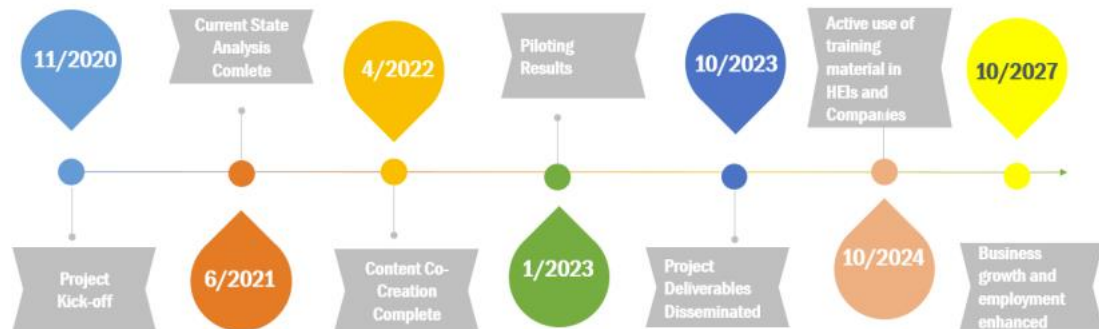

Figure 1. SDG4BIZ project milestones (SDG4BIZ 2019, 24).

The training materials will be presented in one of the project partner's viable learning platforms and it will combine mobile learning and micro-learning as pedagogical methods. It will represent the newest pedagogical knowledge and so it will be an innovative solution targeted for both European higher education institutions and companies. During the project five training modules will be created to address the 60 most essential business opportunities found within the SDGs. The modules are:

- business opportunity recognition
- food and agriculture
- cities
- energy and materials
- health and wellbeing. (SDG4BIZ 2019, 7.)

The desired impact of the project is to train 1500 teachers in the partner higher education institutions by the year of 2023 and have 30% of those teachers integrate SDG business potential into their teaching. The desired impact regarding companies by 2023 is to have 115 companies train their staff and have 60% of the trained staff using the knowhow from the training in process and product development. This would mean a total of about 80 000 employees trained and 48 000 using the skills and knowhow if the training in their daily

work. The following aim is that as a result of realizing the opportunities in SDGs companies have become more competitive and have created new business by the year of 2027 and the curriculum will be used in 200-500 higher education institutions and 2000-5000 European companies. With these actions the world will be closer to reaching the United Nations Sustainable Development Goals by 2030. (SDG4BIZ 2019, 4.)

2.2 Historical context of the SDG4BIZ project

The Business and Sustainable Development Commission (2017, 11) states that by achieving these United Nations Sustainable Development Goals a world that is comprehensively sustainable could be created. It would mean a more socially fair and inclusive, environmentally secure, prosperous, and predictable environment for everyone. Achieving the SDGs could create as much as 12 trillion dollars' worth of market opportunities within the economic systems. The SDGs are designed to interact with each other and so by achieving them all a much bigger impact can be created. The key for achieving these goals lies in engaging private businesses and their leaders to move towards the goals together. This way a viable model for long-term economic growth could also be created.

In a sustainable business model, the creation of social and environmental value goes together with the creation of financial profits. In order for a business leader or an entrepreneur to recognize the sustainable business opportunities they need to have prior knowledge about the natural or societal challenges combined with a high degree of business knowledge. An entrepreneur must have an understanding of the natural environment in addition to motivation and altruism to recognize and pursue sustainable business opportunities. (Harilainen & Harmaala 2020, 3–4.)

Since higher education institutions of business and management studies pay a key role in training of business leaders of the future, it is critical that business opportunity recognition in sustainable development is incorporated in the

curricula (Harilainen & Harmaala 2020, 2). According to the annual SDG Accord report (2022, 20) awareness of the SDGs in higher education institutions around the world is steadily increasing as institutions embed the SDGs in their strategies and training materials. Covid-19 has limited the resources available towards the SDGs and not all plans made regarding training and engagement opportunities have materialized during the past year. The report (The SDG Accord Report 2020, 20) highlights that the Sustainable Development Goals have never been more important when institutions and wider society battle the consequences of Covid-19.

2.3 Project stakeholders and responsibilities

The project organization created for this project consist of both public and private organizations including higher education institutions, companies, research institutions and foundations (SDG4BIZ 2019, 10). All participant organizations have different skills and tools to contribute towards the success of the project. These include innovation management, sustainable technologies, entrepreneurship, business opportunity recognition, digital platforms for teaching and sustainable business model development (SDG4BIZ 2019, 18–19). Other stakeholders in the project include students, teachers, other professionals in HEIs, companies and their employees and the wider public (SDG4BIZ 2019, 60).

Metropolia University of Applied Sciences is responsible for the overall project management in hosting the role of Project Coordinator. The responsibilities of leading different work packages (1-8) in the project are divided between the organizations based on the skills and competences of each organization. The lead partner in each work package is responsible for achieving the goals and completing the tasks outlined for that work package. (SDG4BIZ 2019, 25–26.) In WP5, on which this thesis is mostly focused, the leading partner is Metropolia University of Applied Sciences, and the main responsibility is piloting of the created curriculum. The overall goal of this work package is to validate the learning materials from technical and educational point of view focusing on

pedagogical design, learning outcomes and overall model validation. (SDG4BIZ 2019, 88.)

3 Methodology

3.1 Research methods & participant observation

The main research method used in this thesis for collecting data is participant observation. It is a qualitative research method where the researcher takes the roles of a participant as well as an observer of the events under study (Anttila 1996, 218). Participant observation will be the main research method used for this thesis, since it allows the researcher to be more involved in the project and helps gain a deeper understanding of the context being studied. Later if found needed interviews and analyses of stakeholders can be conducted or sample groups' feedback can be gained from the pre-piloting and piloting processes. Observation will also be conducted through participating in the pre-piloting phase in the role of a business representative. This is done to gain more knowledge and understanding in what the curriculum looks like from potential users' point of view.

Participant observation originates from ethnographic research where researchers would join a community to learn about their ways of life. Participant observation is a way of collecting data by becoming part of a group, organization, or event under study and it allows the researcher to observe what people actually do, rather than just analyse what people say they would do. (Gans 1999, 540; Vinten 1994, 30.) With this research method the researcher can gain deeper understanding and knowledge with a higher degree of involvement in the event under study, compared to someone outside looking in (Takyi 2015, 864; Vinten 1994, 30).

The term "fieldwork" is often related to participant observation. It is used to describe the data-collection phase in qualitative research where the researcher leaves their desk to go out into the field (Delamont 2004, 206). In this case the

field would be a metaphor for the setting of the meetings that are being observed and evaluated. In fieldwork the role of the researcher can vary from a complete observant to someone who is a complete participant in the events that are under study. In between those two opposites are observer as participant and participant as observer, which is the approach used in this thesis. The approach the researcher takes may often vary during the study since it usually makes more sense for the researcher to take more of an observing role in the beginning and then participate more only after knowledge and confidence about the event under study grows. (Grönfors & Vilkka 2011, 52.) In participant observation it is essential that the people under observation do not feel awkward or change the way they act because of the researcher's presence (Anttila 1996, 218).

