

A-801: Education Policy Analysis and Research in Comparative Context

Paper 3: Final Policy Analysis Paper

Accelerating the Achievement of Language and Math Grade Level Outcomes in the Maldives

Mashhood Alam Bhat, Priyanuj Choudhury, Kriti Chopra, and Hongying Yan

Abstract

Low student achievement in languages and mathematics has been a persistent problem in the Maldives. Covid-19 exacerbated the problem further and highlighted the inequities that plague the Maldivian schooling system. Using secondary and primary data, this paper analyzes the policies currently being implemented in the country to improve learning outcomes and reduce learning gaps and recommends a policy bundle that enmeshes capacity building, coaching, a new pedagogical approach, and assessment reforms to create a holistic path that will lead to assured improvement in learning outcomes, while also accounting for equity of learners, and regions, and feasibility of administrative structures and teacher capacity.

I) Introduction

A. Education Landscape of the Maldives

The Republic of Maldives is a small island state in the Indian Ocean made up of low-lying coral islands. Of the 1,190 islands (atolls) that constitute the country, around 200 are inhabited and another 105 serve as resorts for tourists. The country is divided into twenty-one administrative divisions which include twenty atolls and Male- the capital city where a third of the country's population resides (Lirar, 2017). Maldives has been categorized as a Small Island Developing State (SIDS) by the United Nations due to the unique social, economic, and environmental vulnerabilities it faces because of its remote geography (United Nations, n.d.) .

Three principal providers are involved in education delivery in the Maldives, namely government schools, private schools, and community schools¹. Of the 300 + schools in the country, 213 are government schools, the rest constituting private and community schools. In 2021, there were over 87,000 students enrolled in the formal school system. Eighty-seven percent of these students were

¹ Community schools are run by not-for-profit community organizations or island councils

enrolled in government schools, while eight percent of students were enrolled in private schools. The remaining five percent of students were enrolled in community schools (Ministry of Education, Maldives, 2021). School education comprises four main phases, with each phase targeting a specific age group and developmental stage -

Foundations	Primary		Lower Secondary		Higher Secondary
Lower & Upper Kindergarten	Key Stage 1 - KS1 (Grades 1 - 3)	Key Stage 2 - KS2 (Grades 4 - 6)	Key Stage 3 (Grades 7-8)	Key Stage 4 (Grades 9-10)	Key Stage 5 (Grades 11-12)

The Education Act of 2020 mandates the government to provide free schooling to all Maldivians up to grade 12 (Shougee et al., 2022). Government expenditure on education accounted for 4.1% of the country's total Gross Domestic Product (GDP) in 2019 (The World Bank, n.d.). All subjects except Islamic studies and Dhivehi- the first language of students, are taught in English.

Before the establishment of modern schooling in the Maldives, education was offered through a traditional system of religious schooling for centuries. This system was controlled entirely by private players and consisted of students learning from learned elders in informal school settings (Lirar, 2017; Yamada et.al, 2015). State intervention in education began after Maldives became a British protectorate in 1887. In the early 1900s, a small number of English medium schools were established to educate students from privileged backgrounds in Male. These schools followed the British curriculum and methods of instruction. Students in the atolls, however, did not have access to this education and continued to learn in the informal schools offering religion-focused curriculum. After gaining independence in 1965, a series of reforms were enacted by various governments to establish a strong free public education system in the Maldives. In 1978, all schools across Male and the atolls were unified under one national education system with clearly defined stages of schooling. The year also marked the establishment of the first government school in an

atoll. As students in the atolls began gaining access to formal schooling, school enrollment rates in the country saw a rapid increase. From 15 percent enrollment in 1978, Maldives moved to achieving near universal primary net enrollment by 1995 (Yamada et al., 2015). Along with improving enrollment, progressive reforms to the curriculum were first introduced in 1984, and again in 2008, with a view of aligning Maldivian education with the requirements of a rapidly globalizing society (Lirar, 2017). Despite these reforms and successes in improving school enrollment, quality of education continues to be a concern in the Maldives. The historical divide between Male and the atolls in education provision continues to manifest itself in the form of regional disparity in school performance, with students in the atolls recording lower achievement than their counterparts in Male (UNICEF, n.d.).

B. Education Achievement in the Maldives

The most pressing challenge facing the Maldives is the quality of education. The National Assessments of Learning Outcomes (NALO) conducted in 2017 reveals that the average scores of students in grades 4 and 7 for English, mathematics and Dhivehi ranged between 50 to 60 percent (QAD, MoE, Maldives, 2017). Approximately 19 percent of grade 4 and 6 percent of grade 7 students failed to achieve a minimum score of 40 percent in Dhivehi, while 27 and 35 percent of students in grades 4 and 7 failed to achieve a minimum score of 40 percent in English. In Mathematics, approximately 20 and 33 percent of students in grade 4 and grade 7 failed to achieve a score of 40 percent (QAD, MoE, Maldives, 2017). Regional disparity in learning outcomes is evident in the fact that atolls like Laamu performed well below all others, followed by atolls such as Raa, Alifu Dhaalu, Faafu, and Noonu. In contrast, Greater Malé, Seenu and Gnaviyani atolls had the highest results (QAD, MoE, Maldives, 2017).

Gravity of the Situation

Children with learning gaps in early grades find it increasingly difficult to achieve grade-level learning outcomes as they progress to higher grades (Belafi et al., 2021). In the long-run, these children will find it increasingly difficult to acquire technical and higher-order skills needed to participate in increasingly demanding labor markets (The World Bank et al., 2022). This will make it difficult for countries to develop a labor force to achieve sustained and inclusive economic growth. In Maldives, this is a major concern given it is facing a scarcity of qualified and skilled national labor force (Asian Development Bank, 2015) and depends extensively on expatriate workers.

The Learning Loss Report published by the Maldives in 2021 shows that average performance of students in Language and Math declines steadily as students move from grade 1 to 5 (National Institute of Education, Maldives et al., 2021). As the data in Appendix 2 indicates, this decline is sharpest for Math followed by Dhivehi and English. In addition to learning losses faced by all children, prolonged school closures are likely to have exacerbated the existing inequalities in learning outcomes, disadvantaging socio-economically marginalized students further who are less likely than their peers to have the necessary internet connectivity, books, instructional material, and physical space to work and study at home (The World Bank et al., 2022).

