Resilience Based Crisis Management in Public Educational Institutions at the Time of Global Pandemic of COVID-19

The Implication for Ensuring SDG 4

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Supervisor: Ju Liu, PhD.
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Abstract

Purpose: The pursuance of the sustainable development goals, introduced by the United Nations in 2015, is of absolute necessity to build a sustainable future. Resilience-based crisis management helps to sustain an organisation and pursue its goal during crises. The aim of this research was to explore the status quo of resilience-based crisis management within public primary- and secondary schools in the Netherlands during school closures due to the COVID-19 pandemic. Furthermore, the aim was to discover which measures were in place to safeguard the provision of SDG 4. The exploration took place to observe the adaptation capabilities within the educational sector, which could safeguard the provision of SDG 4.

Methodology: The aim was pursued by a qualitative approach. 17 semi-structured interviews with 18 people were conducted during the time of the immediate Coronavirus crisis. All interviewees held positions within the crisis management of primary- and secondary schools in the Netherlands. The interviews were then analysed by the two researchers using thematic content analysis.

Results: The results suggest that:
(a) Crisis management structures in the schools foster resilience, yet, leave room for improvement;
(b) Crisis management processes to foster resilience are present in the schools, however, the extent varies and especially the pre-crisis actions were limited;
(c) The sustainable development goals, especially the content of SDG 4, are little known in the schools;
(d) Actions and measures to provide equitable and qualitative education during the temporary school closures are in place.

Implications: This research adds to the young field of crisis management within schools during school closures as well as the provision of SDG 4 during crises through resilience-based crisis management. Since this research is of exploratory nature, many future research opportunities derive from this research. Furthermore, it discovered the strengths and challenges of the Dutch primary and secondary education sector and gives room for development through education on SDG 4 and resilience-based crisis management.

Key Words: Sustainability, Sustainable Development Goals, SDG 4, Education, COVID-19, Coronavirus, Crisis Management, Resilience Based Crisis Management, Resilience
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With kind regards,

Nathalie Aberle

Mayke Hoekstra

“Education is the most powerful weapon which you can use to change the world.”

Nelson Mandela
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<td>CM</td>
<td>Crisis Management</td>
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<td>DMP</td>
<td>Decision Making Power</td>
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<td>ECS</td>
<td>Ministry for Education, Culture and Science</td>
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<td>HRO</td>
<td>Highly Reliable Organisations</td>
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<td>Highly Reliable Teams</td>
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<td>INEE</td>
<td>Inter-Agency Network for Education and Emergencies</td>
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<td>OECD</td>
<td>The Organisation for Economic Co-operation and Development</td>
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<td>PE</td>
<td>Primary Education</td>
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<tr>
<td>PHE</td>
<td>State Institute for Public Health and Environment</td>
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<td>PISA</td>
<td>The Program for International Student Assessment</td>
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<td>RbCM</td>
<td>Resilience-based Crisis Management</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
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<td>SE</td>
<td>Secondary Education</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<td>UNESCO</td>
<td>United Nations Education Scientific and Cultural Organisation</td>
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<td>WHO</td>
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1. Introduction

Within the introduction, the motives and scope of this research will be clarified. The research environment will be laid out as well as the relevant background. From this, the research problem, the purpose and questions will emerge.

1.1. Background

The background consists of the explanation of the importance of SDG 4, information on the current COVID-19 pandemic and the measures taken by the Netherlands as they are the country of research.

1.1.1. Sustainable Development Goal 4

Sustainable development “meets the needs of the present generation, without compromising the ability of future generations to meet their needs” (World Commission on Environment Development, 1987, p. 44). In 2015, 17 Sustainable Development Goals (hereafter: SDGs) considering society, economy and environment were put into place by the United Nations (hereafter: UN) to work towards a sustainable future. 193 UN member states adopted the SDGs and are collectively aiming to achieve them by 2030 (UN, 2020).

One of these goals is SDG 4 “quality education”, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN, 2015). The importance of SDG 4 becomes evident through the interrelatedness with other SDGs (LeBlanc & Vladimirova, 2015). Furthermore, other SDGs include education-related indicators (Unterhalter, 2019). Thus, education could be seen as the heart of the SDG framework as it fosters the success of all other SDGs implying implementation, provision, and development is of absolute necessity (UNESCO, 2015).

To clarify and to measure the achievement of SDG 4, seven targets and 13 indicators are in place which is recommended to be achieved by 2030. Additionally, the United Nations Education Scientific and Cultural Organisation (hereafter: UNESCO) set up a framework, namely “Education 2030” in which further actions can be found. Moreover, “Education 2030” calls for increased efforts to provide SDG 4 in emergencies:

“Education in emergency contexts is immediately protective, providing life-saving knowledge and skills and psychosocial support to those affected by crises. Education also equips children, youth and adults for a sustainable future, with the skills to prevent disaster, conflict and disease” (UNESCO, 2015, p.34)

This statement indicates that educational institutions carry a great responsibility during times of crisis. To ensure educational institutions are prepared for disasters and the related risks, recommendations and guidelines on actions in emergencies are given by UNESCO and supported by the Inter-Agency Network for Education and Emergencies (hereafter: INEE). Examples are the inclusion of stakeholders and the creation of crisis management plans (INEE, 2012; UNESCO, 2015).

1.1.2. The Coronavirus and its COVID-19 Pandemic

On December 31st, 2019, Chinese authorities noticed pneumonia of unknown cause among the citizens of Wuhan, China. On January 7th, 2020, the reason was detected - a new virus known as the Coronavirus, which causes a sickness called COVID-19. Twenty-three days later (January, the 30th), the World Health Organisation (hereafter: WHO) declared the Coronavirus as “public health emergency with international concerns” (WHO, 2020) – the start of the Coronavirus crisis and the COVID-19 pandemic. As of April 19th, 2020, the virus has reached 213 countries and infected over 2,2 million people. The
number of confirmed deaths is 152,707. Those numbers are expected to rise significantly within the next weeks and months (WHO, 2020a).

Countries are taking measures to fight the outbreak of the virus. Measures reached from public recommendations of social distancing to the law-enforced lockdowns, including home quarantine and closure of businesses and institutions (Frias, Kaplan & McFall-Johnson, 2020). As of April 19th, 2020, there are 191 country-wide school closures in place affecting more than 1,575,000,000 pupils, meaning 91.3% of the total number of learners (UNESCO, 2020; 2020a). These nationwide school closures can be seen as an unavoidable crisis for educational institutions since higher authorities, namely, the governments, have initiated it.

School closures have problematic effects since most schools are using a traditional classroom approach, meaning that pupils are attending classes in a physical space as well as having face-to-face interaction with teachers. The results of school closures imply that physical meeting spaces and face-to-face meetings can no longer be provided. Furthermore, inequality may arise if parents need to do home-schooling. An UNESCO conducted research shows that economically advantaged families have more resources to ensure learning and enriching activities compared to others. Both, the absence of classroom learning and the diversity in the availability of resources may lead to altered learning achievements and performances (2020; 2020a).

Alarmingly, this might not be the last school closure as the number of pandemics is expected to rise over the next decades, which could lead to further temporary school closures (Moné, 2020). Pandemics have always been part of society, which is demonstrated by the regular occurrence throughout human history like the Spanish-, Hong Kong- and Swine flu (Bloom & Cadarette, 2019). Moreover, the expansion of the world population and livestock, globalisation, climate change, medication and research on new diseases increase the likelihood of new pandemics (Walsh, 2020; Bloom & Cadarette, 2019). Therefore, it is essential to map their possible devastating effect and to be able to tackle them in the future. This also applies to SDG 4 as it is considered one of the main drivers towards sustainable development, which marks the importance of its provision throughout pandemics to continue building a sustainable future.

1.1.3. School Closures in the Netherlands

The first COVID-19 case in the Netherlands was discovered on February 27th, 2020 (nu.nl, 2020). On March 15th, 2020, the Dutch government decided on nationwide school closures in order to protect public health. March 16th, 2020, this measure came into force. Additionally, the Dutch government and the educational councils created service documents that provide tools and guidance for school boards, directors and parents to deal with the uncertainty and abruptness of this measure (Ministerie van Onderwijs, Cultuur en Wetenschap, 2020; PO-raad, 2020). On March 31th, 2020, the government decided to reopen primary education (hereafter: PE) for half of the time, starting from May 11th, 2020 (Rijksoverheid, 2020). The reopening of secondary education (hereafter: SE) was planned for June 1st, 2020 (Keultjes, 2020).

1.2. Research Problem

The background shows that the implementation and provision of SDG 4 are vital for sustainable development. Education is not only a fundamental human right but also crucial for the achievement of the other SDGs (INEE, 2012; LeBlanc & Vladimirova, 2015). However, the provision of the sophisticated SDG 4 increases in complexity during crises that include nationwide temporary school closures like the one brought upon by the Coronavirus. Firstly, complexity increases because educational institutions, which carry the responsibility of SDG 4 provision cannot continue education with the traditional classroom approach. They need to adapt their teaching method to minimise losses and continue pursuing SDG 4. Secondly, complexity increases due to heightened uncertainty. Uncertainty arises through little or late information flow from governments on the introduced measures including information such as when schools are expected to reopen and which safety measures will stay in place (Frias et al., 2020; Strauss, 2020; Smith-Sparks & Reynolds, 2020; Welt, 2020, 2020a, 2020b).
marks the importance of effective Crisis Management (hereafter: CM) and resilience within educational institutions as both are aiming for the survival of organisations. CM is defined as: “The intervention or coordination by individuals or teams before, during, or after an event to resolve the crisis, minimise losses or otherwise protect the organisation” (Eder & Alvintzi, 2010, p. 2). Resilience is:

“The emergent property of organisational systems that relates to the inherent and adaptive qualities and capabilities that enable an organisation’s adaptive capacity during turbulent periods. The mechanisms of organisational resilience, thereby strive to improve an organisation’s situational awareness, reduce organisational vulnerabilities to systemic risk environments and restore efficacy following the events of a disruption.” (Burnard & Bhamra, 2011, p. 5587)

Resilience is seen as a fundamental quality of an organisation to adapt to crisis and change. It is, therefore, an effective measure to foster goal achievement within complexity (Witmer & Mellinger, 2016; Welsh, 2014). Furthermore, UNESCO and INEE consider CM as crucial in order to create strategies and plans to overcome crises and continue the provision of SDG 4 (2012). As the INEE guideline and the proposed CM imply temporary changes in teaching approaches, it underlines the previous statement that resilience is inevitable. In summary, while CM reduces adverse effects by adaptation, resilience reduces vulnerabilities through adaptation, making them both compatible in tackling crises and therefore increase the probability of providing SDG 4 during school closures.

However, research on CM within educational institutions just emerged over the past 25 years, forming only a middle-sized body of knowledge. Crises within educational institutions can be defined as “A sudden, uncontrollable, and extremely negative event that has the potential to impact the entire school community” (Byrd, Erickson, Gresham, Metallo, Olinger-Steeves, 2017, p.563). Research done on this topic includes prevention-, response- and recovery- strategies of disasters like terrorism, natural disasters, violence, and local and regional medical emergencies. Measures are adapted to aforementioned crises (Byrd et al., 2017; Liou, 2015; Brickman, Groom, & Jones 2014; Allen et al., 2002; Brock, Sandoval & Lewis, 2001; Cornell & Sheras, 1998; Tattum, 1997). Little attention has been given to temporary nationwide school closures as they are not standard measures to tackle aforementioned crises and if in place they are mostly local and regional and as well as restricted to a couple of days (Allen et al., 2002; Brock et al., 2001). Nevertheless, research on school closures and pandemics show school closures are effective in slowing down the spread of pandemics; however, the performance of pupils decreases during school closures (Yasuda et al., 2008; Joseph et al. 2010; Marcotte & Hemelt, 2007).

Nevertheless, research on the handling of school closures remains little, let alone including the assurance of SDG 4 through CM. Additionally, the link between CM and sustainable development can also be considered marginal, even though both definitions are complementary. CM is a means to minimise and mitigate unfortunate events that could occur in the life cycle of an organisation. Similarly, sustainable development acts as a protective layer for an organisation by ensuring that resources are available, well-stocked and replenished so that the needs of future generations can be met. In this regard, CM and sustainable development are reciprocal in construct (Crandall & Mensah, 2008). Previous research labels sustainability as a complex challenge for CM, however, the nature of sustainability challenges, the evaluation of potential threats regarding these challenges and strategic responses within CM should be further explored (Coombs, 2010). The lack of consideration within research on the continuous provision of SDGs through CM could lead to the threat of slower development in times of crisis. This might imply a variety of threats to humankind itself as sustainable development aims towards the long-term sustainability of planet earth.

The importance of SDG 4 within the SDGs, the lack of research on CM regarding temporary nationwide school closures and the provision of SDG 4, the increased likelihood of future pandemics and the potential threat of slower sustainable development during crises marks the value of adding to the body of knowledge in this field. The characteristics of resilience and CM lead to the logical assumption of
effective crisis handling with these tools in times where the complexity of the SDG 4 provision is increased, and uncertainty is heightened.

1.3. Research Purpose

The purpose of this research is the conceptualisation of resilience-based CM and its placement into the context of educational institutions in times of crisis. Furthermore, it aims to search for current practices of public educational institutions in regards to CM that foster resilience in times of school closures due to the COVID-19 pandemic. This is done by examining CM within public primary- and secondary schools in the Netherlands during the Coronavirus crisis. This provides first insights in which resilience-based CM structures and processes are in place and might contribute to the continuous provision and development of SDG 4 during school closures. Additionally, this research aims to gather information on which specific measures and actions that promote SDG 4 are in place during school closures. Knowledge creation in the aforementioned areas might provide further development opportunities in the form of knowledge sharing and future research possibilities to increase the stability of public educational institutions and the provision of SDG 4 if similar events occur in the future.

1.4. Research Questions

The following research questions will be addressed in this research:

RQ 1: What resilience-based CM structures are used by public primary- and secondary educational institutions in the Netherlands to handle school closures due to the COVID-19 pandemic?

RQ 2: What resilience-based CM processes are used by public primary- and secondary educational institutions in the Netherlands to handle school closures due to the COVID-19 pandemic?

RQ 3: What measures and actions do public primary- and secondary educational institutions in the Netherlands take to ensure equitable and qualitative education (SDG 4) during school closures due to the COVID-19 pandemic?

1.5. Layout

This research is divided into six sections, namely: Introduction, theoretical framework, methodology, presentation of object of study, analysis, discussion, and conclusion. Firstly, the introduction will include the background, research problem, purpose and questions. Secondly, the theoretical framework will explain CM and resilience within school-related theories, frameworks and concepts. Thirdly, the methodology will justify research approaches and design strategies. Fourthly, within the presentation of the object of study, SDG 4 and the Dutch educational system will be clarified. Fifthly, within the analysis, the data that derives from the interviews will be discussed and applied to the theoretical framework. Lastly, the discussion and conclusion will elaborate on the interpretations of the results of this research, its theoretical and practical implications, and its limitations and recommendations for future research.
2. Theoretical Framework

This section will review the existing literature and research that will lay the foundation for practical analysis. Therefore, first, the link between CM and resilience will be made. Then, CM that fosters resilience concerning public educational institutions will be elaborated. Finally, the CM structures and processes that promote resilience will be conceptualised.

2.1. Resilience and Crisis Management to Foster SDG 4

This section will clarify and link the concepts of CM and resilience. Then these concepts will be put into the context of providing SDG 4 in times of school closures.

2.1.1. Relationship Between Resilience and Crisis Management

Organisational systems, their subsystems and networks are interconnected, meaning they interact with each other in a non-linear manner. Furthermore, they are part of a complex and continuously changing environmental system (Burnard & Bharmra, 2011). Recognising this interconnectedness is considered system thinking which forms the baseline for organisational resilience (Senge, 2006; Koronis & Ponis, 2018). Acting upon the recognition marks system activation. This means to not only respond and adapt to the changing environment but to actively evolve within by creating stability and taking on emerging opportunities within incremental- and sudden change. Furthermore, daily activities should be continued while growing (Prayag, 2018; Smith & Wandel, 2006). In conclusion, the following five abilities of organisations are seen as advantageous to foster resilience: (1) flexibility, (2) the capability to react to incremental- and sudden change, (3) to monitor current situations, (4) to identify related threats and opportunities, and (5) to carry self-organisation skills, meaning the ability to learn from previous experiences via reflection and evaluation (Lee, Vargo & Seville, 2013; Prayag, 2018; Bohland, Harrald & Brosnan, 2018). For this reason, the extent of resilience within an organisation becomes only evident during periods of reflection and recovery when the organisation was forced to be resilient (Wenser, 2015).