Observation itself is a highly skilled activity which requires a comprehensive background knowledge and understanding of the subject under observation, and it requires the researcher to adapt various roles and techniques for data collecting (Baker 2006, 172; Vinten 1994, 30). The researcher needs to have a clear understanding of their role as a researcher and avoid getting attached so that sufficient data can be collected and analysed regarding the problem under investigation (Baker 2006, 172). Participant observation is a method where the researcher is less in control of the situation than in other qualitative research methods. The researcher will be interacting and reacting to situations and events as they occur and so there can't be a script for how to deal with participant observation beforehand (DeWalt & DeWalt 2011, 27).

3.2 Data collection and analysis

In participant observation the researcher may use a few different types of methods for collecting data. The main method used in this thesis will be observation of the project meetings and events. The key to collecting data in participant observation is cultivating the ability to observe and listen carefully. During project related meetings and observation situations data can be collected by using recording devises and/or writing field notes. All gathered data

should be organized systematically and follow the same structure so that it can later be presented and referred to in a reliable way. This will also help to perceive emerging patterns in the data collected. (Kamsteeg, Yanow, Ybema & Wels 2009, 35; Anttila 1996, 218.) A key element of participant observation is that data collection is planned well and executed systematically, and the researcher's role is made clear in the research plan (Puusa, Juuti & Aaltio 2020).

In participant observation, in addition to data collected from the observation process itself, additional data can be found from organizations website, annual reports, newsletters, and so on. Websites can be a useful source of links to other important websites for the research. Another important source of information are the organizations' internal documents that are usually only available for the organizations themselves. These could include minutes, reports, and other types of unpublished documents. (Kamsteeg, Yanow, Ybema & Wels 2009, 34.) During this research project data will be collected form the SDG4BIZ project's website, reports written for European Union about the project, project newsletters and other internal documents related to the project. Some of the main documents include project plan, quality plan and evaluation plan.

Interviews can also be used as a data collection method in participant observation. Data collected through interviews can then later be compared to the data collected by observation. Interviews conducted during the research should remain unstructured or semi-structured so that the interviewee can speak freely about the topic and maximum amount of information can be discovered. In unstructured interviews the impact of the researcher can be kept to the minimum when the questions are not standardised in advance by the researcher. (Grönfors & Vilkka 2011, 60–61.)

Analysing the materials and data collected with participant observations is similar to all the other qualitative research method analysis and the essential part is that all the available material is used in the analysing process (Puusa,

Juuti & Aaltio 2020). The materials created during participant observation are analysed by comparing the materials to the previously conducted conceptual framework. Using the conceptual framework as the guideline for the analysis, meaningful information and patterns are sought after from the material.

3.3 Phases of participant observation

Participant observation will take place in steering committee meetings for the WP5 that will kick off on 11th May 2022. After the summer break the steering committee meetings will be held monthly starting from September and they will be held to follow the process of pre-piloting and piloting. The pre-piloting phase should be conducted by the end of 2022 and full pilot will take place starting from January 2023. The reason for the discrepancy between this schedule and the original timeline illustrated above in Figure 1 is the disruption caused by the coronavirus pandemic that led to worldwide lockdowns over a period of almost 2 years, beginning in March 2020. For this reason, the SDG4BIZ project timetable had to be adjusted, and this was agreed with the project funders.

Fieldnotes will be gathered from all the meetings possible, and they will later on be examined against the conceptual framework created based on the literary review, to see the possible points for improvement from quality assurance in sustainaility education point of view. It is important that in this phase all the fieldnotes are collected systematically and there is sufficient quantity of material to go through when analysing the results. In addition to the data collected from participant observation, all materials and documents related to the project will also be observed and evaluated from quality assurance in sustainability-focused educations point of view.

The researcher will also be taking part in the pre-piloting phase by testing some of the modules in the role of a business representative. The pre-piloting will take place from around 15 November to 15 December 2022. During the pre-piloting fieldnotes will be written about the observations made when testing out the modules. The observations made about the pre-piloting process, materials, and

the content of the modules throughout the pre-pilot will add to the data collected through other methods and help with the overall evaluation and improvement suggestions.

3.4 Validity and reliability

To ensure reliability and validity of the participant observation study the researcher needs to be critical about their own actions. They need to be able to evaluate the effect they have on the observation situation and distance themselves from the people they are studying. The researcher needs to understand the subjectivity of their observations and take into account their biases and how they may affect their way of studying the events. (Puusa, Juuti & Aaltio 2020; Takyi 2015, 870; Gans 1999, 3–4.)

In participant observation to ensure a comprehensive understanding of the situation and events under study, it is important to make sure that data is collected over considerable amount of time (Baker 2006, 171). During this study the participant observation will take place over a time period of about 11 months. The researcher will participate in all relevant meetings and events over that time period and adopt a suitable role from initially observant to participating observer to gain a sufficient amount of materials and data and to secure a comprehensive overall understanding of the topic.

It is also important that research work and writing of the literature review should mostly be done before the participant observation phase begins (end of September 2022). This should be done to ensure that the researcher knows the theory and framework behind the topic under observation and knows where to focus during the observation period.

To enhance the reliability of the study data will be collected in a systematic and strict way so that all the recommendations and findings can be traced back to the materials collected in the observation process. The participant observer will also be taking part in the pre-piloting process in the role of a business

representative to gain additional knowledge and understanding of the project's deliverables. In addition to the data collected through participant observation, further data will be collected from materials and documents related to the project to evaluate the validity of the findings.

4 Sustainability in Higher Education and the SDGs

4.1 United Nations Sustainable Development Goals (SDGs)

In 2015 the United Nations created the 2030 Agenda for Sustainable Development, which was then adopted by all its member countries and stakeholders. In the heart of that agenda are the 17 Sustainable Development Goals (United Nations 2015).

Figure 2. United Nations Sustainable Development Goals (United Nations).

Together they aim for peace and prosperity of the people and the planet in the present as well as in the future. It is recognized that ending poverty is the biggest global challenge and an essential requirement to ensure sustainable development. In order to tackle the challenge, strategies to develop health and education systems, reducing inequality and speeding up economic growth all must go hand-in-hand. (United Nations 2015.)

People, planet, prosperity, peace, and partnership are the five critical areas of importance for humanity and the planet that require immediate action. With the 2030 agenda, the SDGs and the actions taken regarding them, stakeholders commit to sustainable development in its three dimensions: economic, social, and environmental. (United Nations 2015.)

The Sustainable Development Goals are global and universally applicable, and each country and its government are to set its own national targets taking into account their resources and circumstances. From the economic point of view, the goal is to create conditions for economic growth in a sustainable manner, where shared prosperity, inclusiveness, and decent working conditions for all are secured. In a sustainable economic environment, the development and application of technology and innovation is climate-sensitive, and consumption and production patterns of goods are sustainable. (United Nations 2015.)

For governments, civil society and especially businesses around the world the SDGs are a call of action to finding more innovative ways to tackle sustainable development related challenges. Within the SDGs businesses can identify future business opportunities that will minimize the negative and maximize the positive impact on the environment. The aim is to steer more investment funds towards sustainable development challenges and by doing do, create growing markets for businesses with creative and new solutions for the challenges the SDGs present. (GRI, UN Global Compact & WBCSD 2015, 4.)