The authors of this paper, in consultation with the Maldivian Ministry of Education, have concluded that the overall low achievement in Language and Math learning in primary grades, with at least 24% students not even meeting the lowest benchmarks, and exacerbation of learning inequalities by Covid-19, are cause for significant alarm. This paper examines policy responses by the Ministry of Maldives to the identified problem of low learning levels in languages and mathematics, and suggests recommendations based on evidence of implementation of current policies and best practices observed in comparable developing economies.

II) Review of Policies Used to Address the Issue of Low Achievement in Literacy and Math

In March 2020, the Ministry of Education, Maldives responded to Covid-19 pandemic with school closures leading to a shift to online teaching and learning. An Education Response Plan was adopted in May 2020 with detailed strategies for online learning. As the schools reopened towards the end of 2020 and early 2021, the Remediation and Monitoring Plan (2021-2023) and National Literacy and Math Strategy (2022-27) were adopted to address the learning gaps in literacy and mathematics that were already wide and now have been exacerbated by school closures.

Table 1: Timeline of Policy Response to the Covid-19 crisis

Year	Policy Response
March 2020	School Closure accompanied with shift to online teaching
May 2020	Education Response Plan
2020-21	Capacity Building in Digital Teaching- Google Suite Certification
2021	Remediation and Monitoring Plan (RMP) (2021-2023)
2022	National Literacy and Math Strategy (NLMS) (2022-2027)
August 2022	New academic year begins and implementation of Remediation and Monitoring Plan, and National Literacy and Numeracy Strategy begins

Source: Constructed by authors from various reports and documents

A. Education Response Plan (2020)

The Education Response Plan focused on- (1) mitigating the impact of school closures on the learning and well-being of all school stakeholders, with a special attention to the most vulnerable and at-risk children; (2) preparing for the reopening of schools (Ministry of Education, Maldives, 2020). Remote learning through television programming (Telikilaas) and online classes for students, along with teacher capacity building in using Google Suite for conducting online classes (UNICEF, 2021). In a study on the effectiveness of teacher training for use of technology, Fikuree et al. (2021)

found that while nearly all surveyed teachers felt that training sessions were practically relevant, 51.2 percent of teachers had less than one week of preparation to shift to online instruction. 6.4 percent of the surveyed teachers felt that the training sessions were too technical.

With regards to student's learning experience, Nizam & Saeed (2021) note that students tended to be less engaged in online classes as compared to face-to-face instruction due to unfamiliarity with the medium as well as lack of teacher proficiency in using digital tools during instruction. In terms of school reopening, adoption of a four-day school week with fewer work hours reduced effective available time for productive schoolwork.

B. Remediation and Monitoring Plan (RMP)- 2021-2023

The RMP was launched by the Ministry of Education, Maldives in 2021 to address the learning gap caused by Covid-19 pandemic (UNESCO, 2020). The plan aimed to take measures to improve the literacy and numeracy skills (Dhivehi, English, and Mathematics) of students in preschool and elementary school (Maldives National Institute for Education et al., 2021). To achieve this goal, the remediation plan was divided into four steps: (1) high-priority content will be identified to remediate for learning losses in literacy and numeracy; (2) school schedules will be rearranged to allow time for remediation; (3) preparing remedial lesson plans for different proficiency levels; and (4) creating pre- and post-assessment worksheets for students at different levels (Maldives National Institute of Education et al., 2021).

The appendix 1 elaborates a rigorous monitoring and evaluation framework for the RMP to enable ongoing data collection on implementation. Full implementation began in August 2022, and due to the short time frame of current implementation, there is a lack of literature evidence on effectiveness as of now.

C. National Literacy and Mathematics Strategy (NLMS)- 2022-2027

The NLMS was adopted in 2022 as a roadmap for making a sustained recovery, over a five year period, from learning losses. The Strategy offers a concrete action plan on achieving the goal of achieving strong foundations in Literacy (Dhivehi and English) and Numeracy for all school children as highlighted in Maldives' National Curriculum Framework. It aims to achieve this by encouraging the promotion of inquiry based learning, problem solving, reasoning and application of skills to new learning among children in schools (National Institute of Education, Maldives, 2022). It is interesting to note that the NLMS 2022-27 strongly resonated with a professional perspective to educational change and school as a learning organization (Reimers, 2020). The Strategy highlights the professional capacities necessary to implement the goals of Literacy and Numeracy, identifies the gaps in the human resources and recommends professional development interventions to address these gaps (Reimers, 2020). The NLMS also highlights the need to redefine the job descriptions of this cadre to make Literacy and Numeracy of highest priority. The NLMS also encourages peer support and learning, mentoring learning buddies, weekly teacher's circle time coordination, among teachers to foster innovation, sharing and adoption of best practices to enhance Literacy and Numeracy. This vision resonates with the conception of school as a learning organization that enables continued learning opportunities and collaboration among staff (Reimers, 2020). Since the implementation of NLMS was started in August 2022 with the remediation and monitoring plan, there is no published literature evidence of its effectiveness.

III) Review of Implementation and Effectiveness of RMP and NLMS

As mentioned in the policy review section, above, there is no empirical evidence of effectiveness of the ERP, ICT, RMP,, and NLMS. Due to this lack of data, in consultation with the NIE we decided to collect data, through a google survey and focus group discussions (FGDs) on the current status of implementation and effectiveness on Remediation and Monitoring Plan and NLMS. These two

policies were chosen as they are the ones being currently implemented and are the foundation for the Ministry of Education's long - term policies. All data collection was prefaced and supplemented with discussions with members of Ministry of Education of Maldives (MoE), National Institute of Education (NIE), and an Indian NGO DEVI Sansthan (DEVI). We chose to use a google survey to collect quantitative data as this is a platform the teachers are already comfortable with. The google survey was conducted first and data collected was used to build the points of discussion for the FGDs. One FGD was done only with teachers, and one was done with leading teachers and principals.

As of December 14th, 2022, we received a total of 575 responses from foundation stage, key stage 1 (grades 1 - 3), key stage 2 (grade 4 - 6), leading teachers and principals via Google Form. The survey contains three sections, including (1) personal information (designation, teaching subjects, teaching stage, and school location); (2) Remedial teaching questions focus on whether the classroom/school used remedial instruction, in what manner, and whether the Remedial and Monitoring Plan was followed; and (3) Literacy and Numeracy teaching questions focus on lesson plan creation, small group activities, and support needs.

Our primary line of enquiry in google survey was to check whether the salient features of both, RMP and NLMS, policies were being implemented, if yes to what extent, and which areas did teachers, and leading teachers need support in. While the survey was filled by teachers, leading teachers, principals, and relief teachers, in our analysis we have only used data from teachers and leading teachers, as they are the core implementers of the policy.

