OECS Academic Recovery Programme

Report 1

Contextualising Academic Recovery Programmes for the Eastern Caribbean — Literature Review

Dr Björn Haßler

2021-02-02

https://opendeved.net

Commissioned by

Recommended citation:

Haßler, B., Adam, T., Blower, T., & Megha-Bongnkar, G. (2021). Academic Recovery Programmes in the Eastern Caribbean — Literature Review (OECS Academic Recovery Programme Report No. 1). Open Development & Education. https://doi.org/10.5281/zenodo.4780577. Available at https://docs.opendeved.net/lib/DZA3GVBD. Commissioned by the Organisation of Eastern Caribbean States, Castries, Saint Lucia.

Version 1 | February 2021

Details about the references used in this report can be found in the OpenDevEd Evidence Library at https://docs.opendeved.net. Individual references are hyperlinked throughout this report.

Contents

List of Abbreviations

AEP	Accelerated Education Programme
AEWG	UNICEF Accelerated Education Working Group
ARP	Academic Recovery Programme
CEP	Catch-up Education Programme
COVID-19	Novel coronavirus SARS-CoV-2
CXC	Caribbean Examination Council
ECD	Early Childhood Development
EDMU	Education Development Management Unit
EdTech	Educational Technology
EEF	Education Endowment Foundation
EMIS	Education Management Information System
HDI	Human Development Index
ICT	Information and Communication Technologies
LMICs	Low- and Middle-Income Countries
MoE	Ministry of Education
OECS	Organisation of Eastern Caribbean States
SPEED	Strategic Plan for Educational Enhancement and Development
STEM	Science, Technology, Engineering, and Mathematics
TLM	Teaching and Learning Materials
TPD	Teacher Professional Development
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
UPE/USE	Universal Primary Education/Universal Secondary Education
XCD	Eastern Caribbean Dollar

1. Introduction

1.1. Purpose

The Academic Recovery Programme (ARP) of the Organization of the Eastern Caribbean States (OECS) is being developed to mitigate the impact of the ongoing COVID-19 pandemic, which started in 2020 and is continuing into 2021. The pandemic has resulted in varying degrees of school closures and loss of learning. Globally, this loss of learning has not only been significant in scale, it has also been unequal: the learning levels or disparities in achievement between students have widened, and students' learning-adjusted years of schooling (LAYS) varies even more within a grade than before the pandemic (↑Angrist et al., 2020). This is due to students' unequal access to learning continuity during the pandemic, caused, for instance, by variation in socio-economic and socio-emotional wellbeing. In particular, disadvantaged students with limited access to devices, connectivity, and home-based support are impacted the most; they risk falling behind further, which may ultimately result in dropping out of school.

While the impact of COVID-19 has caused a learning crisis, it is also important to note that there was already a learning crisis for many people in several countries prior to the pandemic; the COVID-19 crisis has exacerbated the existing learning crisis. Thus, the Academic Recovery Programme is intended to support students who had already fallen behind prior to the pandemic as well as those who fell behind specifically due to the pandemic. The intentional focus on disadvantaged students is vital as it ensures that the programme is specifically tailored to the needs of these students.

↑Lai et al. (2019) find that

> *"while high functioning schools generally maintain their performance trajectory, lower functioning schools experience a larger detrimental disruption"* (↑Ibid., p.46).

Following a disaster, both staff and students at lower functioning schools miss far more time in school than peers in high-functioning schools. Lost time in school translates directly to a notable loss in equivalent years of learning by Grade 10 (Form 4 in the context of Eastern Caribbean schools). A tool developed by Research on Improving Systems of Education (RISE) — based on the Pedagogical Production Function model introduced by ↑Kaffenberger and Pritchett (2020) — to simulate the effect of lost time on learning loss in school years shows significant losses in schooling years caused by a four- or six-month interruption from schooling. This effect grows significantly in lower grades, with Grade 1 students suffering an estimated loss of up to 2.2 years of schooling from a six-month interruption. Importantly, the tool also demonstrates the need not just for 'remedial' support for those re-entering education, but also for longer-term 'reorientation' of the curriculum to *"better align with children's learning and produce more learning and learning for more children each year"* (↑RISE, 2020, n.p.).

What the model makes clear is that compressing the curriculum alone to facilitate a return to learning in line with the pre-COVID-19 curriculum is not enough. Combining remediation *and* reorientation approaches not only increases the effectiveness of recovery programming but can even increase the percentage of students achieving minimum proficiency — according to Sustainable Development Goal 4 — in comparison to cohorts receiving no disruption to their education, especially among learners in Grades 1-5 (↑Ibid.).

↑Haßler et al. (2020) identify five elements integral to any coordinated educational response to the COVID-19 pandemic:

- **Gather crucial data.** Responses and decision making should be based on the best available data, and data collection is essential for monitoring and impact assessment.
- **Organise the workforce.** Governments should consider all stakeholders, from ministry staff to teachers and parents, in their response. Each group's preferred mode of communication should be identified and taken into account.
- **Build a sense of community between students, families and schools.** Education leaders should collaborate with and support parents and caregivers to facilitate home-based learning.
- **Provide teaching and learning materials.** Multi-pronged sequenced strategies are needed to address the impact of COVID-19. Consideration should be given to students in low-resource backgrounds with limited or no access to digital learning tools and resources.
- **Prepare for what happens after the pandemic.** Short-term planning is not enough. Education leaders should use this opportunity to build back better and improve the quality of education service delivery.

Building on these elements, this programme preparation report synthesises available evidence for effective and sustainable Academic Recovery Programmes (ARPs). The report covers both students who were underperforming academically before the arrival of COVID-19 and students now at risk because of learning regression or other effects of the pandemic. The core purpose of any successful ARP is integration; helping children who have missed out on learning — for any reason — catch up and get back to school. However, in order to respond to unique challenges in specific contexts, this study focuses on four OECS Member States: the Commonwealth of Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines.

1.2. Definitions

Before we progress to the evidence, we have to consider what 'academic recovery' actually means. Much of the evidence conceptualises 'accelerated learning', 'remedial education', and 'academic recovery' as being either for

- students falling behind their peers during the course of schooling or for
- children who have, unlike other same-aged peers, been out of school while others have been learning.

Neither of these conceptions matches the comparatively novel situation brought about by COVID-19, particularly in terms of the system-wide disruption to *all* learners, not just specific student populations. However, specific populations will, of course, fall behind to different extents, depending on their prior achievements and other factors, such as socio-economic status.

The UNHCR Accelerated Education Working Group distinguishes between different levels of educational deprivation by the effects an educational disruption has on learners. It then recommends four types of approaches best suited to address those effects:

1. **Extending instructional time.** A light-touch approach which may involve *"slightly adapting the academic calendar and schedule"* to accommodate for minor educational disruption (↑UNHCR AEWG, 2020, p.3).
2. **Catch-up programmes.** More structured but *"short-term transitional education programmes for children and youth who had been actively attending school prior to an educational disruption"* (↑ibid.).
3. **Remedial education.** *"Additional targeted support, concurrent with regular classes, for students who require short-term content or skill support to succeed in regular programming"* (↑ibid.).
4. **Accelerated education programmes.** The highest level of intervention, recommended for learners who are over-age for their grade and who have been out of school for more than a year, allowing them to achieve *"equivalent, certified competencies and transition into formal education, technical/vocational training, or livelihoods"* (↑ibid.).[1]

There is some evidence in the field of education in emergencies (EiE) which provides examples of programmes developed in situations of mass disruption to education systems; these are often in response to conflict and ecological disasters. More recent EiE evidence produced in response to epidemiological disasters — such as the 2014 Ebola outbreak — has focused on a small number of low-income countries, but nonetheless offers a view of accelerated education programming in a comparable situation to current circumstances. We note that in the OECS context, as of February 2021, children have not been completely out of school for this extended time; however, going forward, further disruption should be anticipated. For the structured decision-making process which assists stakeholders determine the most suitable type of education response to COVID-19-related learning disruption, see Annexe 2.

[1] For the structured decision-making process which assists stakeholders determine the most suitable type of education response to COVID-19-related learning disruption, see Annexe 2

1.3. Overview of this report

In this report, Section 2 covers the methodology of this rapid literature review. Section 3 comprises a rapid situation analysis that outlines the broader context of the OECS region, examining further the four focus islands (Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines). We give special consideration to each country's education response to the COVID-19 pandemic, as well as the use of technology in education.

In Section 4, we present an array of evidence from around the world from research on recovery programmes in the education sector. We then review specific knowledge and evidence from the Caribbean and OECS region and review the evidence around the role of technology in ARPs.

Section 5 synthesises the findings of the literature review, drawing a number of key lessons which will be taken forward in the development of the OECS Academic Recovery Programme.

2. Methodology

This section covers the methodology employed for the production of this literature review and the production of the forthcoming final Programme Preparation Report.

2.1. Research questions

A rapid review of evidence was undertaken to investigate the following research question:

> What does an appropriate, comprehensive, sustainable, effective, inclusive, equitable, post-COVID-19 Academic Recovery Programme (ARP) for primary and secondary education students in the selected focus countries (Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines) look like?

To explore more deeply, this question was broken down into sub-questions:

- What is the current status of the educational landscape in the OECS and the four focus countries?
- What makes ARPs effective: Globally? In the Caribbean? In the four focus countries?
- How do we ensure that the ARPs reach disadvantaged students?
- What role can technology play in supporting ARPs, particularly in the context of COVID-19?

These sub-questions guided the development of subsequent research activities.

2.2. Part 1: Consult the literature

A comprehensive review of the available literature required consulting a variety of sources and using a number of methods to cover published research literature (formally published in journals, books, dissertations etc.) as well as 'grey' literature (working papers, policy papers, project reports, reviews, conference papers etc.).

The evidence collection process was undertaken in four stages, with each stage reinforcing the rigour of the overall review.

1. **Consulting literature already known to the authors.** This non-systematic method provides a starting point as a basis for the literature review. It includes the consultation of broad data resources (such as the World Bank) and country-specific resources (such as Ministries of Education). Our previous experience and involvement with initiatives such as the EdTech Hub's Help Desk have provided exposure to a range of cutting-edge literature produced by experts

on topics such as academic recovery in relation to COVID-19. Importantly, this approach enables us to define keywords and phrases for subsequent searches.

2. **Consulting OECS documentation.** Provision of the latest available priority documentation directly by the OECS allowed for consideration of evidence in relation to up-to-date concerns and priorities; this enables a deeper understanding of the Organisation's perspective on ARPs. Such documentation included the OECS Education Sector Strategy 2012-2026 (↑OECS, 2016) the OECS Education Statistical Digest 2017/2018 (↑OECS, 2017),the OECS Education Sector Response and Recovery Strategy to COVID-19 (↑OECS, 2020), and the OECS Education Initiatives Sustainability Framework.
3. **Google Scholar.** Now considered to be one of the most comprehensive platforms for literature searches, we searched Google Scholar for a number of key phrases identified by the first two stages of the review. During this process, a number of additional phrases were also identified as relevant to the review, and were incorporated into subsequent searches. The most significant phrases were:

    - Academic recovery programme
    - Accelerated learning
    - Accelerated recovery
    - Catch up programme
    - Remedial learning programme
    - Student support service
    - Tutoring programme

    Each search was performed without geographical restrictions, and then repeated together with regional keywords ('Caribbean'); finally the search was repeated with country names to surface evidence from the four focus countries.
4. **The Searchable Publications Database (SPuD).** SPuD is an innovative, education-focused search engine being developed by Open Development and Education and the EdTech Hub. It automatically aggregates search results from common databases, including Scopus, ProQuest, Web of Science and the Directory of Open Access Journals. It significantly accelerates literature discovery and evaluations. Searches were conducted using the same key phrases as were used in Google Scholar, then with Caribbean- and country-specific geographic filters applied.
5. **UWI repository.** The University of West Indies has a research repository where research relevant to the region — produced by local scholars — is published. This repository was consulted for evidence on academic recovery programmes and catch-up programmes. The repository had more content on agriculture. Even though this is the case further consultations with the UWI library revealed that access to the public was both limited and complicated.
6. Using collected evidence — and particularly the OECS provided data — a **rapid situational analysis** was undertaken to gain a concrete understanding of the educational landscape in the OECS and four focus countries (see Section 3). This analysis focused on the current educational situation, gaps in the system and

student learning, access to ICT and educational technologies, and educational responses to the COVID-19 pandemic.

Attention then turned to evidence around the effectiveness of ARPs (see Section 4). Collected evidence was summarised geographically, with Human Development Index (HDI) scores given for each country to enable a comparison with the overall developmental situation of countries in the OECS. Publications were analysed, drawing out recurring themes and considerations applicable to the development of a prospective ARP. Considerations of reviewed programmes included cost, scale, and impact (for both students and other education stakeholders).

2.3. Part 2: Consult people (interviews and focus groups)

This subsection describes a second stage of data collection; the outcomes are reported in a subsequent OECS report (↑Haßler, et al., 2021《warning:Ha%C3%9Fler, et al., forthcoming》). However, the methodology is described here for continuity and to put the present results into perspective.

Literature searches often produce incomplete insights; this was also the case for our four focus countries, where the literature did not offer a comprehensive picture of the current situation. Therefore, interviews were conducted with key stakeholders , offering additional data to address the research questions, informs the programme design, and provides a better understanding of the local contexts.

2.3.1. Participants

In collaboration with the regional education ministries, potential stakeholders were identified in each of the four focus countries. Care was taken to ensure that these groups are fully representative of the population of each focus country. We intended to work in close collaboration with these groups throughout the design, implementation, and monitoring stages of the programme.

These group of people consulted for the interviews and focus groups, as well as the subsequent working groups are drawn from a number of key stakeholder groups, including member profiles of:

- Policy influencers (including community leaders);
- Education specialists from the local ministry (e.g. disability specialists);
- Teachers;
- Teacher professional development specialists;
- Parents/parent representatives;

2.3.2. Activities

With these goals in mind, the following activities are undertaken.

Activity 1: Conducting interviews

The usual protocols required for interviews were followed. These included seeking informed consent, explaining to participants the aim of the interviews and how the data collected is processed and used. The results and analysis will be published in a forthcoming programme preparation report alongside the interview questions.

Activity 2: Focus groups

In each country, a focus group was created. These focus groups consisted of at least four key stakeholders. The aim of these focus groups was to further understand the issues raised in the interviews and to validate or overturn the findings of the literature review.

For the above activities, and due to the ambition to also explore digital approaches, consideration of Principles for Digital Development in Education are important (↑Haßler, 2020).

2.3.3. Setting up technical working groups in focus countries

A secondary purpose of the interviews and focus groups is to identify stakeholders who can form a technical working group, guiding the development and implementation of the ARP.

3. Situational analysis

This section provides a brief contextual framing of the educational contexts of the OECS and its member states. The remainder of the section covers the current status of the education system in the four focus countries of Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines. Special consideration will be given to access to educational technologies (EdTech), as well as the impact of COVID-19.