Organisational resilience can be divided into planned- and adaptive resilience (Lee et al., 2013). Planned resilience relates to organisational pre-crisis activities such as crises plan and strategy creation and their evaluation. Adaptive resilience relates to organisational pre-crisis activities such as crises plan and strategy creation and their evaluation. Adaptive resilience refers to the organisations' ability to respond and adapt dynamically to emergent situations during crises (Prayag, 2018). The capability of an organisation to be resilient when facing disruptions has been noted as a critical resource to mitigate uncertain, complex and troublesome conditions (Wenser, 2015). Organisations that strive to develop resilient strategies will be better prepared to combat high impact-low probability events and are less likely to experience severe damage and long recovery phases compared to non-resilient organisations (Burnard & Bhamra, 2011; Hall, Malinen, Vosslander & Wordsworth, 2016). In other words, resilience gives competitive advantages.

“Crisis” derives from the Greek word “Krisis” which means a moment of decision (Shrivastava, 1993). Three features characterise crises, namely; (1) a substantial threat to the organisation, (2) a high degree of uncertainty and (3) little decision-making time (Boin, 2005). They can be caused by people, organisations, technology, or nature, meaning by the elements of the triple bottom line - society, economy, and environment. Due to the interconnectedness of the causes, crises are complex phenomena that are difficult to predict and to prevent (Smith, 2000). Additionally, crises can lead to severe losses in resources and even loss of human life (Elsubbaugh, Fildes, & Rose, 2004). The complexity of crises and the risk of adverse outcomes mark the importance of sufficient CM. The purpose of CM lies in the minimisation of damage resulting from crises. This is done by suitable strategizing, i.e. capable CM teams, evident decision-making power (hereafter: DMP) and a threefold circular process, namely the pre-crisis-, response- and post-crisis phase (Eder & Alvintzi, 2010; Heath, 1998; Christensen, Danielsen, LÆgreid & Rykkja, 2016). CM is a management concept to handle change occurring due to disruptive situations.

CM and resilience are complementary; meaning CM adds value to resilience and vice versa (Smith, 2000; Burnard & Bhamra, 2011; Wensser, 2015; Rodriguez-Sanchez & Vera, 2015; Grimmelt, 2016; Prayag, 2018). The reasons lie within the nature of change alongside with the values and processes of
CM and resilience. Both sudden and incremental changes are part of society, economy and environment. CM is often used as a tool for a sudden change. Its circular process aims towards the prevention, response and recovery from crises through adaptation to minimise adverse effects and sustain an organisation (Taneja, Pryor & Zhang, 2010; Eder & Alvintzi, 2010). Resilience is known to be advantageous for sudden as well as incremental changes as it fosters not only the ability to adapt but also the ability to be strongly self-organised in order to sustain the organisation (Bohland et al., 2018). The common challenge of handling change, the focus on adaptability and the ultimate goal of sustaining an organisation are indicators for the complementary nature of CM and resilience.

Furthermore, the pre-crisis phase of CM might support planned resilience as its purpose is to create emergency plans, including worst-case scenarios and planned resilience is based on plans. Merging both might foster efficiently planned adaptation (Prayag, 2018). However, it is almost impossible for organisations to be prepared for all worst-case scenarios and related threats (Boin & Mcconnel, 2007). For this reason, adaptive resilience might add value to the response and post-crisis phase CM. Adaptive resilience is the capability of reacting ad-hoc during immediate crises. This might be needed if organisations are not and cannot be prepared for all scenarios and situations (Prayag, 2018; Boin & Mcconnel, 2007; Jaques, 2007; Pearson & Clair, 1998). The difference between resilience and CM is the advocacy of continuous self-organisation, including reflection, evaluation and learning within resilient organisations. This leads to almost a natural adaptation within these organisations instead of an enforced adaptation by certain parties. CM could also provide this ability if it focuses on learning and unlearning processes; however, it is not necessarily given (Prayag, 2018).

In summary, merging both concepts could be advantageous as it not only fosters adaptation in order to handle disruptive events but also self-organisation and learning through both, sudden and incremental changes. This way, damage can be prevented as well as growth promoted, which ultimately sustains the organisation long-term. Both are vital for organisations in times of crises and complement each other. (Burnard & Bhamra, 2011; Stark, 2014; Rodriguez-Sanchez & Vera, 2015; Grimmelt, 2016). Therefore, the in-depth structures and processes of CM outlined in chapter 3.2.4. were chosen following their possible provision of resilience. The concept of CM that fosters resilience will henceforth be called resilience-based CM (hereafter: RbCM). Figure 1 visualises the link between resilience and CM.

Figure 1: Resilience-based CM
2.1.2. Resilience and Crisis Management to Foster SDG 4 During School Closures

Educational institutions carry the sustainable development responsibility of providing qualitative and equitable education. This also applies during times of crisis (UN, 2015; Witte de, & Hindriks, 2017). Educational institutions are living systems with dynamic relationships, which are influenced by internal and external events that force upon change (Chrispeels & Pollack, 1989; Senge et al., 2000). Some external circumstances happen “overnight”, which means an abrupt change is required in order to sustain an organisation’s value to society. The Coronavirus crisis can be considered as such a circumstance since the virus spread around the globe in less than three months (WHO, 2020a). As of April 19th, 2020, educational institutions in 191 countries had to close in order to improve public safety (UNESCO, 2020a). As a result, schools are not only exposed to the complexity of the organisation itself and its purpose of providing SDG 4 but also to the complexity and uncertainty of school closures (Adamek, 2020). When applying the system approach to public educational institutions, the external change due to the Coronavirus and the related school closures affects the whole organisation. Pupils, parents and teachers are directly affected. Teachers might need to find suitable alternatives to the traditional classroom approach; pupils might need to adapt their daily routine and parents might be expected to participate in the learning process. These changes lead to related risks such as differences in economic resources of families, such as access to the internet or the availability of computers, non-suitable learning environments and even unsafe home situations (Couzy, 2020; Marzano, 2010). These risks imply that not all pupils and parents might be equally able to handle school closures (UNESCO, 2020a). In conclusion, the needs of these stakeholders are changing due to the external event.

The fast change of the environment and stakeholder needs to be accompanied by the responsibility of schools to provide education demand immediate adaptation, which marks the importance of using both, CM and resilience. As temporary nationwide school closures are extraordinary measures and therefore experience and knowledge on the handling of such measures are marginal, resilience can support CM. Planned resilience might support the pre-crisis phase as it aims towards efficient change processes by continuously reflecting, evaluating and adapting throughout the planning phase. However, it can be assumed that prevention of the crisis was impossible and the preparation time limited due to the unpredictable nature of the Coronavirus and its fast spread as well as the imposition of school closures by higher authorities (Boin & Mcconnel, 2007; WHO, 2020e). This marks the need for efficient crisis response and adaptive resilience. In these sudden disruptive events, organisations need to acquire the ability to look ahead and react ad-hoc on emerging situations (Ensor, 2011). The reflection-, evaluation- and learning feature incorporated in adaptive resilience might support this and therefore adds value to the response phase. This way, inefficient practices might be detected early on and can be adjusted to provide SDG 4. Additionally, as the systems approach is the baseline of resilience, the likelihood of considering various stakeholder needs during the response phase is increased. It, therefore, builds capacity to respond to various social vulnerabilities in order to safeguard SDG 4 (Espiner, Orchiston & Higham, 2017). Examples would be the consideration of vulnerable children in unsafe home situations or the consideration of parents that are not able to provide sufficient educational resources to their children. RbCM could therefore help as a tool to ensure the adequate provision of SDG 4 in times of school closures.

In summary, due to the "overnight" crisis outbreak, the changing needs of various stakeholders and the ongoing responsibility of schools to provide equitable and qualitative education, RbCM might help schools to pursue towards their responsibility by minimising adverse effects and continuing daily work while adapting to the changing environment and seeking opportunities within.

2.2. Resilience-based Crisis Management regarding Public Educational Institutions

This section will conceptualise RbCM and is divided into two subsections, namely RbCM structures and RbCM processes. Within RbCM structures, it will be elaborated which CM team and DMP foster resilience. In RbCM processes, it will be examined how different actions within the phases connect to resilience.
2.2.1. Resilience-based Crisis Management Structure

When it comes to CM, it is essential to have effective coordination of the different actors and units within an organisation as well as efficient decision-making (Christensen et al., 2016). Therefore, appropriate CM structures are unavoidable in order to react in an optimal way to a particular crisis. Structures are “the distributions, along various lines, of people among social positions that influence the role relations among these people” (Blau in Tolbert & Hall, 2009, p.35). CM structures find their origin within military organisations as they need to react in an effective way to crises that require immediate action such as war and natural disasters. For this reason, it is unsurprising that research on general CM structures emphasises mainly on teams and DMP as these two structural components are highlighted by military organisations (Heath, 1998).

Moreover, when it comes to CM in educational institutions, the importance of comprehensive CM teams is highlighted as they are the baseline for effective CM processes (Nickerson, Brock & Reeves, 2006). It is said that the CM teams of schools are not very different from CM teams of the corporate world (Wang & Hutchins, 2010). However, one difference lies in the composition of the CM team. Teachers mainly administer educational institutions. Commonly, they have entered the schooling environment solely for teaching and promotions are based on their teaching skills. Management training is not considered a frequent practice (Latif-Javed & Niazi, 2015). This might have an impact on the effectiveness of CM teams within schools, as they might not be trained crisis managers or familiar with CM in general. Nevertheless, concepts of comprehensive CM teams for educational institutions are little researched in depth. The same applies to the DMP of CM within educational institutions. However, since CM and educational CM are considered similar, for this research, existing research and information on educational CM teams, and DMP will be pointed out and merged with existing literature on general CM and resilience.

2.2.1.1. RbCM Teams

CM teams are considered a key element to prepare, respond and recover from disruptive situations with the ultimate goal to minimise adverse effects resulting from crises. To achieve this, CM teams are therefore assigned to handle emerging crises, meaning they are responsible for controlling the situation and communicating relevant information. At the same time, the other employees continue with their daily activities (Eder & Alvintzi, 2010). The CM teams must react immediately and perform reliably during crises. Hence, the crisis should be their top priority if not their only job (Haar van der, Jehn & Segers, 2008).

Existing research stresses the importance of multidisciplinary teams within CM in general as well as in educational CM (e.g. Nickerson et al., 2006; Smith, 2000; Haar van der et al., 2008). Multidisciplinary teams increase the likelihood of having more knowledge, expertise, and resources, which contributes to the success of teamwork (Haar van der et al., 2008). In concrete terms for school, that means to include many diverse staff members. Recommended included staff members are the principal, the guidance counsellor, nurses, psychologists, and teachers (Nickerson et al., 2006). This way, heterogeneous knowledge and expertise could reside within the teams, which then could lead to an increased probability that the needs of various stakeholders of educational institutions will be taken into consideration, which then might foster the provision of SDG 4. Examples for needs could be educational content, psychological, equitable resources etcetera. Taking into account several stakeholder perspectives fosters system thinking which aligns with resilience (Senge, Hamilton & Kania, 2019; Pisano, 2012). Applied to schools, this means they see themselves as part of a bigger system interacting with their various stakeholders. Acting upon that might foster resilient educational institutions and therefore might increase the probability to provide SDG 4 concerning the changing needs during a crisis that includes school closures.

CM teams must perform immediately and in a reliable way handling the crisis whilst other staff continue with daily activities. In doing so, they need to bear in mind the best interest of the organisation and its stakeholders, which leads to great responsibility and could result in high levels of stress (Eder & Alvintzi, 2010; Haar van der et al., 2008; Smith, 2000). In addition to the multidisciplinarity of teams,
there are specific values that teams should incorporate to handle crises. Research on values within CM is often linked with Highly Reliable Organisations (hereafter: HRO) (Williams, Gruber, Sutcliffe, Shepherd & Zhao, 2017). Wilson, Burke, Priest, and Salas created a value-model for teams, based on the characteristics of HROs (2005). The values described in the model foster resilience as they foster the ability to adapt as well as the competence of coping with the stress and the risks of handling complex tasks in changing environments and crises. Teams with these values are called HRTs. (Wilson, et al., 2005; Haar van der, 2008; Wesnser, 2015). The HRTs commit to five values.

1. “Sensitivity of Operations”
   This value highlights the importance of communication to ensure collective situational awareness achieved by information exchange, communication loops and shared situational awareness. Information exchange is based on the “Ability to speak clearly, concisely, and in an unambiguous manner with other team members.” Communication loops mean to “Exchange information accurately and clearly and acknowledge receipt of information.” Shared situational awareness is “The team's ability to develop shared mental models of the environment.” (Wilson et al., 2005, pp. 304-305)

2. “Commitment to Resilience”
   This value highlights the importance of resilience within the teams achieved by back-up behaviour, mutual performing monitoring and shared mental models. Back-up behaviour is defined by the “Capability to give, seek and receive task instructive feedback. Assisting team members to perform their tasks.” Mutual performance monitoring means the “Team members ability to monitor team members performance and give constructive feedback.” The shared mental model is the “Team ability to share compatible knowledge pertaining to individuals’ roles in the teams, the roles of fellow team members, their characteristics, and the requirements needed for effective team interaction.” (Wilson et al., 2005, pp. 304-306)

3. “Deference to Expertise”
   This value highlights the importance of expertise and knowledge within the team achieved by assertiveness, collective orientation and expertise. Assertiveness means “The willingness of team members to communicate ideas and observations in a manner that is persuasive for other team members.” Collective orientation is the “Interdependent behaviour in task groups.” Expertise is “Knowing how to do something well and is gained through experience.” (Wilson et al., 2005, pp. 305-306)

4. “Reluctance to Simplify” (Wilson et al., 2005, pp. 305-306)
   This value highlights the importance of not simplifying too much as relevant information of interrelated systems might get lost. The balance of simplification and complexity is achieved by adaptability and flexibility and planning. Adaptability and flexibility is the “Team’s ability to gather information from the task environment and adjust their strategies by reallocating their resources and using compensatory behaviours such as back-up behaviour.” Planning means “Setting goals, sharing relevant information, clarifying member’s roles, prioritising tasks, discussion expectations, and environmental characteristics and constraints.” (Wilson et al., 2005, pp. 305-306)

5. “Preoccupation with Failure.”
   This value highlights the importance of decreasing inefficient behaviour and outcomes achieved by error management, feedback and team self-correction. Error management is “Understanding the nature and extent of error, changing conditions found to induce error, and determining and training behaviours that decrease errors.” Feedback means the “Team’s ability to provide constructive feedback, seek feedback on their own performance, and accept feedback from others.” Team self-correction is the “Team’s ability to monitor and categorise their own behaviour to determine its effectiveness, which generates instructive feedback so that members can review performance episodes and correct deficiencies.”
The recommended measures are meant to enforce these values and to emphasis on teamwork, work efficiency, continuous evaluation and reflection, self-organisation, adaptability as well as information processing. This is linked to resilience and effective CM (Wilson et al., 2005; Haar van der et al., 2008; Eder & Alvintzi, 2010; Wesner, 2015; Rodriguez-Sanchez & Vera, 2015). Together with the multidisciplinarity recommended within CM teams, they form RbCM.

2.2.1.2. **RbCM and its Decision-Making Power**

The position of CM within the hierarchical structure of an organisation, meaning its DMP, might seem contradictory to resilience at first. Decentralisation regarding the DMP is considered as a way of handling complex systems and foster resilience, since more opinions are considered within the decision-making process and therefore the probability of systems thinking increases. Centralisation regarding the DMP is considered as a way to handle tightly coupled systems and to make fast decisions which are needed in CM since response time is limited (Heath, 1998; Smith, 2000; Somers, 2009). However, what might seem contradictory at first merges into a useful hybrid model. Decentralised DMP within the CM team and centralised regarding its position within the overall organisational hierarchy (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016). The CM team is assigned to handle crises and is responsible for all related aspects. To ensure acting according to the best interests of the organisation including its stakeholders, each member of the CM team should have equal voting rights when it comes to important decisions. This way, more opinions can be considered, which may lead to an increase in considered stakeholder needs (Eder & Alvintzi, 2010). This establishes a network of responders within the CM, which then leads to decentralisation and aligns with resilience (Heath, 1998; Christensen et al., 2016). The decentralised CM team then carries centralised responsibility within the organisation. Firstly, centralisation is necessary in order to react quickly to crises. Therefore, the CM should be the highest level of authority. Secondly, they need access to all crisis-related information and resources, which should give them the power to gain information internally and externally. Thirdly, as CM teams have all crisis-related information and are responsible for handling the crisis, they should be the representatives of the organisation towards affected external organisations (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016). In summary, the CM should have decentralised DMP within the team and a centralised position in the organisational structure. This way, resilience is fostered while making fast decisions and effective communication possible.

Regarding the public educational institutions, this implies that every CM team member should have equal voting rights in order to consider as many stakeholders needs as possible. Besides, the CM team should have the highest authority, meaning access to all available resources regarding the crisis and high DMP in the organisation to implement adaptations as fast as possible throughout the schools.