The table below reflects the key findings and the evidence that supports it from our primary data collection -

Key Findings	Evidence
There is an asymmetric understanding of the policies and how to implement them.	Close to 80% of the respondents to the survey have not attended a training on remedial teaching. While the respondents in the FGD for teachers had limited awareness about the policies we were assessing, the respondents in the FGD for leading teachers and principals could speak with authority about the plans, policies, and initiatives launched by the MoE. The RMP clearly provides a system of timetabling remediation classes (Maldives National Institute of Education et al., 2021). However, we received conflicting answers on how remediation, a practice in place since pre-Covid era, was being implemented from the two FGDs. Neither indicated that they were following the approach suggested in the RMP.
Teachers are not equipped to support learners' needs as per NLMS guidelines	While 78.4% respondents said they felt equipped to support students at grade level, a majority of the respondents expressed need for support in each salient feature listed in the NLMS
Limited provision of support structures for teachers	The NLMS suggests that there has to be consistent support provided by leading teachers to teachers to improve their practice of teaching by doing classroom observations (National Institute of Education, Maldives, 2022). Our primary research shows that only ~ 20% teachers have had at least 1 classroom observation since August, 2020. This figure would have been higher if the implementation was more meticulous.
Teachers are not completing required assessments, and monitoring & evaluation tasks.	The RMP lists a number of steps to be taken to assess students and monitor the implementation of the plan. A respondent in the leading teacher and principal FGD informed that they had not received RPPM Form, which was to be used to monitor the implementation status of RMP (Maldives National Institute of Education et al., 2021). We also find in the google survey that 70% of the respondents have not filled any RPPM form, and more than 55% respondents have not conducted a single assessment which has been detailed out in the RMP.

(Refer Appendix 3 for Link to google survey Questionnaire and Responses, and Appendix 4 for a visual representation of the relevant findings.)

IV) Policy Alternatives

Alternative 1: Status Quo

MoE introduced the RMP in 2021, and the NLMS in 2022. The implementation for both started in 2022. Maintaining Status Quo would imply that MoE continues implementation as planned and detailed in the RMP and NLMS documents. The aim of the RMP is to take measures to improve the literacy and math skills (Dhivehi, English, and Mathematics) of students in preschool and elementary school (Maldives National Institute for Education et al., 2021). Over the remaining academic year, MoE and NIE would continue to collect monitoring and evaluation data from the schools at prescribed intervals. The schools will be expected to prepare and conduct assessments to monitor the progress of the students and the reduction in learning gaps.

The NLMS offers a concrete action plan on achieving the goal of achieving strong foundations in Literacy (Dhivehi and English) and Numeracy for all school children as highlighted in Maldives' National Curriculum Framework. It aims to achieve this by encouraging the promotion of enquiry based learning, problem solving, reasoning and application of skills to new learning among children in schools (NLMS, 2022). If MoE were to choose to maintain status quo, over the next six months, NIE would have to ensure that School Improvement Plans (SIP) for literacy and math are made and implemented, conduct a situational analysis to prepare a plan to support schools in implementing NLMS, and create relevant professional development in consultation with schools (NLMS, 2022). The focus of schools for the remaining academic year would be to create awareness regarding NLMS within the school and community of parents using social media and in-school programs, develop the SIP, and actually start implementing strategies to achieve the objectives of NLMS (NLMS, 2022). Since NLMS is a five year strategy, for the remaining four years -

- NIE will focus on monitoring implementation of NLMS, conduct professional development for teachers, analyze NALO data, and identify & amplify best practices.

- QAD will more closely review the implementation of NLMS at school level and report findings on implementation issues, and assessment data to NIE.
- Schools will develop NLMS resources, implement the program, and share best practices.

Alternative 2: Incremental Change to Status Quo through Provision of Teacher Guides and Teaching-learning Material

In their randomized controlled trial to test effectiveness of the Kenya Primary Math and Reading Initiative, Piper et al. (2018) found that adding the component of contextual teaching-learning material (TLM) to professional development of teachers led to medium improvements in learning outcomes of students in English, Kiswahili, and mathematics. The same study found that providing teacher guides along with professional development and TLM led to dramatic impact on learning outcomes of students across all three subjects (Piper et al., 2018).

Within the status quo in Maldives, teachers currently do not have access to teacher guides that can help them plan their lessons as per the new curriculum framework. Similarly, supplementary teaching-learning material for students and teachers is not available. The MoE can make incremental changes to the status quo by providing all Key Stage 1 teachers with teacher guides to aid lesson planning and making grade level supplementary TLM aligned with the new curriculum available for all classrooms.

In the context of Maldives, every atoll, due to its isolation from other islands, has over time developed its own unique way of life that is reflected in the dialect of Dhivehi spoken, traditions, and customs. For instance, crafts such as lacquer work art in Thulhaadhoo and Baa atoll, and mat weaving in Gadhoo atoll are unique to these communities (Lirar, 2017). It is critical that these cultural aspects of life and cultural resources of learners are reflected in the TLM used in the classrooms (Paris, 2012). The TLM can take the form of workbooks containing context-appropriate

stories and exercises that focus on learning objectives to be achieved at each grade level. Students can be provided with workbooks as per their grade level, which can be then used in addition to the school textbooks for literacy and numeracy learning.

Alternative 3: Sustained Teacher Capacity Building, Coaching, and Instructional Material

A major contributing factor to the Maldives's weak learning outcomes is the quality and performance of its teachers (Global Partnership for Education, 2019). There are over 10,500 teachers in the country, 91% of whom serve in the government schools (Ministry of Education, Maldives, 2021). As per official data, 80% of the teachers in the country are trained and the rest of the 20% are untrained. A bulk of the untrained teachers serve in the atolls, which further compromises the quality of education in the atoll schools. Despite steps taken by the government in recent years to improve teacher capacity, teaching quality continues to pose a serious challenge. Given that teacher-student interactions are at the core of the teaching-learning process, it is imperative that teachers are trained to improve literacy and numeracy outcomes in a manner that is cognizant of the diverse needs of teachers across Male and the atolls.