By increasing efforts towards corporate sustainability, companies can create new value streams and protect themselves from harm related to companies' image. Even though pricing remains number one factor in purchasing decisions, today's consumers are also more and more aware of sustainability related issues. This means that growing number of consumers look for companies that reflect their own ideas of sustainability when making purchasing decisions. Much like these consumers, especially the younger generation of employees look for companies that mirror their values and ideas related to sustainability. When fighting for the best future talents, companies that do take action

regarding the SDGs will have more engaged, motivated and productive employees in their service. (GRI, UN Global Compact & WBCSD 2015, 8.)

Governments are also taking steps in their sustainability efforts by increasing different taxes related to sustainability, introducing new types of fines, and using other pricing mechanisms. For companies, these kinds of actions promote the use of resources as efficiently as possible and encourage them to innovate more sustainable ways of working and doing business. If companies are not aligning their strategy with the SDGs, it will expose them to reputational damage and even legal risks. (GRI, UN Global Compact & WBCSD 2015, 8–9.)

4.2 Sustainability in higher education; past to present

In creating a sustainable society, higher education plays an important role. A sustainable society that is fair, healthy, and robust can only be created with combined efforts from the entire society, not just by one certain group. A big part of sustainable thinking involves looking into the future. That is why higher education institutions must provide their students with skills, tools, and knowledge to navigate the continuously changing environment, in order to create sustainable success opportunities for all the members of the society. (Rowland 2012, 1–3.)

Over time sustainability-related education has evolved from the study of the environment to the study of how the actions we take as humans affect the environment and its resources (DeLongpré Johnston & Johnston 2013, 1). The inclusion of sustainability, ethical thinking and practice, and corporate social responsibility in higher education took place only after companies had to tackle changing societal demands. From the 1960s to the 1970s business schools started adding CRM and business ethics to their curricula. However, these courses were often elective and research opportunities did not exist within these topics. (Hart & Sharma 2014, 10–12.)

From the 1980s to the 1990s societal demand grew for businesses to address their negative environmental impact, which led to companies having to operationalize sustainable development (Hart & Sharma 2014, 11–12). This created a need for specific knowledge and capabilities in the field of corporate sustainability and many companies found themselves looking for a sustainability manager or professional (Buhr, Hesselbarth & Schaltegger 2015, 21). Due to this shift business schools started to offer more courses on the topic and more research began to surface (Hart & Sharma 2014, 12).

Even though the number of sustainability related courses available increased, they still mostly tended to be elective or otherwise unconnected courses. From the 2000s to 2010s most higher education institutions had still not been able to integrate sustainability, CRM, and business ethics to their core curricula. In the early 2010s Association to Advance Collegiate Schools of Business (AACSB), the world's largest association for business education, began hosting annual conferences in sustainability to promote best practices in sustainability related education. Also, in 2017 Alliance for Sustainability Leadership in Education (EAUC) launched the SDG Accord with an aim to celebrate and enhance the critical role that HEIs play in achieving the United Nations Sustainable Development Goals by 2030. Even with these efforts most higher education institutions still struggled to incorporate sustainability to their curricula. (AACSB 2022; Hart & Sharma 2014, 13.)

The challenges that higher education institutions faced when implementing sustainability often arose from the lack of direction, time, and human resources. Also, the ranking systems for universities still favoured the more traditional approaches to business education. When the United Nations Sustainable Development Goals were launched in 2015, higher education institutions were given a common framework to help them in their efforts of implementing sustainability into their core curricula. (De Novellis 2022; Weybrecht 2022.) Today there are many great examples of universities that have been able to transform their programmes and courses so that the SDGs are at the core of all studies.

4.3 SDGs and Higher Education Institutions

As stated above, higher education institutions play a key role in improving skills, competences and knowledge related to sustainability and environmental protection of our society. HEIs must educate students to become active, responsible, and critical thinkers and offer them lifelong learning opportunities to up-skill and reskill. This way student will be able to continuously develop their skills and learn how to apply greener technologies and approaches in business environment. With these objectives in mind HEIs will be a key factor in meeting the United Nations Sustainable Development Goals for 2030. (EHEA 2020, 4.)

In order to create real progress towards achieving the SDGs, all HEI students should have a general understanding of issues related to sustainability across disciplines. This means that all the 17 SDGs should to some extent be included in the curricula of all students. Certain disciplines will focus more on certain goals, but all students should still have a comprehensive understanding of how all the goals are intertwined and how they affect the world we live in (Ávila et al. 2019, 287). This has proven to be a difficult task for HEIs. Universities have a long history of creating departments and courses that focus on certain topics and disciplines. Sustainability, however, is a transdisciplinary topic and can't be placed under just one department or a course. Instead, universities and other higher education institutions have had to change the way they view the old structures and teaching practices. (Van Lopik 2013, 82.)

A study by Ávila et al (2017, 99) indicates that HEIs' biggest challenges when incorporating sustainability practices in their systems arise from lack of appropriate technology and lack of support by the management. These findings highlight the need of collective efforts to improve outdated policies and standards. General lack of awareness and concern was also found as one of the most important obstacles as they are often overlooked when implementing sustainable development practices. Additionally, the lack of environmental committees and buildings with sustainable performance were found among the biggest challenges in the study.

Weybrecht (2022) also mentions in her article that business schools in general have been surprisingly slow in their efforts to integrate SDGs to their curricula. The key factors she highlights that could help business schools succeed in their sustainable development efforts are:

- create targets for SDGs
- the SDGs should be made everyone's business
- incorporate SDGs into the school's culture
- create partnerships around the SDGs, connect and share learnings and resources
- look deeper into the targets within the 17 goals for more information and sense of direction
- be bold and rethink how things should be done.

Gini (2004,12) discusses business ethics and morale from leadership point of view and suggests that ethical standards and morals set by the leadership determine the direction of ethical decisions made by the rest of the workers within an organization. Great leaders require good communication skills to convey their values, beliefs, and what they stand for and expect from others. Even though ethical values and ideas for new standards might come from somewhere else inside the organization, without the leadership supporting and encouraging ethical change the improvements will never become part of the organizations culture and ethos. Based on his research on business ethics, leadership and trust, the topics should be approached in a similar matter to medicine, where these skills are learned through life experiences and should then be passed on to the next generation. (Gini 2004, 15.)

One good example of changing the way of teaching is Griffith University, based in Queensland, Australia. They have created three core values: responsible leadership, sustainable business practices, and collaboration in Asia Pacific region. These values reflect all of the 17 SDGs. Their degrees have no majors, but instead students choose from elective courses that are all taught from an environmental, social and governance point of view. All outdated textbooks were abandoned to make space for updated learning materials that had sustainability in their centre. Experts were hired to make sustainability the

foundation of all programs and teaching. They have taken an interdisciplinary approach to research across faculties and aim to involve their community in all activities. (De Novellis 2022.)

Another good example on successful integration of sustainability in core curriculum comes from the Smeal College of Business in Pennsylvania, US. Over a course of four years, they created an online platform called Major Sustainability. Through the platform all business students can explore the roles their majors play in addressing issues related to sustainability and the SDGs. Creating the platform has helped Smeal College of business in setting a destination for their sustainability efforts and linking the sustainability topics to the core of their programmes. With the platform they hope to inspire students to contribute to solving our planets most pressing global problems and take action in furthering global sustainability efforts. (Foley 2022.)