2.2.2. **Resilience-based Crisis Management Processes**

Processes are defined as “series of actions that lead to the accomplishment of objectives” (Damachi, 1978). The processes of CM can be seen as phases in which the handling of crises within the organisation take place (Heath, 1998; Eder & Alvintzi, 2010; Smith, Kress, Fenstemaker, Ballard & Hyder, 2001; Anderson, 2006; Mitroff, Shrivastava & Udwadia, 1987; Carmeli & Schaubroeck, 2008). The division of these phases vary depending on the author. Conventional divisions are prevention, preparedness, response, and recovery (Heath, 1998), detection, crisis, repair, and assessment (Mitroff et al., 1987) or pre-crisis management and crisis-management (Jaques, 2007). It is generally recognised that these phases are not linear, but circular, i.e. after every crisis recovery, the preparation for new crises start (Jaques, 2007; Smith et al., 2001; Anderson, 2006; Mitroff et al., 1987; Carmeli & Schaubroeck 2008). For this research, the division by Eder and Alvintzi in 2010 will be used, dividing the process into the circular process of pre-crisis-, crisis response-, and post-crisis phase (see figure 1).
2.2.2.1. Pre-Crisis Phase

The pre-crisis phase of CM in general as well as within educational institutions can be divided into two sections namely preparation and prevention (Jaques, 2007; Eder & Alvintzi, 2010; Wang & Hutchins, 2010; Mitroff et al., 1987; Carmeli & Schaubroeck 2008). The pre-crisis phase is considered to be a proactive approach to minimise damage resulting from crises (Mitroff et al., 1987; Smith et al., 2001).

The preparation process in general and educational CM consists of crisis planning, training and improvement of the plans. The first step is to create CM plans that contain management strategies and solutions regarding as many relevant worst-case scenarios as possible (Eder & Alvintzi, 2010). Meaning, for each scenario there should be a plan that incorporates, among others, roles and responsibilities in times of crisis, process ownership, possible mechanisms for resolutions, lines of communication, methods for crisis detection, available and needed resources, the process of decision adaptation and the level of control and the limits of CM (Jaques, 2007; Eder & Alvintzi, 2010). The preparedness resulting from CM plans that include these factors are considered to foster organisations resilience, as they might minimise the risk of breakdowns (Braun, 2013). Additionally, these CM plans should incorporate space for creative thinking which adds to adaptive resilience and therefore supports the organisation's overall resilience (Anderson, 2006). Regarding the creation of CM plans within educational institutions, it is said that the planning should take place within regional resource groups. Regional resource groups are consisting of professionals of different fields to share resources such as knowledge and best-practices. This increases the probability of including heterogeneous knowledge and stakeholders. The plans should be checked on their compliance with existing policies. In the end, the implementation of the plan should take place within the individual schools (Smith et al., 2001). The second step within the preparation process consists of the training of the described measures in the plan. The purpose of training is to execute simulations that allow testing the efficiency, training the CM team, and familiarising the organisation with the crisis processes (Jaques, 2007; Smith et al., 2001; Mitroff et al., 1987). The third step takes place after the training where the plan should be reflected upon, evaluated, and ultimately improved if necessary (Smith et al., 2001; Jaques, 2007). This threefold process - planning, testing, improving - can be seen as organisational learning as it fosters unlearning, learning and relearning and therefore contributes to an organisation's overall resilience (Carmeli & Schaubroeck, 2008; Burnard & Bhamra, 2011; Bohland et al., 2018).

The prevention process in CM, which includes CM within educational institutions, consists of the crisis detection, the assessment of risks and the activation of possible prevention measures. The crisis detection should detect early warning signals that indicate an imminent crisis. This detection is based on a systemic scanning of all internal and external threats which are resulting from the environment, the society and the economy (Smith et al., 2001; Mitroff et al., 1987; Pearson & Clair, 1998; Jaques, 2007). If an imminent crisis has been detected, it is essential to assess the possible risks and prioritise the organisational goals and crisis coping strategies. The early detection and risks assessment might prevent the organisation from severe damages as they allow an organisation to react in time (Jaques, 2007). In some cases it is possible to prevent the imminent crisis with an immediate intervention if detected in an early stage (Smith et al., 2001; Jaques, 2007; Mitroff et al., 1987, Nickerson & Zhe, 2004). Examples within the school context would be the prevention of violence or suicide through psychological first aid or individual counselling for pupils (Nickerson & Zhe, 2004). However, sufficient prevention is difficult and organisations should always expect situations to escalate (Eder & Alvintzi, 2010). Thus, if prevention measures fail or the crisis cannot be prevented, the crisis must be recognised as such and the crisis system must be activated to prevent damages to the organisation. Crisis recognition and system activation mark the transition into the crisis response phase (Jaques, 2007).

2.2.2.2. Crisis Response Phase

The crisis response phase is considered as the start of the reactive phase within a crisis (Mitroff et al., 1987). It starts with the crisis recognition and the system activation, i.e. starting the crisis response plan and its measures, including tapping into provided resources to counter the crisis (Jaques, 2007). The system’s activation is linked to resilience. It is the fundamental starting point of the organisation's actual ability to adapt because it marks the start of putting adaptive mechanisms of learning from the processes
and of proving robustness into place. Furthermore, it lays the foundation of effective and resilient crisis response (Burnard & Bhamra, 2011).

The crisis response can be divided into the planned response and the ad-hoc response (Pearson & Clair, 1998). The planned response covers the implementation of CM plans, including resolution strategies that have been decided on. The CM team carries out the plans, yet they affect the whole organisation (Mitroff et al., 1987; Jaques, 2007). If the plans are efficient and can be used in the crisis to bounce back to normal, then the plans are adding towards adaptive capacity and show planned resilience (Lee et al., 2013). However, since every crisis is unique, it is impossible to consider every related issue and this makes ad-hoc response capabilities necessary (Boin & Mcconnel, 2007; Pearson & Clair, 1998; Eder & Alvintzi, 2010). Sometimes a specific type of crisis has not been considered during the pre-crisis phase. Then the ad-hoc response is the only response possible (Carmeli & Schaubroeck 2008). The ad-hoc response includes the planning, the management of stakeholders and their changing needs, and the (further) damage mitigation (Jaques, 2007). It is important to increase flexibility to react efficiently to a crisis. Examples could be the flexibility within working times, task assignments and wages. Adaptive resilience and the HRTs might help to provide this adaptability and flexibility as they are characteristic of promoting these values (Wilson et al., 2005; Haar van der et al., 2008; Eder & Alvintzi, 2010; Wesnser, 2015; Rodriguez-Sanchez & Vera, 2015). Furthermore, it allows efficient and quick responses, which in turn supports resilience (Boin & Mcconnel, 2007). Even though urgent decisions and flexibility are required to react to an unforeseen crisis, the focus on stakeholders’ circumstances such as personal losses or higher stress levels should be considered before taking measures (Anderson, 2006). This adds to resilience as organisations have been considered as systems that affect and are affected by stakeholders. Adaptive resilience within the crisis response phase anticipates that measures are more likely to be evaluated throughout the phase and if necessary, to be adjusted (Eder & Alvintzi, 2010; Prayag, 2018). CM that is not focussed on fostering resilience will do the evaluation as a last step after the immediate crisis is over (Veil, 2010). However, since crises are dynamic processes, a continuous evaluation is crucial as it increases the likelihood of responding in an effective manner (Eder & Alvintzi, 2010). Therefore, adding resilience to the crisis response phase might help to handle crises.

Research on CM plans within educational institutions shows school closures, as well as natural disasters and industrial disasters, have barely been considered within CM plans (Nickerson & Zhe, 2004). This leads to the assumption that pandemics are barely included in CM plans, which makes efficient ad-hoc response and supporting adaptive resilience vital in order to pursue their goal, the provision of SDG 4.

In summary, the success of organisations in handling crises is based on the efficiency of their plans, including their planned resilience and their ad-hoc response and simultaneously the ability of an adaptive resilience. If organisations manage to respond dynamically to crises, resilience increases and this, in return, increases the probability of sustaining the organisation’s value (Lee et al., 2013). In this way, they can tackle the crisis and start recovering. Recovery marks the transition into the post-crisis phase (Jaques, 2007; Eder & Alvintzi, 2010; Heath, 1998; Mitroff et al., 1987).

2.2.2.3. Post-Crisis Phase

Once the immediate crisis is over, the post-crisis phase starts. The post-crisis phase is a reaction phase like crisis response, but takes place at a much slower pace (Eder & Alvintzi, 2010; Mitroff et al., 1987). It incorporates recovery from and evaluation of the crisis (Heath, 1998; Eder & Alvintzi, 2010; Anderson, 2006; Jaques, 2007; Mitroff et al., 1987; Carmeli & Schaubroeck, 2008).

The recovery goal is the return to normal operations, the financial recovery and the rebuild of damaged infrastructure including damaged reputation (Eder & Alvintzi, 2010; Jaques, 2007; Borda & Mackey-Kallis, 2004). The crisis recovery plan should be incorporated in the CM plan, meaning before a crisis occurs (Eder & Alvintzi, 2010). Besides having planned how to go back to “normal”, all different stakeholders should be considered rightly. For example, Anderson stated in 2006 that a crisis increases the stress level of employees and therefore recovery measures such as post-crisis stress reduction strategy should be considered. In the educational context individual counselling, psychological first aid, group sessions, debriefing and triages offered by schools are effective in helping pupils to process events
and their effects on the pupils. To help the families with measures such as referring to mental health services, help in securing resources, parents support groups and the reinstalling of regular routines, has been proven to be effective in recovering from crises (Nickerson & Zhe, 2004).

In order to support organisational resilience, the evaluation phase at the end of a crisis is essential. During the evaluation, the crisis should be reflected upon and analysed so that organisations can learn for the future (Smith et al., 2001; Carmeli & Schaubroeck, 2008; Jaques, 2007; Pearson & Clair, 1998; Eder & Alvintzi, 2010; Mitroff et al., 1987). The learning process includes learning, unlearning, and relearning. This is realised by detection and correction of errors in the pre-crisis and response phase, which leads to adjusted CM plans as well as changed behaving patterns of people. The evaluation- and learning process is considered to positively affect the pre-crisis phase which directly follows the post-crisis phase, i.e. the process of CM is a loop (Carmeli & Schaubroeck, 2008; Jaques, 2007). More precise, the learning process is positively related to an advanced planning and further development of the CM plan within the crisis preparation. Additionally, it may increase prevention possibilities. However, not only CM plans including their actions and their used resources should be developed based on the learning outcomes, but also underlying assumptions, goals, behaviours and values should be altered towards more flexibility, adaptability and ultimately resilience (Carmeli & Schaubroeck, 2008). Therefore the learning process within CM can be linked to loop learning which can be divided into single-, double-, and triple-loop learning (Carmeli & Schaubroeck, 2008; Yu, Shin, Perez, Anderies & Janssen, 2016; Peschl, 2007; Kraker de, 2017). Single loop learning (SLL) refers to the question “are we doing things right?”, meaning if the actions taken are effectively executed. If this is not the case, the actions within the plan need to be adjusted to be more effective. Double-loop learning (DLL) refers to the question “are we doing the right things?” in addition to the first question, meaning evaluating if the taken actions are appropriate to the situation. If not, the plan needs to be reframed. This might include new solutions, new resources that are taken into account and different behaviours (Peschl, 2007; Carmeli & Schaubroeck, 2008; Yu et al., 2016). Triple loop learning (TLL) refers to the question “how are we deciding what is right?”. This learning loop enables change on a deeper level. Learning outcomes are evaluated to question the principles, intentions and will of an organisation and to alter them if necessary. Altering structures on this level means that organisations might be able to experience profound change that enables them to react adaptable, flexible, and transformable to changing conditions within their operating environment. The ultimate goal of the TLL is that key players of an organisation become free, positive, confident and constructive to not only learn continuously, but also to learn about the learning process itself. This will make this process more effective and supports organisational resilience. Learning becomes a natural embedded process within the organisation (Peschl, 2007; Barbat, Boigey & Jehan, 2011; Tosey, Visser & Saunders, 2011). Both the DLL and TLL foster organisational resilience. For this reason they should emphasise on it in the evaluation process (Carmeli & Schaubroeck, 2008; Peschl, 2007; Kraker de, 2017). This could lead to better adjusted or new CM plans, including altered/new solution measures, actions, focus points and included resources. Finally, the organisation is learning how to learn, which makes learning a signature process within the organisation and leads to “learning on the go”, i.e. learning while executing plans.

In the educational context, it might therefore be essential to evaluate the school closures and the measures that were in place during this time in order to analyse their efficiency. As a step further, the CM plans should be adapted to the learning outcomes as well as the underlying behaviours, values and intentions that reside within the schools if they do not comply with the desired behaviours to manage crisis like temporary nationwide school closures.

In summary, the conceptualisation of RbCM shows that CM helps to foster resilience and vice versa. Resilience is considered to be an advantageous capability to adapt to sudden and incremental change in order to continue the pursuance of their mission (Burnard & Bhamra, 2011; Hall et al., 2016). The pursuance of the mission is especially important for schools as they carry the responsibility to provide SDG 4. Additionally, as shown in the conceptualisation, values of planned and adaptive resilience support an effective CM. While CM is necessary to tackle crises and to bounce back to normal operations after the crisis, promoting resilience enables the organisation to learn differently and to use the crisis to bounce forward to improved operations (Manyena, O’Brien, O’Keefe & Rose, 2011).
3. Methodology

This section will discuss the methodology used in this research. Firstly, the research design, meaning the choice of exploratory inductive and qualitative research will be explained. Secondly, an in-depth outline of the data collection will be presented. The use of content analysis is described in the data analysis section. Lastly, the validity and reliability, as well as the limitations resulting from the methodology will be discussed.

3.1. Research Design

This research follows an exploratory, inductive, and qualitative research design.

Exploratory research aims towards discovering and understanding the new phenomenon that has not been clearly defined yet. It can be considered as a kind of detective work to observe a status quo by gaining insights on how individuals or a specific group are handling different situations. Thus, it does not offer final and conclusive answers to a hypothesis but instead allows flexibility in the findings, which then leads to further research opportunities (Blaikie, 2000). The goal of exploratory research is “To scope out the magnitude or extent of a particular phenomenon, problem, or behaviour, to generate some initial ideas about that phenomenon, or to test the feasibility of undertaking a more extensive study regarding that phenomenon.” (Bhattacherjee, 2012, p. 5). This research aims to uncover which CM structures and processes based on resilience were used within public educational institutions to tackle the adverse effects of school closures caused by the COVID-19 pandemic. It explores CM and resilience in particular as both are considered to be useful for organisations in case of disruptive situations to keep pursuing their tasks and goals. Therefore, results could generate insights on how schools behave in times of unforeseen crisis with measures such as school closures. Furthermore, if and how CM structures and processes based on resilience are implemented and if it is considered to be adequate to safeguard the provision of SDG 4. The results could lead to more extensive studies in this area.

The exploratory nature of the research marks the importance of an inductive strategy. Inductive research enables researchers to find unexplored patterns and relationships based on observations (Bryman & Bell, 2015). Hence, it allows finding deviations from existing theories that might occur due to different contexts. Nevertheless, the goal is not to validate or falsify existing theories, but rather to find consistencies and patterns to deepen these theories (Gray, 2009). This research aims to investigate the relationship of CM and resilience within the educational context and to find patterns to what extent CM structures and processes based on resilience are applied in public educational institutions in the Netherlands. However, inductive research approaches do not thrive towards finding truth on specific hypotheses, but rather uncover patterns. This discovery might then lead to further extensive research and generalisable conclusions in this field (Creswell, 2007). Therefore, research on RbCM within the educational context can be seen as an inductive exploration of the topic, which then needs to be further studied. Nonetheless, results might add to the pool of research of RbCM, school CM and the provision of SDG 4 in times of crisis.

Finally, this research has a qualitative strategy. Qualitative research is, among others, used to contextualise as it emphasises more on words than numbers (Bryman, 2012). Furthermore, it enables the researcher to find answers to “why” and “how” questions in a specific context (Volery & Hackl, 2011). Therefore, the key to qualitative research is the ability to get a deeper understanding of how individuals and groups of people perceive certain situations, measures or experiences (Bryman, 2012). These characteristics combine well with the exploratory and inductive approach, which is why this method is used. Firstly, this research aims to find out to what extent and how CM structures and processes based on resilience are used within schools. Using a qualitative approach enables the researchers to get a deeper understanding, how CM and resilience are interrelated and used in the educational CM context based on the experiences of the interviewees. Secondly, SDG 4 is considered a complex topic, which is hard to measure. However, questions of “why”, “how”, “when” and “where” might help to understand the matter (Unterhalter, 2017; 2019). Using these questions in the context of
this research helps to link the provision of SDG 4 to RbCM within schools in times of crisis. The qualitative research method of choice is semi-structured interviews.

3.2. Data Collection

This section will provide details of the research methods used in this study. Procedures, tools and materials that were used to gather the data will be discussed. Additionally, the selection of the interview participants (primary data) and relevant literature data (secondary data) will be outlined.