There is enough evidence in research to claim that teacher capacity building has a positive impact on student learning. A meta-analysis of 17 rigorous studies on teacher professional development in developing countries conducted by (McEwan, 2015) reveals that teacher professional development programs had a mean effect size of 0.12 standard deviations. Conn's (2014) meta-analysis of 12 types of educational interventions in Sub-Saharan Africa suggests that interventions that altered teacher pedagogy and classroom instruction had an effect size of approximately 0.30 standard deviations higher than all other types of interventions combined such as teacher incentives, provision of school supplies, among others. Conn's study also suggests that pedagogical programs that are sustained and incorporate in-school teacher coaching are particularly effective, as is

evidenced by programs such as READ in rural South Africa and Read to Learn in Kenya (Conn, 2014).

Our primary research suggests that capacity building of teachers in the Maldives has been disjointed at best, without clear guidelines given to teachers on implementing the new national curriculum framework introduced by the government. (Refer Appendices 3 & 4). Additionally, support in the form of coaching is severely limited for teachers as lead teachers in schools are burdened with administrative responsibilities. To remedy the situation, the Ministry of Education can revise the current centralized model of School-based Teacher Professional Development (SBPD) to a sustained model of professional development comprising -

3.1 Self-paced Training Course and Workshops - The MoE can offer a self-paced asynchronous training course for teachers, lead teachers, and principals on the five dimensions for effective pedagogy listed in the National Curriculum Framework² for teaching English, Mathematics, and Dhivehi, as well as conducting effective assessments. This year-long course can be supplemented by quarterly face-to-face workshops with participants touching upon key pedagogical tools and to discuss classroom implementation. Teacher Resource Centres in Male and the atolls can be given the responsibility to design the workshops in a context-specific manner that takes into account the unique needs of teachers in their jurisdiction. The course design should place special emphasis on training teachers to meet the needs of struggling learners and conducting remedial learning.

3.2 Teacher Coaching - Considering the importance of coaching in enhancing the effectiveness of professional development programs (Conn, 2014), it is recommended that each school appoints a lead teacher as Literacy and Numeracy Coordinator. The coordinator's primary task would be to observe classrooms and offer on-site support to teachers in incorporating the new pedagogical

² The National Curriculum Framework lists out the following five dimensions of effective pedagogy- creating a positive learning environment, connecting prior learning to new learning, fostering reflective practice, making learning meaningful, and recognizing individual differences

techniques into the teaching-learning process. Lead teachers appointed as coordinators will continue to teach one class as per the current requirement listed in the National Literacy and Mathematics Strategy. However, administrative responsibilities of the coordinators will be adjusted to accommodate the responsibilities of coaching.

3.3 Supplementary Instructional Material - Given the effectiveness of supplementary instructional material in improving learning outcomes (Piper et al, 2018), the same can be provided to all Key Stage 1 teachers in the form of teacher guides, and context-appropriate grade-level TLM for all Key Stage 1 classrooms.

Alternative 4: Continuous Assessments and Monitoring of Students' Progress

It is recommended that the MoE strengthen its capacity to periodically monitor the progress being made in learning recovery post-Covid and in achievement of grade level outcomes. The World Bank et.al (2022) emphasizes that diagnostic and formative assessments are “critical to implement recovery strategies like targeted instruction” and help monitor the effectiveness of learning recovery programs. Similarly, the NLMS also states the importance of monitoring and evaluating the effectiveness of remediation being provided to address learning losses post Covid. The NLMS also emphasizes that schools “use formative assessments to identify and understand the learning gaps and track the progress of all children” (National Institute of Education, Maldives, 2022). Hence, a robust system to assess and monitor student learning outcomes is critical to achieve the goals of the NLMS in Maldives. It is recommended that MoE focus on the two following aspects:

4.1. Prioritize assessment in FLN - All English, Divehi and Math teachers of KS1 and KS2 can be provided standardized diagnostic classroom assessments to check for existing gaps in FLN skills of students. As many children are still expected to be below grade level, these assessments should test children’s knowledge and skills from at least one grade level below as well. According to the data collected in our online google survey, only 65% teachers reported having conducted any diagnostic

pre-assessment (Refer Appendices 3 & 4). The QAD and NIE can collaborate to create a standardized FLN test. This diagnostic test should be ideally administered in the beginning and end of each semester of the academic year.

4.2. Monitoring student progress on MEMIS - It is recommended that the MoE integrate the option of periodically monitoring diagnostic and formative student assessment data in the MEMIS. Presently, teachers are only required to upload the end of semester exam scores on MEMIS (MoE, personal communication, 13 December 2022). This data is then used to inform the annual School Improvement Plan (Ministry of Education, 2017). However, given the urgent need to address learning gaps, it is recommended that assessment data, especially on FLN, be monitored real-time. This can be done by training teachers on using technology enabled assessment platforms. For example, Tangerine, an open source app, has been effective in conducting formative assessments and visually representing student progress in reading and math (RTI International, n.d.). This software was also used in the Kenya Primary Math and Reading Initiative to support administrators and teacher coaches in conducting monitoring activities (Strigel et.al, 2015). The MoE can explore integrating such open-source softwares with the existing MEMIS system.

Alternative 5: Accelerating Learning for All (ALfA) program

The MoE has partnered with DEVI Sansthan, a not-for-profit NGO, to implement the ALfA program in the government schools (MoE, personal communication, 2 October 2022). The program aims to enhance the Foundational Literacy and Numeracy (FLN) skills among children and help them achieve grade level learning outcomes in language and math. One round of online training sessions have been conducted for math and English teachers from Key Stages 1 and 2 in September 2022 (MoE, personal communication, 2 October 2022). Currently, discussion is ongoing on the implementation of the program in grades 1-3 (KS1) in the second semester of the current academic year (January-June 2023). (MoE, personal communication, 11 December 2022)

5.1. TLMs and Formative Assessments - The ALfA program has significant alignment to the evidence-based Structured Pedagogy Framework in aspects related to teaching learning materials (TLMs) and formative assessments.³ Evidence indicates that “well designed, detailed teaching materials (topic guides, lesson plans, assessment tools) lead to an increase in teacher agency, creativity and the ability to respond to their students and children” (Chakera et. al. 2020, pp.15). This aligns with ALfA’s learning sessions which are structured around modules in its books (called toolkits) that are linked to a specific FLN outcome (Gandhi et.al. , 2022). Modules include detailed instructions and prompts for teachers that they use to guide learning paired learning activities. Each module also includes structured formative assessment activities that teachers can facilitate and observe (Gandhi et.al., 2022). These low-stake assessments provide immediate feedback to teachers for aligning their instruction to student learning needs. These assessments are also linked with improved learning outcomes with “the largest gains being realized by low achievers”(Chakera et. al. 2020, pp.17) .