5 Quality assurance in higher education

5.1 The concept of quality

The meaning of the term quality has always been difficult to determine, and it seems to have many different meanings based on who is describing it. Some well-known references for quality are "fitness for the purpose or use," "customer satisfaction," and "superiority of something" (Kiran 2017, 3–4). Quality differs based on the perception of a person in any given situation and quality of a product or service can be seen as its ability to create complete customer satisfaction. In order to manage quality, it need to be carefully planned, achieved, controlled and continuously improved. (Mishra & Sandily 2009, 126.)

For a product or service to perform up to its users' expectations it should have certain abilities or attributes regarding quality. To meet the users' expectations, they need to be:

- satisfactory and full fill the users' requirements as well as possible

- suitable for specific use
- perform satisfactorily without failure for a certain time period
- affordable and available at a reasonable cost
- easily maintained
- attractive to draw attention of the customer (Mishra & Sandily 2009, 126–127)

Customers will also need to be able to have confidence in the product or service which is often directly linked to the reputation of an organization. For an organization to meet its quality objectives, they need to have a quality policy in place that guides their actions. (Mishra & Sandily 2009, 127.) Quality management requires participation from every employee inside an organization. All employees are responsible to produce quality in the operations they are involved in. The management and control of quality requires careful attention from the management as well as cooperation from the entire organization. (Bhat 2009, 28.)

When it comes to quality in higher education the challenge in determine what quality means remain the same. Quality in higher education institutions can be seen as a multidimensional concept. It can refer to a set of specific standards for a programme, institution, discipline, or a system. It can also be related to the institutional mission and objectives as well as to the contextual setting of an educational model. There are multiple descriptions for academic quality and perhaps the most commonly used are "Quality as excellence", "Quality as fitness for purpose", "Quality as fitness of purpose" and "Quality as enhancement or improvement". (Grünberg, Pârlea & Vlăsceanu 2007, 70–72.)

When looking for a suitable model for quality management in higher education institution, all relevant stakeholders' visions need to be represented. These stakeholders include:

- providers (the funding body)
- users of product (students)
- users of outputs (graduates that are the future employers)
- employees of the sector (academics and administrators). (Dalrymple & Srikanthan 2003, 127.)

While industrial quality management systems are mostly process oriented and often place the customers' needs in the centre, quality in higher education is much harder to measure and views of quality vary, based on the stakeholders' perspective (Dalrymple & Srikanthan 2003, 133; Tam 2001, 47).

In addition to different stakeholders' perspectives, defining quality requires a broader strategy that targets goals and outcomes and a more specific strategy to determine quality indicators. Those indicators are then used to evaluate whether the goals and outcomes identified in the strategy have been reached with acceptable quality. (Crawford, Puls-Elvidge, Schindler & Welzant 2015, 6.)

The process of education is very complex and includes many different elements, such as students, teaching methods, teachers, curricula, and institutions. Instead of more measurable quality of industrial goods and services, quality in education needs to be measured by students' values, beliefs, and perceptions, among other factors. So, in order to understand what quality in education is, one should be able to understand the process of education itself. (Elassy 2015, 258.)

5.2 Quality Management in Project management

Project quality management is in place to ensure that project requirements set in the beginning are met and validated at the end of the project. It includes processes and activities that help determine quality objectives, responsibilities, and quality policies so that the project will be conducted in a satisfactory way. (Project Management Institute 2013, 227.) Quality techniques and tools in a project are used to reduce all unnecessary cost and efforts that are put into the project and work related to it. These improvement efforts can take place during the project and during operations. (Verzuh 2021, 480.)

Modern quality management approaches aim to deliver products and services that meet defined requirements and standards. Within these approaches the

importance of customer satisfaction, management responsibility, continuous improvement, cost of quality and prevention over inspection is highlighted. With customers, understanding, evaluating, and managing requirements so that expectations are met is the key. Management needs to take the leading role in quality enhancement efforts and ensure that resources for quality management are adequate. Regarding continuous improvements, plan-do-act-check cycle is the basis for improvements in quality. (Project Management Institute 2013, 229.)

Project quality management can be divided into three phases: planning quality management, performing quality assurance, and controlling quality. In the planning quality management phase, requirements and standards for the project and its deliverables should be identified. The plan should also be documented to an appropriate level of precision and accuracy. The quality management plan will provide the project team with direction and guidance on how quality will be managed in the project. The project team will then follow this plan and they should produce data to demonstrate compliance with the quality management plan. Quality planning should be done together with other parts of the planning since changes in quality requirements and standards may affect project costs and schedule. (Project Management Institute 2013, 227–233.)

Quality assurance in a project is done to build confidence in the project and that the deliverables will meet all quality requirements. This can be done by examining the industry standards and determine the ones to follow when performing the work in the project. All the work packages or tasks described in the work break-down sheet should include documented completion criteria. This will tell how the task needs to be handled and when it is complete and performed according to the standards. Standards and inspection points can also be discussed and established together with subcontractors and inspectors. The point of inspections is to find flaws and problems and tackle them as early as possible. (Verzuh 2021, 485.)

While quality assurance is used for providing confidence that stakeholder requirements are met during projects planning and execution phase, quality control is used in the executing and closing phases of the project. Quality control is used to demonstrate formally using reliable data, that the criteria for customers or sponsors acceptance are achieved. It is the process of monitoring and recording results of the quality activities decided in the quality management plan, to assess the performance and suggest changes in the process if needed. (Project management institute 2013, 248–250.) Quality control is an essential part of quality management and failure to test, and monitor can result in huge issues in the project deliverables. Hence the main purpose of quality control is to find and fix problems. (Verzuh 2021, 486.)

5.3 Quality assurance

The three spheres of quality can be divided into quality control, quality assurance and quality management and their functions often overlap each other's (Foster 2016, 41). The management process that ties together quality control and quality assurance efforts make up quality management. Quality assurance refers to the efforts and activities performed to ensure quality of a product of service. It is a way of detecting and dealing with problems immediately after they occur or even preventing them from happening at all. (Foster 2016, 41; Doherty 2012, 75.) Quality assurance involves different activities such as:

- continuous process improvement and evaluation
- reliability and value engineering to ensure performance
- process control for failure and effects analysis
- off-line experimentation
- service assurance and quality feedback (Foster 2016, 41; Bhat 2009, 44).

Organizational structure, responsibilities, processes, resources, and procedures are an assembly of elements for managing quality in a quality assurance system. A quality manual is used for documenting quality management systems, and it includes elements such as quality planning, training, quality

advice and expertise, analysis of complaints and service appraisal. (Bhat 2009, 44–45.)

When developing quality assurance activities, a similar approach to identifying risks and opportunities should be applied. The idea is to identify more than is possible to implement and then prioritize the best ideas. Different stakeholders should be included in the brainstorming of ways to enhance quality and inspect it. (Verzuh 2021, 485.) When it comes to quality assurance activities in HEIs, internal stakeholders such as students and academics play a bigger role than external stakeholders like alumni and the labour market (Alzafari & Ursin 2019, 71).

A study by Alzafari & Ursin (2019, 58–59) points out the fact that quality assurance systems in higher education institutions are formulated based on national standards, traditions, and HEIs' own needs. Quality assurance activities may for example be focused on management activities and their improvement or evaluating institutional performance and learning. This leads to a conclusion that quality assurance standards are implemented and perceived differently based on the context.