3.1. Context of the Eastern Caribbean

Since the achievement of independent statehood for most of its member states, the education sector of the OECS has seen dramatic changes. Significant progress has been made towards universal basic education for all learners across the OECS. A variety of systems exist to support struggling, disadvantaged, or disabled learners, though the prevalence of and accessibility to these systems varies widely between member states (↑Knight and Robinson, 2016). Development of the education sector is implemented by state governments but coordinated in accordance with centralised OECS policy.

The *2012 to 2026 OECS Education Sector Strategy* represents a shift from previous reform-based initiatives towards a more strategic approach, focusing on management, leadership, and accountability. Importantly, the Strategy identifies several cross-cutting themes which are necessary to pursue its objectives at all levels of education:

- Improving achievement levels in the core subjects of literacy, numeracy and technology;
- Strengthening boys' education;
- Achieving equity of access for the marginalised and economically disadvantaged;
- Strengthening disaster risk reduction and management measures;
- Establishing effective knowledge management systems;
- Integrating technology in the classroom and in education; and
- Strengthening learners' pastoral care (↑OECS, 2016, p.28).

Several of these themes are also particularly pertinent to the situation brought about by the COVID-19 pandemic, given the OECS' push towards distance learning. However, the Strategy also identifies several key risks to the achievement of strategic objectives:

- Politics: Lack of political will or restrictive legislation;
- Lack of capacity and resources: At the local, national, and regional levels;
- Ineffective communication and advocacy: Failing to secure stakeholder buy-in;
- Lack of investment in technology: For both teachers and students;
- Ineffective monitoring and review: At institutional, state, and regional levels;

- Environmental disasters: Diverting funding and additional pressure on systems.

We note that neither all these risks, nor all of the cross-cutting themes, have universal relevance to the education systems of each member state; rather, a key takeaway from any sample of OECS nations reveals a diverse range of systems in different stages of development, each with differing needs for learners and education stakeholders.

3.1.1. COVID-19 in the OECS region

COVID-19 statistics are difficult to obtain and to interpret. However, there is some evidence that island states have had some relative advantages in managing the COVID-19 pandemic (↑The Guardian, 2020; ↑The Guardian, 2021). While the OECS has largely avoided the high direct human cost of COVID-19 cases and deaths, no member state has entirely avoided the reach of the pandemic. In some states, case numbers remain stable and low, but others have experienced a rise in cases in the second half of 2020.

Figure 1. COVID-19 cases and deaths among OECS Member States and Associate Member States, as of 1st December 2020 (↑WHO,2020)

Country	New cases (last seven days)	Cumulative cases	New deaths (last seven days)	Cumulative deaths
Antigua and Barbuda	2	141	0	4
Dominica	13	85	0	0
Grenada	0	41	0	0
Montserrat	0	13	0	1
St Kitts and Nevis	3	22	0	0
St Lucia	43	246	0	2
St Vincent and the Grenadines	1	85	0	0
Anguilla	1	4	0	0
British Virgin Islands	0	72	0	1
Guadeloupe	119	8,344	5	149
Martinique	322	5,413	1	40

OECS Member States' swift reactions in closing borders and public institutions such as schools have helped prevent the further spread of the virus. However, the pandemic has created new challenges within the education sector which must be addressed:

- School closures have limited or removed access to learning;
- Limited access to the nutritional support normally provided by schools;
- Disadvantaged students lack access to online learning opportunities;
- Lack of harmonised solutions hampers transition to online learning;
- Administration of national and regional exams;
- Strained home relationships between parents and children;
- Limited technical and financial resources (↑OECS, 2020, p.4).

In the second quarter of 2020, the OECS Education Sector Response and Recovery Strategy to COVID-19 was developed and published. Building on the findings of a rapid needs assessment undertaken in March 2020, the Strategy broadly groups the focus of its approach to recovery into four key areas:

- Harmonisation of policy response across Member States;
- Transition to a digital education (with distributed learning);
- Strengthen the care of students both in and out of school; and
- Strengthen engagement with parents and caregivers (↑ibid., p.9).

The Strategy is expected to be implemented over an 18-month period, benefitting almost 140,000 students and over 14,000 teachers and principals in government and government-assisted primary and secondary schools (↑Ibid., p.16). However, some key risks were identified during the rapid needs assessment, which any prospective ARP will need to address:

- Limited availability of officials to participate in the process;
- Insufficient recurring funding;
- Diverse priorities of Member States; and
- Limited access to and availability of data (↑ibid., p.17).

As with education, no two member states are exactly alike in their needs and challenges in relation to COVID-19. Nonetheless, it is clear that ensuring sufficient organisational buy-in from government and evidence-based decision making will be a priority across participating OECS countries.

3.2. Situational analysis: focus countries

The following sections detail the development and current situation of the education systems of the four focus countries of Dominica, Grenada, Saint Lucia, and Saint Vincent

and the Grenadines. The table below provides a brief digest of some key statistics from each country.

Figure 2. Key education statistics from the four focus countries

	St Lucia	St Vincent and the Grenadines	Grenada	Dominica
Total Population	182,000	111,000	112,523	72,000
Population Aged 0-24	65,000	43,000	65,000	17,000
Number of Schools **Pre-School Centres** **Primary Schools** **Secondary Schools** **Special Education Centres**	 95 74 23 5	 125 68 26 3	 105 75 24 3	 16 58 15 2
Out of School **Children** **Adolescents**	 260 709	 83 (2018)	 	 228 36
Net Enrollment Pre Primary	72.3	71.9 (2018)	85.3 (2018)	65.4% (2019)
Net Enrollment in Primary school	94.6(2019)	93.6(2017)	94.6 (2018)	92.4%(2019)
Net Enrollment for Secondary	80.4 (2019)	89.5 (2018)	87.7 (2017)	87%(2019)
Literacy rate		98% (2014)	98% (2014)	
Learning-adjusted years of schooling	8.480	7.711	8.274	8.009
Education expenditure as % of GDP	3.33(2018)	5.69 (2018)	3.33 (2018)	5.57 (2019)
Language(s) of Instruction	English	English	English	English
Education System Model	British	British	British	

Sources: UNESCO, World Bank

3.3. Situational analysis in Saint Lucia

3.3.1. What is the existing context?

Saint Lucia was previously a British colony, and its system of organised education first emerged in 1838 (↑Sheldon, 2020), following the Abolition of Slavery Act in 1834. During the early colonial period, schools were traditionally managed by the church (Catholic, Anglican, and Methodist). Following independence, the churches started working in conjunction with the government to oversee education in Saint Lucia. These schools later became known as public assisted schools (↑ibid.).

According to the Saint Lucia Education Act of 1999, compulsory education begins at the age of five, and all students are required to remain in school until 16 years old. The Universal Secondary School Act (2006/7) equally assures every student a secondary school placement where they complete five years of basic studies (Forms 1-5).

In addition to the traditional secondary school programme, Saint Lucia provides vocational education through the Centre for Adolescent Renewal and Education (CARE) School and National Skills Development Centre (NSDC). Both focus on preparing students for future technical jobs (↑MoEIGRSD, 2019). This legislation was enacted to keep students in school until they are of legal age to begin working.

Over the past two decades, the education system in Saint Lucia has undergone several significant reforms, such as:

- The implementation of Universal Secondary Education (USE) in 2006-2007 — to address socio-economic inequity in the system — saw a growth in the number of schools and teachers.
- The Child-Friendly School (CFS) concept, launched in 2009, expanded to 35 primary schools in six school districts.
- The amalgamation of a number of Primary and Secondary schools (↑Department of Education, 2016; ↑UNICEF, 2017).

Like other countries in the OECS, Saint Lucia has also experienced regional change as well, including:

- The movement away from Cambridge and London Ordinary Level (O Level) examinations to Caribbean Secondary Examinations Certificates (CSECs), administered by the Caribbean Examinations Council (CXC). This move has allowed for a more culturally and regionally relevant curriculum.
- The replacement of Advanced Level (A-Level) Certificates with the Caribbean Advanced Proficiency Examination.

3.3.2. What are the challenges?

Gender disparities. A major issue facing the education sector in Saint Lucia is gender disparity, from enrolment to performance and completion levels (↑Ministry of Education, 2017). Female students dominate in terms of overall mastery of English language, Mathematics and Integrated Science (Table 5.2, ↑OECS, 2020). Dropouts among male students at the secondary level is consistently higher. At the primary level, boys also make up a larger percentage of repeaters. Male underachievement is therefore of concern to the Ministry of Education.

Disparities also exist in the choices of subjects taken at the secondary level, as female students are more likely to register for subjects traditionally associated with caregiving, while males outnumber females in science, technology, engineering and mathematics (Compare Tables 5.4 and 5.5, ↑OECS, 2020; ↑MoEIGRSD, 2019).

Shortage of counselling services. There are a limited number and quality of counselling professionals providing services to the health and early childhood development (ECD) sectors. There is a lack of specialized staff needed for early detection, diagnosis and treatment of intellectual, developmental and psychological disabilities (↑UNICEF, 2017). This eventually affects performance and learning in primary and secondary schools.

Declining school enrolment in public primary and secondary schools. Several primary schools around the island have surplus capacity (↑ibid.).

Growing disparity between the number of male and female teachers in the school system, particularly at the primary level where female teachers outnumber male teachers appears to be increasing (↑ibid.).

Declining investment in education as a percentage of the national budget (↑ibid.).

3.3.3. What are the gaps in student learning?

There is an **increasing number of learners with special needs**, and teachers do not have the required capacity to provide specialised counselling services to effectively support children facing hardship and learning difficulties (↑ibid.).

The **inequitable distribution of quality education** and learning opportunities along with the generally unsatisfactory state of school structures ultimately hampers students' learning progress (↑ibid.).

Also, the **proportion of learners achieving their full potential or achieving adequate skills remains small.** National and regional high-stakes examination results continue to indicate deficiencies in literacy, numeracy and sciences. This is evidenced by the declining academic performance in some subject areas, particularly in mathematics and English at the CXC level (Table 5.4 ↑OECS, 2020; ↑ibid.).

3.3.4. Access to ICT and EdTech

The Government of Saint Lucia continues to invest in several ICT projects for education and has made significant improvements in ICT infrastructure in schools. All primary and secondary schools have computer labs, and all schools have access to broadband internet connectivity. According to recent publications by ↑UNICEF and the ↑Commonwealth of Learning (2017), ICT in Saint Lucia faces the following challenges:

- **Lack of an ICT policy document.** The Ministry of Education has made several attempts to create a national ICT policy. Multiple iterations to the draft documents were made in 2002, 2004, 2011, 2013 and the ICT policy was finally ratified in January 2019.
- **Inadequate bandwidth.** Connectivity in Saint Lucia remains an issue. However, the World bank is currently funding the CARCIP project, which aims at providing high speed broadband backbone network and government intranet.
- **Insufficient quantity of hardware in computer labs in primary and secondary schools.** In 2016, the aggregate student-to computer ratio was 11:1. While this can be a usable ratio for some usage patterns, it may be too low for some uses. Furthermore, a significant portion of the hardware in schools is not operational, and for schools located near the sea, the salty air has caused significant levels of corrosion leading to equipment malfunction.
- **Gaps in teachers' ICT and EdTech competences.** Gaps in teachers' competences regarding pedagogically effective use of EdTech for learning remain.

In response to these issues, the Ministry of Education implemented a teacher professional development programme aimed at improving teachers ICT and EdTech and competences both at the primary and secondary levels.

The laptop programme

In 2013, a laptop programme was implemented, providing secondary schools students in Form 4 with a laptop, as well as teachers. Over 3,850 laptops were distributed to students, and the outcome was generally perceived to be positive on the part of parents, teachers, students and principals (↑Commonwealth of Learning, 2017; ↑Editorma, 2020). However, identified issues included software limitations, inadequate content, noneducational use of laptops by students, and teachers' competence relative to that of their students. Most importantly, there has been no evidence to show that student performance improved as a result of the programme (↑Commonwealth of Learning, 2017, p.5). The programme was discontinued in 2016 after the United Workers Party (UWP) came to power (↑Editorma, 2020).

3.3.5. COVID-19 response/learning continuity strategy

Schools closed following decisions made by Member States following advice from appropriate health professionals (↑OECS, 2020), but Saint Lucia is the only country

among the four focus countries which has seen its education system undergo wide-scale closure and reopening multiple times since the onset of the pandemic. However, with respect to extra-curricular care, Saint Lucia is noted in the OECS Education Sector Response and Recovery Strategy to COVID-19 for having a list of vulnerable children to help authorities provide targeted support (↑OECS, 2020, p.7). In addition, a national continuity of learning document was formulated, discussed and circulated. MiFi devices were received from donations and distributed during the learning from home period.

3.4. Situational analysis in St. Vincent and the Grenadines

3.4.1. What is the existing context?

In Saint Vincent and the Grenadines, responsibility for education transferred from the church to the government in 1849, and since independence in 1979 the education system has been overseen by the Ministry of Education. Currently, most of the educational institutions in Saint Vincent and the Grenadines are publicly funded (↑UNESCO, 2015).

Over the years, several reforms have been implemented and billions of dollars invested in the education sector (↑ibid.). These investments targeted several interventions, such as teacher professional development, ECD, and school infrastructure development (↑ibid.). Several successes have been recorded, such as:

- Universal access to early childhood education by 2010;
- Upgrade of existing primary school physical facilities and the construction of new primary schools;
- Improved common entrance results;
- Achievement of Universal Secondary Education by 2005 with improved CXC results;
- Full computerization of all secondary schools and substantially full computerization in primary schools;
- Improvement of library services with state-of-the-art libraries constructed; and
- Improved teacher training with almost 100% primary school teaching staff with university degrees (↑Gonsalves, 2010).

The government continues to provide scholarships, bursaries, and grants to teachers and citizens to further their education and obtain university-level degrees. (↑Gonsalves, 2010; ↑UNESCO, 2015). In 1994, the government introduced its National Student Loan Scheme. The programme now offers regular and economically disadvantaged loans. The latter typically caters for members of households with annual income below XCD10,000 and those lacking assets to secure a loan.

The government also runs a significant school feeding programme, providing free school meals to children in primary schools, annually costing XCD 1.6m (↑OECS, 2020, p.8).

3.4.2. What are the challenges?

A major challenge facing the education sector at both secondary and primary levels are the **low levels of attendance and achievement** from individuals among vulnerable groups. This particularly pertains to males, children of single parents, female child guardians and students in the rural area (↑UNESCO, 2015).

> *"Inequalities begin very early, with the children at greatest disadvantage falling behind at the very start of their schooling experience. Prospects of children entering, progressing and completing primary education is directly linked to their household and community situations"* (↑UNICEF, 2017, p.44).

The **lack of an appropriate policy framework and standards** to guide and control private sector provision of education services is also a problem. It is therefore difficult to ensure that the private sector is in line with the government in the provision of adequate space and related facilities to deliver an effective primary education programme and services (↑UNESCO, 2015).