5.2. Effectiveness - A recent implementation of the ALfA program in government schools in India combined expert-led training and teacher coaching along with providing the ALfA TLMs. (DEVI Sansthan, personal communication, 13 December 2022). The intervention led to significant gains in FLN skills of grades 3 and 5 children (DEVI Sansthan, n.d.). After approximately 40 instructional days of program implementation, an internal evaluation of the program showed gains in consolidated language (Hindi) and math scores on average were higher in the treatment group as compared to the control group. The effect sizes were 0.23 and 0.89 standard deviations for grades 3 and 5 respectively (DEVI Sansthan, n.d.)⁴.

³ The pedagogy enables learners to use their existing knowledge of concrete concepts for creating understanding of abstract concepts. For example, in foundational literacy, decoding of new words is taught through a phonics tool using which learners derive the first phoneme of familiar objects, and then blend two or more phonemes to form new words. Students first master reading words and sentences that only use consonants before moving onto vowels. This is followed by focus on reading fluency, comprehension and writing. In foundational numeracy, the principle of CPA (Concrete-Pictorial-Abstract) instructional approach is employed to develop skills of number sense and mathematical operations. Gandhi et.al. (2022).

⁴ The program was implemented in Shamli district of India that has been identified as a Low Performing District by India's Ministry of Education. 20 schools were randomly allocated to Intervention and Control Groups. Test paper was designed and administered by DEVI Sansthan in collaboration with district administration and was based on the National Achievement Survey pattern. Data on the evaluation can be viewed on this link: <https://dignityeducation.org/links/>

V) Objective and Criteria

A. Objective:

Based on the authors' discussions with members of the MoE, NIE and DEVI, the authors have arrived at the following objective-

To improve grade level achievement in English, Dhivehi (Literacy), and Math for ALL students across ALL regions of Maldives, with a specific focus on struggling learners.

B. Criteria:

Below we have enlisted, and described the criteria for policy analysis. They have also been broken down into categories of 'High', 'Medium', and 'Low' to assess the impact of the policy alternatives suggested based on these criteria. The criteria have been identified and defined on the basis of the objective and values of the client.

Importance	High	Medium	Low
Criteria 1: Cost : The total cost of implementation for the MoE. Cost has 2 parts - Fixed Cost (such as, procuring or creating new infrastructure - physical, curricular and/or digital); and Variable Cost (such as salaries, teacher professional development, maintenance and subscription charges of softwares, etc.)			
Given budgetary constraints and economic slowdown in Maldives post-Covid, and the constraints of budget as per LAMP 2019-23, minimal expenditure is preferred on the fixed and variable costs.	Policy requires new physical or digital infrastructure, or a shift in the curriculum, with new creation of books, etc.	Policy mostly uses existing structures, but requires moderate investment in fixed and variable cost.	Policy requires minimal investment, with close to no new fixed cost and small variable cost.
Criteria 2: Effectiveness: Refers to overall average improvement of Learning Outcomes in literacy and math for ALL students.			
This criteria is central to our problem statement and objective, as it directly assesses whether we are combating the problem of low achievement in literacy and numeracy.	Policy significantly improves the learning outcomes for all learners.	Policy moderately improves the learning outcomes for all learners.	Policy leads to limited to no improvement in the learning outcomes for all learners.
Criteria 3: Swiftness of Achieving Outcomes: Refers to how swiftly we can expect gains to show in the literacy and math learning outcomes.			
This criteria is essential because the NLMS, one of the prime policies to be analyzed, is set to achieve certain important goals in five years. Hence, a quick turn-around time will help the MoE take a call on how to scale some of the policy alternatives.	Policy shows gains in one semester.	Policy shows gains in two semesters (one academic year).	Policy shows gains in more than two semesters (more than one academic year).
Criteria 4: Learner Equity: Refers to how equitably the policy alternative benefits struggling learners.			
With at least 24% students of Grade 4 not even meeting the lowest benchmarks in the 2021 Learning Loss Report (National Institute of Education, Maldives et al., 2021), learner equity becomes a prime criteria for this analysis. This will be a lens that will help us gauge if we are merely increasing the average outcomes, or actually reaching the learners whose needs we have to address to at least bring them up to the minimum benchmark.	Policy addresses the needs of all struggling learners.	Policy addresses the needs of some struggling learners.	Policy addresses the needs of limited to no struggling learners.
Criteria 5: Regional Equity: Refers to how equitably will the policy alternative benefit the small under - resourced schools in remote atolls.			

Importance	High	Medium	Low
Equity is an important lens to use to assess the policy alternatives because we have found through multiple sources, MoE policy documents, secondary literature review, and primary data collection, that there is grave inequity among the Atolls and Male, and the inequality exacerbates in under - resourced schools in remote Atolls.	Policy is focussed on addressing the needs of remote Atolls.	Policy has some focus on addressing the needs of remote Atolls, but does not address all needs.	Policy has limited to no focus on addressing the needs of remote Atolls, and does not address most needs.
Criteria 6: Administrative Feasibility: How aligned is the alternative to the existing structure of the education system (MOE, NIE, QAD, TRC, School system) and its capacity.			
This criteria will determine the quick buy - in and readiness for implementation of the administrative structure of education in Maldives. This is important to address because having low feasibility will negatively impact the adoption and implementation of the policy alternatives.	Policy is completely aligned with current administrative structures and requires no change. Will use existing administrative structures and improve their efficiency.	Policy is somewhat aligned with current administrative structures and requires some change. Will largely depend on existing administrative structures without improving them.	Policy is not aligned with current administrative structures and requires many changes. Will create parallel structures of administration for implementation and not use existing ones.
Criteria 7: Feasibility for Teachers: How aligned is the alternative to existing teacher capacity, practices, beliefs and needs.			
This criteria will determine the quick buy - in and readiness for implementation of the teachers. This is important to address because having low feasibility will negatively impact the adoption and implementation of the policy alternatives.	Policy is completely aligned with existing teacher capacity, practices, and beliefs, and addresses their needs, hence, will face no resistance.	Policy is somewhat aligned with existing teacher capacity, practices, and beliefs, and addresses some of their needs, hence, will require capacity building, and will face some resistance.	Policy is somewhat aligned with existing teacher capacity, practices, and beliefs, and addresses their needs, hence, will require intense capacity building, mindset shift, and will attract a lot of resistance.