5.4 Quality assurance of education in HEIs

Quality assurance in higher education refers to a continuous process of assessing, monitoring, maintaining, guaranteeing, and improving systems, programmes, or institutions' quality. The focus of quality assurance as a regulatory mechanism is on accountability and improvement. It provides information and judgment through previously well-established criteria and consistent processes. Quality assurance systems can be divided into internal and external. (Grünberg, Pârlea & Vlăsceanu 2007, 74.) Quality assurance policies and standards should be embedded in HEIs' strategy (Alzafari & Ursin 2019, 65).

With internal quality assurance the aim is to continuously monitor and improve institutions practices and processes by internal management and personnel. For institutions to maintain and enhance their processes in between external evaluations, quality assurance systems need to be in place. HEIs are responsible for planning, implementing, and maintaining their own quality assurance practices and systems. External quality assurance refers to quality assurance practices carried out by external personnel such as quality assurance agencies. Both internal and external audits can be used as a maintenance tool for quality assurance systems. External audits results and recommendations effect the implementation of internal ones and show the direction of where internal audits need to be focused. (Kettunen 2012, 518–520.)

Quality assurance depends on a solid quality culture of an institution where adequate institutional mechanisms are in place (Grünberg, Pârlea & Vlăsceanu 2007, 74). In order to succeed a quality assurance system requires everyone within an organization to take responsibility for enhancing and maintaining quality. This means that in a higher education institution, everyone needs to be willing to work on creating a culture where quality is placed in the centre and constant efforts for improvement are made. These actions require a lot of time, effort, and relentless improvement work, with which HEIs often struggle. (Tam 2001, 49.)

Quality assurance in education can also be looked from internal, interface or future points of view and they all result in different strategies concerning quality education. In internal quality assurance the focus is on improving both the internal environment, institution performance and academic processes. This means that teaching and learning are effective and planned goals are achieved. The focus of internal quality assurance should be in its effectiveness and efficiency. With interface quality assurance the focus should be on satisfying the needs of all relevant stakeholders with the provided educational services and ensuring accountability and market competitiveness. Expectations can be met with minimum requirements or exceeded with higher quality deliverables. From

the future aspect of quality assurance, aims, content and learning outcomes of the education need to be relevant to the needs of future generations. The content created and taught in higher education institutions needs to fit the purpose of an institution right now as well as in the future. (Cheng 2003, 204–207.)

When developing quality assurance systems in higher education the focus should be directed to what high quality teaching and learning mean. High quality teaching is fundamentally about creating a context where high quality learning can happen. The focus in quality of teaching should be in what and how students are learning and how it can be encouraged and improved. When students use a deep approach instead of a surfaced approach, they look for a meaning in what they are studying instead of just reproducing materials. A deep approach and high-quality learning that thrives from that can only happen when courses, materials and curricula are designed, taught, and assessed as a whole. In high quality teaching, each of these factors are taken into account. (Martens & Prosser 1998, 29–30.)

With increased involvement and initiatives from governments, universities are pushed towards being more business-like organizations with strategic plans, stated objectives and performance indicators. Universities are required to market themselves to be able to compete in the growing local and international education market. (Lomas 2007, 405.) A competitive advantage can be found from an institution's reputation, location, history, specialization, or quality of teaching (Makhoul 2019, 235).

Worldwide university rankings can be seen as one way to stand out from the competition and showcase the quality of the education an institution provides. However, Hauptman (2020, 85–86) assesses whether global university rankings should be seen as an ultimate guarantee of a quality education. These global university rankings often use quantitative criteria and indicators when assessing universities, focusing on external transparency. Sometimes these rankings are even seen as quality assurance functions, even though quality assurance

efforts should be more focused on institutional accountability and continuous quality improvement efforts. For these reasons and due to their limited legitimacy, she argues that the global university rankings are problematic indicators for quality and quality assurance.

5.5 Quality assurance in sustainability focused education in HEIs

When it comes to quality in sustainability-focused higher education, the importance is in its relevance to meet the challenges of today and in the future, ability to promote skills for lifelong learning, and values and attitude it teaches. This way students will participate in resolving the challenges and tapping into the opportunities sustainability holds. (UNESCO 2014, 5.)

Another key factor in quality of sustainability-focused education lies in the quality of educators. To achieve quality teaching and modern transformative pedagogy the teachers themselves need continuous professional development and new models of teaching. (UNESCO 2014, 40.) The teaching staff plays an essential part in quality education and so it is important to guarantee the motivation and sufficient training of teachers in topics related to sustainability. Focus should also be paid in the merits and competences related to sustainability when hiring new teaching staff and offer resources and encourage teachers to participate in research and innovation projects related to sustainability. (Junyent & Mulà 2018, 42–43.)

Sustainability needs to be linked directly to quality assurance systems in order to create change and continuous improvement efforts in higher education institutions. Quality and sustainability share many similarities. Both are dynamic, constantly evolving and use systematic approaches that affect all activities, departments, and studies in a higher education institution. (Junyent & Mulà 2018, 27.) Different quality systems in HEIs provide activities and practices through which departments and curriculums are improved and developed. The formal processes of quality systems hold together the values, principles, and objectives an institution has. By incorporating sustainability to HEIs' quality

systems, sustainability can be strategically engaged to the curriculum, learning and teaching development. Through these quality systems the sustainability agenda can also influence the innovation and research work as well as all informal practices within a university and create real change towards achieving the SDGs. (Ryan & Tilbury 2012.)

Galkute et al. (2014, 3) also present quality assurance as an instrument for transformation of HEIs towards a more comprehensive focus on sustainable development-oriented education. They believe quality assurance can help to reshape the political, cultural, and strategic dimensions of higher education institutions and that a systems approach links together strategic quality management, successful change management and effective sustainable development in societies. Quality assurance can be used as a tool for continuous improvement efforts for both internal and external quality.

With external quality assurance some agencies have already started to include relevant sustainability criteria into their reviews. Agencies such as AQUA (The Quality Assurance Agency for Higher Education of Andorra) and ACPUA (Aragon Agency for Quality Assurance and Strategic Foresight in Higher Education) are taking part in projects aimed at creating connections between institutional evaluation and the SDGs and integrating the SDGs into quality assurance practices. AQUA for example has created different forums and debates to advance discussion on which sustainability standards are the most critical and how to better implement and evaluate them in practice. (Lytvyn & Stukalo 2021, 7–8.)

In the internal quality assurance field, a study by Lytvyn and Stukalo (2012, 11) suggested that in universities in Ukraine only a small percentage of HEIs require reviewing of achievements related to the SDGs in their internal quality practices. Based on their study, Lytvyn and Stukalo (2012, 12) are recommending that HEIs should include competencies relevant to the SDGs in their key standards. These competencies are for example in-depth understanding of the SDGs and ability to incorporate them into everyday work

life. These same standards should then be reviewed and evaluated through the external quality assurance agencies and their procedures.

At an institutional level HEIs should prioritize SDGs when creating institutional policies and highlight SDG-related achievements in their strategies. All documents related to strategy, action plans and internal quality assurance procedures and systems should reflect those goals. The efforts regarding innovation and initiatives for promoting SDGs by the students, teachers and departments should be monitored and encouraged. At department and curriculum level the continuous enhancement of teaching and focus on the SDGs in essential. Finding the best practices requires teamwork between institutions, teachers, and students. Each HEI can contribute towards achieving the SDGs by providing adequate teaching platforms with appropriate content and using teaching methods and learning environments that boost achieving learning objectives. (Lytvyn & Stukalo 2012, 12.)