Despite the government's supportive initiatives to upskill teachers and enhance teacher professional development opportunities, there still exists **a significant number of teachers who do not possess higher education degrees in teaching**. In addition, attracting male persons to the teaching profession is also a struggle. There is an insufficient number of teachers in the primary education sector focused on core subjects such as mathematics, sciences, technology, modern languages and information technology (↑UNICEF, 2017; ↑Gonsalves,2010). A lack of staff at teaching colleges to provide classroom oversight has also been highlighted as an issue (↑UNESCO, 2015). Collectively, these issues hinder progress towards developing the appropriate teaching curriculum.

A 2015 report undertaken for the Caribbean Development Bank stressed **the need to undertake capacity building and training for teachers in** English, mathematics, science and technology, especially at secondary levels (↑Vassell and Baksh, 2015). The report also identified the need to **address in particular boys' performance,** and *"to engender among education management and teachers, a culture of monitoring, evaluation and accountability for performance"* (↑ibid., p.6).

Standards of education also fall short in some areas. A recent survey carried out by UNICEF indicated that children living outside urban and suburban areas might not be assessing the same level of education as their peers. Participants also expressed the belief that the better-trained teachers were placed in urban schools (↑UNICEF, 2017). This is compounded by inadequate funds in some areas to maintain school buildings and furniture (↑UNESCO, 2015).

Teachers are not trained to accommodate children with Special Education Needs (SEN), and there is a lack of curriculum officers to support with issues relating to SEN. As such, there is **insufficient integration of children with SEN** into mainstream secondary and primary schools (↑ibid.).

3.4.3. What are the gaps in student learning?

The performance of students at the CPEA examinations is below expectations and is, therefore, a major concern. The criteria on which these examinations were based also need to be reviewed; overall pass rates were about 33% and less than 10% respectively. As in other countries, the underperformance of male students at the secondary level remains a concern (↑ibid.).

↑Gonsalves (2010) also highlights the need for **improved remedial education services** in the primary education sector for challenged students. With the arrival of the USE policy in 2005, all students got a place in secondary schools regardless of whether or not they passed the CEE examination. However, this meant that some students arrived in secondary schools necessarily having a mastery of core subjects like English and mathematics.

3.4.4. Access to ICT and EdTech

One laptop per child programme

Saint Vincent and the Grenadines continues to make sizable and consistent investments in ICT for education to prepare Vincentians to perform in an increasingly technologically advanced society (↑UNESCO, 2015; ↑UNICEF, 2017). It was one of the pioneer countries in the region to start a 'one laptop per child' initiative, aligned with a long-term vision for full integration of ICT into education and research (↑UNESCO, 2015; ↑UNICEF, 2017). The first phase of the programme commenced in 2010, and over 15,000 laptops were distributed to primary school students and teachers. The second phase in 2014 distributed over 12,500 laptops to secondary schools and teachers (↑UNESCO, 2015). The programme was complemented with the provision of high-speed wireless broadband internet access at all educational institutions and training was provided for both teachers and administrators (↑UNESCO, 2015; ↑UNICEF, 2017). However, the programme struggled with maintenance issues (↑UNICEF, 2017).

In 2020, the Government procured 17,000 Samsung tablets for distribution to students and teachers. To date, all students attending the St.Vincent and the Grenadines Community College, all secondary schools, all students in Grade 6 and the majority of students in Grade 5 of the primary schools received their devices. All teachers have also received their devices. The remaining grades at the primary level will have their devices in the coming months.

3.4.5. COVID-19 Response Strategy

All schools were initially closed in response to the pandemic, with supplies sent to schools to boost cleaning capability, along with the assignment of more staff resources to school cleaning. Challenges surrounding the spread of fake news around the virus, as well as more fundamental infrastructural issues (such as insufficient water supply), were identified early in the stages of the pandemic. The provision of meals to economically disadvantaged students and the digital divide was highlighted as among a number of key issues to address (↑OECS, 2020).

In August 2020, the government's National Emergency Management Organisation (NEMO) issued guidelines for the reopening of schools in September 2020. These guidelines covered:

- Cleaning and ventilation of equipment and facilities;
- Transport and student access to schools;
- Precautions for unwell students and staff;
- Mental health and psychosocial support for students and staff.

Notably, these guidelines devote a lot of focus to multi-level and multi-modal support systems, from formal counselling and oversight from the Curriculum Development Unit to WhatsApp groups and a dedicated helpline (↑NEMO, 2020). They also have a list of vulnerable children available that allows them to target their support (↑OECS, 2020). Schools reopened in September 2020 under a 'new normal' schedule, following protocols adhering to the National Disaster and Emergency Management Guidelines.

3.5. Situational analysis in Grenada

3.5.1. What is the existing context?

Since gaining independence in 1974, the school system in Grenada is managed and governed by the Ministry of Education, but the church also plays a prominent role in its delivery (↑Knight, 2014; ↑UNICEF, 2017). The government is a strong advocate of education for sustainable development and has a history of elaborating sound strategic plans for education (↑Knight, 2014; ↑UNICEF, 2017). This is evidenced by the SPEED I and SPEED II education strategy documents which were developed with the participation and inputs of several stakeholders (↑Knight, 2014; ↑UNICEF, 2017). Subsequently, several important steps have been taken, such as:

- Achievement of Universal Primary Education;
- Abolition of school fees;
- Compulsory schooling from ages 5-16;

- Significant investments in the recruitment of human resources; and
- Rehabilitation of schools.

3.5.2. What are the challenges?

Legislation. Education in Grenada is governed by the 2002 Education Act. However, there is no stand-alone national policy or plan for education or law for sustainable development in Grenada. Most of the existing policies are embedded in other regional initiatives such as ICT, TVET, certification, and quality assurance (National Sustainable Development Plan-2020-2035;[2] ↑MoFPEPD, 2019, p.31).

To date, the Ministry has achieved several milestones, part of the Grenada Education Enhancement Project (GEEP):

- Policy (2002),
- Regulations (2014),
- Standards for operating early childhood centres (2017).

Monitoring is also very limited within the education sector and as such adherence to strategic plans and policies can not be evaluated. Some reasons for this are:

- Lack of management consistency;
- Limited administrative autonomy;
- Inadequate planning and policy development;
- No systematic monitoring of the Ministry's strategic framework and policy implementation;
- Difficulty in assessing the progress of internal activities due to limited baseline data, indicators, and targets; and
- Lack of ownership by senior officers.

Since those observations (in 2015), a number of significant steps have been undertaken. For example, the positions for a senior planning officer and a planning officer were filled (↑MoFPEPD, 2019), leading to significant progress in the area of planning and policy development. Crucially, this has enabled better monitoring and evaluation of policy implementation.

Financial challenges. The education sector also faces financing challenges such as

- Inadequate funding to create effective learning environments;
- Limited financial and technical involvement of social partners, especially the Private Sector;
- The rising cost of TVET, which results in difficulty in meeting the skills needs of employers;

[2] https://www.nationalplan2030.gd/

- Expensive teacher training programmes, which result in an inadequate supply of professionally-trained teachers at all levels; and
- Budgetary constraints that restrict regular maintenance of infrastructure, thereby resulting in poor conditions of some public schools and other public institutions of learning

(list source: ↑ibid.).

In 2003, ↑Gift (2003) noted the importance of a reform in education policy to address the use of Creole-influenced vernacular in schools. The report argued that efforts should be made to employ Creole-influenced vernacular as an 'enabling agent' for developing competence in Standard English. Since that time, significant progress has been made across the OECS — and in Grenada — and taken up in the ELP language policy.

3.5.3. What are the gaps in student learning?

The core curriculum consists of literacy, the STEM subjects, and social studies at both the primary and secondary levels. Boys tend to pursue subjects in expanding sectors of the economy that offer more lucrative livelihoods, such as building technology and mechanical engineering technology, while more girls pursue subjects that are either in contracting, lower-paying or non-economic sectors, such as office administration, home management and religious studies. Challenges to student learning include:

- Inadequacies in laboratories and workshops for the teaching of ICT and TVET skills;
- Low performance in STEM subjects;
- Pedagogical strategies which fail to engage students;
- Lack of professionally-trained teachers; and
- Limited capacity to identify and support SEN learners (↑MoFPEPD, 2019, p.32).

3.5.4. Access to ICT and EdTech

Prior to the pandemic, the government was focusing on enhancing teacher capacity to integrate ICT in the delivery of the curriculum and as an information source for curriculum content (↑MoFPEPD, 2019). In this regard, several teacher professional development initiatives have been attempted and implemented. The Grenada Teachers union equally conducted over five-yearly periodic training in ICT (↑ibid.). A major challenge to these initiatives has been limited access to computer hardware and software, which limits teachers' opportunity to practice what they learn in the training sessions (↑Ibid.). In addition, following the hurricanes, some of the ICT equipment in schools are destroyed and are not replaced by the government (↑Gaible, 2008). Some funding has been provided by the Global Partnership for Education (GPE) to procure devices, and the government is also engaging in its own push to procure additional devices outside of the GPE Accelerated Fund Project.

There was also an ongoing initiative to introduce a learning management system — teachers and principals were trained to use the Mstar Learning Platform (↑MoFPEPD, 2019). Since then, as part of the COVID-19 reponse, the Mstar Learning Platform has become available to all students, teachers and parents. 3.5.5. COVID-19 Response Strategy

Following the start of the COVID-19 pandemic, schools were closed in March 2020. Online learning platforms such as Mstar and Moodle were equally explored, and a window was made available for teachers to prepare work for their students (↑OECS, 2020). Additional supplies were also provided to schools for cleaning. Some challenges were faced with regards to the availability of devices required for both teachers and students to have access to the internet. In response to this, the government of Grenada has reallocated some funds to purchase devices for students. Online tutorials were equally made available for students with auditory or visual impairments (↑ibid.).

Additional measures of the COVID response included:

- Provision of Personal Protective Equipments for special education and preschool teachers
- Psychosocial hotline set up to provide support for parents, teachers, learners
- Development of guidelines to support remote learning (early childhood, primary, and secondary)
- ICT training
- Training on use of the MSTAR platform; development of tutorials for the use of the MSTAR platform
- Spice Math TV program aired 5 days per week
- Spice Signs TV program
- Free access to CSEC examination preparation apps
- Parenting sessions provided virtually to supporting parents with the home learning of their children; this included:
    - Strategies for learning at home, including activities to do in the home (e.g., reading aloud to children, and accompanying activities);
    - Preparing children for the reopening of schools.

Moreover, the number of the community access points has been increased throughout 2020. Given that there is limited personal access to digital devices and internet connectivity in some communities, the access points enable students and parents to access the internet. This initiative is an important contribution to ensuring equitable access to information and learning.

3.6. Situational analysis in Dominica

3.6.1. What is the existing context?

Similar to other eastern Caribbean countries, formal education in Dominica was initially managed by the church. These institutions and infrastructure left behind by early missionaries have played a huge role in education for centuries. Currently, education is being managed by the government, and a state/private partnership continues to this day. The church still plays a very important role in delivering education. Over time the Dominican education system has undergone several reforms and achieved some major milestones:

- Establishment of Universal Primary Education (1960), Universal Secondary Education (1995), and universal access to early childhood development services (2012);
- The Education Act of 1997, which allows girls to return to school after pregnancies;
- Abolition of school fees (2004);
- Implementation of regionally aligned TVET strategy;
- Introduction of the Child-Friendly School policy (2014; ↑UNICEF, 2017).

3.6.2. What are the challenges?

As with other nations, Dominica faces the problem of **out-of-school pupils**, whether these are children who have dropped out of school, are joining school late, or simply never attend school. Poverty among some communities means that some students will also be absent for part of the year due to their work on family farms during harvest season (↑ibid.).

An issue present at primary level is **getting children into primary school by the official starting age** of five years. While nearly a quarter of students enrolling in kindergarten were below this age, 11% of children were over five years old at the time of enrolment. Ensuring timely enrolment is a key factor in preventing grade repetition and early school leaving (↑ibid.).

Poor physical school conditions diminish the quality of education in many primary schools in Dominica. Furthermore, several schools are affected by overcrowding, preventing adequate school access, particularly to children living in urban or peri-urban areas around the capital. There are also **disparities between communities**, with schools in Kalinago Territory (inhabited primarily by indigenous Carib peoples) having fewer resources than other schools in the country (↑ibid.).

Natural Disasters. Every year, between August and November, hurricanes tend to occur, which are a major threat to schooling. A study by ↑Serrant (2014) found **no official policies specific to addressing education during hurricanes** and principals did not

know the protocol to follow in the event of a hurricane. Serrant urges the Ministry of Education, Human Resource Planning, Vocational Training and National Excellence to become a lead agency in hurricane management and to put in place policies, institutional and financial frameworks for managing education during low-intensity hurricanes. This should include professional development for teachers, principals and elite officers; development of school disaster plans; the conduct of regular disaster drills and exercises at schools, and rescheduling lost instruction days. Progress towards resilience has been made in recent years - particularly following Hurricanes Maria and Irma in 2017 - with the introduction of School Disaster Plans. These are mandatory for every school, and are owned and updated by the management staff according to the school's needs.

3.6.3. What are the gaps in student learning?

A report by the ↑Ministry of Education and Human Resource Development (2016) highlighted **literacy and numeracy challenges**, evidenced by poor overall performance National Assessments. Some reasons advanced for this trend were attributed to a lack of appropriate pedagogical approach, including:

- Instructional strategies used by the teacher;
- Management techniques used by the teacher;
- Type and delivery of the curriculum;
- Teachers attitude toward students; and
- Teacher qualification and preparation.

In addition, **male underperformance at the primary and secondary level** relative to females is a challenge (↑MoEHRD, 2016; ↑Ventura, 2018). The 2019 CSEC grade distribution report indicated that 6% of boys failed to secure a Grade 1, 2 or 3. Similar reports at the primary level with the Curriculum Based Assessment (CBM) of literacy and numeracy at the K level and the Grades 2, 4, and 6 assessments all indicate similar trends in boys' performance.

3.6.4. Access to ICT and EdTech

One Tablet Per Child

The Government of Dominica launched a one tablet per child project in 2014 which saw the distribution of over 7,000 tablets to secondary school students. The programme aimed at breaking down barriers of socio-economic disparity between students, where some could afford tablets and others were disadvantaged. The Ministry of Education, Human Resource Planning, Vocational Training and National Excellence delivered training for teachers in the use of the tablets and developed guides to assist teachers in incorporating the devices into classroom practice. This was also matched by concurrent work to improve broadband access to students and teachers (↑MoEHRD, 2016).