3.2.1. Secondary Data

For the interviews and analysis of this research two types of documents were taken into consideration. One of the documents is the CM guideline directed towards educational institutions given by the INEE in order to safeguard the insurance of SDG 4 in times of crisis. Further documents were taken into account, which are recommendations and guidelines specifically on school closures in times of the coronavirus crisis given by the Dutch government and its educational sector to all relevant educational institutions. The INEE and the documents of the Dutch government and educational sector were considered to add value to the interviews and analysis as they give additional insights to schools on how to handle crises, school closures and the provision of SDG 4. Therefore, they were implemented in the interview guideline (see Appendix A). The INEE document was found on the UNESCO website. The Dutch governmental and educational recommendations and guidelines were sent to the researchers via email by a member of a Dutch school board. The documents are presented in detail in section “presentation of object of study”.

3.2.2. Primary Data

Primary data was collected in the Netherlands. The reason to focus on the Netherlands was their recognition of the importance of SDG 4 by, among others, providing compulsory education free of tuition fees (European Commission, 2019). The interview participants were approached via emails that have been set up by the researchers. The emails contained information about the purpose of the research, information about the researchers, information on the selection criteria to participate, information on the guarantee of anonymity and the proposed interview dates with the request to participate. The first email to potential participants was sent by a family member of one of the researchers. This member is working in a school board of PE and SE and saw the urgency of this research. The position of this person gave fast access to school board members and school principals. Due to the urgency of the research, fast access was necessary. Nevertheless, it was stated that participation is voluntary. The researchers themselves handled follow-up emails.

Since this research was focusing on structures and processes of RbCM to safeguard the provision of SDG 4, the responsibility of the participant within the CM of PE and SE was a crucial selection criterion. Since school principals are responsible for the daily school management and school board members bear final responsibility for decisions relating to schools and education, it was assumed they take part within the CM. A total of 17 interviews have been conducted with a total of 18 interviewees. One interview was conducted with both the principal and the policy-officer of a school. Since both interviewees work at the same school, they were analysed as one interview. The job position among the interviewees differed between the chief executive of the school board, school board member, supervisor of the school board, team leader business operations, educational consultant, interim-principal and school principals. Twelve of the interviewees were school principals and four were chief-executive members of the school board. One of the interviewees was team leader business operations and one worked as a policy-officer. Some of the interviewees practised more functions within education at the same time, e.g. one interviewee was both, an educational consultant and an interim-principal. Eleven interviewees were working within PE, six within SE and one chief executive board member worked within both, PE and SE. The time working in the educational sector varied between six months and 47 years, the average was 25 years of working experience. None of the interviewees had experience with nationwide school closures that last more than a month. Due to the time constraints of this research, the maximum number
of interviews were 17. However, the researchers assumed 17 interviews among educational personnel that are involved in the CM of schools lead to a first exploratory insight into the matter. Based on the insights, recommendations for further research were made at the end. Six of the interviewees requested to conduct the interview in Dutch instead of English. Since one of the researchers is Dutch, the requests could be met. For these interviews, the English interview guideline was translated to Dutch. A detailed overview of the interview participants upholding confidentiality can be found in Appendix B.

3.2.3. Semi-Structured Interviews

In order to gain insights into applied RbCM structures and processes and the assurance of SDG 4 among PEs and SEs in the Netherlands during COVID-19, semi-structured interviews were considered as a suitable method. Within semi-structured interviews, both interviewer and interviewee have the opportunity to clarify and elaborate on statements that are considered as essential. It allows to generate further in-depth knowledge by talking about feelings and personal experiences (Silverman, 2014; Clifford, Cope, Gillespie and French 2016). Semi-structured interviews consist of interview guidelines with predetermined questions; however, deviations such as personalised, in-depth questions or changing question order are possible. For this research, a semi-structured interview guideline has been created with both, open and closed questions. Simultaneously, space was given to the interviewees to elaborate on specific statements. To make sure that the interviews were conducted fluently and understandable, the questions were divided into three categories, namely: general questions, CM structures and CM processes. Furthermore, CM processes were split into pre-crisis-, response-, and post-crisis phases (see Appendix A). The interviews took place during the immediate coronavirus crisis between May 15th and 20th, 2020. The interview was tested beforehand with a school board member for both, PE and SE. After the interview, this person was requested to provide feedback on the content and the length of the interview. The feedback was elaborated and incorporated into the final version of the interview questions.

Since the Coronavirus and the social distancing measures were already in place in the Netherlands at the time conducting the interviews, all interviews were conducted digitally via “Zoom”. A conscious choice was made for “Zoom” as it provided video chats with which the researchers found it easier to pick up social signals and react accordingly to personalise the interviews. To ensure that there was enough time for the predetermined as well as some personalised questions, the set timeframe for the interviews was 40 minutes; however, the average time spent on the interviews was 53 minutes. The interviews were recorded with “Zoom” and held in English or Dutch. At the start of the interviews, the consent was requested verbally. Nevertheless, a physical consent form was sent before the interview with the appeal to return it signed.

3.3. Data Analysis

There are no specific rules regarding the analysis of qualitative data gained through semi-structured interviews. Therefore the method of analysis is the researcher’s decision (Bryman & Bell, 2015). Due to the exploratory and inductive nature of this research, the analysis method of choice was the thematic content analysis. This method codes gathered information systematically in order to enable a subjective interpretation of the content. Codes can be predefined based on theoretical constructs as well as new codes can emerge during the analysis (Hsieh & Shannon, 2005). This way, existing patterns can be strengthened and new patterns can be identified (Krippendorff, 2013). Therefore, this approach is suitable for exploratory and inductive studies. By analysing qualitative data via thematic content analysis, a deeper understanding of the research topic can be created (Hsieh & Shannon, 2005).

For the aforementioned reasons, the semi-structured interviews were analysed according to the content analysis method. Firstly, the interviews were reviewed independently by both researchers. Keywords and recurring phrases were marked individually. In this way overarching themes could be identified. Secondly, a detailed set of codes was created by each researcher. The codes were based on the theoretical framework including themes such as “Crisis Management Teams”, “Decision-Making Power”, “Pre-crisis Phase”, “SDG 4 Measures” and the like. However, since the research is exploratory to identify essential structures and processes, new codes were identified throughout the process of analysis and
consequently added to the template. Both resulting sets of codes were then merged by highlighting relevant codes, discussing new codes and eliminating unnecessary codes. Thirdly, the findings were put into relation with each other to strengthen existing patterns and find new patterns. Outliers were also taken into consideration as the gained insights might foster further in-depth studies. This way of analysis was essential to the researchers as it fosters reliability and validity.

3.4. Reliability and Validity

In pursuance of the quality assessment of this research, different methods were used. The quality assessment aims to investigate the way this research was conducted as well as its credibility and accuracy (Flick, 2007; Easterby-Smith, Thorpe & Jackson, 2015).

Consistent results mark the reliability within qualitative analysis (Yin, 2013). External reliability indicates the possibility of replication, meaning researchers that conduct the same study under the same conditions would have similar findings. (Neuman, 2011; Bryman & Bell, 2011). Furthermore, it gives information about the consistency of measures over time (Bryman & Bell, 2011). To ensure the possibility of replication, a detailed methodology has been given. Additionally, the interview guideline can be found in Appendix A. The interview guideline has been created based on the theoretical framework. The codes were established on the content given by the interviewees. This research can be considered external reliable as it can be assumed that it is possible to replicate this research. Moreover, it can be expected that future findings will be similar, as the research focused on the status quo of CM structures and processes within PEs and SEs in the Netherlands during the COVID-19 pandemic rather than on feelings or personal assumptions. This leads to the assumption that most answers regarding the pre-crisis and response phase will remain constant over time. Consistency might not apply if a future crisis that implies school closures will be examined, as learning is likely to take place, which could lead to the development of advanced CM strategies. Internal reliability refers to the question if all part of the assessment is measuring the same construct. This can be achieved through the discussion of all parts by different researchers (Bryman & Bell, 2011). An in-depth discussion between the researchers considered the internal reliability of this research. Discussions were held during the creation of the interview guideline, after every conducted interview and throughout the process of content analysis to ensure mutual interpretation.

Accuracy marks the validity within research (Whittemore, Chase & Mandle, 2001). Internal validity is achieved if the measuring instruments measure what they are supposed to, if the questions are measuring the intended concepts and if the questions are related to the topic (Neuman, 2011). Moreover, internal validity highlights similarities and differences between various experiences as well as identifies components for already established and new patterns based on theory in the specific field of study (Riege, 2003). The interview guideline incorporated specific questions related to the theoretical framework and object of study to achieve internal validity. Furthermore, the interview has been tested with a Dutch school board member to see if the questions were understood the right way and contributed to answering the research question. Moreover, communicative validity has been in place, meaning that during the interviews, the researchers made interviewees clarify or verify their statements. During the process of analysis, the elaborated approach enabled the researchers to match the interview content with the theory. Furthermore, the researchers were aware about the fact that they and the interviewees might have been biased, e.g. looking for specific answers by the researchers or whitewashing of actions by interviewees. Possible subjectivity was kept in mind and evaluated throughout the whole research. External validity refers to the extent that the findings of the study can be generalised (Bryman & Bell, 2011). To ensure external validity, the concept of triangulation can be used (Bowen, 2009). For this purpose, four different triangulations have been defined, namely: data-, investigator-, theory-, and methodological triangulation. Data triangulation refers to different persons, space and time. Investigator triangulation involves multiple researchers in research. Theory triangulation implies the use of different theoretical schemes for the analysis. Methodological triangulation means using more than one method to collect data (Thiessen, 1970). The triangulations are used to create credibility, validity and reliability and decrease the impact of possible bias. (Bowen, 2009). Due to interviewees involved in different
positions within the CM of schools, the involvement of multiple researchers and the incorporation of
different theoretical schemes, data-, investigator-, and theory triangulation were in place.

3.5. Limitations on the Methodology

This study has limitations which should be considered accordingly. Firstly, there are limitations due to
the restrictions in research time, which limited the research to the Netherlands and 17 interviews.
However, due to the strict selection criteria of the interviewees, meaning they needed to have significant
responsibility within the CM or be part of the school boards, it is believed that they represented the
situation in PEs and SEs in the Netherlands well. It can be assumed that further data collection would
have led to similar outcomes.

Secondly, there are limitations due to the scope of this research. RbCM is a broad management concept.
Due to the predefined scope of this research by the university, topics of interest needed to be prioritised.
It was impossible to include all elements of RbCM. Therefore, this research focuses on CM teams, DMP
and the three phases of CM. During the interviews new topics arose which give direction for further
research fields.

Thirdly, there are limitations due to the interaction with people. The method of choice was semi-
structured interviews in order to gain a deeper understanding of the status quo. However, the researcher's
understanding of the topics might have influenced the questions asked during the interview. Therefore,
impact reflexivity was crucial during the content evaluation in order to minimise bias. Another limitation
could arise due to language barriers. Interviews were held mostly in English, which might have altered
the possibility of expression. Since one of the researchers is Dutch, the researcher changed the language
according to the needs of the interviewees. Ultimately, six interviews were held in Dutch and eleven in
English. The English interviews included some Dutch words. Regarding the analysis, the Dutch
interviews were transcribed and analysed by the Dutch researcher and essential outcomes were
translated and discussed in detail between the two researchers to have a shared understanding and mutual
interpretation.

Fourthly, this research asked the interviewees about possible evaluation considerations during the post-
crisis phase. Since the interviews were held during the immediate crisis, these considerations were
hypothetical and might change due to internal or external input. However, the researchers believed, that
it gave valuable first insights about the intentions and which evaluation considerations are essential to
schools.

Lastly, the concepts of DLL and TLL are interrelated and the distinguishing lines are not always evident
in the current research and literature. In order to have a common understanding of the analysis of both
learning loops, the researchers discussed the data and agreed on mutual interpretations.
4. Presentation of the Object of Study

This section provides the reader with an understanding of the object of study, which is, in this case, SDG 4 and the Dutch educational system.

4.1. SDG 4

In this section first the scope of SDG 4 will be outlined. This is followed by an explanation of SDG 4 in times of crisis.

4.1.1. Scope of SDG 4

SDG 4 consists of seven targets and 13 indicators. The first three targets are dealing with the assurance of access to qualitative and equitable education to all pupils of every age. This implies access to pre-primary education (target 4.2.) PE and SE (target 4.1.) and tertiary education which includes universities (target 4.3.). Target 4.4. finds its purpose in the improvement of skills concerning employment to youth and adults. Target 4.5. aims to eliminate gender inequality and unequal access to all levels of education. Target 4.6. is concerned with the reduction of illiteracy and insufficient numeracy for youth and adults. Target 4.7. is focusing on the content of education which includes the development of knowledge and skills to increase sustainable developments, such as human rights, sustainable lifestyles and the promotion of culture and peace. Moreover, targets 4A, 4B and 4C are in place to assure the implementation of the seven targets to foster quality and equal education. Target 4A aims towards the upgrade of education facilities to be more inclusive and offer a safe learning environment for everyone. Target 4B points out the number of scholarships that are granted to people coming from emerging countries to access higher education, what should be expanded by 2030. Target 4C aims to increase the number of qualified teachers in emerging countries (Unterhalter, 2019). The overarching goal of SDG 4 is, therefore “To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN, 2015). Since the scope of this research is dealing with quality and equal education opportunities within PE and SE during school closures, target 4.1., target 4.5, and target 4A are the main focus areas of this research. Detailed information on the targets and indicators of SDG 4 can be found at https://sustainabledevelopment.un.org/sdg4.

4.1.2. SDG 4 in Times of Crisis

To specify the collective commitment and implementation strategies of the SDG 4 targets and indicators, UNESCO organised a “World Education Forum” which is known as the ‘Incheon Declaration’ in 2015. Together with over 1600 participants from 160 countries, including, among other, ministers, educational experts, youth and social organisations, the ‘Education 2030’ and the ‘framework for action’ was adopted until 2030. The aforementioned frameworks could therefore be seen as an extension to SDG 4 (UNESCO, 2015).

It was recognised in the ‘Education 2030’ that an increasing risk of crises like pandemics could become a barrier regarding the access to education for pupils. Therefore, educational institutions were advised to consider crises by creating plans and policies to reduce related risks. The measures should advocate safety, resilience and social cohesion. International guidelines advised by the ‘Education 2030’ to safeguard minimum standards for educational institutions within emergency situations on prevention, preparedness and response strategies are provided by the INEE (UNESCO, 2015). These standards are based on gathered information and research and define goals and key actions necessary to provide access to quality education during times of crisis (INEE, 2012).
As visualised in figure 2, the standards are divided into one overarching domain (foundational domain) and four subdomains. The overarching domain applies to all domains and consists of community participation, analysis and coordination. The subdomains are access and learning environment, teaching and learning, teachers and other education personnel and education policy. The standards and key actions can be found in Appendix C.

Figure 2: INEE Minimum Standards for Educational Institutions in Emergencies (INEE, 2012, p. 8)

4.2. Educational System of the Netherlands

The object of study is the Dutch PE- and SE system. In order to get a better understanding of the system, this section will visualize and explain the system. Additionally, compulsory education, the status quo of SDG 4 and critical educational institutions will be clarified and explained. Finally, recommendations from Dutch educational representatives to assure SDG 4 during school closures will be discussed.

Figure 3: Dutch Educational System

4.2.1. Compulsory Education and Expenses

Children between the age of 5 and 16 are subjected to compulsory education in the Netherlands. The compulsory education regulation applies to all nationalities currently living in the Netherlands as well
as to children who seek asylum. Non-conformity is punishable (Compulsory Education Act 1969, 2020). Compulsory education stops with the age of 18. However, young people between 16 and 18 years, who have achieved basic qualification standards (HAVO, VWO or MBO level 2 or higher (see figure 3)), are not subjected to compulsory education. Moreover, a person is exempted from compulsory education if it attended at least twelve full school years (Luijks & De Heus, 2008).

There is no tuition fee for PE and SE. However, the school may charge a voluntary parental contribution for extra activities such as excursions or school trips. If the parents are not able or willing to pay the voluntary parental contribution, but the activity is part of the compulsory education program, pupils are obliged to participate. The school then covers the costs of the activity (Luijkx & De Heus, 2008).

For SE, textbooks are available free of charge. Some teaching materials such as dictionaries, calculators or gym clothes, have to be paid from their expenses. Additionally, schools must provide free of charge customised textbooks for pupils with disabilities (Rijksoverheid, n.d.b).

Importantly, schools are not allowed to demand parents to buy laptops or tablets for their children. Conversely, parents cannot require schools to provide tablets and laptops. However, if schools are replacing physical teaching materials to digital ones, the school must provide resources for the pupils to be able to obtain the teaching materials. The schools may ask for a voluntary financial contribution, but parents are not obliged to pay. The school must then provide other appropriate teaching methods (Rijksoverheid, n.d.a; n.d.b).

4.2.2. Equitability and Quality of Education

The Program for International Student Assessment (hereafter: PISA) is part of the Organisation for Economic Co-operation and Development (hereafter: OECD) and aims to create policies that contribute to better living conditions. To create this vision, they provide evidence-based research that shows international standards (OECD, 2019). PISA is a program that measures the reading, mathematics and science knowledge and skills of 15-year-old pupils in order to map global performance differences (Schleicher, 2018). During their latest research in 2018, the Netherlands was proclaimed on the 16th place of the world ranking (Factsmaps, 2018).