6   Results

6.1   Overview of analysis

In order to analyse the results of this case study the first step was to create a conceptual framework based on the findings made from the literature review. This conceptual framework gives an overview of the most important findings related to what quality assurance looks like in sustainability-focused education. After the conceptual framework was formed, it was time to start reading through all the related documents and materials found regarding the SDG4BIZ-project, including the detailed project description, quality plan, evaluation plan and projects web pages. All the fieldnotes gathered through the participant observation phase from both pre-piloting and project steering committee meetings were also studied for this phase.

The actual analysis was built to follow the structure of the conceptual framework. Each point raised in the conceptual framework was analysed

against the collected materials and fieldnotes. Analysis included studying how the points raised in the framework were taken into account in the projects related documents and how those factors played out in practice during the observed steering committee meetings and pre-piloting. It was also analysed how the quality assurance related actions affected the outcome of the project from quality assurance in sustainability-focused education point of view.

The recommendations made for further enhancing the SDG4BIZ-project's quality assurance practices were based on the analysis and the learnings made from the literature review, conceptual framework, and observation phase throughout the research period.

The validity and reliability of the thesis is evaluated last using the validity and reliability discussion from earlier in the thesis as the basis for evaluation. The evaluation is done to build confidence in the process and results of this thesis and to give a realistic picture of the ups and downs affecting the writing process.

6.2 Conceptual framework

The most important findings related to quality assurance in sustainability-focused education from the literature review have been pieced together to form this conceptual framework. All the materials and data from the SDG4BIZ-project and all observations made during this research period will then be analysed against this framework.

The key feature in defining what quality in sustainability-focused education really means is the education's ability to meet the needs of today and the future. The values and attitudes it demonstrates and the way it promotes lifelong learning are also crucial parts of high quality sustainability education. With these qualities education can give students the ability to participate in resolving the future challenges in sustainability but also the possibility of tapping into opportunities sustainability holds.

One of the most important findings made from the literature review is also the relevance of modern teaching and learning practices. There is a clear need of changing the ways of teaching and learning starting from the learning platforms and other teaching technology to better fit the needs of today and the future. With digital learning platforms and other technological solutions, more people can be reached, and more knowledge can be shared. Co-operation with communities and companies on sustainability related issues should also be prioritized and more research surrounding the topics should be encouraged for students as well as teachers.

The literature review also highlighted that to provide high quality sustainability-focused education, institutions need motivated and competent professionals in their staff. Teachers' knowledge around the sustainability topic will need to be up to date and constantly improved. Resources should guarantee sufficient time for research for continuous knowledge improvement and for adapting new teaching models and techniques. When hiring new staff more focus should be placed on their merits, competences and accomplishments related to sustainability to help with adaptation of best practices in sustainability and innovation work in HEIs.

The literature review studied quality assurance practices from external, internal, and institutional perspectives. To advance HEIs' external quality assurance, external evaluation agencies need to incorporate sustainability standards in their practices. With sustainability standards embedded in their evaluation criteria HEIs will need to pay more attention in their own sustainability practices. Best practices should also be shared between different companies and institutions on how to best implement and evaluate sustainability criteria in practice.

Within internal quality systems competences related to sustainability should be incorporated into all key standards and internal evaluation should be in place to monitor the development and achievements of these standards. Internal quality assurance can also be used as an instrument for transforming HEIs towards a

more comprehensive focus on sustainability by effecting the strategy and culture of higher education institutions. By linking sustainability directly to institutions' quality assurance systems, it binds the sustainability agenda directly to HEIs' strategy and encourages sustainability-related research and innovation work. It can also be used as a tool for continuous improvement efforts towards more sustainability-focused curricula and institutional cultures.

Based on the literature review, project quality management ought to be in place to ensure that requirements and goals set at the beginning of the project are met and properly validated when the project is finalized. Project quality management takes place is three different phases and the first of these is creating a quality management plan. This plan is then followed by quality assurance practices throughout the project. The last phase is quality control, and it is often used in the closing stages of a project. By recording and monitoring data of the quality assurance activities it can assess if changes are needed. Finally, based on the collected and assessed data it can be determined whether all the goals and requirements set in the beginning have been met and the project can be seen as successful.

6.3 Analysing the results

Quality in sustainability-focused education means that the provided education is able to meet the needs and offer tools for challenges that students will face today and in the future. The importance of sharing knowledge and continuously improving skills and competences is also highlighted. When analysing the objectives and the goals of the SDG4BIZ-project they seem to be well in line with the principles of high-quality sustainable education found in the conceptual framework.

One of the project's main objectives is to create a new and innovative approach to learning and teaching. The project description details that this is achieved by including project partners from various disciplines and by doing that, responding to the wide range of challenges incorporated in the SDGs. It is also states that

knowledge will be shared regarding the content and the pedagogical solution between all the project partners. Based on the observations made during the participant observation phase these goals were realised.

For most of the time all the relevant project partners were present in the piloting steering committee meetings. Based on the field notes, collected conversations and the general atmosphere in all the meetings, the collaboration seemed very open and honest. Partners appeared not afraid of giving their opinions nor taking responsibility for their own areas of expertise. Information was shared between partners to everyone's best knowledge, and the expertise and skills of each partner and their institution appeared to be put to a good use, starting from the content creation for each module to the actual technical solutions of the learning platform. With these actions one of the main problems identified, "HEIs struggle in supporting the competence building of future managers for solving the world's most urgent problems", seems to have been addressed properly (SDG4BIZ 2019, 6).

As discussed, key findings from the conceptual framework included the use of modern and easily accessible teaching and learning platforms and practices in high-quality sustainability focused education. This includes relevant and innovative technical solutions to boost the learning experience. It quickly became apparent that from the beginning this matter had been in the centre of the project's development activities. In the detailed project description (SDG4BIZ 2019, 15), the learning platform and the pedagogical method are described as follows:

> Pedagogical methods: (The project) represents the newest pedagogical knowledge and helps reach especially the Millennials effectively. Micro-learning, video-based material, and truly mobile learning experience are used as the pedagogical methods.

A lot of time and effort was also directed to this matter during the steering committee meetings. Problems and issues with the platform were addressed and continuously monitored. During the participant observation phase the

researcher participated in the pre-piloting of the modules. Pre-piloting was conducted to test the learning platform's functionality and the relevance of the content from academic and business representatives' points of view. Participating in the pre-piloting and seeing first-hand how the raised issues were tackled helped with confidence building towards the project's deliverables and quality assurance activities. Overall results of the pre-piloting were studied in a separate meeting and only shortly discussed in one of the observed steering committee meetings. However, it did seem like the results were mostly positive regarding both content and platform, which was also the overall experience of the researcher based on the participant observation actions related to pre-piloting.

One of the main findings from the conceptual framework was the importance of teaching staffs' motivation, sustainability-related competences and continuous improvement of skills and knowledge. Even though this curriculum is primarily targeted to HEI students and business representatives, during the project the focus is first on training 80% of partnering HEIs' teaching staff. This includes 1500 teachers of which about 30% are hoped to then incorporate the learnings into their own course materials. By training most of the teaching staff in partnering HEIs, the project enables incorporating sustainability related business opportunity recognition comprehensively within different departments and thus helps maximising the positive effects. The curriculum is built so that teachers may incorporate the most relevant parts into their own teaching materials but will still get a good overview of all the other topics too. This will create better overall understanding of business opportunity recognition within the SDGs.