Table: Criteria and their Explanation

VI) Policy Analysis

A. Policy Analysis Matrix (Brief)

Cost	Effectiveness	Swiftness in Achievement of Outcome	Learner Equity	Regional Equity	Administrative Feasibility	Teacher Feasibility
Alternative 1: Status quo						
Low	Low to Medium	Low	Low to Medium	Low to Medium	High	Medium
Alternative 2: Incremental change to the Status Quo through Provision of Teacher Guides and Teaching-Learning Material						
High	Medium	Medium	Medium	Medium	Medium	Medium
Alternative 3: Capacity Building + Coaching + Instructional Material						
High	High	Medium	High	Medium	Medium	Medium
Alternative 4: Continuous Assessment & Monitoring of Students' Progress						
Medium	Medium	Medium	Medium	Medium	Medium	Low
Alternative 5: Accelerated Learning for All Program (ALfA)						
Medium	High	High	High	Medium	Low	Medium

(Refer to Appendix 5 for detailed Policy Analysis Matrix)

B. Analysis

Given the MoE's objective of improving learning outcomes across Maldives in an equitable manner, the authors have taken effectiveness and equity as the two key criteria amongst the set of existing criteria.

In terms of effectiveness, the alternatives have been assessed on the basis of their ability to improve average student learning outcomes in English, Dhivehi, and mathematics. Alternatives 3 and 5 dominate over the others in effectiveness due to significant improvements in student learning outcomes expected from strengthened teacher capacity building and coaching. Alternatives 2 and 4 lack a clear focus on equipping teachers with the know-how to improve student learning outcomes,

due to which both alternatives are predicted to yield moderate improvements in learning outcomes at best. In the status quo, while there is focus at the policy level on effectiveness, on-ground implementation data reveals gaps in the policy design, which is corroborated by low achievement levels of students. Alternative 1, thus, has been ranked low and can be eliminated.

Disparity in learning outcomes in the Maldives is most clearly observable in the Male- atoll divide as well as performance of struggling learners in national learning assessments. We have therefore used the lenses of regional equity and learner equity to assess the alternatives on their equity focus. Alternatives 3 and 5 dominate over the others in achieving learner equity due to their explicit focus on the needs of struggling children. In terms of regional equity, all alternatives, barring the status quo, have been ranked medium due to logistical challenges that emerge from the geographical remoteness of the atolls, as well as scarcity of human resources.

A third consideration for the MoE after effectiveness and equity is the cost of implementation. Alternatives 2 and 3 have high associated direct costs which makes these alternatives potentially unfavorable for the MoE. However, predicted effectiveness of alternative 2 is lower than alternative 3 due to its lack of explicit focus on teacher capacity building for effective use of TLM and teacher guides. Therefore, alternative 2 can be eliminated given its high costs and relatively lower effectiveness. While alternative 3 has high associated direct costs, it can be argued that the projected benefits of improvement in student achievement outweigh the additional investment costs made by the MoE.

Analyzing the trade-offs between the alternatives, it can be concluded that alternatives 3 and 5 are likely to yield the most improvement in student learning outcomes in an equitable manner. Alternative 4, while ranking medium in most criteria except feasibility for teachers, may not be

ruled out completely as it has the potential to enhance the effectiveness of alternatives 3 and 5 by creating a strong data-driven culture for educational policy design in the Maldives.

VII) Final Recommendation

Based on the analysis of the 5 policy alternatives across the identified criteria, and the rejection of alternatives 1 (Status quo) and 2 (TLMs only), we recommend that a combination of alternatives 3, 4 and 5 be implemented in the following manner:

Recommendation 1: Implement Alternative 3 in 75% schools and Alternative 5 in 25% schools

As discussed in the analysis, both Alternative 3 and 5 score high on the criterias of ‘effectiveness’ and ‘learner equity,’ both of which are central to the goals of the MoE (NLMS, 2022). It is recommended that schools be randomly allocated into two groups— 75% schools will benefit from Alternative 3 (PD+Coaching+TLM) and 25% will benefit from Alternative 5 (ALfA).

There are three factors for recommending this design:

A. Cost: Implementing Alternative 3 in all schools would incur very ‘high’ costs as shown in the policy analysis matrix. Implementing Alternative 3 in only 75% schools will help save costs that can be invested in implementing a ‘Moderate’ cost Alternative 5 in the remaining 25% schools. In this way, all schools will benefit from an intervention that scores high on ‘effectiveness’ and ‘learner equity’ while reducing overall costs for the MoE

B. Focus: Implementing Alternatives 3 and 5 in separate schools will ensure that teachers do not get over-burdened with professional development activities. Both Alternatives require teachers to participate in training and coaching activities that can lead to teacher burnout. There is also a possibility that teachers may get contradicting advice on which pedagogies to implement in class. In either case, it is recommended that the accountability of teachers be more on the learning outcomes rather than the type of pedagogy they use.

C.Experimentation: The implementation model will enable the MoE to evaluate the successes and learnings from both Alternatives to inform their long-term teacher capacity building strategy. The NLMS has prioritized the creation of a “three year professional development plan for Dhivehi, English and Mathematics teachers on subject content, pedagogy and formative assessments” (NLMS, 2022, p.18). The implementation of the two interventions will provide rich information of what works in the Maldives context and will inform the creation of a long-term PD plan. Also, as ALfA is being implemented in the Maldives context for the first time, it is recommended that the initial implementation be done on a smaller scale to gather feedback. This will help further improve and contextualize ALfA before further scaling up.

The implementation of Recommendation 1 will include several activities including content creation, training, self-paced learning, coaching and classroom implementation over a period of one and half years as represented in the Gantt chart below. It is recommended that ALfA be implemented for a minimum 90 instructional days in the second semester of the current academic year (January-June 2023) and its impact be reviewed at the end of implementation. Alternative 3 is recommended to be implemented from January to December 2023 before being evaluated as it will require additional time for creating training content and platform. A Gantt Chart is provided in Appendix 6.

Recommendation 2: Implement Alternative 4 in 100% schools

Identifying gaps in student learning and bridging them in a timely manner is critical to achieve grade level learning outcomes. Addressing FLN gaps is especially critical at this time given the post-Covid learning losses and because accumulation of learner gaps further makes it difficult to achieve grade level outcomes. Hence, it is recommended that MoE monitors FLN diagnostic assessments of all schools in real time. In conjunction with alternatives 3 and 5, the effectiveness of continuous assessments and monitoring can become very high. For example, teacher coaches can have access to real-time assessment data and modify teacher support based on competencies where learning gaps are larger. Teachers in Alternative 3 schools can also be recommended self-paced

courses based on the emerging gaps made visible by real-time assessment data. Alternative 5 scores low on ‘teacher feasibility’ because of increased work burden in conducting assessments and uploading data— however— it also offers teachers the opportunity to demonstrate their efforts and progress in reducing the learning gaps.