However, the average performance within compulsory education is steadily declining throughout the years. In contrast to other countries, pupils in the Netherlands are performing slightly less than they used to over the past 20 years. The decline of performance within compulsory education is cause for concern because it may have consequences for educational opportunities and quality education. However, Dutch pupils are on average well-educated (Onderwijsinspectie, 2018).

Moreover, pupils are dependent on the educational level of parents and the quality of schools. However, research shows that in the last two years there is an increase in socio-economic segregation in the Netherlands. Due to the increased segregation within educational levels and parental income, especially in PE and SE, negative consequences are in danger of being amplified. Segregation is specifically visible between children of academically educated parents and non-academically educated parents. This is partly due to residential segregation and the fact that parents have the opportunity to choose schools for their children. This may lead to equitable and qualitative differences of areas and therefore schools (Onderwijsinspectie, 2018).

4.2.3. Relevant Parties within the Dutch Educational Sector

As the hierarchy and roles of different parties involved in the Dutch educational sector are complex, the connections and their main roles have been visualised in figure 4. Additionally, a brief description of the different roles and tasks of the parties is following.

*Ministry of Education, Culture and Science* (hereafter: ECS) - Within the central government, this ministry is representing the interests of educational institutions throughout the Netherlands. This ministry is concerned with the creation of the legal frameworks for education, implementing educational laws and providing funding. Their mission is that everyone should have the opportunity to follow quality education to be prepared for independence and responsibility (Luijks & De Heus, 2008).
Educational inspectorate - This is organised by the government to check if the quality of education is in accordance with the minimal standards of Dutch regulations. Their mission is to monitor if education is sufficient in quality. The inspectorate could be seen as the supervisor for the educational system. Their tasks include the conduction of an extensive survey every four years on the quality of education and to check if the finance is in order within the school boards. Besides this, their task is to conduct an annual risk assessment based on existing data and depending on the result, according steps are taken (Onderwijsinspectie, n.d.).

PE-council - This is the sector organisation for PE. The council represents the common interests of school boards in the PE-sector. Their focus lies on three major domains, namely; funding, employment and education policies (PO-raad, n.d.a).

SE-council - This is the sector organisation for SE. The council represents the interests of school boards of SE in politics, business, and civil society organisations. Additionally, the council promotes the quality of education by facilitating school boards in fulfilling their task (VO-raad, n.d.a).

School board - The school boards are the organisations that bear final responsibility for decisions relating to the school and the education that is provided to pupils. They remain responsible for the educational process, even if the education is provided in a distant way (MvOCW, 2020). One school board is responsible for several schools. Some of the tasks which are imposed on the school board are recruiting new staff, determining school policies, carrying out tasks given by the government, providing educational resources and managing finances. Some of these tasks can be outsourced to school principals, but the school board remains ultimately responsible (Heijmans & Christians, 2017).

School principal - This person is responsible for the daily management of the primary/secondary school. This person is concerned with organisational tasks, such as implementing educational policy, personnel policy, financial and material policy. This also includes the responsibility of arranging maintenance for the school building and to maintain contact with the school board, parents and various stakeholders involved in the school (Heijmans & Christians, 2017).

Participation council - Every school has a participation council that consists of staff members, parents and, in SE; also pupils aged thirteen or older. They advise schools on topics such as budget and policy. Objectives can only be drawn up or changed with their consent (PO-raad, n.d.).

Board of supervisor - They supervise and advise the school board and are seen as their employer. They safeguard social interests, which sometimes transcend the interests of the individual school. This does not mean they can 'overrule' the school board with every decision since their task remains to monitor. Tasks include for example monitoring the compliance with regulations, approval of the budget and annual reports (Ouders en Onderwijs, 2020).

Municipality - Municipalities are responsible for making youth assistance available. They offer, among others, help when family-, psychological- and/or behavioural problems occur. They make agreements with institutions in order to organise and support related responsibilities. Examples of institutions that fall under the supervision of the municipality are “Safe at Home” and “Youth Support” (Rijksoverheid, n.d.).
4.2.4. Recommendations from Educational Representatives during School Closures

The decision of the Dutch government on the school closures in order to protect the public health was announced March 15th, 2020. On March 18th, 2020, the Dutch government provided a service document with guidance for school boards in PE and SE to implement the national measures of school closures (MvOCW, 2020). The recommendations outlined below will be divided into non-binding guidelines from the Dutch government and educational sector councils and the mandatory measures from the Dutch government.

Non-binding Guidelines

The Dutch government, together with the educational sector council, created guidelines for school boards within the PE and SE to deal with the abrupt school closure due to the Coronavirus (MvOCW, 2020). For example, step-by-step guides are given regarding considerable practical needs during the school closures. Within this guide, tips are given on topics such as the effective organisation of distance learning, suitable IT systems and the adaptation of plans according to national Coronavirus developments (Kennisnet, 2020a; 2020b). As distance learning is the most recommended method to continue education during the school closures, educational councils and the ECS opened websites1 with tips to support educational institutions and parents in the distance learning process. The ECS requests special attention and customisation to children in vulnerable positions, i.e. pupils who do not have facilities for distance learning, who need extra guidance or who do not experience a safe home base (MvOCW, 2020). Recommended measures include inviting these children to school and collaborating with educational inspectors to communicate with them. To ensure education during this crisis is as close as possible to normal circumstances, principals, such as parents being involved in the learning process and the provision of evaluation moments throughout the process, have been formulated by the educational councils (VO-raad, n.d.).

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1 https://www.lesopafstand.nl/; https://www.ouders.lesopafstand.nl/
Binding Measures

The Dutch government also imposed mandatory measures. An example is the school’s obligation to accommodate children from parents in vital professions such as doctors or hospital cleaners. Another measure is the cancellation of the nationwide central examination for SE, i.e. only the results of internal school exams will be considered in order to award high school diplomas. Furthermore, the final test for the PE was cancelled. As a result, the PE-teachers are deciding the level of entry to SE following the results of school tests, school advice and educational reports. This way, pupils are still able to progress to a higher level of education and obtain diplomas. Additionally, the Dutch government allotted money to provide children with supplies for distance learning in case the internal school resources are insufficient (MvOCW, 2020). Lastly, one of the most critical institutions handling safety during the Coronavirus crisis is the State Institute for Public Health and Environment (hereafter: PHE). This governmental institution created binding safety measures for society on how to prevent the further spread of the Coronavirus, such as keeping 1.5-meter distance and mandatory actions in case of infection (RIVM, n.d.). Schools are obliged to follow these measures.
5. Analysis of RbCM within Primary- and Secondary Education in the Netherlands During the Coronavirus Crisis

5.1. Analysis of the RbCM Structures

In this section, the analysis of RbCM structures within the schools will be displayed. The construction of this section aligns with the RbCM structure format of the theoretical framework. Thus, firstly, the teams involved in the crisis will be evaluated. Next, the DMP within the teams and the overall organisation will be examined.

5.1.1. Analysis of RbCM Teams

Description of Empirical Data

Seven out of 17 interviews confirmed having a CM team that was established during the Coronavirus crisis in order to handle the crisis. The time of establishment ranged between one week before the start of the school closures and two days after the measure came into force. Eight out of 17 interviews stated not to have a special CM team but handled the crisis within the general management team. All of these management teams were part of the typical structure of the schools, thus, established before the crisis. One of the interviewee stated that every teacher who was in school for the upcoming day was involved in handling the crisis; therefore, the team fluctuated. Another interviewee mentioned that within the school, only one person handled the crisis; therefore, the school did not have a crisis handling team.

The teams handling the crisis, both the CM- and management teams, varied between three and eight team members with an average of 5.5. All of them were multidisciplinary. All interviews stated that multidisciplinary teams were tactical choices in order to have different perspectives and heterogeneous knowledge as mentioned in the following quote: “Some have strong qualities in specific areas, and some have great knowledge on certain topics. We are making use of all the good parts of everyone in a small group. This especially helps if you are under pressure” (Interviewee 3, personal communication, May 15, 2020).

The most common positions held within the crisis handling teams of the school board were school board members (4 counts), principals (3 counts), executive secretaries (3 counts) and educational specialists (2 counts). The most common positions of the crisis handling teams in schools were principals (13 counts), internal supervisors/care coordinators (7 counts), digitalisation specialists (4 counts), and team leaders of teachers (5 counts). Multiple answers were possible. Within eleven of the 16 teams, team members fulfilled their normal position next to CM. In the remaining five teams, the members dealt with only the crisis for the first weeks. However, after an average of two weeks, they continued working within their normal position next to the crisis tasks.

Characteristics and values considered necessary within the teams can be divided into essential skills and traits of team members and crucial characteristics of teamwork. The skills of the team members included expertise, communication skills, clear and tactical thinking, being able to have a helicopter view, being able to adapt and staying calm in stressful situations. Being flexible, creative and having empathy were considered to be essential traits. Crucial characteristics within the team were communication, teamwork, team member support, solution-oriented work attitude, risk-taking attitude, learning and leadership. Communication was named most often with seven counts which were followed

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2 Due to the context this will be rounded up to 6.
3 Crisis handling teams refer to both CMTs and management teams that handle crises.
4 Skill refers to “a particular ability that you develop through training and experience” (Cambridge Dictionary, 2020)
5 Trait refers to “a particular characteristic that can produce a particular type of behaviour” (Cambridge Dictionary, 2020)
by expertise, being calm, teamwork, leadership and flexibility with five counts each. Multiple answers were possible.

**Application to Theoretical Framework**

Crisis handling teams are key elements for minimising the negative effects of crises and fostering resilience (Eder & Alvintzi, 2010). Furthermore, handling crises should be the top priority of the teams in order to manage it efficiently and in a reliable way (Haar van der et al., 2008). 16 out of 17 interviews confirmed having teams that dealt with the crisis. This count includes both, CM teams and management teams that dealt with the school closures. This increases the probability of minimising adverse effects and showing resilience. Moreover, the teams that focus solely on CM are more likely to work reliably and efficiently (Haar van der et al., 2008). Only five out of the 16 teams focussed solely on the crisis within the first weeks. Multidisciplinarity is considered as crucial to ensure teamwork success since it fosters heterogeneous knowledge and different stakeholder perspectives which is positively linked to resilience (Nickerson et al., 2006; Smith, 2000; Haar van der et al., 2008). For educational institutions it is recommended to include at least five positions, namely the principal, guidance counsellors, nurses, psychologists and teachers to fulfil stakeholder needs (Nickerson et al., 2006). All of the examined teams were multidisciplinary, which is likely to increase success. Furthermore, every recommended position by Nickerson was named in the interviews apart from the position of the nurse (2006). However, none of the crisis handling teams covered all recommended positions within one team. It can be assumed that the more recommended positions included in the teams, the more likely they are to consider various important stakeholder needs.

When it comes to values of a team that foster resilience and effectiveness during a crisis, Wilson et al. created the HRT framework, including five main values (2005). The values and characteristics considered necessary by the interviewees match with the HRT values. HRT-value one “sensitivity to operations” matches with communication skills, clear and tactical thinking, having empathy, team member support and teamwork. This is because these values and characteristics might foster communication and information exchange, which are two out of three elements of HRT-value one. HRT-value two “commitment to resilience” matches with communication, teamwork, leadership, being able to have a helicopter view, solution-oriented work attitude, learning and support. Elements of HRT-value two are task division, receiving and giving constructive feedback and support, which can be supported by the aforementioned interview answers. The elements of HRT-value three “deference to expertise” includes expertise and communication of ideas. This can be linked to expertise, communication, learning and solution-oriented work attitude mentioned in the interviews. Flexibility, clear and tactical thinking, being able to adapt, creativity, communication and risk-taking attitude match with HRT-value four “reluctance to simplify” as its elements are adaptability, flexibility and planning. HRT-value number five “preoccupation with failure” is least connected to the findings of this research. It is characterised by the elements of feedback, error management and self-correction. However, communication and learning could be linked to HRT-value five as feedback is based on communication, and self-correction could be achieved through learnings. Staying calm in a stressful situation cannot directly be logically linked to the HRT-values. This analysis shows that the values and characteristics considered as crucial by the interviewees are aligning with the HRT concept. Since the crisis handling teams are multidisciplinary, the average member amount matches the recommended participation number and the values and characteristics match the HRT concept, it can be assumed that resilience is fostered within the teams.

5.1.2. Analysis of RbCM and its Decision-Making Power

**Description of Empirical Data**

One out of 16 crisis handling teams has a decentralised DMP approach within the team, meaning that everyone has equal voting rights for decisions. Eleven teams follow a centralised approach, meaning the principal or school board member has the ultimate responsibility and DMP. However, the group can be divided into two subgroups. Three out of the eleven centralised teams follow the traditional way, meaning other team members are seen as advisors, but the principal or school board member decides on
the actions and measures to take. In eight of the eleven teams, the principal or school board member has the final DMP, but the process has a decentralized component, namely, the team discusses decisions together. In the end, principals or school board members usually decide on solutions that have been found by consensus and are supported by all. Nevertheless, theoretically, the principal or school board member would have the power to make decisions independently. Therefore, it is a centralized team with a decentralized component. Four out of 16 teams have a mixed approach, meaning having elements of decentralized and centralized DMP within the team. This entails that the principal or school board create an action framework by a centralized decision-making approach in which the whole team has the freedom to act individually. One out of 16 crisis handling teams has a decentralized position within the school, meaning that all staff members have equal voting rights. The main reason is the fact that the constellation of the team changed every day depending on who was present and took part in the meetings. Therefore, a democratic approach was considered suitable. Fifteen crisis handling teams have a centralized position within the school, meaning they carry ultimate DMP when it comes to decisions and actions regarding the CM approach. Other employees need to act upon these decisions.

Application to Theoretical Framework

To ensure fast decision-making processes in order to be able to react in time to changing needs but simultaneously foster resilience, the DMP of CM should be decentralized within crisis handling teams and centralized within the hierarchy of schools (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016). As 15 out of 16 crisis handling teams have a centralized position within the overall structure of the schools it can be assumed that it enables them to implement decisions fast, thus, react quickly to the change in needs due to the school closures. This increases the chance of efficient CM; hence, the probability of sustaining the organisation (Christensen et al., 2016). Regarding schools, that implies that there is an increased probability of sustaining their ultimate goal of providing equitable and qualitative education. The landscape of DMP within CM teams of schools is more diverse. Only one team has a decentralized approach; four teams have a blended approach, and eleven have a centralized approach. Having a decentralized approach fosters resilience as it gives various stakeholders and stakeholder representatives equal voting rights, thus, promotes holistic decisions based on stakeholder needs and system thinking (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016). Therefore, the more decentralized the CM teams, the more resilient the school. Even though the majority of the centralized teams (8 out of 11) report to find decisions often in consensus, it remains unclear how the centralized DMP of the person ultimately responsible alters their ideas, contributions and perceptions of the outcome. Therefore, the goal of schools should be to thrive towards decentralisation within the crisis handling teams.

5.2. Analysis of the RbCM Processes

This section will discuss the analysis of RbCM processes within public educational institutions in the Netherlands. The structure of the theoretical framework will be detained, which is divided into the pre-crisis-, response- and post-crisis phase. Firstly, a descriptive presentation of the empirical data will be presented, followed by the application to the theoretical framework.

5.2.1. Analysis of the Pre-crisis Phase

Description of Empirical Data

None of the interviewees had a CM plan in place that includes long-term school closures before the actual outbreak of the Coronavirus. Two of the interviewees did not see the school closure coming. Fifteen of the interviews indicated that they saw it coming by following the media and the development around the Coronavirus which was indicated by statements such as: “We saw social turmoil, so we prepared for the school closures already a bit in the back of our heads” (Interviewee 16, PC, May 20, 2020). The moment the interviewees suspected the school closure was taking place varies between a day till a week before the actual school closure has been publicly disclosed. However, ten of the interviews did not create a CM plan regarding the handling of a potential school closure. Three out of these ten interviews indicated that not planning was a tactical decision. The reasoning behind this is summed up
in the following quote: “When we expected the school closure, it was a tactical decision not to create plans. We first had to wait for protocols from higher up. Otherwise, it was a waste of time if we had to adjust the plans” (Interviewee 14, PC, May 20, 2020). Two of the interviews did not create physical plans on the school closures but were planning in their minds, which also became evident by the first quote mentioned in this paragraph. Five of the interviews created a physical plan for the school closures. Two of the created plans only included communication plans to the parents and personnel. The other three plans included possible scenarios of the COVID-19 pandemic and possible measures for dealing with school closures. However, one of these plans was more a draft according to the interviewee. Main threats considered in these plans were how to continue education during school closures, how to keep sights of vulnerable children, hygiene and alignment with after school day-care. The five interviews that created plans before the school closure considered them helpful in constructing further response strategies. However, schools that were anticipating the school closures but did not create physical plans also took preparational actions, such as scheduling extra meetings with personnel, asking teachers and pupils to take educational material back home and checking out with IT about distance learning possibilities.