Another important teaching staff related factor from the conceptual framework was the hiring of new staff with relevant sustainability skills and competences. While this is not directly linked to the SDG4BIZ-project, it can still be analysed from the project partners' point of view. In the project plan all the project partners are introduced and based on these introductions, all the partners are selected because of specific skills and competences they bring to the project.

Based on these skills, such as innovation, business opportunity recognition, entrepreneurship, and digital learning solutions, partnering institutions were given different phases and areas of responsibility in the project. The right skills and knowledge used at the right time equals high-quality learning materials and platforms. As already mentioned earlier, during the 11 months of observation many different areas of the project were worked on and different partners with different skillsets came into play.

According to the framework HEIs' co-operation with local communities and companies related to sustainability topics in research and other projects should be increased. The SDG4BIZ project aims to tackle this problem as the other main target group for the curriculum are companies and their staff. For this reason, the content of the curriculum is co-created with companies. All the curriculum materials are also piloted with business representatives to make sure they fit the needs of future businesses and employees.

By the end of the project the goal is to have 115 companies involved and more than 80 000 staff members trained with hopes that 60% have taken the learnings and the know-how and used it in business development. These efforts aim to ensure that business opportunities in the SDGs are realized to their full potential and new businesses and jobs could be created affecting the communities around them in a positive and more sustainable way. With these numbers and actions in mind the SDG4BIZ-project really should be able to create an impact in businesses and communities involved and further promote the sustainability agenda.

In terms of internal quality, the conceptual framework highlighted the importance of inclusion of sustainability criteria in internal quality assurance systems and monitoring sustainability related activities. When looking at internal quality assurance from the SDG4BIZ project point of view the project's quality and evaluation plans are in place. They clearly state the activities related to planning, performing, monitoring, measuring, and managing the quality of

project activities and deliverables. With the quality plan, quality assurance principles and activities are specified.

Based on the quality plan data will be gathered from the project partners every 6 months. This data includes collecting their feedback on how the project is advancing so far, how are the project's deliverables coming along, and opinions on aspects of project management. The researcher did not attend any meetings related to WP7 (evaluation) and so cannot comment on how the results of these feedback cycles were handled. Since the feedback would have also been gathered from the participants of the WP5 steering committee meetings, it is still safe to assume based on overall observations and notes, that the partners were not dissatisfied with the progress of the project or its management.

Other quality assurance related internal activities in the project include the pre-piloting and piloting phases. The actual pilot is divided between the pedagogical design pilot, learning outcomes pilot and overall model validation. These different phases of the pilot are targeted to validate and verify the curriculum from the design, learning outcome and model effectiveness points of view. By separating the areas under study and using different target groups to gather feedback (teachers, students, business representatives), focus can be put on all the most important aspects of the project and by doing so increase the overall quality of the deliverables.

The project's external quality assurance activities include a task related to certification potential evaluation. At the ending phases of the project an evaluation will be carried out to assess the potential in certifying the training materials in accordance with European academic certification frameworks. Since this phase has not been carried out yet it is hard to determine the effect and benefits it would bring. But it can already be said that external certification would surely help with the marketing of the curriculum as well as credibility of the content.

Quality assurance related to project quality management was the final point raised in the conceptual framework. It highlighted the project quality management cycle of planning, monitoring, and acting when something needs to be fixed or changed. Just based on already discussed quality assurance policies and actions it can be confirmed that this cycle has also been followed by the project. Firstly, a plan for project quality management was created in the form of a quality and evaluation plan. Next, tools such as feedback forms were created to track the project's development and success. Following that, actions have been taken to enhance the quality of project deliverables in the pre-piloting and piloting phases as well as based on other feedback collected. Overall, it can be said that project quality management has been successful.

The quality principles of the project listed in both quality and evaluation plans are specified as follows (SDG4BIZ 2020b, 6–7):

> There should be continuous and open communication amongst all partners and the evaluation coordinator. In particular, the open communication between the project coordinator, quality coordinator and the evaluation coordinator is fundamental.
>
> Partners should always do their best to deliver products/deliverables/outputs of high-quality standards within their area of expertise, as well as support the evaluation related tasks.
>
> The needs and satisfaction of the target audience and all relevant stakeholders should always be kept in mind when evaluating project outcomes and assessing the impact.
>
> A commitment to the continued improvement of all project products and outputs should be made by all partners, this including the provision and acceptance of constructive feedback and constant monitoring of all processes related to the project.

With these principles being followed throughout the project, as observed during this research project, most of the factors found in the conceptual framework will almost automatically be realised. It can be concluded that quality assurance activities in this sustainability-focused education are well on track and should result in high-quality learning content and platform.

6.4 Recommendations for the SDG4BIZ -project

The conclusion that can be drawn from the analysis suggests that all the quality assurance related actions and principles listed in the projects documents and materials are relevant and comprehensive and based on the observations also carried out well in practice. Once the curriculum is finished the overall success of the project lies heavily on the dissemination plan and how the new curriculum reaches companies, HEIs and other institutions.

Based on the research one of the main findings was the importance of a modern teaching platform. While the platform is easily accessible and can be used for many types of content, the pre-piloting observations still showed some minor flaws. For example, with some modules users were not able to move directly to the next topic but instead needed to go back to the previous page to select the next topic. Also, some videos (in module 3) would not start directly but needed to be open in a different browser first, unlike most of the other videos. There were also some differences in fonts, references and languages as some videos were only in Spanish. These are all small things in the grand scheme of things, but they do still affect the learning experience and create an inconvenience for the user. Once these types of flaws are fixed during the piloting phase, the platform will be very smooth and provide a pleasant learning experience. The fact that the materials within the curriculum are also later on transformable to other modern learning platforms is a great advantage.

After the curriculum content is finalized the most important factor will be the dissemination of the curriculum and the materials, so that as many universities and companies as possible would find the curriculum and be able to enhance their knowledge in this field. For the SDGs to be reached by the target year, these types of learning materials and their dissemination are crucial. For vast dissemination of the materials, it is important that the curriculum remains scalable, and parts can be picked and added to already existing courses and modules. They need to be placed in platforms where universities and institutions can find and utilize them easily. In addition to the materials being

placed in an open-source platform, marketing of the curriculum needs to reach companies and other institutions around Europe.

The project plan also discusses the significance of teachers' education in order for them to incorporate parts of the curriculum to their own course catalogues. The importance of teachers' competences and motivation is also highlighted in the project description as it is listed as one of the main reasons of why the projects is so relevant and much needed. The findings from the conceptual framework agree with the project plan on this matter. Once the materials are finalized there should be a plan in place how to first make sure most, if not all, teachers in partnering universities are trained according to the curriculum.

The project plan states that 1600 teachers are educated with the new curricula but does not specify how to get there. The seminars, journals and different forums about the project will help spread the word and increase awareness but these do not guarantee results. Also, there seems to be no discussion yet on how to track the changes made to the teachers' curriculums after they have completed the modules. Some of the success of the project lies in the fact how teachers will manage to incorporate their learnings to the curriculums and through that pass information on to their students.

As the business context of the thesis already earlier suggested, more and more companies and consultant agencies are picking up on the topic of business opportunity recognition within the SDGs. While most of the project's dissemination plans such as publications in educational journals, promoting in conferences and publishing materials in educational platforms will greatly help with reaching educational institutions and their students, companies and employees will be harder to reach with planned actions. A lot of effort will need to be put in marketing the materials to companies through channels such as social media (LinkedIn, Twitter), projects webpage, and search engine optimization.