Other programmes

A pilot initiative, IT for Dominica, was launched in 2000 in collaboration with a school district in Alberta, Canada, providing refurbished computers to teachers and students (↑Gaible, 2008). The project also provided training for teachers and school administrators, aiming to improve collaboration between teachers in Canada and Dominica. The programme also supported other initiatives, such as:

- **The Global Teenager Project**: Participation in moderated discussion forums on varied themes.
- **Small Island Voices**: Connecting students in all school levels from small islands from all over the world.
- **Young Foresight Program**: Providing an entrepreneurial view for the students through internet-based communication, targeted at the secondary level.

These programmes provided an opportunity for students to discuss current issues and topics covered from the syllabus (↑ibid.).

3.6.5. COVID-19 Response Strategy

As with other OECS Member States, all schools were shut in Dominica following the direction of the Ministry of Education, Human Resource Planning, Vocational Training and National Excellence. The Ministry has produced a resource on the psychosocial aspects of COVID-19, with some self-care resources to help parents and students deal with the effects of prolonged social distancing. The OECS COVID-19 Response Strategy also highlights the following as priority needs for Dominica:

- Support and guidance for the support team of Guidance Counsellors;
- Monitoring and evaluation of approaches;
- Provision of meals for less fortunate students;
- Ensuring digital equity (↑OECS, 2020, p.23).

4. Findings on ARPs from the literature

Having examined the context across the four states, this section turns to the literature analysis on ARPs. We first examine literature on ARPs that have been implemented around the world, before focusing on programmes specific to the Caribbean (including the four focus countries of this report). Consideration will also be given to the role of technology in delivering ARPs, before a discussion summarising the findings of the literature review and effective practices for the implementation of ARPs in Section 5.

4.1. ARPs globally[3]

Given the prospect of significant academic regression — and subsequent loss of opportunities and livelihoods — for students affected by COVID-19 (↑RISE, 2020; ↑World Bank, 2020), governments are looking to academic recovery programmes (ARPs) to provide both short-term support and longer-term development. Such programmes take many forms, with some incorporating several different interventions outlined by ↑UNHCR AEWG (2020); they may include after-hours catch up learning, non-formal education equivalency programmes, and selective remedial work.

Broad insights from around the world do show some positive signs that ARPs may be able to address the challenges now faced by students and teachers. Some highlights include:

- A well-designed ARP can have beneficial impacts on core competencies, such as reading or mathematics (↑Schwartz, 2012).
- Accelerated learning programmes targeting disadvantaged children have been shown to be effective in LMIC contexts; both for addressing periods of learning loss and for the successful integration of out-of-school children (↑Longden, 2013; ↑Bannerjee et al., 2016; ↑Gutiérrez and Rodrigo, 2014《warning:Guti%C3%A9rrez and Rodrigo, 2014》; ↑Lai et al., 2013).
- Summer and afterschool learning programmes can generate significant learning gains for disadvantaged populations, especially those using trained teachers or volunteers, structured pedagogy, enrichment experiences, and high levels of teacher-student engagement (↑McLaughlin and Pitcock, 2009).

[3] Creative Commons acknowledgement. This subsection uses some content from this publication: Upadhyay, A., Shoobridge, J., & Moss Coflan, C. (2020). *Effective use of EdTech for remedial learning programs: Considerations for Mongolia* (Helpdesk Response No. 25). EdTech Hub. Available under Creative Commons Attribution License 4.0. https://doi.org/10.5281/zenodo.3958080

- Programmes with a focus on supplementary tutoring may also help increase retention and attendance, as well as boosting completion rates (↑Battaglia and Lebedinski, 2015; ↑Ruthbah et al., 2016).
- Interventions developed to improve content that is tightly aligned around learning materials and teacher training had the largest and consistent positive effects on learning outcomes (↑Snilstveit et al., 2016).

However, when we examine the details of the evidence landscape as a whole, the evidence is more mixed. We now present a range of specific evidence on ARPs — organised by country — to illustrate the different approaches that were taken in different settings and circumstances. We have also provided each country's 2019 Human Development Index score to offer some comparability to the situation of the OECS, whose Member States have an average HDI score of 0.752 (↑UNDP, 2019).

4.1.1. Australia (0.938): Combined effort of policies and programmes

In a study of three primary schools working to improve learning outcomes in children from economically disadvantaged backgrounds, ↑Hatton et al. (1996) found that only a combined effort of policies and programmes — involving fostering positive relations with the community, provision of specialist catch-up literacy sessions and staff in addition to the curriculum, and not focusing simply on one-to-one tuition — actually resulted in enhanced learning outcomes.

4.1.2. Egypt (0.700) and Jordan (0.723): Early Grade Reading Programme

↑Gove et al. (2017) examined the implementation of the Early Grade Reading Programme, developed in Egypt and later adapted for use in Jordan. The programme employed

> *"explicit strategies for learning, vocabulary, and comprehension development; highly structured lesson plans; varied student reading materials and extended opportunities for students' reading practice; and continuous assessment of student performance to inform subsequent teaching and learning"* (↑ibid., pp.101-102).

Training and hard- and soft-copy materials were distributed through a cascade model from a central project base down through government levels to local schools. In Jordan, the programme was adapted to also deliver mathematics skills, and to be delivered as remedial support to students identified via a developed diagnostic tool. In Egypt, children in treatment schools were twice as likely to meet national benchmarks for reading and oral fluency, and four times more likely to meet benchmarks for mathematics than students in control schools. In Jordan too, treatment groups showed significant improvement in scores (9-15%) over control groups.

4.1.3. Hungary (0.845): *Tanoda* remedial education

↑Inántsy Pap and Morvai (2015)«warning:In%C3%A1ntsy Pap and Morvai (2015)» examined a *tanoda* ('study hall') remedial education programme run by the Greek Orthodox Church, taking a multi-skill holistic approach to learning (Hungarian, English, mathematics, identity development, and self-knowledge development). Attendance at the *tanoda* was limited to encourage child self-study. While the study provided little in the way of quantitative evidence of improved formal learning outcomes, qualitative data indicated improved outcomes in the areas of social learning, self-confidence, and mental wellbeing.

4.1.4. India (0.647): The Balshaki and CAL Programmes

↑Bannerjee et al. (2005) examined the performance of two concurrent experimental programmes conducted over two years among primary school students:

- **Balsakhi Program.** Young women from the community who had completed secondary school ('balsakhi') were hired as instructors to small classes of children falling behind the standard curriculum. Remedial tuition was provided for 50% of the school day, focusing on core competencies of numeracy and literacy. Test scores in schools participating in the programme improved by 0.14 standard deviations in the first year, and 0.28 in the second year, with a cost of $2 per child per year. Children directly affected by the programme were estimated to have improved test scores by up to 0.6 standard deviations. The programme also reduced the pupil-teacher ratio in regular classes, removing pressure from teachers to provide remedial education to struggling students.
- **Computer-Assisted Learning programme (CAL).** Using a more resource-intensive approach, the programme involved the development of gamified educational tasks and work materials, designed to encourage independent learning and development in numeracy competencies. Tests found mathematics scores in participating students increased by 0.36 standard deviations in the first year, and 0.54 in the second year.

4.1.5. Iraq (0.689): Remedial Education Programme

↑Bilagher and Kaushik (2020) gathered lessons learned from the implementation of a remedial education programme (ALP) developed by UNICEF and operated from 2005 onwards. Targeting children aged 12-18 years, the programme condensed the six-year primary school cycle into three years. After completion, students could enrol in secondary school or TVET programmes. The ALP equipped students with the basic literacy and numeracy skills required to continue education. The programme was judged to be very successful as 90% of the candidates subsequently enrolled in either secondary education or were engaged in an apprenticeship.

4.1.6. Sierra Leone (0.438): Accelerated Education Programme

As one of the countries worst affected by the 2014 West African Ebola virus epidemic, Sierra Leone provides a useful example for academic recovery approaches to epidemiological threats. An Accelerated Education Programme (AEP) implemented by Save the Children delivered support to around 720 students through specialised AEP centres, rather than existing schools. By comparison to other programmes, this broad recovery programme — based on Sierra Leone's Ebola curriculum — covered a number of subjects (Literacy, Mathematics, Science, and Social Studies). ↑Boisvert (2017) assessment of the programme focused around its adherence to the Accelerated Education Working Group 10 Principles (see below), but nonetheless found some improvements in learning outcomes. However, challenges highlighted involved the training of teachers in accelerated education pedagogy, availability of resources, and clashes in alignment with formal school schedules and a national school feeding programme.

4.1.7. South Africa (0.705): Literacy interventions and mediated learning

↑Pretorius (2014) shared five key conditions for successful literacy interventions from a catch-up programme for Grade 4 students in a high-poverty township primary school:

- The teaching of phonics needs to be systematic and accompanied by the development of meaning-making skills.
- Children need easy access to books, both in classrooms and at home.
- Effort needs to be made to cultivate a culture of reading which fosters children's motivation to read on a daily basis.
- In addition, children need to be given opportunities to read, both in and outside of the classroom.
- Teachers need to understand the different components of reading and how they develop. They need to be able to identify where problems in reading exist and take appropriate action to remedy them.

Pretorius also espouses the value of intervention at a younger age, including attending preschools.

↑Amod et al. (2018) assessed an intervention programme at a private remedial school for Grade 4 and 5 students, using a Mediated Learning Experience (MLE) model. Results indicated a significant improvement in Cognitive Assessment System (CAS) scores in the treatment group compared to the control group. The study indicated the effectiveness of the MLE model and the importance of CAS in accurately assessing intervention impact.

4.1.8. Spain (0.893): Paired tutoring and family support

↑Blanch et al. (2013) reviewed a voluntary programme to improve reading comprehension, using paired tutoring and additional family support. They concluded that

> *"Although all the children participating in the programme improved their reading comprehension, regardless of their role (tutor or tutee) or having family support or not, the results suggest that family involvement is the variable which explains best the improvement in reading comprehension, therefore, it is the key influencing factor"* (↑ibid., p.115).

However, the study sampling was self-selective, and it was noted that children participating in the programme were less in need of academic support than other children. Similar programmes should focus more on outreach to children in greater need of support.

4.1.9. Turkey (0.739): Catch-up Education Programme

↑Börkan et al. (2015) evaluated the Catch-up Education Programme (2008-2013), implemented between the Ministry of National Education (MoNE) and UNICEF Turkey. A multi-level programme for children between the ages of 10 and 14, eventually allowing children to earn an elementary school certificate, the programme targeted three groups: those who had never attended elementary school, those who had dropped out, and those who are more than three years behind their peers in educational progress. Key findings included a notable reduction in stigma for participating children (rather than being held back in classes with much younger children), and the building of positive engagement with parents and caregivers, along with reported increases in feelings. However, a number of significant challenges included:

- Identifying and reaching the target population due to incomplete or inaccessible EMIS data;
- The duration of the CEP programme was not long enough to bring students' skills up to par with same-aged peers;
- Pupil absenteeism;
- Lack of programme resources; and
- Insufficient capability to implement the programme, particularly in MoNE at a local level.

While the programme reached 20,000 children, Börkan and colleagues conclude that it failed to meet its goals:

> *"the benefits fall short of the intent [, ….] somewhat thwarted by the urgency of the problems it aimed to solve and the diversity of the children it aimed to serve"*(↑ibid., n.p.).

4.1.10. United Kingdom (0.920): Differing evidence from a range of approaches

In undertaking a review of the 2012 Department for Education's Summer Schools Programme for disadvantaged primary students, ↑Day et al. (2013) assert that an effective student support programme (delivered as a summer school) should have the following characteristics:

- Measurable criteria to track the impact and progress of the programme;
- Participatory design process where all major stakeholders are involved;
- Appropriate timing and duration of the programme relative to the local context;
- Inclusivity and encourage disadvantaged people to attend.

Between 2012 and 2014, the Education Endowment Foundation funded and evaluated 24 pilot programmes focusing on literacy catch-up and the transition from primary to secondary school, most delivered during the school year. ↑Higgins et al. (2014) shares evidence from across these evaluations:

- An effective catch-up strategy is *"likely to require a combination of interventions over a number of years"* (↑ibid., p.8).
- One-to-one tuition approaches were found to have the greatest impact in terms of reading level catch-up (around five months). However, small group tuition approaches were found to have an almost comparable impact (four months' catch-up) with significant reductions in cost. By comparison, summer school approaches incurred very high cost, with a much smaller improvement in reading level.
- On-going evaluation is essential for all approaches: *"Not every approach will work with every child. Schools should evaluate to identify whether an approach is working and how it might be improved in the future."* (↑ibid.)
- Where evidence around approaches was considered weaker, this was frequently due to attrition from pilot programmes or programmes not being implemented fully in the way they had been designed to be implemented.

↑Biggart e al. (2015) assessed Quest, one of the 24 EEF literacy programmes. While results were inconclusive as to the impact on children's reading comprehension, teachers criticised the programme for being overly prescriptive, overly ambitious in the amount of content to be covered per lesson, and lacking in sufficient writing opportunities for children.

↑Siddiqui et al. (2016) found an effect size of +0.24 among UK primary students using Accelerated Reader, an online programme developed to improve reading ability, helping schools to track children's reading progress and teachers to provide children with ability-appropriate reading materials. This effect increased to +0.38 in those pupils eligible for free school meals (i.e. from socioeconomically disadvantaged backgrounds). Also notable was the average calculated cost, which was determined to be just £9 per student per year for participating schools.

4.1.11. United States (0.920): Accelerated Reader (AR) , Response to Intervention (RTI), and charter schools

An assessment by ↑Thompson (2008) into the use of the Accelerated Reader programme found that, when used at the high school level, AR reduced reading motivation and resulted in an increased level of cheating in required tests, due to a lack of flexibility and failure to build student considerations into the programme design.

↑Friedman (2010), in assessing the use of Response to Intervention (RTI) methodology to provide 'secondary prevention' support to students struggling with standard curricular progress in the classroom, in small-group settings. Friedman identifies four main challenges to the RTI model:

- **Capacity**. Ensuring that teachers are supported by a nested professional development structure;
- **Communication.** Keeping parents informed to increase engagement and support;
- **Consistency.** Ensuring that the treatment model is adhered to with fidelity; providing adequate oversight and supervision to those implementing it;
- **Cost.** Ensuring adequate resources are available throughout the life of the programme.

↑Iachini et al. (2013), studied academic engagement in a dropout recovery charter school for students aged 16-21 years. They found that individualisation of learning, and an accommodating school structure and school climate were key factors behind improved academic engagement. These were reinforced by the support of key adult figures to provide access to individualised learning opportunities.

4.1.12. Zimbabwe (0.563): The need for individualisation

↑Ndebele (2014) found that a remedial education programme addressing poor performance in English language skills in primary schools showed little effectiveness. Students were removed from a portion of regular classes to attend the programme, which was not adapted to meet their individual learning needs, and only 15% of students participating graduated from the programme. The authors note that

> *"The major conclusion from the study as evidenced by the poor graduation from the remedial programme is that generic external interventions outside the classroom context where the pupils are ordinarily learning do not necessarily lead to improved performance"* (↑ibid., p.506).