Application to Theoretical Framework

Considering the outcomes of the interviews, it became evident that none of the schools had an already established CM plan in place that took long-term school closures into account. This means that the threefold preparation process of planning, testing, improving could not take place, which is unfavourable to an organisation’s overall resilience (Carmeli & Schaubroeck, 2008; Burnard & Bhamra, 2011; Bohland et al., 2018). The testing and improving process are assumed not to have taken place since the time between the suspected school closures and the actual school closure among the respondents were maximum one week. This implies that even if plans were immediately created, time to test and improve the plans would have been limited. Furthermore, five out of 17 interviews took the first step of planning within the threefold preparation process by creating a physical plan when the threat of the school closure was in sight. However, only three out of these five plans took different scenarios and related threats into consideration. The other two CM plans were set up marginal by only considering communication actions. CM plans that consider different scenarios - e.g. possible resolutions, methods of crisis detection and available resources - might minimise the risk of breakdown and are more likely to foster resilience (Braun, 2013). However, the five schools that created CM plans before the actual school closure felt that the considerations helped in creating a response strategy.

Since higher authorities initiated the school closures, the prevention of the school closure was not possible. However, prevention efforts among the interviewees were directed towards further harmful social threats that might occur due to school closures like losing sight on vulnerable children and the decrease of sufficient education during this period. Three of the five schools that created plans before the school closure took these threats into consideration, which raised awareness during the immediate crisis and might have prevented them from damages as early crisis detection and risk assessments allow an organisation to react in time (Jaques, 2007).

5.2.2. Analysis of the Crisis Response Phase

Description of Empirical Data

After the decision of the school closure was publicly announced, the first action of all the interviewees was to commence communication. For the school boards, this communication was focused on the principals and the CM team. For the principals, this communication was focused on the whole team and informing parents and pupils. In two cases, the principals had contact with the CM team regarding the further course of events. On the day after the school closure was announced, 14 respondents mentioned the organisation of distance learning was the most important consideration within the response strategy. Eight interviews mentioned that the organisation of communication with important stakeholders was considered necessary. Seven of the interviews already considered how to take care of vulnerable children. Eleven of the interviews considered their response strategy ad-hoc. Within these eleven interviews, three respondents mentioned that the CM plans they created before the school closures took
place were only drafts or communication strategies. Six of the interviews considered their response strategy as planned. Two out of these six interviews indicated that they had created extensive plans on the school closure before the school closure came into place and followed them afterwards. The remaining four did not have plans beforehand.

Moreover, all respondents were familiar with the recommendations and guidelines provided by the Dutch government and educational councils. However, within four cases, these documents were not used as support, but the schools instead showed compliance with binding governmental measures. In most cases, the supportive documents and tools from the PE- and SE-council were used (12 counts). The most mentioned non-binding support document was on school closures, including the reopening of schools (10 counts), and the organisation of distance education (7 counts). In eight cases, the binding PHE safety measures were named important in setting up response strategies. Multiple answers were possible.

During the response phase, all of the respondents had an evaluation process. Although, one school considered the evaluation process during the response phase unimportant. The rest of the schools acknowledged the evaluation process to be essential to be able to adjust measures if it turned out to be ineffective as visible in this quote example: "If the measures do not work you have to adjust it, so you always have to evaluate and reflect what you are doing" (Interviewee 2, PC, May 15, 2020). Six of the interviews conducted questionnaires among parents (5 counts) and pupils (1 count) to reflect on experiences of these stakeholders on the chosen response strategy. Eleven of the respondents evaluated within the CM team. Furthermore, four out of the eleven interviews had planned evaluation moments. Seven of the eleven interviews mentioned not to have planned evaluation moments, but the evaluation process came naturally. Four of the 17 interviews had planned evaluation moments with all employees every week. In one case the evaluation was done additionally together with the participation council. Another interview mentioned that evaluation was done with youth well-being organisations.

Among the 17 respondents, it emerged that stakeholder communication was a common aspect within the response phase. However, two of the interviews considered stakeholder communication less important. The most frequently mentioned stakeholders were the guardians and parents (16 counts) followed by the municipality which consists of organisations that deal with the well-being of the pupils, e.g. Safe at Home and Youth Support (9 counts). Other important stakeholders were the participation council (6 counts), after school day-care (5 counts), the supervisory board (all four counts among the school board members), pupils (4 counts), employees (3 counts) and the education inspectorate (3 counts). Multiple answers were possible. Often, the opinions of stakeholders were considered after the final decision was made by the school (14 counts). However, two of these 14 interviews stated that advice of the participation council was requested more frequently during the school closure than under normal circumstances. In one case, the opinion of the participation council was considered before the final decision was made. In two other cases, the decision was made after consulting the most important stakeholders in order to make informed decisions. Either way, all the interviews emphasised that the opinions of stakeholders had an advisory/consulting role for the decision-making process. In two cases, it was said that closer collaboration and alignment was needed with after-school day-care which was then turned into action and caused this stakeholder to have a more significant influence on the decision-making process. In two cases the same was said for youth-wellbeing organisations.

Application to Theoretical Framework

After the school closures were announced publicly, it became clear that a reactive response to the crisis among schools was activated. The crisis was recognised among all respondents, which became evident because they all immediately commenced communication to the most important parties. The day after the school closure decision, all respondents started to formulate response plans, which marks the system activation and organisations ability to adapt to the crisis (Senge, 2006; Koronis & Ponis, 2018). Besides formulating a crisis response plan, most of the schools tapped into the provided resources from the PE- and SE-council by using supportive documents and tools in creating a response strategy (12 counts). Making use of provided resources to counter crises is considered to be favourable for system activation.
Crisis recognition and system activation contribute to resilience (Jacques, 2007; Burnard & Bharma, 2011).

The crisis response phase consists of a planned- and ad-hoc response (Pearson & Clair, 1998). Most of the respondents considered their strategy as an ad-hoc response (11 counts) This is in line with the theory, since an ad-hoc response is the only possible response if a specific type of crisis is not considered in the pre-crisis plans (Carmeli & Schaubroeck, 2008). Notably, none of the interviews had CM plans in place before the actual outbreak of COVID-19. Just five schools created physical plans on school closures when the Coronavirus crisis and related school closures were in sight. From the six schools that considered their response as planned, two schools created extensive plans regarding the school closures (see section 5.2.1.). Planned response covers the implementation of the CM plans, which adds to the adaptive capacity and shows planned resilience (Lee et al., 2013). Even though the remaining four schools considered their response as planned, it can be assumed that it was ad-hoc as they did not create previous CM plans and therefore ad-hoc is the only possible response. However, this showed adaptive resilience as the school showed its ability to respond and adapt dynamically to crises (Prayag, 2018). This allowed efficient and quick responses, which in turn might have supported resilience (Boin & Mcconnel, 2007).

In order to foster resilience, it is essential to incorporate system thinking. The awareness of schools that they are systems and that they affect and are affected by stakeholders is crucial (Senge, 2006; Koronis and Ponis, 2018). By anticipating stakeholders’ perceptions, schools will be able to adapt measures to their needs (Anderson, 2006). All schools had stakeholder communication. Fifteen schools considered it a critical CM feature. According to literature, these schools were more likely to foster resilience within their response strategy. However, in 14 cases, opinions of stakeholders were taken into account after the final decision was made, which made the consideration of stakeholder perceptions within the decision-making process less likely.

Every interviewee considered evaluation during the response phase; however, one interviewee considered evaluation less important. Evaluation adds to adaptive resilience as it enables them to adapt measures immediately following the evaluation outcome already in the response phase (Eder & Alvintzi, 2010; Prayag, 2018). Six schools did the combination of stakeholder communication with evaluation as they conducted questionnaires among parents and pupils. This can be seen as an effective measure to foster resilience.

5.2.3. Analysis of the Post-crisis Phase

Description of the Empirical Data

16 of the 17 interviews considered evaluation after the crisis as urgent. One of the schools implied that evaluation in the post-crisis phase is not very important. This school was not the school that considered evaluation during the response phase as unimportant.

The evaluation considerations can be divided into three groups, namely measures and status quo, practical learning and future possibilities as well as underlying principles and intentions. The primary considerations in group one ‘measures and status quo’ were: efficiency and effectiveness of measures that were in place during the crisis (7 counts), evaluation of the educational progress of the pupils during the school closures (6 counts) and the socio-emotional well-being of the pupils (3 counts). The primary considerations within group two ‘practical learning and future possibilities’ were: what have they gained from the crisis (7 counts), have they done the right things and what they could have done differently (5 counts), what are the possibilities of digitalisation (4 counts) and which new educational forms could be implemented (4 counts). The primary considerations of group three ‘underlying principles and intentions’ were: how to transform education into more equitable systems instead of equal systems (4 counts), how to implement a new school culture towards more social connectedness (2 counts) and how to improve learning abilities and processes (2 counts). Within one interview, only considerations from the first group were mentioned. Ten of the interviews mentioned considerations of the second group in
addition to first group considerations. Six interviews added third group considerations to their evaluation process. Multiple answers were possible.

According to all interviewees, the crisis will positively affect their future crisis prevention and preparedness possibilities. Twelve interviews acknowledged they aim to improve the function of the schools by implementing new forms of teaching, smaller classes, and more communication with the stakeholders. Furthermore, nine interviews considered making new CM plans and guidelines that will include school closures to be prepared for the future. Nine interviews emphasised that the gained experience will help them to prevent and prepare for future crises.

*Application to Theoretical Framework*

Schools are advised to offer services to teachers, pupils and parents that reduce stress, secure mental well-being and help to go back to routines to stimulate fast recovery from the crisis (Nickerson & Zhe, 2004). Evaluation questions such as the socio-emotional well-being of pupils and how to change the school culture towards more social connectedness imply that mental health considerations will be part of the schools post-crisis process. However, it remains open how much consideration will be given to the teachers and parents within this process and which actions will follow.

In-depth evaluation in the post-crisis phase including the DLL and TLL increases organisational resilience and, thus, should be included in CM (Carmeli & Schaubroeck, 2008; Peschl, 2007; Kraker de, 2017). The DLL asks the question “are we doing the right thing?” and adapts action plans if necessary, by altering or finding new solutions and resources (Peschl, 2007; Carmeli & Schaubroeck, 2008; Yu et al., 2016)? Hence, the second group aligns with the DLL. TLL asks the question “how are we deciding what is right?” It enables change on a profound level as it questions underlying principles and intentions and develops them based on learning outcomes. Furthermore, it facilitates learning about learning (Peschl, 2007; Barbat et al., 2011; Tosey et al., 2011). Thus, the third group aligns with the TLL. Additionally, the response of 16 interviews was interpreted as DLL and TLL as they saw the crisis as an opportunity for change which then will foster resilience (Prayag, 2018; Smit & Wandel, 2006). The interviewees saw the school closures as a chance to discover new methods of education, to establish a new school culture, to improve the school culture. These are indicators for resilience thinking as it supports an open mindset and enables them to learn on DLL- and TLL level (Carmeli & Schaubroeck, 2008; Peschl, 2007; Kraker de, 2017). This implies that 16 schools incorporated advanced evaluation considerations in their evaluation process. This might help the schools to advance towards organisational resilience and ultimately sustain their goal of providing equitable and qualitative education.

Furthermore, the post-crisis phase could increase future crisis prevention possibilities and crisis preparedness if CM plans are adjusted and the function and resources of an organisation develop according to the change in needs (Carmeli & Schaubroeck, 2008; Jaques, 2007). Twelve interviews considered to improve the school’s function, and nine interviews intended to create CM plans that includes long term school closures. This implies a better preparedness for these schools if a similar crisis occurs in the future. Crisis preparedness minimises the chance of damage resulting from the crisis (Mitroff et al., 1987; Smith et al., 2001). This supports the educational goal of providing SDG 4.

5.3. **Analysis of SDG 4 Actions and Measures**

*Description of the Empirical Data*

Notably, none of the interviewees knew about the INEE guidelines that give recommendations on CM for schools. Four of the interviewees heard about the SDGs, but just one of them was familiar with SDG 4. However, after explaining SDG 4, all interviewees mentioned that providing equitable and qualitative education was part of their CM considerations.

All interviews gave special attention to vulnerable children in an attempt to provide equitable education. Five primary considerations were taken into account. Firstly, bringing pupils to school if their home environments were not suitable for education. All interviews incorporated the measure of inviting pupils
to school if they experienced unsafe home situations. Other reasons to invite pupils to school were if pupils had motivational and concentration problems (5 counts) or if the parents were not able to help them with their schoolwork (5 counts). Multiple answers were possible. The second consideration was to provide extra resources such as laptops and books to the pupils in need (13 counts). Checking in via calls and visits with pupils and parents on problems and educational progress was the third main consideration (11 counts). Fourthly, equitable education was supported by the collaboration with external parties (5 counts). The most frequently mentioned external organisation was the Youth Support which focuses on and supports vulnerable children (5 counts). Lastly, five interviews considered customisation of education in order to provide an equitable education, meaning the different environments of the pupils were taken into account while teaching. Multiple answers were possible. A list of all measures can be found in Appendix D.

To continue the provision of qualitative education, all schools switched to distance learning. However, nine interviews declared that it was challenging to ensure quality education because there was a lack of experience with school closures (8 counts) and it took a while to organise distance learning (1 count). The chosen form of distance learning varied between live video teaching sessions, the creation of teaching videos, online tasks and analogue learning via papers and books. The two main measures in order to provide quality education were to follow the original curriculum (7 counts) and to give teachers the freedom to choose their teaching approach by what they think was useful for distance learning (6 counts). Furthermore, playful teaching programs, extensive communication between pupils and teachers, adaptation of the curriculum in focusing on essential subjects and the repetition of previously learned topics before starting new topics were implemented as measures to provide quality education. The aforementioned measures were mentioned three times each. Multiple answers were possible. A list of all measures can be found in Appendix D.

Different staff within the schools were responsible for monitoring the provision of SDG 4. The most named staff were teachers (9 counts), internal supervisors/care coordinators (8 counts), the principal (3 counts) and mentors (3 counts). Multiple answers were possible.

Application to the Theoretical Framework

To specify collective commitment and implementation strategies for SDG 4, the “Education 2030’ and the ‘framework for action’ was adopted during the “World Education Forum” in 2015 (UNESCO, 2015). International guidelines advised by the ‘Education 2030’ to safeguard minimum standards for educational institutions within emergency situations are provided by the INEE (INEE, 2012). Pandemics, like the COVID-19, are addressed as an emergency within this framework (UNESCO, 2015). Even though the INEE could be seen as an extension of SDG 4 during times of crisis and could be used as a guideline to build effective CM strategies to safeguard quality education, none of the interviewees was familiar with these standards. Notably, just four of the interviewees were familiar with the general SDGs and just one of them was familiar with SDG 4 as being the educational related goal. This could also be part of the reason that none of the interviewees knew about the INEE minimum standards. However, through distance learning the interviewed PEs and SEs provided access to education, which creates the baseline for SDG 4 target 4.1 which aims towards the completion of free, equitable and quality PE and SE (UN, 2015).

When it comes to equitable education, all interviewees gave special attention to the group of vulnerable children which is recommended within the non-binding measures of the ECS (MvOCW, 2020). Additionally, it can be expected that the schools have followed the binding measures given by the government as they are mandatory. Binding measures included providing missing resources and inviting children with parents in vital professions to school. Target 4.5 of the SDGs aims to eliminate unequal access to education and target 4.A aims towards a more inclusive and safe learning environment for everyone (UN, 2015). Measures and actions taken by the interviewees varied between inviting pupils to schools with unsafe home situations, motivation and concentration issues and parents with vital

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6 The essential subjects named in the interviews were mathematics and languages.
professions to provide relevant resources till individual customisation of education. Therefore, the actions and measures are in line with the aforementioned targets.

During the school closure, every school was able to switch to distance learning. However, more than half of the interviews declared that it was challenging to provide quality education during the school closure (9 counts). In contrast to other countries, the educational performance of the Netherlands was decreasing over the past 20 years (Onderwijsinspectie, 2018). This decrease could be amplified through school closures since the provision of quality education was declared difficult by the interviewees. Significantly, none of the interviewees used the INEE minimum standards, which define goals and key actions necessary to provide access to quality education during times of crisis (INEE, 2012).
6. Discussion and Conclusion

This chapter is divided into three sections. Firstly, the research questions will be answered. In the second part, theoretical and practical implications will be given. Lastly, the researchers will outline the limitations of the study and recommend further future studies.

6.1. Key Findings

This research took an exploratory approach to investigate the status quo of the RbCM structures and processes during COVID-19 within PEs and SEs in the Netherlands. As resilience and CM are considered useful in sustaining an organisation and keep pursuing towards a specific goal during a crisis (Burnard & Bhamra, 2011; Stark, 2014; Rodriguez-Sanchez & Vera, 2015; Grimmelt, 2016) it is believed that RbCM fosters the pursuance towards the provision of SDG 4. Furthermore, this research aimed towards the identification of measures and actions taken by PEs and SEs in the Netherlands to continue the provision of SDG 4. As SDG 4 can be considered as a vital element of the SDGs (UNESCO, 2015), its further development is a necessity during crises which make research on its continuous provision of high relevance and importance. To find answers to the research questions, firstly, the literature on RbCM was displayed. Secondly, primary data was gathered through 17 interviews with 18 people that held positions within the CM of PEs and SEs in the Netherlands. The results were then analysed in detail in chapter 5.