VIII) Limitations

Due to lack of published evaluation of policy effectiveness, some of the statistics and evidence for the study were obtained from our online survey and FGDs. A limitation of this study is that each FGD had only three participants, which is a relatively small sample size. Further research may include a broader sample and increase the diversity of the participated teachers and leading teachers. The study did not calculate a specific financial budget to implement the policy. If the recommendation is adopted in the future, it may be adjusted based on budget availability.

IX) Conclusion

Enhancing learning outcomes in literacy and math for all primary school children is a major challenge for the MoE, Maldives— especially as the country continues to recover from the learning losses post Covid-19. While the MoE has adopted a progressive and ambitious agenda in the recently launched National Literacy and Mathematics Strategy (2022-23), it needs to be complemented with an actionable roadmap that leverages existing administrative structures and academic resources at the national, atoll and school levels. A special focus is required on struggling learners by building the capacity of teachers to implement effective and innovative pedagogies that are child-centered and accelerate learning. Finally, the Maldivian education system will need to build capacity in frequently monitoring the learning needs of its children to ensure no child is left behind.

References

- Asian Development Bank. (2015). *Maldives: Overcoming the Challenges of a Small Island State* [Report]. Asian Development Bank.
<https://www.adb.org/sites/default/files/publication/172704/maldives-overcoming-challenges-small-island-state.pdf>
- Belafi, C., Hwa, Y.-Y., & Kaffenberger, M. (2021). *Building on Solid Foundations: Prioritising Universal, Early, Conceptual and Procedural Mastery of Foundational Skills*. Research on Improving Systems of Education.
https://riseprogramme.org/sites/default/files/2020-11/RISE%20Insight_2020_21_Belafi_Hwa_Kaffenberger.pdf
- Bharathi, P., Aedo, C., Sinha, S., & Iype, S. (2020). *The Gujarat Model: Managing Learning Continuity During COVID-19*. The World Bank.
<https://blogs.worldbank.org/education/gujarat-model-managing-learning-continuity-during-covid-19>
- Chakera, S., Haffner, D., & Harrop, E. (2020). *Structured pedagogy: For real-time equitable improvements in learning outcomes*. [Working Paper 10701]. UNICEF. <https://www.unicef.org/esa/media/7511/file/ESA-Structured-Pedagogy-2020.pdf>
- Conn, K. M. (2014). Identifying Effective Education Interventions in Sub-Saharan Africa: A Meta-Analysis of Impact Evaluations. *Review of Educational Research*, 87(5), 863-898.
- DEVI Sansthan. (n.d.). Devi Sansthan NGO & Global Dream - Non Profit initiative, Non Profit Literacy Campaign, Literacy Campaign, Global Dreamshaala Literacy Campaign, Saaksharta Abhiyan. Retrieved December 16, 2022, from <http://dignityeducation.org>
- Fikuree, W., Shiyama, A., Muna, A., Naseer, B., & Mohamed, Z. (2021). Challenges to education from the Covid-19 pandemic: A SIDS perspective with special reference to the situation in the Maldives. *International Education Journal: Comparative Perspectives*, 20(2), 6-22.

- Gandhi, S., Bhat, M. A., Delaney, T., & Hakim, J. (2022). *Disruptive Literacy: A Roadmap for Urgent Global Action*. Bloomsbury Publishing.
- Global Partnership for Education. (2019). *Maldives Learning Advancement and Measurement Project* [Report].
- Government of Maldives. (2021). *National Resilience and Recovery Plan*. The President's Office. Retrieved December 16, 2022, from <https://presidency.gov.mv/Pages/Index/224>
- Lirar, I. (2017). The Maldives: An Overview. In D. Dhar, C. Brock, & H. Letchamanan (Eds.), *Education in South Asia and the Indian Ocean Islands* (pp. 279-292). Bloomsbury Publishing.
- <https://ebookcentral-proquest-com.ezp-prod1.hul.harvard.edu/lib/harvard-ebooks/detail.action?docID=5114154>
- Maldives National Institute of Education, UNICEF, & CSSL. (2021). *Remediation and Monitoring Plan*.
- McEwan, P. J. (2015). Improving Learning in Primary Schools of Developing Countries: A Meta-Analysis of Randomized Experiments. *Review of Educational Research*, 85(3), 353-394.
- Ministry of Education. (2017). *School Improvement, Quality Assurance & Accountability Framework* [Report]. QAD. <http://qad.gov.mv/img/uploads/ApTB2JBILcbxFB8tK2rZ.pdf>
- Ministry of Education, Maldives. (2020). *COVID-19 Maldives Education Sector - Preparedness and Response Plan*. [Report].
- Ministry of Education, Maldives. (2021). *ICT in Education Master Plan 2* [Report].
- Ministry of Education, Maldives & Ministry of Higher Education, Maldives. (2019). *Education Sector Plan 2019 - 2023* [Report].
- National Institute of Education, Maldives. (2019). *The National Curriculum Framework* [Report].
- National Institute of Education, Maldives. (2022). *The National Literacy and Mathematics Strategy 2022 - 2027* [Report].

- National Institute of Education, Maldives, UNICEF, & CSSL. (2021). *Report on the Assessment of Learning Loss Due to COVID-19 in Maldives 2020-2021* [Report].
- National Institute of Education, Maldives, UNICEF, & CSSL. (2021). *Social and Emotional Learning Activities: A Teacher's Handbook*.
- Nizam, A., & Saeed, F. (2021). Teachers' perspectives on the impact of online education on students' learning. *International Journal of Social Research and Innovation*, 5(2).
- Paris, D. (n.d.). Culturally Sustaining Pedagogy: A Needed Change in Stance, Terminology, and Practice. *Educational Researcher*, 41(3), 93-97.
- Piper, B., Zuilkowski, S. 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.
- QAD, MoE, Maldives. (2017). *Maldives 2017 National Assessment of Learning Outcomes in Dhivehi, English and Mathematics* [Report].
- Reimers, F. M. (2020). *Educating Students to Improve the World*. Springer Nature Singapore.
- RTI International. (n.d.). *Tangerine® – Mobile Learning Assessments Made Easy* | RTI. RTI International. Retrieved December 16, 2022, from <https://www.rti.org/impact/tangerine-mobile-learning-assessments-made-easy>
- Shougee, M., Shareef, A. F., & Global Education Monitoring Report Team. (2022). *Non-state actors in education: Maldives past, present and future perspectives* [Report]. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000383528>
- Strigel, C., Lang'o, M., Kwayumba, D., & Koko, S. (2015). *Tangerine: Class for Data-Informed Instructional Decision Making in Kenya. Mobile Learning and Mathematics: Foundations, Design, and Case Studies*. RTI International. <https://shared.rti.org/content/case-study-tangerineclass-data-informed-instructional-decision-making-kenya>

UNESCO. (2020). *COVID-19 Response – Remediation* [Report]. UNESCO.