6.5 Validation of results

To help validate the results made in this study validity and reliability are evaluated based on the comments and points raised earlier in the thesis methodology chapter regarding those two factors. First point for increasing the reliability of the study was the length of the participant observation period. It needed to be long enough to collect sufficient amount of data in form of the field notes. The participant observation period ended up lasting for the exact planned length of 11 months and during the observation period only one steering committee meeting was missed. This means that notes were collected from multiple meetings over a long period of time and regarding different quality assurance related issues and actions. Full access to meeting minutes and other relevant documents ensured continuity of data collection.

The second point was about the types of data used when analysing the results of the study. The main data sources were the observation phases field notes and the detailed project description. They provided the fundamentals of the project's background, planned actions, and hoped results as well as how everything was executed in practice. The researcher had access to the project's quality and evaluation plans which ended up being very important for the analysis as they contained a lot of relevant information regarding quality assurance plans and principles.

However, some other materials that were thought to provide some additional useful data did not. These included for example the project's webpage and some newsletters regarding the project. They ended up repeating a lot of the same content that was already found from the project's detailed description and so offered no additional information for the study. Overall, the data used ended up being more limited than originally planned but it still felt like it provided an adequate amount of information that kept repeating itself to complete a sufficiently comprehensive analysis.

The role of the researcher was kept the same throughout the participant observation period. The passive role taken during the participant observation minimized the impact of the researcher's presence in the meetings. This way it would have had a minimal effect to the discussion taking place and the outcomes of the meetings. It also helped with collecting similar data meeting after meeting when the process was kept the same throughout the research period.

If the literature review would have been finalized before the participant observation period properly began in September 2022, it could have helped narrow focus areas in the meetings from the beginning. However, the literature review took some additional weeks to complete and so the observation period began before the finalization of the literature review and conceptual framework. This caused some confusion and lack of focus in the beginning. In the end the steering committee meetings had a lot of reoccurring themes and topics so not a lot of essential content was missed after all. Also, the analysis of the results showed that a big part of the relevant data and materials were in the form of the project's documents.

There aren't many articles that have studied quality assurance in sustainability focused education precisely. This meant that the conceptual framework needed to be pieced together based on all the information collected from studies on sustainability focused education and quality assurance in education separately. Both studied concepts were new to the researcher and so someone with more experience on the topics might have come to a different conclusion. However, it does mean that the study conducted was very relevant and more studies should be done in the field to gain more knowledge on what quality in sustainability-focused education looks like.

7 Conclusion / Summary

7.1 Executive summary

This thesis was a case study of the Knowledge Alliance for Business Opportunity Recognition in SDGs project. The focus of the thesis was on quality assurance in sustainability-focused education. The literature review included two main topics that were (1) sustainability in higher education & SDGs and (2) quality assurance in higher education. Based on the results of the literature review a conceptual framework was created around the topic of what quality assurance means in sustainability-focused education.

The SDG4BIZ-project itself was created to help with meeting the United Nations Sustainable Development Goals set for 2030 and to help learners recognize the business opportunities within them. The thesis topic was chosen to enhance the quality assurance aspect of the project's pre-piloting and piloting phases and its deliverables.

The main findings from the conceptual framework included:

- modern teaching and learning platforms
- the importance of teachers' continuous knowledge and competence development
- the education's ability to meet the needs of today and the future and how it promotes lifelong learning
- the project's quality management practices
- incorporation of sustainability criteria in institutions internal and external quality assurance practices.

The analysis and the recommendations that followed highlighted that the plans set in place in the beginning of the project were comprehensive and well thought out and they were carried out well in practice. The recommendations focused on user friendliness of the learning platform and the dissemination plans of the created curriculum, as well as the importance of teachers' education in the field. With the given recommendations on the platform and with

other results from the piloting phase the learning experience can be even further improved. The dissemination plan and its success are crucial for supporting the achievement of the SDGs.

The most important findings from this research are related to the conceptual framework created and the analysis done based on that. The results show that the project and its goals and objectives, quality and otherwise are in line with the main principle of what quality looks like in sustainability focused education. This means that the provided education aims to tackle the challenges of today and the future and it promotes values and attributes that highlight the importance of lifelong learning and participation in fighting for change.

7.2 Thesis evaluation

In the beginning an objective was set to study and analyse the SDG4BIZ project's quality assurance focusing on pre-piloting, piloting and validation phases and give recommendations on how to further enhance quality assurance of the project. The research did analyse the quality assurance efforts based on the literature review and the conceptual framework created and ended up with some recommendations. However, unlike the researcher thought in the beginning, the recommendations were more difficult to give, and the main focus was more on the analysis of the actions taken. The main result ended up being that most of the activities carried out concerning quality assurance were already well planned and executed and so there was quite little room for improvement.

In addition to the recommendations pointing out things to focus on in the future stages of the project, the research and the analysis done is hoped to build confidence that the quality assurance efforts are well in line with the theoretical framework of what quality assurance should look like in sustainability focused education. With these factors in mind the objective set in the beginning was still met.

Even though recommendations were harder to give than thought, the method used in the research was successful. Participant observation allowed the researcher to first gain more knowledge of the overall topic and the project itself and then later on focus more precisely on certain topics and discussions. Field notes worked quite well when looking back on the data collected from the meetings, even though it was quite clear that the first meetings had much more irrelevant content documented. This made the analysing process a bit slower but did not harm the outcome.

Unlike the researcher thought, a big part of the most important materials for the analysis came from the quality and evaluation plans. It was first a little unclear whether she would have access to the documents or not, but luckily, they ended up being included in the analysis. Without those documents the results would have been much poorer. The use of these documents in the analysis as well as field notes from observations have been documented in the overview and analysis itself as transparently as possible.

If there would have been more time, some additional interview could have been carried out with steering committee members to discuss in more detail some of the quality assurance actions and the plans for them. Because the researcher was not part of all committees related to the projects work packages or quality plans (due to time and overall relevance), some information might still be missing and some of the recommendation or results of the analysis might be unnecessary. With additional interviews the accuracy of the recommendations could possibly have been better.

The topic was also new to the researcher and building the literature review and conceptual framework proved very time consuming. It was also noticed that there were not that many studies on quality assurance in sustainability focused education in general and everything needed to be pieced together. However, the conceptual framework came together quite well in the end and provided a desirable starting point for the analysis and recommendations.

7.3 Closing words

This thesis process has personally taught me a lot about the participant observation method, quality assurance and the SDGs in general and it has been really intriguing being part of the SDG4BIZ-project. The fact that there has not been too much previous discussion around this specific topic provided a challenge but kept the studying process very interesting. I also believe that it highlights the relevance of the topic of this study and hopefully will help someone else later, on their researching in this field.

The beginning of the writing process proved to be challenging also because this thesis did not follow the more traditional approach or format of a master's thesis. As a lot of the writing guides and existing examples of studies made were focused on action research, having a different type of approach took some additional time to plan out. At the end however I found this type of study and writing process very rewarding.

Finally, the SDGs and the education for business opportunities within them being one of the most relevant topics of our time, I felt that no matter the results of this specific thesis, it is so important that the topics around sustainability and the SDGs are studied and talked about.

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