RQ 1: What resilience-based CM structures are used by public primary- and secondary educational institutions in the Netherlands to handle school closures due to the COVID-19 pandemic?

All but one school had crisis handling teams. CM teams build the baseline for the minimisation of adverse effects due to crises (Eder & Alvintzi, 2010). All teams were multidisciplinary by tactical choice, meaning the team members held different positions within schools during normal circumstances. It can be assumed that multidisciplinary CM teams are more likely to consider various stakeholder needs which support resilience (Nickerson et al., 2006; Smith, 2000; Haar van der et al., 2008). Furthermore, personal traits and skills, and team characteristics considered necessary by the interviewees matched the HRT-values, which fosters resilience within the teams and ultimately within the schools (Wilson et al. 2005).

Regarding the DMP, almost all crisis handling teams had a centralised position regarding the overall structure of the schools. A centralised position of the CM team within the organisation increases the chance of efficient CM, hence, the probability of sustaining the organisation (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016). In regards to schools, that implies that there is an increased probability of sustaining their ultimate goal of providing equitable and qualitative education. However, almost all teams had a centralised approach within the crisis handling team. This is in contrast with the displayed theory. It is essential to have decentralised DMP within the CMTs as it promotes equal voting rights of stakeholder representatives, thus, holistic decision making based on system thinking, which fosters organisational resilience (Heath, 1998; Eder & Alvintzi, 2010; Christensen et al., 2016).

RQ 2: What resilience-based CM processes are used by public primary- and secondary educational institutions in the Netherlands to handle school closures due to the COVID-19 pandemic?

Research on CM within schools barely considers nationwide temporary school closures, which lead to the assumption that they are barely considered within CM plans of schools. This research is in line with this assumption. None of the interviewed schools had an established CM plan, which took temporary nationwide school closures into account before the Coronavirus crisis. This leads to the assumption that the last two steps of the threefold pre-crisis phase, meaning CM plan testing and improving did not take place as time was limited. Moreover, only five schools started with the first step of the CM plan creation by formulating physical plans on school closures when the threat was in sight. However, two of them were set up only marginal. Having no or only marginal CM plans is unfavourable to the school’s overall resilience as detailed CM plans which include possible resolutions, methods of crisis detection as well
as available resources are minimising the risk of adverse effects. Furthermore, it fosters planned resilience and therefore contributes to the school’s overall resilience (Jaques, 2007; Eder & Alvintzi, 2010; Braun, 2013).

Within the crisis response phase, the majority of interviewed schools considered their response ad-hoc. This is in line with the theory as an ad-hoc response is the only response possible if no plans were created beforehand (Carmeli & Schaubroeck 2008). The ad-hoc response gives room to show and improve adaptive resilience as the schools need to adapt dynamically to the immediate crisis. If done so quickly and efficiently, overall resilience is fostered within the schools (Boin & Mcconnel, 2007). In addition to the ad-hoc response, all schools anticipated on stakeholders perception by commencing stakeholder communication. Therefore, it can be assumed that schools acknowledged that their stakeholders were affecting and affected by the school’s decisions; thus, schools saw themselves as systems, which marks the baseline for resilience (Senge, 2006; Koronis & Ponis, 2018). However, in most schools, the opinion of the stakeholder was requested after decisions were made. This endangered the likelihood that important stakeholder perceptions are being considered within the decision-making process (Anderson, 2006; Senge, 2006). All interviewees considered evaluation within the response phase. This added to adaptive resilience as it allowed to modify measures following the evaluation outcome, thus, supported a dynamic and effective response (Eder & Alvintzi, 2010; Prayag, 2018).

All but one interview considered evaluation within the post-crisis phase as necessary. Additionally, the vast majority of the interviews had evaluation considerations that can be placed in the DLL and TLL. They saw the crisis as an opportunity for change and growth. In-depth evaluation such as DLL, TLL and seeing crises as opportunities of growth is positively related to cultivating resilience (Prayag, 2018; Smit & Wandel, 2006). Furthermore, more than half of the interviews intended to create CM plans or guidelines on long-term school closures due to pandemics. This increases the likelihood of crisis preparedness and prevention of adverse effects resulting from future crises (Carmeli & Schaubroeck, 2008; Jaques, 2007).

RQ 3: What measures and actions do public primary- and secondary educational institutions in the Netherlands take to ensure equitable and qualitative education (SDG 4) during school closures due to the COVID-19 pandemic?

Surprisingly, only one interviewee knew about the content of SDG 4. Furthermore, only four interviewees knew about the SDGs in general, meaning the vast majority was not familiar with the SDGs and SDG 4. None of the interviews knew about the INEE guidelines regarding CM within schools to pursue towards SDG 4. The reason for this might be the missing knowledge about SDG 4, which might lead to a lack of knowledge about INEE. INEE can be seen as an extension of SDG 4 as it defines goals and key actions necessary to provide access to quality education during times of crisis (INEE, 2012). However, all schools switched to distance learning which can be seen as the baseline of SDG 4 target 4.1. This target aims towards the completion of free, equitable and qualitative primary and secondary education (UN, 2015). The pursuance towards this target was supported by switching to distance learning. Moreover, all interviewees gave attention to an equitable education. Measures and actions taken by the interviewees reached from inviting pupils to schools with unsafe home situations, concentration issues and parents in vital jobs to providing missing resources such as laptops and books till the customization of education. Therefore, the actions and measures were in line with the targets 4.5 and 4.A (UN, 2015). However, the majority of interviews declared it was challenging to provide quality education during school closure. A detailed list of measures and actions taken by the schools to provide SDG 4 can be found in Appendix D.

This was the first time PEs and SEs in the Netherlands faced a crisis like the one brought upon by the COVID-19 pandemic; hence, knowledge about the handling was limited. However, in summary, the research shows that all schools had some sort of RbCM. Nevertheless, it shows that the status quo can be improved in order to develop resilience, thus, being more likely to provide SDG 4 through a dynamically adaptive approach. Furthermore, this research shows that there is little knowledge about SDGs and SDG 4, which might endanger the continuous provision and development. However, since SDG 4 can be seen as a vital element of the SDG framework, its pursuance is of uttermost importance.
6.2. Theoretical and Practical Implications

The number of pandemics is likely to increase over the next years and decades and school closures are useful measures to decrease their spread (Yasuda et al., 2008; Joseph et al. 2010). This could lead to an increase in temporary (nationwide) school closures. Nevertheless, it is crucial to continue equitable and qualitative education in order to pursue the SDGs so that a sustainable future can be created. RbCM can be used as a tool to react in a resilient and quick way to crises, thus, being able to sustain the schools and push towards its goal (Burnard & Bhamra, 2011; Stark, 2014; Rodriguez-Sanchez & Vera, 2015; Grimmelt, 2016). This research extended the middle-sized body of knowledge on CM within schools. While previous research mainly considered measures and actions for terrorism, natural disasters, violence/abuse or local/regional medical emergencies, this research explored the status quo on RbCM structures and processes within PEs and SEs in the Netherlands. Furthermore, this research not only links RbCM to schools but to sustainable development as it explored measures and actions taken to ensure the continuous provision of SDG 4 during crises. The knowledge of the status quo is essential as it shows the current capacity to adapt and react in a resilient manner to crisis. Moreover, it gives direction for possible improvements. The discovery of actions taken to ensure SDG 4, serves the purpose of creating a first overview of measures and leads to future research recommendations. Best case, the knowledge can be shared, the measures further developed in terms of efficiency and the provision of SDG 4 ultimately safeguarded. However, many future research recommendations derive from this study as it is exploratory and provides first insights.

Practical implications of this research imply education of the schools. This research discovered the lack of knowledge on the SDGs, especially SDG 4, within SEs and PEs in the Netherlands. In order to safeguard the provision of SDG 4, it might be helpful to educate the schools regarding this matter via training courses, interactive workshops or communities of practice. Communities of practice might be particularly helpful after an initial education as they foster complex problem solving, skill development and the sharing of best practices (Poljola, 2015; Wenger, McDermott & Synder, 2000). Communities of practice could also be used to develop further RbCM skills. This research showed that RbCM structures and processes are in place, yet they could be further developed to ensure the resilience of schools and therefore increase the likelihood of SDG 4 provision. Moreover, general training and workshops on RbCM for schools could be provided, which include education regarding effective teams and DMP as well as regarding actions to be taken during the pre-crisis-, response-, and post-crisis phase. This might increase skills, thus, efficiency and resilience of schools in future crises.

6.3. Limitations and Future Research

RbCM and the provision of SDG 4 during temporary nationwide school closures is still a young topic within the current research. This research contributes to this field of knowledge since it presents the status quo in PEs and SEs in the Netherlands during the immediate crisis of the COVID-19 pandemic. This is of importance as it gives first insights and displays strengths as well as challenges of the system. This can be taken as a starting point for improvement and knowledge sharing so that the development of a sustainable future does not stagnate during crises. However, limitations arise which call for future research. Firstly, this study took place in the Netherlands, meaning that the results cannot be extended to countries with different contexts. Therefore, it is necessary to extend this research to other countries to elaborate on the status quo and to take appropriate actions according to these results. Secondly, this research focussed on RbCM in schools as it gives first hints about the organisational resilience and their ability to adapt and pursue their goals. However, it needs to be further explored if schools using RbCM are more efficient and resilient in providing SDG 4 than schools using standard CM. Thirdly, as this research took place before the evaluation of the post-crisis phase, it would be interesting to find out which evaluation considerations were finally included and what has been done with the results. Fourthly, this research displayed if and which measures and actions are in place to provide SDG 4 during school closures. This is of importance as it allows knowledge sharing and further development of these measures. However, future research needs to elaborate on the efficiency of these measures in order to build a catalogue of measures and actions schools can follow in future crises. Additionally, it could be researched if there is a difference in educational progress after school closures between pupils with
socio-economic advantages and pupils without such in order to elaborate on equitable education. Lastly, RbCM can be seen as a tool to foster resilience and achieve organisational goals. It might be helpful in the educational context of SDG 4, as displayed in this research. Future studies could research if RbCM increased the provision of other SDGs so that their development also continues during times of crises.

Nevertheless, this research shows that RbCM is to some extent present in the PEs and SEs in the Netherlands and it is increasing the likelihood of being resilient, thus, the likelihood of providing SDG 4 during the COVID-19 pandemic. Furthermore, it shows that measures and actions are in place to safeguard equitable and quality education. The results can be used for necessary future studies as well as development within the educational sector. This way, a renewed approach to crisis and their management arises by fostering a holistic and sustainable perspective. In summary, this crisis can be seen as an opportunity to grow and not to bounce back to the old normal after the crisis but bounce forward towards the new normal and a sustainable future with improved capabilities.


Appendices

Appendix A: Guideline of Interview Questions

English Version:

Introduction

We are Nathalie and Mayke and study leadership for sustainability in Malmö Sweden. Nathalie is from Germany, Mayke from the Netherlands.

Ask this before recording
  ● Is it okay for you that we record this interview, transcribe it and use the insight for our master thesis topic of “....”?

Ask again after record start:
  ● Is it okay for you that we record this interview, transcribe it and use the insight for our master thesis topic of “....”?

We are conducting interviews to research on the current coronavirus and how educational institutions are handling the measure of school closure. We understand that a situation like this has barely been seen before which makes it essential to share the knowledge in order to help all the school and ultimately the students if a crisis like this reoccurs in the future. Our primary focus will be the structures and processes of handling this crisis. This interview will be completely anonymous. Also, we do not include information that could help to identify the school you work for. So you can talk freely.

General Questions

  ● How long do you work within the educational sector?
  ● What is your position within the school sector normally?
  ● Are you working in secondary- or primary education?
  ● What is your function during the crisis?
  ● Have you ever experienced a crisis that includes nationwide school closures that last more than a month?

Questions on Crisis Management Structure:

1. Do you have a crisis management team?
   Yes, → Follow up:
     a. Was the crisis management team established during the crisis, or was this team already established before the crisis?
     b. How many people are in the crisis management team?
     c. What are their positions during normal circumstances?
     d. During the time of crisis, are the team members just dealing with solving the crisis, or are they also fulfilling their normal position?
     e. What is considered essential characteristics and values within the crisis management team?
     f. How do you come to decisions, what is the decision-making process, within the crisis management teams? (Does everyone have the same decision making power within the crisis management team?)
     g. How is the hierarchy within the crisis management team? (Centralized/ Decentralized)
     h. How much decision-making power does the crisis management team have within the overall organisation? (centralised/decentralised)
No, → Follow up:

a. How many people and who is dealing with the crisis?
b. What is their position under normal circumstances?
c. Why do you not consider it a crisis management team?
d. During the time of crisis, are the people just dealing with solving the crisis, or are they also fulfilling their normal position?
e. What is considered essential characteristics and values for the person dealing with the crisis?
f. How do you come to decisions, what is the decision-making process? (Does everyone have the same decision-making power?)
g. How much decision-making power does the person have within the overall organisation? (Centralised/decentralised)

2. Does the school communicate with external stakeholders on mutual expectations and needs of support?
Yes, → Follow up:
a. What do you consider to be important stakeholders?
b. How are the relationships between external stakeholders maintained?
c. In which phase of the decision making do you consider the opinion of the stakeholder?

d. What is the influence of stakeholders in the decision-making process?

Questions on Crisis Management Process:

Pre-crisis phase:

1. To what extent was the school prepared for school closures?
2. Was there already a crisis management plan in place that considered school closures?
   Yes, → Follow up:
a. What kind of actions were considered in the plan to handle the school closures? (help: task, responsibilities, measures, etc.)
b. How did it help you during the crisis/ preparation?

Response-phase:

1. What actions did you take when you knew that school closures were taking place?
2. What is your feeling? Do you feel like your response is more of an ad-hoc [improvised] or a planned response?
3. What are the main considerations within the response strategy?
4. Are you familiar with the minimum standards of the Inter-Agency Network for education in emergencies (INEE)?
   Yes, → Follow up:
a. How are you implementing these standards and guidelines during the school closures?
5. Are you familiar with the recommendations and guidelines that are given by the Dutch government and educational sector for schools on how to handle the school closures?
   Yes, → Follow up:
a. Which ones do you consider important? And why?
b. How are you working with them?
6. How do you consider and ensure SDG 4 in times of school closures? (help: equitable and quality education)
a. How do you ensure equitable education?
b. How do you provide qualitative education?
c. How is the school dealing with the group of vulnerable children to provide equitable and qualitative education? [Help: unsafe home situation, children who usually receive extra support, children without sufficient resources and computer]
d. Who is monitoring the insurance of SDG 4?
7. Do you reflect and evaluate the actions you take during the response phase within the team and with the school?
   Yes, → Follow up: How important is reflection and evaluation for you within the response phase? And why?