4.2. ARPs in the Caribbean

Moving from the global perspective to the Caribbean, we now focus on ARPs implemented in Caribbean countries; in particular, we consider the OECS Member States and the four focus countries of Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines. We note that some evidence from the UK may be of relevance as several OECS Member States — including Grenada, Saint Lucia, and Saint Vincent and the Grenadines — have education systems structured similarly to that of the UK.

4.2.1. Key insights: ↑Knight and Robinson (2016)

Overall, our rapid review did not uncover a large amount of evidence from the Caribbean region surrounding the implementation or efficacy of ARPs. A key report by ↑Knight and Robinson (2016) examined the state of student support provision in OECS Member States, considering a multitude of support factors including access to remedial programming; financial support with materials, food, and transport; second-chance programmes for out-of-school youth; and support for students with special educational needs.

At the primary level, there is a large variation in the percentage of pupils enrolled in public schools between member states: rates range from as low as 48% up to 91% (↑ibid.). Nonetheless, *"[t]he government is the main provider of student support services"* (↑ibid., p.9), and support provided varies in limits of availability, depending on the support type. After-school programmes are largely limited in their capacity and are normally limited to extracurricular activities, coordinated either by teachers or community volunteers. They note that

> *"[with] the exception of Dominica, Grenada and Montserrat, Learning Support services are also limited across Member States. In some member states such as Anguilla, St. Kitts and Nevis, and Montserrat learning support services are also provided through either one, or a combination of the following structures: pupil support units, teaching assistants, pupil assistants, at least one speech therapist, an ESL teacher, and remedial reading teachers"* (↑ibid.).

The level of technological support also varies between member states. As of 2016, Saint Vincent and the Grenadines is notably the only member state which provides personal computers for educational purposes to primary-level students.

At the secondary level, enrolment in public schools is much higher, ranging from 70% to 100% (↑ibid.). Support provision in the form of second-chance education programmes,

learning support, special needs support, and personal computers are generally much better, but non-curricular support (such as books, meals, and after-school programmes) are limited.

Overall, the following types of programmes are discussed.

- **Second-chance education programmes.** Available in Antigua and Barbuda, the British Virgin Islands, Grenada, Saint Kitts and Nevis, and Saint Lucia.
- **Learning support.** Existing support is limited, covering English, Reading, and Mathematics. Some states — Anguilla, Montserrat, and Saint Vincent and the Grenadines — have a Pupil Referral/Support Unit, which provides teaching support, behavioural support, and social education support, but *"most countries have no structural learning support systems in place"* (↑Ibid., p.12).
- **Textbook support.** Only available in three Member States (Antigua and Barbuda, Saint Kitts and Nevis, and Saint Vincent and the Grenadines).
- **Support outside the schooling system.** Some states offer curricular support outside the public school system. Saint Lucia has a National Enrichment and Learning Programme (NELP), with specialised centres offering remedial support towards CXC examinations.

A number of challenges are identified with student support provision in the OECS, including limited resources in terms of capacity and funds across the support spectrum, and in particular a

> *"lack of coordination among the wide variety of student support service providers which contributes to inefficiencies and gaps in overall support provided to students"* (↑ibid., p.15).

Knight and Robinson propose an 'Integrated Student Support' model, a school-based approach to student support *"developing or securing and coordinating supports that target academic and non-academic barriers to achievement"* (↑ibid.).

4.2.2. Further insights

Evidence around ARPs in the Caribbean region was sparse, but a number of key studies and programmes are identified below.

Review of a remedial paired reading programme (Antigua and Barbuda)

↑Warrington and George (2014), in a review of a remedial paired reading programme for Grade 3 and 5 students in primary schools in Antigua and Barbuda, found — despite constraints in under-resourced schools — increases in student confidence, reading ability, and intrinsic motivation.

Therapeutic interventions in secondary schools (Trinidad and Tobago)

↑Henry-Legall (2012) examined the use of 'therapeutic intervention' in secondary schools in Trinidad and Tobago, in which the

> *"[teacher as] therapist works to improve attendance and to enhance academic performance, problem solving, conflict resolution, and anger management skills. The primary emphasis [...] is collaboration, as a team, with the family, school, and community"* (↑ibid., p.114).

When implemented effectively, therapeutic interventions were found to have effects on both teacher performance and student achievement, notably in English and mathematics in Forms 1, 3, and 5, as well as being helpful in teaching children with learning disabilities. The study recommended the development of an in-service programme to train teachers in educational therapy.

Teacher professional development programme (Dominica, Saint Lucia, Saint Vincent and the Grenadines)

↑Buckley (1992) reported on a teacher professional development programme delivered using distance learning in Dominica, Saint Lucia, and Saint Vincent and the Grenadines. Midline findings included a good level of engagement with the programme, moves towards learner-centred approaches, and increased interest in planning and objective-based performance evaluation

Blended learning programme for teachers (Saint Vincent and the Grenadines)

↑Davies and Lee (2010), working for the University of the West of England, assisted the Ministry of Education in Saint Vincent and the Grenadines to implement a two-year blended learning programme for the in-service development of all teachers. Focussing on leadership, management and pedagogical reform, the programme delivered 60% online and the other 40% through face-to-face workshops. Monthly meetings were also held with the programme director to gather participant feedback. Some computer laboratories were made available for the face-face tutorial sessions, and the Ministry of Education encouraged students who didn't have computers to purchase them. There are no conclusive studies available on the impact of this programme.

The Accelerated Reader programme

↑Foster and Foster (2014) determined that, using the Accelerated Reader programme,

> *"it takes about 800 hours of time each year for students in grade 3 through grade 12 to achieve a year of [reading] growth"*

in students in an unnamed American school in the Caribbean (↑ibid., p.529). This constituted a significant time investment required by students, but Foster and Foster also found that AR was responsible for 20% of a given grade's reading growth.

The Early Learners Programme

The recently-concluded Early Learners Programme (2015-2020), implemented by USAID and OECS, focused on the development of reading skills among children in Grades K-3 across six OECS Member States. The programme used a multi-strand approach, covering teacher training and TPD, TLM and curriculum development, language of instruction, data gathering and use, and school management and planning. Midline results indicate that over 1,500 teachers and over 17,000 students were supported by the programme,

as well as the award of development grants to primary schools (↑OECS, n.d.).

OECS Education Sector Response and Recovery Strategies

The OECS Education Sector Response and Recovery Strategies to COVID-19 highlights a number of initiatives which draw on previous programmes including those developed in relation to hurricane responses. Action focuses on four pillars of response:

1. Harmonization of policy response amongst Member States
2. Transition to a Digital Education System
3. Strengthening safety nets for students and ensuring student wellbeing both in and out of school
4. Promoting parental engagement

Shoring up Mental and Psychosocial Support to Affected Populations During the Covid-19 Pandemic: Barbados and the East Caribbean Countries. Delivered by the Pan American Health Organisation (PAHO) and UNICEF, the programme aims to help national systems to provide psychosocial and mental health support options to targeted populations to cope with the effects of pandemic measures such as social distancing. The aim is to deliver these options in

> *"virtual, innovative and participatory ways that respect the principle of social distancing and maintain the privacy and dignity of women and men, girls and boys."* (↑OECS, 2020, p.15)

In coordination with this, the UNICEF **'Return to Happiness'** programme (for psychosocial support to children affected by Hurricanes Irma and Maria in 2017) will also be adapted for children affected by COVID-19, including a module on responding to disease outbreaks.

CARICOM/IIEP/CDB Framework

Another regional strategy produced in 2020 is a framework for reopening schools, developed jointly between the Caribbean Community, the UNESCO International Institute for Educational Planning, and the Caribbean Development Bank. The framework breaks down responses into three levels (planning and policy level, community level, and school level). This multi-pronged approach to mitigating against learning loss relies both on increasing teacher competencies - especially around students with special educational needs - and on accurate assessment of needs (↑UNESCO, 2020).

Supporting teachers to deliver distance learning

↑James (2020) also focuses on principles for supporting teachers in the Caribbean region to deliver distance learning and facilitate the return to schools:

- **Communicate**. Changes clearly and compassionately with teachers and consistently provide updates;
- **Competence**. provide professional learning and resources for teachers to gain the confidence and ability to work in the online environment;
- **Create**. A fail safe and empowering environment for teachers to learn new skills;

- **Collaborate**. With all stakeholders (parents, students, community) to build leadership capacity and commitment to change;
- **Collegiality**. Connect teachers to various networks (social, educational, cultural…) to maintain well-being and create an internal community of support;
- **Continuous monitoring and evaluation**. To reflect on how the initiative is working, what gaps need to be filled and what needs to change;
- **Continuous feedback**. To know how teachers are coping and to let them know how they are doing.

(list source: ↑ibid., n.p.).

4.3. Technology-based components

Technology has featured strongly in proposed educational responses to the problems posed by the COVID-19 pandemic. While there is no doubt that technology can make significant contributions to support learning (↑Education Endowment Foundation, 2018), in many circumstances the utilisation of technology has to be very carefully considered and planned (see ↑Haßler et al., 2020, and references therein). Clearly it is important to assess what devices and infrastructure is available in OECS states (↑ibid.), as this forms a basis for drawing on technology-based components that can feature in the Academic Recovery Programme. We note that small-island states have a competitive advantage in some areas, as the total number of children, and therefore the total cost of technology, is smaller when compared to countries several orders of magnitude larger.

Where ARPs use technology, they tend to focus on the use of computer-assisted learning via tablets, desktop or laptop computers. Computer-assisted learning typically relies on digital instruction, interactive exercises, simulations and instructional games (↑Gambari et al., 2016; ↑Lai et al., 2013; ↑Lai et al., 2015). According to a rigorous literature review (↑Tauson and Stannard, 2018),

> *"there is evidence to suggest that EdTech can be used alongside accelerated learning programmes, providing opportunities for children to catch up and get back in to public schools, or for out of school over-age children to complete a primary education in half the time"* (↑ibid., p.54).

In this context, EdTech can be supportive not just to children and youth as learners, but to teachers, parents, and caregivers as facilitators of learning (↑Damani, 2020).

Damani (↑ibid.), in a review of EdTech as a tool for supporting accelerated learning initiatives, proffers tempered support for the use of EdTech, but cautions against seeing it as a panacea:

> *"[A] specific, one-size-fits-all, prescription to an accelerated learning programme in response to COVID-19 learning loss cannot be provided. It is up to individual education providers to consider and weigh all options in light of available and*

> *sustainable resources[4] to then decide the best route forward. However, the limited evidence on accelerated learning and EdTech does suggest that implementing an EdTech-enhanced accelerated learning programme may be beneficial, and it is therefore worth considering it as an option for addressing COVID-19-related learning loss"* (↑ibid., n.p.).

This is echoed by ↑Stringer et al. (2019)'s review of EdTech as a tool to improve the quality of education more broadly. Importantly, a clear vision of how EdTech fits into overall programming is needed from the outset:

> *"Without a clear plan for support and implementation, technology is much less likely to have an impact. This includes considering what initial training will be needed, what time and resources are required, and what ongoing support should be available"* (↑ibid., p.4).

EdTech can be positively harnessed to help teachers explain and model new concepts and ideas, increase student motivation, and improve assessment and feedback mechanisms, but it needs to be coupled with other low- or no-tech forms of support. This 'multimodal approach' is advocated by ↑Leacock and Warrican (2020), who contend that the intended use of EdTech should not be as a replacement for traditional resources. The Caribbean islands are subject to a range of threats other than COVID-19, including hurricanes, which interrupt schooling and affect infrastructure (electricity supply and internet access). In the Caribbean, a multimodal approach — combining non-digital and digital approaches, including EdTech (where appropriate) — may well offer a combination that delivers greater equity to a diverse range of learners. It may also be well received by teachers (↑ibid.).

Current initiatives: GIGA

Given that any Academic Recovery Programme needs to be designed in complementarity with current initiatives, we also need to consider what technology-focussed initiatives are available. The OECS Education Sector Response and Recovery Strategy to COVID-19 proposes GIGA, a collaboration between OECS Commission and UNICEF to increase access to internet connectivity and support the transfer to a digital education system. GIGA is comprised of four key objectives:

1. Map every school's connectivity;
2. Finance connectivity;
3. Connect every school;
4. Empower young people with Digital Public Goods (↑OECS, 2020, p.11).

Progress towards these goals is already being made across the Caribbean. In Saint Lucia, the government allocated XCD 2.4 million for a pilot in 13 secondary schools, focusing on e-books and software licenses, while Grenada and St Vincent have taken steps towards

[4] These options include condensing the curriculum, providing relevant paper-based teaching and learning materials, teacher professional development, and parent/community engagement initiatives.

procuring devices for students (↑ibid., pp.12-13). In Barbados, collaborations with internet service providers have allowed for zero-rating of web content and free access to e-learning platforms for 35,000 students, as well as corporate partnerships to provide children with access to a G-Suite for Education Tech Drive platform (↑Rudder, 2020).

However, many forms of EdTech, including some forms of personalised learning, require a high ratio of devices to learners and therefore have associated costs. Among the technologies available for use in LMICs, television and radio (particularly interactive audio instruction) are recognised as cost-effective primarily because they can be used at scale: increasing the extent to which a programme responds to individual learner needs increases the cost (↑McBurnie, 2020). Indeed, at the time of writing (January 2021), the BBC had just announced that is putting school materials on TV, due to concerns of access to devices (↑BBC, 2021). However, whatever approach is taken has to be rooted in local realities — otherwise it is not likely to succeed.

5. Synthesis of findings from the literature review

Some of the available evidence covered in our review was produced prior to the COVID-19 pandemic, so naturally, there is a larger focus on learning with face-to-face teacher support, or, on occasion, blended learning. As we have seen, there are fewer studies on how technology can enhance learning at a distance for primary and secondary education; however, the studies that do exist also emphasise the need for face-to-face support. Overall the evidence-base allows us to extract a number of relevant lessons.

5.1. Face-to-face learning in a shared space is critical

A common factor linking almost all literature on ARPs is on their inclusion of a physical space shared between learners (in scenarios of peer-to-peer tutoring) and between learners and teachers. Many programmes are structured around the school — or a substitute space such as a remedial learning centre — as a physical space where catch-up or remedial support is offered; such spaces combine existing learning infrastructure with tailored resources for teachers and students. Where recovery programmes are delivered at a distance, it is recognised that technology does not replace direct teacher-student interaction; such programmes frequently come with their own unique challenges (↑Damani, 2020; ↑Leacock and Warrican, 2020; ↑Stringer et al., 2019). However, it is not only adults whose presence can be useful: siblings and fellow pupils can be an effective presence in increasing competence and confidence (↑Blanch et al., 2013; ↑Warrington and George, 2014). Similarly, it is reasonable to assume that parents have an important role to play.

5.2. Recruit and train the instructors

Regardless of the medium of delivery of the ARP, teachers and instructors need to be supported. They need to be trained on new pedagogical tools to deliver the national curriculum, and they need to have an understanding of the features of the ARP and provide ongoing support to apply evidence-based strategies to help low performers: failure to do this can risk challenges or failure of the programme (↑Allier-Gagneur et al., 2020; ↑Boisvert, 2017). Providing additional training to teachers in behaviour management — and social, emotional and mental health — can have a direct effect on improving learning outcomes (↑Henry-Legall, 2012). Crucially, providing a collegial working environment and continuous feedback to teachers on their performance is key to building teacher capacity and ensuring teacher wellbeing, particularly when delivering

distance learning (↑James, 2020). In order to motivate instructors, consider using monetary and non-monetary incentives (↑Börkan et al., 2015)

5.3. Design a comprehensive diagnostic assessment tool

A comprehensive diagnostic assessment tool helps teachers and policymakers identify students who need remedial education; it also identifies the various ways through which the programme will be delivered to them. A comprehensive diagnostic assessment tool should have the following elements (↑Day et al., 2013; ↑Siddiqui et al., 2016; ↑Boisvert, 2017):

1. A teacher training kit for teachers and school administrators on diagnostic assessments;
2. Guidelines on how to evaluate the special needs of students. ↑Knight and Robinson (2016) outline seven variables that help to identify at-risk students:
    - Basic demographic characteristics
    - Family and personal background characteristics
    - Parental perception and expectations of students' education
    - The students' academic history
    - Students' behavioural factors
    - Teacher and school perceptions of the student
    - The characteristics of the students' school. (↑Ibid., p.5)
3. An assessment of student readiness for the ARP; and
4. A disability assessment kit.

5.4. Use data to make decisions and track outcomes

Responses and decision making should be based on the best available data, and data collection is essential for monitoring and impact assessment (↑Haßler et al., 2020). Data will also be useful beyond the life of the programme, feeding into higher-level EMIS systems, which in turn should be used to identify and target vulnerable populations (↑Börkan et al., 2015; ↑Haßler et al., 2020).

Consider putting in place assessments to track the progress of students throughout the duration of the programme. In addition, frequently seek feedback from students and teachers on the progress of the programme. A comprehensive monitoring and evaluation strategy can ensure that there is evidence to continue the implementation of the programme and make changes where necessary (↑Day et al., 2013). In the absence of clearly defined measurable criteria, it is impossible to track and assess the progress or

the effectiveness of the programme. Attention should also be paid to how feedback is given to students: particularly with respect to technology-mediated education, feedback is most beneficial when aligned with other forms of feedback (↑Stringer et al., 2019).

5.5. Consider small scale pilot experimentation before scaling the ARP

Prior to nationwide or regional implementation, small scale experiments and trials should be carried out locally in each of the focus countries.

> *"Pilot implementation would help identify any deficiencies in design or implementation strategy and reveal any problems that might occur on a larger scale. Evaluation of the pilot implementation would lead to identifying the modifications to be made and the precautions to be taken before nationwide implementation"* (↑Börkan et al., 2015, p.19《warning:B%C3%B6rkan et al., 2015, p.19》).

5.6. Targeting and raising awareness

A major concern with ARPs is that they do not reach the people they are designed to benefit. The solution to this comprises two parts: knowing who to target, and then employing the right engagement strategy.

Ensuring that the programme effectively reaches its intended beneficiaries requires having accurate and up-to-date data on target populations, ideally collected through effective national assessments and diagnostic tests, and made available through national/regional services (e.g., an EMIS). Incomplete or inaccessible data can lead to mistargeting and exclude vulnerable groups most in need of help (↑ibid.).

Awareness raising should involve collaboration with all the major stakeholders involved to ensure that the designated beneficiaries have access to the programmes. Engagement strategies should ensure beneficiaries know how and when to access the programme. Parents and the community play a very important role in facilitating this process as they are in a better position to encourage their children to attend and provide some of the resources required to participate in the programme (↑Friedman, 2010; ↑Hatton et al., 1996).

5.7. Make the process participatory

In this section we consider a number of important factors that make the implementation of ARPs more participatory; this ensures that the ARP responds to the needs of various stakeholders and therefore has a greater chance of success.

5.7.1. Get teachers involved in the design process

A programme is only going to be successful if teachers buy into the programme and are actively involved in the design (↑Biggart et al., 2015). Regardless of whether or not teachers will be delivering the programme, they need to be involved in the design process(↑Haßler et al., 2020). This facilitates precise and iterative implementation of the ARP. Teachers, therefore, have a crucial role to play in the planning, delivery and monitoring stages. Similarly, other school-based stakeholders, such as head-teachers or school management groups, need to be involved.

5.7.2. Get parents involved

Parents are usually the primary caregivers for children; therefore they should be involved in the planning, implementation and monitoring stages of the ARP (↑Inántsy Pap and Morvai, 2015(warning:In%C3%A1ntsy Pap and Morvai, 2015); ↑Haßler et al., 2020; ↑Bilagher and Kaushik, 2020). Family involvement is pivotal to ensuring that some of the ARP outcomes are achieved (↑Friedman, 2010). Families can provide support which can contribute to increased learning outcomes (↑Blanch et al., 2013). When parents buy into the programme, they are more likely to let their children participate.

5.7.3. Listen to students

The students are the ultimate beneficiaries. It is, therefore, important to include them in the programme design process to ensure that their needs are met (↑Haßler et al., 2020). Where students feel like the programme is being forced on them and is a generic one that is not adapted to their learning needs, they are less likely to participate, and in some cases, they may derail the programme (↑Munn and Ellis, 2005; ↑Ndebele, 2014; ↑Thompson, 2008). Involving students in the design process will ensure flexibility and increase student attendance and participation.

5.7.4. Include disadvantaged groups and disabled students

A common criticism for most ARPs, especially in the context of COVID-19, is that the needs of disabled students have not been taken into consideration. There have been calls for special and inclusive education courses to become core curricula for pre-service teachers, and included in the topics for on-going professional development courses for teachers and principals. This is yet to be systematically done in the OECS and continues to act as a barrier to the successful inclusion of learners with special education needs (↑Hodge, 2017). Teacher professional development curriculum policy should therefore emphasise identification of 'silently excluded' children — from low-income and marginalised communities — and promote inclusive instructional strategies such as those used in accelerated learning programmes (↑Akyeampong, 2020).

5.7.5. Work with partners and contractors

Working with partner organisations can bring a fresh perspective and secure access to specialist external resources, such as arts, culture, or leisure facilities, including multimedia and ICT equipment (↑Day et al., 2013). Consider working with private sector organisations that have a proven track record of delivering reliable educational and logistical services. This can be key in providing internet access and zero-rating content to support distance learning (↑Rudder, 2020).

5.8. Be flexible and consider students' livelihoods

The programme should be flexible enough to accommodate for differences in students' home lives — an accommodating school structure can be particularly supportive to students struggling in education (↑Iachini et al., 2013; ↑Boisvert, 2017). This is particularly relevant in the OECS region, where male participation and completion rates in secondary school are relatively low because they sometimes choose to start working (↑OECS, 2016). A flexible ARP may enable access to education for those who are not available during the usual schooling hours.

5.9. Evolve pedagogical approaches

Ultimately, any ARP should aim to improve students' learning outcomes in a system that may not have been optimal for students previously or a system that might have been interrupted by a pandemic or natural disaster. Previous methods may not have been optimal in itself, and now face additional challenges. The most promising approach is to really look at what has a chance of being effective and support students as best as possible. It is therefore important to take the most effective existing approaches and augment with other new Computer Assisted Learning, personalised instruction, or mediated learning experiences (↑Amod et al., 2018). Teacher professional development programmes should equally focus on inclusive pedagogical practices in order to learn how to identify and manage low-achieving students (↑Akyeampong, 2020). It is also important to look at non-traditional grading methods such as Cognitive Assessment Learning System. These methods may help identify some learning disabilities that traditional testing methods may fail to detect (↑Amod et al., 2018).

EdTech has a role to play, but should be utilised in a planned manner, and should not be seen as a cure-all replacement for lower-tech solutions or for teachers themselves (↑Damani, 2020; ↑Stringer et al., 2019). EdTech is best used as part of a multimodal approach in combination with traditional resources (↑Leacock and Warrican, 2020).

5.10. Value for money

The programme must reach all students who need it. Scale must also be considered: approaches that may work in a limited pilot may not be sustainable when scaled to the national level, while others may grow more cost-effective with scale.

To ensure the sustainability of the programme, the cost-effectiveness of interventions needs to be taken into account. Some intervention types may produce limited learning outcomes for a very high cost, where other interventions produce a greater effect for a much lower price per student (↑Higgins et al., 2014). In other words, the programme must be cost-effective in relation to the expected learning outcomes.[5]

5.11. Ensure students have the resources needed to participate

ARPs typically incur direct and indirect costs. Even in scenarios where the actual programmes are free, parents still have to worry about costs like transportation, internet connectivity, digital devices, electricity etc. In some cases where parents might not be able to afford these, their children risk not partaking in the programme, and these are usually the children who need it the most. It is therefore important for children to have easy access to the necessary resources to gain from the programme. This is particularly important for skills such as literacy, gains in which require regular reading and age-appropriate books (↑Pretorius, 2014). It is equally highly recommended that the Ministry of Education make a special allocation of funds to target children from low-income households and low-resourced schools (↑Ndebele, 2014).

5.12. Ensure class sizes are small

Class size is an important crucial factor in the success of remedial education programmes. Reducing class size to 15 students or less can potentially result in around three months' additional progress for pupils, on average (↑Education Endowment Foundation, 2018). Therefore, where cost-effective in comparison to other interventions, students benefit from classes of around 15 students or less. Furthermore, it may be helpful to group students that have similar needs so that they can be supported by a teacher (↑Bannerjee et al., 2005). One-to-one tuition approaches are also highly effective in boosting learning outcomes in individual students but, given the available amount of teaching staff, small group tuition approaches are most effective (↑Higgins et al., 2014). Consider reducing the number of students per teacher or changing the way staff are deployed to ensure that teachers can effectively follow up on students' progress

[5] Outside the domain of ARPs, see ↑Piper et al. (2018), regarding the cost-effectiveness of combined interventions.

(↑Education Endowment Foundation, 2018). Teachers may also be willing to change the way they teach when dealing with smaller groups of students (↑Bannerjee et al., 2005). However, it may also be helpful to group or pair students so that they can support each other (see Section 5.1).

6. Bibliography

This bibliography is available digitally in our evidence library at https://docs.opendeved.net/lib/DZA3GVBD

Akyeampong, K. (2020). Teaching at the Bottom of the Pyramid. *LBOP2 PRE-CONF DRAFT*. https://docs.google.com/document/u/1/d/1Y_BI6ck8TTzcMgbdrlHnnyjzGIkLuWtS1CqY2xDjRi0/edit?usp=embed_facebook. Available from https://docs.google.com/document/u/1/d/1Y_BI6ck8TTzcMgbdrlHnnyjzGIkLuWtS1CqY2xDjRi0/edit?usp=embed_facebook. (details)

Allier-Gagneur, Z., Chuang, R., McBurnie, C., & Haßler, B. (2020). *Using blended learning to support marginalised adolescent girls' education: a review of the evidence* (Helpdesk Response No. 25). EdTech Hub. https://docs.edtechhub.org/lib/H3AI5F3C. Available under Creative Commons Attribution 4.0 International. (details)

Amod, Z., Heafield, D., & Seabi, J. (2018). Assessing a Remedial Intervention Programme in Developing the Planning Skills of Grade 4 and 5 Learners. *International Journal of Disability, Development and Education*, *65*(4), 421–441. https://doi.org/10.1080/1034912X.2017.1406067. Available from https://www.researchgate.net/profile/Joseph_Seabi/publication/327727864_Assessing_a_Remedial_Intervention_Programme_in_Developing_the_Planning_Skills_of_Grade_4_and_5_Learners/links/5ba0f5b692851ca9ed12d1bc/Assessing-a-Remedial-Intervention-Programme-in-Developing-the-Planning-Skills-of-Grade-4-and-5-Learners.pdf. (details)

Angrist, N., Evans, D. K., Filmer, D., Glennerster, R., Rogers, F. H., & Sabarwal, S. (2020). *How to Improve Education Outcomes Most Efficiently? A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric* (p. 48) [Working Paper]. World Bank. http://documents1.worldbank.org/curated/en/801901603314530125/pdf/How-to-Improve-Education-Outcomes-Most-Efficiently-A-Comparison-of-150-Interventions-Using-the-New-Learning-Adjusted-Years-of-Schooling-Metric.pdf. (details)

Börkan, B., Ünlühisarcıklı, Ö., Caner, H. A., & Sart, Z. H. (2015). The Catch-up Education Programme in Turkey: Opportunities and challenges. *International Review of Education*, *61*(1), 21–41. https://doi.org/10.1007/s11159-015-9464-2. Available from http://link.springer.com/10.1007/s11159-015-9464-2. (details)

Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., & Walton, M. (2016). *Mainstreaming an Effective Intervention: Evidence from Randomized Evaluations of "Teaching at the Right Level" in India* (Working Paper No. 22746; NBER Working Paper Series). National Bureau of Economic Research. https://doi.org/10.3386/w22746. Available from http://www.nber.org/papers/w22746. (details)

Banerjee, A., Cole, S., Duflo, E., & Linden, L. L. (2005). *Remedying education: Evidence from Two randomized experiments in India* (Working Paper No. 11904). NBER. https://www.nber.org/system/files/working_papers/w11904/w11904.pdf. (details)

Battaglia, M., & Lebedinski, L. (2015). Equal Access to Education: An Evaluation of the Roma Teaching Assistant Program in Serbia. *World Development*, *76*, 62–81. https://doi.org/10.1016/j.worlddev.2015.06.009. Available from https://rua.ua.es/dspace/bitstream/10045/53045/3/2015_Battaglia_Lebedinski_WorldDevelop_preprint.pdf. (details)

Biggart, A., Sloan, S., O'Hare, L., & Miller, S. (2015). *Quest: Evaluation Report and Executive Summary*. Education Endowment Foundation. (details)

Bilagher, M., & Kaushik, A. (2020). The potential of Accelerated Learning Programmes (ALPs) for conflict-ridden countries and regions: Lessons learned from an experience in Iraq. *International Review of Education*, *66*(1), 93–113. Scopus. https://doi.org/10.1007/s11159-020-09826-1. Available from https://link.springer.com/content/pdf/10.1007/s11159-020-09826-1.pdf. (details)

Blanch, S., Duran, D., Valdebenito, V., & Flores, M. (2013). The effects and characteristics of family involvement on a peer tutoring programme to improve the reading comprehension competence. *European Journal of Psychology of Education*, *28*(1), 101–119. https://doi.org/10.1007/s10212-012-0104-y. Available from https://grupsderecerca.uab.cat/grai/sites/grupsderecerca.uab.cat.grai/files/Blanch,%20Duran,%20Valdebenito%20&%20Flores%202013.pdf. (details)