Post-crisis phase:

1. How critical will be the evaluation once this school closure/coronavirus crisis is over? Elaborate
2. What are the questions you consider during the evaluation phase?
3. What are you doing with the results of the evaluating process?
4. How will the crisis influence your crisis preparedness and prevention in the future?
5. What are the key takeaways from the crisis? What have you learnt? [Help: What worked well, what would you have done differently]

End
Thank you for your time and participation. We will send you our findings once we finish with our thesis. We are expecting to finalise our thesis around the end of August.
## Appendix B: Detailed Information on the Interview Participants

<table>
<thead>
<tr>
<th>Interview</th>
<th>Gender</th>
<th>Position in School</th>
<th>Time working in the educational sector</th>
<th>Level of education</th>
<th>Length of interview</th>
<th>Date of interview</th>
<th>Spoken language in the interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview 1</td>
<td>Male</td>
<td>Chief executive of the School board</td>
<td>32 years</td>
<td>Primary-and secondary education</td>
<td>41:21 min</td>
<td>13-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 2</td>
<td>Male</td>
<td>Chief executive of the School board. Supervisor of a School board</td>
<td>35 years</td>
<td>Primary education</td>
<td>51:19 min</td>
<td>15-05-20202</td>
<td>Dutch</td>
</tr>
<tr>
<td>Interview 3</td>
<td>Female</td>
<td>Principal</td>
<td>35 years</td>
<td>Primary education</td>
<td>54:08 min</td>
<td>15-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 4</td>
<td>1 Male and 1 Female</td>
<td>-Principal (Male) - Policy officer (Femail)</td>
<td>17 years (Male) and 21 years (Female)</td>
<td>Primary special education</td>
<td>59:00 min</td>
<td>15-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 5</td>
<td>Female</td>
<td>Principal</td>
<td>20 years</td>
<td>Secondary education</td>
<td>42:11 min</td>
<td>18-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 6</td>
<td>Female</td>
<td>Team leader business operations - operational manager</td>
<td>6 months</td>
<td>Secondary education</td>
<td>56:59 min</td>
<td>18-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 7</td>
<td>Male</td>
<td>Interim-principal - Superintendent -Educational consultant -School board member</td>
<td>33 years</td>
<td>Secondary education</td>
<td>54:42 min</td>
<td>18-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 8</td>
<td>Female</td>
<td>Principal</td>
<td>38 years</td>
<td>Primary education</td>
<td>60:00 min</td>
<td>18-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 9</td>
<td>Female</td>
<td>Principal</td>
<td>18 years</td>
<td>Primary education</td>
<td>46:30 min</td>
<td>18-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview 10</td>
<td>Female</td>
<td>Principal</td>
<td>15 years</td>
<td>Primary education</td>
<td>54:19 min</td>
<td>19-05-2020</td>
<td>Dutch</td>
</tr>
<tr>
<td>Interview 11</td>
<td>Female</td>
<td>Principal</td>
<td>9.5 years</td>
<td>Primary education</td>
<td>56:39 min</td>
<td>19-05-2020</td>
<td>Dutch</td>
</tr>
<tr>
<td>Interview</td>
<td>Female</td>
<td>Principal</td>
<td>11 years</td>
<td>Primary</td>
<td>48:41 min</td>
<td>19-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>Interview</td>
<td>Gender</td>
<td>Position</td>
<td>Age</td>
<td>Education</td>
<td>Duration</td>
<td>Date</td>
<td>Language</td>
</tr>
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</tr>
<tr>
<td>13</td>
<td>Male</td>
<td>Principal</td>
<td>25</td>
<td>Primary</td>
<td>53:21 min</td>
<td>19-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>14</td>
<td>Female</td>
<td>Principal</td>
<td>36</td>
<td>Primary</td>
<td>58:15 min</td>
<td>20-05-2020</td>
<td>half English/half Dutch</td>
</tr>
<tr>
<td>15</td>
<td>Male</td>
<td>Chief executive of the School board</td>
<td>47</td>
<td>Secondary</td>
<td>56:56 min</td>
<td>20-05-2020</td>
<td>English</td>
</tr>
<tr>
<td>16</td>
<td>Male</td>
<td>-Chief executive of the School board -Board member of the VO-council</td>
<td>25</td>
<td>Secondary</td>
<td>45:25 min</td>
<td>20-05-2020</td>
<td>Dutch</td>
</tr>
<tr>
<td>17</td>
<td>Male</td>
<td>Principal</td>
<td>30</td>
<td>Secondary</td>
<td>61:04 min</td>
<td>20-05-2020</td>
<td>Dutch</td>
</tr>
</tbody>
</table>
## Appendix C: INEE Minimum Standards for Education in Emergencies

### Foundational Standard Domain

<table>
<thead>
<tr>
<th>Minimum Standards</th>
<th>Key Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community Participation</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Standard 1: Community members participate actively, transparently and without discrimination in analysis, planning, design, implementation, monitoring and evaluation of education responses. | • A range of community members participate actively in prioritising and planning education activities to ensure safe, effective and equitable delivery of education  
• Community education committees include representatives of all vulnerable groups  
• Children and youth participate actively in the development, implementation, monitoring and evaluation of education activities  
• A wide range of community members participate in assessments, context analyses, social audits of education activities, joint budget reviews, and disaster risk reduction and conflict mitigation activities  
• Training and capacity building opportunities are available to community members |
| Standard 2: Community resources are identified, mobilised and used to implement age-appropriate learning opportunities. | • Communities, education personnel and learners identify and mobilise local resources to strengthen access to quality education  
• Education authorities, the local community and humanitarian stakeholders recognise existing skills and knowledge and design education programmes to maximise the use of these capacities  
• National authorities, the local community and humanitarian stakeholders use community resources to develop, adapt and deliver education that incorporates disaster risk reduction and conflict mitigation |
| **Coordination** | |
| Standard 1: Coordination mechanisms for education are in place and support stakeholders working to ensure access to and continuity of quality education. | • Education authorities, which are responsible for fulfilling the right to education, assume a leadership role for education response, including convening and participating in coordination mechanisms with other education stakeholders  
• An inter-agency coordination committee coordinates assessment, planning, information management, resource mobilisation, capacity development and advocacy  
• A range of levels and types of education are considered in coordination activities  
• Education authorities, donors, UN agencies, NGOs, communities and other stakeholders use timely, transparent, equitable and coordinated financing structures to support education activities  
• Transparent mechanisms for sharing information on the planning and coordination of responses exist within the coordination committee and across coordination groups  
• Joint assessments are carried out to identify capacities and gaps in education response  
• All stakeholders adhere to the principles of equality, transparency, responsibility and accountability to achieve results |

### Analysis
<table>
<thead>
<tr>
<th>Standard 1: Timely education assessments of the emergency situation are conducted in a holistic, transparent and participatory manner.</th>
<th>• An initial rapid education assessment is undertaken as soon as possible, taking into account security and safety  • The assessment collects disaggregated data that identify local perceptions of the purpose and relevance of education, barriers to access to education and priority educational needs and activities  • Local capacities, resources and strategies for learning and education are identified, prior to and during the emergency  • Context analysis is conducted to ensure that education responses are appropriate, relevant and sensitive to the potential for risks and conflict  • Representatives of the affected population participate in the design and implementation of data collection  • A comprehensive assessment of education needs and resources for the different levels and types of education is undertaken with the participation of key stakeholders  • An inter-agency coordination committee coordinates assessments with other sectors and relevant stakeholders, to avoid duplication of efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 2: Inclusive education response strategies include a clear description of the context, barriers to the right to education and strategies to overcome those barriers.</td>
<td>• Response strategies accurately reflect assessment findings  • Education responses progressively meet the needs of affected populations for inclusive and quality education  • Response strategies are designed and implemented in ways that do not harm the community or providers and do not worsen the impact of the emergency  • Information collected from the initial assessment and context analysis is regularly updated with new data to inform ongoing education responses  • Response strategies include capacity building to support education authorities and community members to carry out assessments and implement response activities  • Education responses complement and are harmonised with national education programmes  • Baseline data are collected systematically at the start of a programme</td>
</tr>
<tr>
<td>Standard 3: Regular monitoring of education response activities and the evolving learning needs of the affected population is carried out.</td>
<td>• There are effective systems for regular monitoring of education response activities in emergency situations through to recovery  • Education response activities are monitored to ensure the safety and security of all learners, teachers and other education personnel  • Vulnerable people are regularly consulted, trained in data collection methodologies and involved in monitoring activities  • Disaggregated education data are systematically and regularly collected and inform education responses  • Education data are analysed and shared at regular intervals with all relevant stakeholders, especially affected communities and vulnerable groups</td>
</tr>
<tr>
<td>Standard 4: Systematic and impartial evaluations improve education response activities and enhance accountability.</td>
<td>• Regular evaluations of education response activities produce credible and transparent data and inform future education activities  • All stakeholders, including representatives of the affected community and education authorities, are involved in evaluation activities  • Lessons and good practices are widely shared and inform future advocacy, programmes and policies</td>
</tr>
</tbody>
</table>
### Access and Learning Environment Domain

<table>
<thead>
<tr>
<th>Minimum Standards</th>
<th>Key actions</th>
</tr>
</thead>
</table>
| **Standard 1:** All individuals have access to quality and relevant education opportunities. | • No individual or social group is denied access to education and learning opportunities because of discrimination  
• Learning structures and sites are accessible to all  
• Barriers to enrolment, such as lack of documents or other requirements, are removed  
• A range of flexible, formal and non-formal education opportunities is progressively provided to the affected population to fulfil their education needs  
• Through sensitisation and training, local communities become increasingly involved in ensuring the rights of all children, youth and adults to quality and relevant education  
• Sufficient resources are available and ensure continuity, equity and quality of education activities  
• Learners have the opportunity to enter or re-enter the formal education system as soon as possible after the disruption caused by the emergency  
• The education programme in refugee contexts is recognised by the relevant local education authorities and the country of origin.  
• Education services for disaster-affected populations do not negatively impact host populations. |
| **Standard 2:** Learning environments are secure and safe and promote the protection and the psychosocial well-being of learners, teachers and other education personnel. | • The learning environment is free from sources of harm to learners, teachers and other education personnel  
• Teachers and other education personnel acquire the skills and knowledge needed to create a supportive learning environment and to promote learners’ psychosocial well-being  
• Schools, temporary learning spaces and child-friendly spaces are close to the populations they serve  
• Access routes to the learning environment are safe, secure and accessible for all  
• Learning environments are free from military occupation and attack  
• The community contributes to decisions about the location of the learning environment, and about systems and policies to ensure that learners, teachers and other education personnel are safe and secure  
• Safe learning environments are maintained through disaster risk reduction and management activities |
| **Standard 3:** Education facilities promote the safety and well-being of learners, teachers and other education personnel and are linked to health, nutrition, psychosocial and protection services. | • Learning sites and structures are safe and accessible for all learners, teachers and other education personnel.  
• Temporary and permanent learning environments are repaired, retro-fitted or replaced as needed with disaster-resilient design and construction  
• Learning spaces are marked by visible protective boundaries and clear signs.  
• Physical structures used for learning sites are appropriate for the situation and include adequate space for classes, administration, recreation and sanitation facilities  
• Class space and seating arrangements meet agreed ratios of space per learner and teacher in order to promote participatory methodologies and learner-centred approaches  
• Community members, including young people, participate in the construction and maintenance of the learning environment  
• Adequate quantities of safe water and appropriate sanitation facilities are provided for personal hygiene and protection, taking into account sex, age and people with... |
disabilities
• Skills-based health and hygiene education is promoted in the learning environment
• School-based health and nutrition services are available to address hunger and other barriers to effective learning and development
• Schools and learning spaces are linked to child protection, health, nutrition, social and psychosocial services

### Teaching and Learning Domain

<table>
<thead>
<tr>
<th>Minimum Standards</th>
<th>Key Actions</th>
</tr>
</thead>
</table>
| **Standard 1:** Culturally, socially and linguistically relevant curricula are used to provide formal and non-formal education, appropriate to the particular context and needs of learners | • Education authorities lead the review, development or adaptation of the formal curriculum, involving all relevant stakeholders  
• Curricula, textbooks and supplementary materials are appropriate to the age, developmental level, language, culture, capacities and needs of learners  
• Formal curricula and examinations used in the education of refugees and internally displaced people are recognised by home and host governments  
• Formal and non-formal curricula teach disaster risk reduction, environmental education and conflict prevention  
• Curricula, textbooks and supplementary materials cover the core competencies of basic education including literacy, numeracy, early learning, life skills, health and hygiene practices  
• Curricula address the psychosocial well-being and protection needs of learners  
• Learning content, materials and instruction are provided in the language(s) of the learners  
• Curricula, textbooks and supplementary materials are gender-sensitive, recognise diversity, prevent discrimination and promote respect for all learners  
• Sufficient, locally procured teaching and learning materials are provided in a timely manner |
| **Standard 2:** Teachers and other education personnel receive periodic, relevant and structured training according to needs and circumstances. | • Training opportunities are available to male and female teachers and other educational personnel, according to needs  
• Training is appropriate to the context and reflects learning objectives and content  
• Training is recognised and approved by relevant education authorities  
• Qualified trainers conduct training courses that complement in-service training, support, guidance, monitoring and classroom supervision  
• Through training and ongoing support, teachers become effective facilitators in the learning environment, using participatory methods of teaching and teaching aids  
• Training includes knowledge and skills for formal and non-formal curricula, including hazard awareness, disaster risk reduction and conflict prevention |
| **Standard 3:** Instruction and learning processes are learner-centred, participatory and inclusive. | • Teaching methods are appropriate to the age, developmental level, language, culture, capacities and needs of learners  
• Teachers demonstrate an understanding of lesson content and teaching skills in their interaction with learners  
• Instruction and learning processes address the needs of all learners, including those with disabilities, by promoting |
### Teachers and Other Education Personnel Domain

#### Minimum Standards

<table>
<thead>
<tr>
<th>Standard 1: A sufficient number of appropriately qualified teachers and other education personnel are recruited through a participatory and transparent process, based on selection criteria reflecting diversity and equity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Actions</td>
</tr>
<tr>
<td>• Clear, appropriate, non-discriminatory job descriptions and guidelines are developed before the recruitment process</td>
</tr>
<tr>
<td>• A representative selection committee selects teachers and other education personnel based on transparent criteria and an assessment of competencies, taking into account community acceptance, gender and diversity</td>
</tr>
<tr>
<td>• The number of teachers and other education personnel recruited and deployed is sufficient to avoid over-sized classes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard 2: Teachers and other education personnel have clearly defined conditions of work and are appropriately compensated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Actions</td>
</tr>
<tr>
<td>• Compensation systems and conditions of work are coordinated among all relevant stakeholders</td>
</tr>
<tr>
<td>• Compensation and conditions of work are described in contracts, and compensation is provided regularly</td>
</tr>
<tr>
<td>• Teachers and other education personnel are allowed to organise to negotiate terms and conditions.</td>
</tr>
<tr>
<td>• A code of conduct, which includes clear implementation guidelines, exists and is well respected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard 3: Support and supervision mechanisms for teachers and other education personnel function effectively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Actions</td>
</tr>
<tr>
<td>• Adequate teaching and learning materials and space are available</td>
</tr>
<tr>
<td>• Teachers and other education personnel are involved in professional development that contributes to their motivation and support</td>
</tr>
<tr>
<td>• A transparent, accountable supervisory mechanism provides for regular assessment, monitoring and support for teachers and other education personnel</td>
</tr>
<tr>
<td>• Performance appraisals for teachers and other education personnel are conducted, documented and discussed regularly</td>
</tr>
<tr>
<td>• Students regularly have the opportunity to provide feedback on the performance of teachers and other education personnel</td>
</tr>
<tr>
<td>• Appropriate, accessible and practical psychosocial support is available to teachers and other education personnel</td>
</tr>
</tbody>
</table>
### Education Policy Domain

<table>
<thead>
<tr>
<th>Minimum Standards</th>
<th>Key Actions</th>
</tr>
</thead>
</table>
| **Standard 1:** Education authorities prioritise continuity and recovery of quality education, including free and inclusive access to schooling. | - National education laws, regulations and policies uphold the protected status under international humanitarian and human rights law of education facilities, learners, teachers and other education personnel  
- National education laws, regulations and policies respect, protect and fulfil the right to education and ensure continuity of education  
- Laws, regulations and policies ensure that every education facility rebuilt or replaced is safe  
- Laws, regulations and policies are based on an analysis of the context that is developed through participatory and inclusive processes  
- National education policies are supported with action plans, laws and budgets that allow a quick response to emergency situations  
- Laws, regulations and policies allow schools for refugees to use the curricula and language of the country or area of origin  
- Laws, regulations and policies allow non-state actors, such as NGOs and UN agencies, to establish education in emergency programmes |
Appendix D: List of SDG 4 Measures and Actions Taken By The Interviewees

<table>
<thead>
<tr>
<th>Measures for Equitable Education</th>
<th>Measures for Qualitative Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extensive focus on vulnerable children</td>
<td>1. Continuation of previous educational goals and curriculum</td>
</tr>
<tr>
<td>2. Invitation to school for the provision of education for specific groups of pupils:</td>
<td>2. Style of teaching chosen by teachers individually</td>
</tr>
<tr>
<td>- Pupils with unsafe home situations</td>
<td>3. Playful learning programs</td>
</tr>
<tr>
<td>- Pupils with concentration and motivation issues</td>
<td>4. Active education via video chats</td>
</tr>
<tr>
<td>- Pupils with little educational help from parents</td>
<td>5. Increased communication/feedback between teachers and pupils</td>
</tr>
<tr>
<td>- Pupils with parents in vital professions</td>
<td></td>
</tr>
<tr>
<td>3. Providing educational resources to the pupils (e.g. laptops and books)</td>
<td>6. Focus on essential subjects</td>
</tr>
<tr>
<td>4. Tracking wellbeing and education possibilities at the home of pupils via calls and personal visits daily- weekly</td>
<td>7. Teaching based on continuous repetition of previously learned material</td>
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<td>5. Collaboration to provide care and safety with external parties:</td>
<td>8. Internal Exams</td>
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<tr>
<td>- After school care</td>
<td>9. Monitoring classes on educational progress</td>
</tr>
<tr>
<td>- Youth care</td>
<td>10. Follow guidelines form government</td>
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<tr>
<td>- Municipalities</td>
<td>11. Usage of free learning software</td>
</tr>
<tr>
<td>6. Customisation of education depending on pupils' possibilities</td>
<td>12. Update parents continuously on educational progress</td>
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<tr>
<td>7. Clear instructions for parents on educational support for pupils</td>
<td>13. Recording instruction videos for educational subjects which can be viewed several times</td>
</tr>
<tr>
<td>8. Physical and psychological support for pupils</td>
<td></td>
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</tbody>
</table>