Boisvert, K. (2017). *Save the Children Sierra Leone* [Case Study Report]. UNHCR Accelerated Education Working Group. https://inee.org/system/files/resources/AEWG-Case-Study-Report-Sierra-Leone-Save-the-Children.pdf. (details)

Buckley, H. (1992). *The CTTP--An Innovative and Successful Caribbean Project Using Distance Learning*. Organisation for Co-operation in Overseas Development. https://eric.ed.gov/?id=ED392768. Available from https://eric.ed.gov/?id=ED392768. (details)

Commonwealth of Learning. (2017). *The Status of ICT in Education in Saint Lucia*. https://camdu.edu.lc/wp-content/uploads/2017/09/2017_Saint-Lucia_ICTinEDStatus_Final_Jun27.pdf. (details)

Damani, K. (2020). *Rapid Evidence Review: Accelerated Learning and EdTech*. The EdTech Hub. https://edtechhub.org/wp-content/uploads/2020/09/RER-Accelerated-Learning-and-EdTech.pdf. (details)

Davies, J. D., & Lee, J. (2010). *Starting from scratch: Critical reflections on an educational reform programme in St Vincent and the Grenadines*. https://uwe-repository.worktribe.com/output/980108. (details)

Day, L., Martin, K., Sharp, C., Gardner, R., & Barham, J. (2013). *Summer Schools Programme for Disadvantaged Pupils: Key findings for Schools Research report*. Department for Education. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/197198/DFE-RR271B.pdf. (details)

Department of Education. (2016). *Department of Education Statistical Digest*. Government of St. Lucia. http://www.govt.lc/media.govt.lc/www/resources/publications/digest-2016-electronic-version.pdf. (details)

Editorma. (2020, February 18). Government of St Lucia deprives 8,000 students 'one-laptop-per child programme.' *Caribbean News Global*. https://www.caribbeannewsglobal.com/government-of-st-lucia-deprives-8000-students-one-laptop-per-child-programme/. (details)

Education Endowment Foundation. (2018, August 29). *Reducing class size*. Education Endowment Foundation. https://educationendowmentfoundation.org.uk/pdf/generate/?u=https://educationendowmentfoundation.org.uk/pdf/toolkit/?id=144&t=Teaching%20and%20Learning%20Toolkit&e=144&s=. Available from https://educationendowmentfoundation.org.uk/pdf/generate/?u=https://educationendowmentfoundation.org.uk/pdf/toolkit/?id=144&t=Teaching%20and%20Learning%20Toolkit&e=144&s=. (details)

Foster, D. K., & Foster, D. P. (2014). Estimating Reading Growth Attributable to Accelerated Reader at One American School in the Caribbean. *Reading Psychology*, *35*(6), 529–547. https://doi.org/10.1080/02702711.2013.789764. (details)

Friedman, E. K. (2010). Secondary Prevention in an RTI Model: A Step Toward Academic Recovery. *The Reading Teacher*, *64*(3), 207–210. https://doi.org/10.1598/rt.64.3.8. Available from https://ila.onlinelibrary.wiley.com/doi/abs/10.1598/RT.64.3.8. (details)

Gaible, E. (2008). *Survey of ICT and Education in the Caribbean Volume II: Country Reports* (Volume II). https://www.infodev.org/infodev-files/resource/InfodevDocuments_600.pdf. (details)

Gaible, E. (2008). *Survey of ICT and Education in the Caribbean: A summary report, Based on 16 Country Surveys*. https://www.infodev.org/sites/default/files/resource/InfodevDocuments_585.pdf. (details)

Gambari, I. A., Gbodi, B. E., Olakanmi, E. U., & Abalaka, E. N. (2016). Promoting Intrinsic and Extrinsic Motivation among Chemistry Students using Computer-Assisted Instruction. *Contemporary Educational Technology*, *7*(1), 25–46. https://doi.org/10.30935/cedtech/6161. Available from

https://www.cedtech.net/article/promoting-intrinsic-and-extrinsic-motivation-among-chemistry-students-using-computer-assisted-6161. (details)

Gift, E. H., Curriculum, A. N., Gift, E. H., & D, P. (2003). *A Proposal for a National Curriculum Policy for the Grenada Education System*. World Bank. (details)

Gonsalves, R. (2010). *Lifting the education revolution to the next level*. Office of the Prime Minister. https://www.yumpu.com/en/document/read/35941436/lifting-the-education-revolution-to-the-next-level-ralphegonsalvesorg. (details)

Gove, A., Brombacher, A., & Ward-Brent, M. (2017). Sparking a Reading Revolution: Results of Early Literacy Interventions in Egypt and Jordan. *New Directions for Child and Adolescent Development*, *2017*(155), 97–115. https://doi.org/10.1002/cad.20194. (details)

Gutiérrez, E., & Rodrigo, R. (2014). Closing the achievement gap in mathematics: Evidence from a remedial program in Mexico City. *Latin American Economic Review*, *23*(14). https://doi.org/10.1007/s40503-014-0014-2. Available from https://link.springer.com/content/pdf/10.1007/s40503-014-0014-2.pdf. (details)

Haßler, B. (2020q). *Principles for Digital Development in Education - amendments, tenets, questions*. https://doi.org/10.5281/zenodo.4516583. Available from https://docs.opendeved.net/lib/PDXPLXA5. (details)

Haßler, B., Blower, T., Megha-Bongnkar, G., & Regis, C. (2021c). *Academic Recovery Programme: Synthesis of Qualitative Data and High-level Overview* (OECS Academic Recovery Programme Report No. 2). Open Development & Education. https://doi.org/10.5281/zenodo.4780099. Available from https://docs.opendevd.net/lib/XAMQ949U. Available under Creative Commons Attribution 4.0 International. (details)

Haßler, B., Khalayleh, A., & McBurnie, C. (2020i). *A five-part education response to the COVID-19 pandemic* (EdTech Hub Helpdesk Response No. 5). https://doi.org/10.5281/zenodo.3756012. Available under Creative Commons Attribution 4.0 International. (details)

Haßler, B., Khalayleh, A., McBurnie, C., Adam, T., & Allier-Gagneur, Z. (2020, May 11). Who has what? Assessing who has access to what devices in the education response to the COVID-19 pandemic. *Open Development & Education*. https://opendeved.net/2020/05/11/who-has-what-assessing-who-has-access-to-what-devices/. (details)

Hatton, E., Munns, G., & Dent, J. N. (1996). Teaching Children in Poverty: three Australian primary school responses. *British Journal of Sociology of Education*, *17*(1), 39–52. https://doi.org/10.1080/0142569960170103. (details)

Henry-Legall, L.-M. (2012). *Teachers' perceptions on academic recovery through educational therapy: A therapeutic intervention in three co-educational government schools in North Trinidad*. University of the West Indies. (details)

Higgins, S., Katsipataki, M., & Coleman, R. (2014). *Reading at the Transition* [Interim Evidence Brief]. Education Endowment Foundation. https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Interim_Evidence_Brief_ReadingAtTheTransition.pdf. (details)

Hodge, C. E., Bennett, C., Harrington, I., & Zafarullah, H. M. (2017). *Barriers to and facilitators of the inclusion of learners with special education needs: An appraisal of the education systems of the islands of the Eastern Caribbean*. 321. (details)

Iachini, A. L., Buettner, C., Anderson-Butcher, D., & Reno, R. (2013). Exploring Students' Perceptions of Academic Disengagement and Reengagement in a Dropout Recovery Charter School Setting. *Children & Schools*, *35*(2), 113–120. https://doi.org/10.1093/cs/cdt005. Available from https://academic.oup.com/cs/article/35/2/113/501691. (details)

Inántsy Pap, Á., & Morvai, L. (2015). "Sowing Seeds" and Its Efficiency. Case Study about the Tanoda Programme of the Greek Catholic Church in the Huszár District in Nyíregyháza (Hungary). *Acta Universitatis Sapientiae. Social Analysis*, *5*(2), 127–143. http://193.16.218.141/acta-social/C5-2/social52-02.pdf. (details)

Infrapedia. (2020). *Infrapedia App*. Infrapedia. https://www.infrapedia.com/app. (details)

James, F. (2020, June 5). *UNESCO/CARICOM Webinar Series n° 1: Supporting teachers and education personnel to ensure continuity of learning: Supporting the preparation of teachers for distance education and reopening of schools*. SDG-Education 2030 Webinar Series for Latin America and the Caribbean: Leaving no one behind in times of the COVID-19 pandemic, St. Augustine, Trinidad and Tobago. https://en.unesco.org/sites/default/files/freddy-james-university-west-indies.pdf. (details)

Kaffenberger, M., & Pritchett, L. (2020). *Failing to Plan? Estimating the Impact of Achieving Schooling Goals on Cohort Learning*. Research on Improving Systems of Education (RISE). https://doi.org/10.35489/BSG-RISE-WP_2020/038. Available from https://www.riseprogramme.org/publications/working-paper-20038-failing-plan-estimating-impact-achieving-schooling-goals-cohort. (details)

Knight, V. (2014). The Policy of Universal Secondary Education: Its Influence on Secondary Schooling in Grenada. *Research in Comparative and International Education*, *9*(1), 16–35. https://doi.org/10.2304/rcie.2014.9.1.16. (details)

Knight, V., & Robinson, S. (2016). *Student Support Services in the OECS*. The Education Development Management Unit (EDMU), OECS Commission. (details)

Lai, B. S., Esnard, A.-M., Wyczalkowski, C., Savage, R., & Shah, H. (2019). Trajectories of School Recovery After a Natural Disaster: Risk and Protective Factors. *Risk, Hazards*

& Crisis in Public Policy, *10*(1), 32–51. https://doi.org/10.1002/rhc3.12158. Available from https://onlinelibrary.wiley.com/doi/abs/10.1002/rhc3.12158. (details)

Lai, F., Luo, R., Zhang, L., Huang, X., & Rozelle, S. (2015). Does computer-assisted learning improve learning outcomes? Evidence from a randomized experiment in migrant schools in Beijing. *Economics of Education Review*, *47*, 34–48. https://doi.org/10.1016/j.econedurev.2015.03.005. Available from http://www.sciencedirect.com/science/article/pii/S027277571500045X. (details)

Lai, F., Zhang, L., Hu, X., Qu, Q., Shi, Y., Qiao, Y., Boswell, M., & Rozelle, S. (2013). Computer assisted learning as extracurricular tutor? Evidence from a randomised experiment in rural boarding schools in Shaanxi. *Journal of Development Effectiveness*, *5*(2), 208–231. https://doi.org/10.1080/19439342.2013.780089. (details)

Leacock, C. J., & Warrican, S. J. (2020). Helping teachers to respond to COVID-19 in the Eastern Caribbean: issues of readiness, equity and care. *Journal of Education for Teaching*, *0*(0), 1–10. https://doi.org/10.1080/02607476.2020.1803733. (details)

Lockdown Learning: BBC puts school materials on TV, iPlayer and online. (2021, January 10). *BBC News*. https://www.bbc.com/news/education-55591821. (details)

Longden, K. (2013). *Accelerated learning programmes: what can we learn from them about curriculum reform?* (Background Paper Prepared for the Education for All Global Monitoring Report 2013/4). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000225950. (details)

McBurnie, C. (2020). *Using Interactive Radio Instruction to mitigate the educational impact of COVID-19: a curated resource list* (EdTech Hub Helpdesk Response No. 6). https://doi.org/10.5281/zenodo.3762228. Available under Creative Commons Attribution 4.0 International. (details)

McLaughlin, B., & Pitcock, S. (2009). *Building Quality in Summer Learning Programs: Approaches and Recommendations* (p. 39). The Wallace Foundation. https://www.wallacefoundation.org/knowledge-center/Documents/Building-Quality-in-Summer-Learning-Programs.pdf. (details)

Ministry of Education. (2017). *ICT in Education Policy and Strategy for Saint Lucia 2017–2020*. https://camdu.edu.lc/wp-content/uploads/2017/09/2017_Saint-Lucia_ICTinED-Policy_FinalJune27.pdf. (details)

MoEHRD. (2016). Education Matters. *Ministry of Education and Human Resource Development - Education Matters*. http://www.education.gov.dm/images/documents/education_matters/26016_MOE_Education_Matters_2016.pdf. (details)

MoEIGRSD. (2019). *SAINT LUCIA Voluntary National Review Report on the implementation of the 2030 Agenda for Sustainable Development*. Ministry of Education, Innovation,

Gender Relations and Sustainable Development. https://sustainabledevelopment.un.org/content/documents/23570SAINT_LUCIA_VNR_REPORT_JUNE_2019.pdf. (details)

MoFPEPD. (2019). *National Sustainable Development Plan-2020-2035*. Ministry of Finance, Planning, Economic, and Physical Development. https://gov.gd/sites/default/files/docs/Documents/others/nsdp-2020-2035.pdf. (details)

Munn, P., & Ellis, S. (2005). Interactions between school systems and reading Recovery programmes – evidence from Northern Ireland. *The Curriculum Journal*, *16*(3), 341–362. https://doi.org/10.1080/09585170500256503. (details)

NEMO. (2020). *Recommendations for the safe opening of schools for the 2020-2021 school year - COVID-19 SMART*. Ministry of National Security. http://education.gov.vc/education/images/Stories/pdf/Recommendations_for_the_Opening_of_Schools_2020-2021.pdf. (details)

Ndebele, C. (2014). Teacher perceptions on the effectiveness of an English remedial teaching programme in primary schools in Zimbabwe: towards an alternative to the deficit model. *International Journal of Educational Sciences*, *6*(3), 497–508. https://www.researchgate.net/profile/Clever_Ndebele2/publication/297758207_Teacher_Perceptions_on_the_Effectiveness_of_an_English_Remedial_Teaching_Programme_in_Primary_Schools_in_Zimbabwe_Towards_an_Alternative_to_the_Deficit_Model/links/56e2df5308ae387a2483a453.pdf. (details)

OECS. (2016). *2012 to 2026 OECS Education Sector Strategy*. Organisation of Eastern Caribbean States. https://oecs.org/our-work/knowledge/library/statistics/stats-in-focus/oecs-education-strategy. (details)

OECS. (2020). *OECS Education Sector Response and Recovery Strategy to COVID-19*. Organisation of Eastern Caribbean States. https://www.oecs.org/en/our-work/knowledge/library/oecs-education-sector-response-strategy-to-covid-19/viewdocument/2115. (details)

OECS. (2020). *OECS Regional Education Statistical Digest 2017-18*. https://view.joomag.com/oecs-regional-education-statistical-digest-2017-18/0518281001572275884. (details)

OECS. (n.d.). *About OECS/USAID ELP*. OECS. https://oecs.org/elp-about. (details)

Piper, B., Simmons Zuilkowski, S., Dubeck, M., Jepkemei, E., & King, S. J. (2018). Identifying the essential ingredients to literacy and numeracy improvement: Teacher professional development and coaching, student textbooks, and structured teachers' guides. *World Development*, *106*, 324–336. https://doi.org/10.1016/j.worlddev.2018.01.018. Available from https://linkinghub.elsevier.com/retrieve/pii/S0305750X18300287. (details)

Pretorius, E. J. (2014). Supporting transition or playing catch-up in Grade 4? Implications for standards in education and training. *Perspectives in Education*, *32*(1), 47–72. http://journals.ufs.ac.za/index.php/pie/article/download/1844/1822. (details)

RISE. (2020). *Data Visualisations: Estimating COVID-19 related learning losses and effects of mitigation | RISE Programme* [Text]. RISE Programme. https://riseprogramme.org/tools/simulating-learning. (details)

Rudder, R. (2020, June 5). *Policy Implications for Teaching during the Health Emergency*. SDG-Education 2030 Webinar Series for Latin America and the Caribbean: Leaving no one behind in times of the COVID-19 pandemic, Bridgetown. https://en.unesco.org/sites/default/files/roderick-ruder-ministry-education-barbados.pdf. (details)

Ruthbah, U., Rabbani, A., Hossain, S., & Sarwar, G. (2016). Do extra hours of tutoring payoff? Evaluation of a community education programme in Bangladesh. *Journal of Development Effectiveness*, *8*(2), 196–215. https://doi.org/10.1080/19439342.2015.1111922. Available from https://www.tandfonline.com/doi/full/10.1080/19439342.2015.1111922. (details)

Schwartz, A. C. (2012). *Remedial Education Programs to Accelerate Learning for All*. Global Partnership for Education. https://doi.org/10.1596/26824. Available from http://elibrary.worldbank.org/doi/book/10.1596/26824. (details)

Serrant, T. D. (2014). *Children, Learning and Chronic Natural Disasters: How Does the Government of Dominica Address Education During Low-Intensity Hurricanes?* [University of Pittsburgh ETD]. http://d-scholarship.pitt.edu/20340/. (details)

Sheldon, A. L. (2020). *Saint Lucia* [Text]. Stateuniversity.Com. https://education.stateuniversity.com/pages/1294/Saint-Lucia.html. (details)

Siddiqui, N., Gorard, S., & See, B. H. (2016). Accelerated Reader as a Literacy Catch-Up Intervention during Primary to Secondary School Transition Phase. *Educational Review*, *68*(2), 139–154. https://doi.org/10.1080/00131911.2015.1067883. Available from https://dro.dur.ac.uk/16393/1/16393.pdf. (details)

Snilstveit, B., Stevenson, J., Menon, R., Phillips, D., Gallagher, E., Geleen, M., Maxwell Stamp, Jobse, H., Schmidt, T., Jimenez, E., Maxwell Stamp, Jobse, H., Independent Consultant, Schmidt, T., Independent Consultant, Jimenez, E., & International Initiative for Impact Evaluation (3ie). (2016). *The impact of education programmes on learning and school participation in low- and middle-income countries*. International Initiative for Impact Evaluation (3ie). https://doi.org/10.23846/SRS007. Available from http://3ieimpact.org/evidence-hub/publications/systematic-reviews/interventions-improving-learning-outcomes-and-access. (details)

Stringer, E., Lewin, C., & Coleman, R. (2019). *Using digital technology to improve learning* [Guidance Report]. Education Endowment Foundation.

https://educationendowmentfoundation.org.uk/public/files/Publications/digitalTech/EEF_Digital_Technology_Guidance_Report.pdf. (details)

Submarine Cable Map. (2020). *Caribbean Regional Communications Infrastructure Program (CARCIP)*. Submarine Cable Map. https://www.submarinecablemap.com/#/submarine-cable/caribbean-regional-communications-infrastructure-program-carcip. (details)

Submarine Cable Map. (2020). *Southern Caribbean Fiber*. Submarine Cable Map. https://www.submarinecablemap.com/#/submarine-cable/southern-caribbean-fiber. (details)

Tauson, M., & Stannard, L. (2018). *EdTech for Learning in Emergencies and Displaced Settings: A rigorous review and narrative synthesis*. Save The Children. https://resourcecentre.savethechildren.net/node/13238/pdf/edtech-learning.pdf. (details)

The Guardian. (2020, August 16). *Island nations have the edge in keeping Covid away – or most do*. The Guardian. http://www.theguardian.com/world/2020/aug/16/island-nations-have-the-edge-in-keeping-covid-away-or-most-do. (details)

The Guardian. (2021, January 6). *Life without Covid: the nations that have sidestepped the pandemic so far*. The Guardian. http://www.theguardian.com/world/2021/jan/06/life-without-covid-the-nations-that-have-sidestepped-the-pandemic-so-far. (details)

Thompson, G. (2008). How the Accelerated Reader program can become counterproductive for high school students. *Journal of Adolescent & Adult Literacy*, *51*(7), 550–560. https://doi.org/10.1598/JAAL.51.7.3. Available from https://booklovefoundation.org/uploads/images/PDFs/Reports/Accelerated-Reading-in-High-School.pdf. (details)

UNDP. (2019). *2019 Human Development Index Ranking* [Text]. http://hdr.undp.org/en/content/2019-human-development-index-ranking. (details)

UNESCO. (2015). *St Vincent and the Grenadines Education for All 2015 review*. UNESCO. https://unesdoc.unesco.org/in/rest/annotationSVC/getExportFile/1a27d6ae-c0a1-4f6b-b82d-e4003958b401?notAttachment=true. Available from https://unesdoc.unesco.org/in/rest/annotationSVC/getExportFile/1a27d6ae-c0a1-4f6b-b82d-e4003958b401?notAttachment=true. (details)

UNESCO. (2020). *Framework for reopening of schools in the Caribbean including schools for learners with special education needs*. https://unesdoc.unesco.org/ark:/48223/pf0000374002. (details)

UNHCR AEWG. (2020). *COVID-19: Pathways for the Return to Learning*. UNHCR Accelerated Education Working Group.

https://inee.org/system/files/resources/AEWG_COVID19_Pathways%20for%20the%20Return%20to%20Learning-screen_0.pdf. (details)

UNICEF. (2017). *SiTan St. Lucia*. UNICEF Office for the Eastern Caribbean Area. https://www.unicef.org/easterncaribbean/media/1711/file/SiTan%20St.%20Lucia%20document.pdf. (details)

UNICEF. (2017). *Situation Analysis of Children in Grenada*. UNICEF Office for the Eastern Caribbean Area. https://www.unicef.org/ECA_GRENADA_SitAn_Web.pdf. (details)

UNICEF. (2017). *Situation Analysis of Children in Saint Vincent and the Grenadines*. UNICEF Office for the Eastern Caribbean Area. (details)

UNICEF. (2017). *Situation Analysis of Children: Commonwealth of Dominica*. https://www.unicef.org/easterncaribbean/media/891/file/Situation-Analysis-of-Children-2017.pdf. (details)

Vassell, L., & Baksh, R. (2015). *Country Gender Assessment (CGA): St. Vincent & the Grenadines*. Caribbean Development Bank. https://www.caribank.org/sites/default/files/publication-resources/CountryGenderAssessment_StVincentandtheGrenadines.pdf. (details)

Ventura, J. (2018, July 24). *Girls' Education in Dominica*. The Borgen Project. https://borgenproject.org/girls-education-in-dominica/. (details)

WHO. (2020). *COVID-19 Weekly Epidemiological Update, 1st Dec 2020* [Emergency Situational Update]. WHO. https://www.who.int/publications/m/item/weekly-epidemiological-update---1-december-2020. (details)

Warrington, M. J., & George, P. (2014). Reading for pleasure in paradise: paired reading in Antigua and Barbuda. *Literacy*, *48*(2), 66–71. https://doi.org/10.1111/lit.12020. (details)

Wikipedia. (2020). Organisation of Eastern Caribbean States. In *Wikipedia*. Wikimedia. https://en.wikipedia.org/w/index.php?title=Organisation_of_Eastern_Caribbean_States&oldid=986575417. Available from https://en.wikipedia.org/w/index.php?title=Organisation_of_Eastern_Caribbean_States&oldid=986575417. (details)

World Bank. (2020). *COVID-19 Could Lead to Permanent Loss in Learning and Trillions of Dollars in Lost Earnings* [Text/HTML]. World Bank. https://www.worldbank.org/en/news/press-release/2020/06/18/covid-19-could-lead-to-permanent-loss-in-learning-and-trillions-of-dollars-in-lost-earnings. (details)

Annexe 1. OECS statistics and connectivity

Figure 1. List of full and associate members of the OECS (Wikipedia: Organisation of Eastern Caribbean States, 2020). Associate members are marked in blue and with '[AM]'.

State	Capital	Joined	Population (2017)	Area (km²)	GDP (Nominal) (millions of US$)	GDP (Nominal) per capita	HDI New 2017 [link] [link]	Currency	Official Language
Antigua and Barbuda	St. John's	Founder	91,244[11]	443	1,524[11]	$16,702[11]	▲0.780	XCD	English
Dominica	Roseau	Founder	70,693[11]	751	557[11]	$7,879[11]	▼0.715	XCD	English
Grenada	St. George's	Founder	107,541[11]	344	1,119[11]	$10,405[11]	▲0.772	XCD	English
Montserrat	Brades	Founder	4,993[12]	102	63[12]	$12,301[12]	▲0.821	XCD	English
Saint Kitts and Nevis	Basseterre	Founder	55,411[11]	261	964[11]	$17,397[11]	▲0.778	XCD	English
Saint Lucia	Castries	Founder	175,498[11]	617	1,684[11]	$9,607[11]	▲0.747	XCD	English
Saint Vincent and the Grenadines	Kingstown	Founder	110,185[11]	389	785[11]	$7,124[11]	▲0.723	XCD	English
Anguilla [AM]	The Valley	1995	15,253[13]	96	337[13]	$22,090[13]	▲0.865	XCD	English
British Virgin Islands [AM]	Road Town	1984	35,015[14]	151	1,164[14]	$33,233[14]	▲0.945	USD	English
Guadeloupe [AM]	Basse-Terre	2019	393,640[15]	1,628	10,946[15]	$27,808[15]	▲0.850	EUR	French
Martinique [AM]	Fort-de-France	2015	374,780[16]	1,128	10,438[16]	$27,851[16]	▲0.863	EUR	French

Figure 2. Map of some Member States of the OECS. The map shows Guadeloupe, Dominica, Martinique, Saint Lucia, Saint Vincent and the Grenadines, and Grenada. (geo:14.477,-62.980?z=7, https://osm.org/go/YxpLP, © OpenStreetMap contributors).

Figure 3. Map of undersea internet cables between countries in the Eastern Caribbean (Infrapedia, 2020)

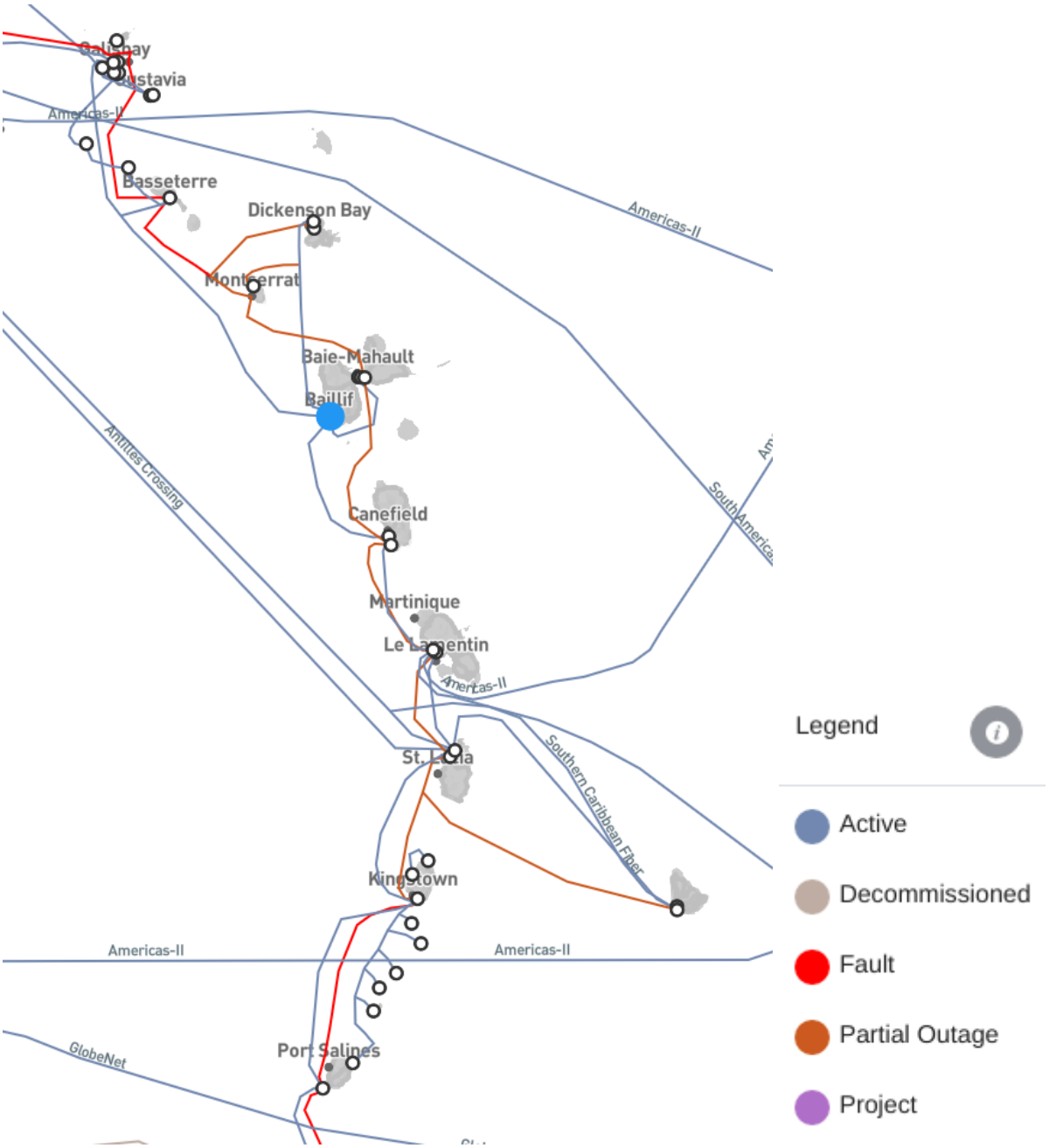

Figure 4. Map of the Southern Caribbean Fiber underwater fibre optic ring network (Submarine Cable Map, 2020)

Figure 5. Map of submarine internet cables installed under the Caribbean Regional Communications Infrastructure Program (CARCIP; ↑Submarine Cable Map, 2020)

Annexe 2. AEWG decision tree

Figure 6. Decision tree for accelerated education interventions ↑*UNHCR AEWG (2020, p.5)*