<https://en.unesco.org/sites/default/files/unesco-covid-19-response-toolkit-remediation.pdf>

UNESCO & UNICEF. (2021). *Maldives Case Study - Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia*. [Report]. UNICEF.

[UNICEF.org/rosa/media/16526/file/Maldives%20Case%20Study%20.pdf](https://www.unicef.org/rosa/media/16526/file/Maldives%20Case%20Study%20.pdf)

UNICEF. (2021). *Reimagine Education Case Study: Maldives* [Report]. UNICEF.

<https://www.unicef.org/media/92551/file/Building%20teachers%E2%80%99%20confidence%20and%20capacity%20to%20provide%20online%20learning.pdf>

UNICEF. (n.d.). *Education*. UNICEF. Retrieved December 16, 2022, from

<https://www.unicef.org/maldives/what-we-do/education>

UNICEF, UNESCO, The World Bank, UNHCR, & The World Food Programme. (n.d.). *Framework for Reopening Schools*. UNICEF.

<https://www.unicef.org/media/105286/file/Framework%20for%20Reopening%20Schools.pdf>

UNICEF Maldives Country Office. (2021). *Situation Analysis of Children and Youth in the Maldives*. UNICEF.

<https://www.unicef.org/maldives/media/2736/file/Situation%20Analysis%20of%20Children%20and%20Youth%20in%20the%20Maldives.pdf>

United Nations. (n.d.). *About Small Island Developing States | Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States*. The United Nations. Retrieved December 16, 2022, from

<https://www.un.org/ohrlls/content/about-small-island-developing-states>

The World Bank. (n.d.). *Government expenditure on education, total (% of GDP) - Maldives | Data*. World Bank Data. Retrieved December 16, 2022, from

<https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=MV>

The World Bank. (2022). *Maldives Atoll Education Development Project* [Report].

The World Bank, Bill & Melinda Gates Foundation, FCDO, UNESCO, UNICEF, & USAID.

(2022). *Guide for Learning Recovery and Acceleration: Using the RAPID Framework to*

Address COVID-19 Learning Losses and Build Forward Better [Report]. The World Bank.

<https://www.worldbank.org/en/topic/education/publication/the-rapid-framework-and-a-guide-for-learning-recovery-and-acceleration>

The World Bank, UNESCO, UNICEF, FCDO, USAID, & Bill & Melinda Gates Foundation.

(2022). *The State of Global Learning Poverty: 2022 Update* [Report]. The World Bank.

<https://thedocs.worldbank.org/en/doc/e52f55322528903b27f1b7e61238e416-0200022022/original/Learning-poverty-report-2022-06-21-final-V7-0-conferenceEdition.pdf>

Yamada, S., Fujikawa, K., & Pangen, K. P. (2015). Islanders' educational choice: Determinants of the students' performance in the Cambridge International Certificate Exams in the Republic of Maldives. *International Journal of Educational Development*, 41, 60-69.

Appendix 1: Monitoring and Evaluation Framework for the Remediation Plan

Key component	Objective	Major activities	Resources required	Expected Outcomes	Performance Indicator
Professional development	Ensure readiness of teaching staff and schools for designing and implementation of RP	Organize a training programme for capacity building	1. Training manuals 2. Trained trainers to deliver training 3. Training facilities including the venue and travel funds 4. Attendance sheet 5. Trainer and participant feedback forms	Overall school and staff readiness to design and implement RP	1. Full attendance of all schools and staff 2. Active participation of staff during the training 3. Good feedback from trainer and participants
School preparedness for implementation of the RP	To ensure schools are well prepared with all the resources and learning materials required for implementation of RP	1. Review of curriculum 2. Reorganize school timetable by dedicating time for Remediation Programme 3. Design of lesson plans and worksheets	1. Time for curriculum review to prioritize content 2. Existing curriculum documents 3. Existing school time tables 4. Remediation Programme plan format 5. Lesson plan format 6. Sample exercise sheets	1. Modified time-table (table 2) 2. Remediation Programme plans prepared 3. Compressed content in all the selected subjects and key stages 4. Daily lesson plans and worksheets integrating levelled instruction 5. Pre-assessment sheets	1. Workable and relevant content selected by each school for designing their own Remediation Programme 2. Draft report of modified timetable from each school 3. All Remediation Programme plans drafted and reported 4. Weekly lesson plans submitted to school head.
Evaluation of Remediation Programme in schools	To track and analyse progress of students attending Remediation Programme in schools	1. Lesson observations 2. Student assessments 3. Stakeholder feedback 4. Monthly progress forms filled by teachers, principals, and atoll/city coordinators	1. Lesson observation tool 2. Assessment tools & techniques 3. Feedback tools & techniques 4. Monthly teacher, principal, and atoll/city coordinator forms	1. Progress of students reported from lessons 2. Analysis of student assessment data 3. Analysis of stakeholder feedback 4. Analysis of monthly forms	1. Good progress of students in lessons and assessments 2. Good stakeholder feedback 3. Overview of the whole remediation programme progress

Source: (Maldives National Institute for Education et al., 2021)

Appendix 2 - Data on student learning levels

Table: Average student learning level in Language (Dhivehi and English) and Math in 2020-21

Grade	Math	Dhivehi	English
1	75.6	73.4	74.6
2	59.6	72.4	70.9
3	57.4	63.6	62.1
4	45.7	65.2	58.2
5	39.7	32.7	60.7

Source: Learning Loss Report 2020-21 (National Institute of Education, Maldives et al., 2021)

Appendix 3 - Primary Data Collection

Google Form - <https://forms.gle/g7GnRwmysLPnttPb8>

Responses -

<https://docs.google.com/spreadsheets/d/1vNRiq2DKFY9qsiwVmtqvKiIvgokpEd-OCMHDikxfnnQ/edit?usp=sharing>

Appendix 4 - Key Findings from Primary Data Collection

a. Asymmetric understanding of policies -

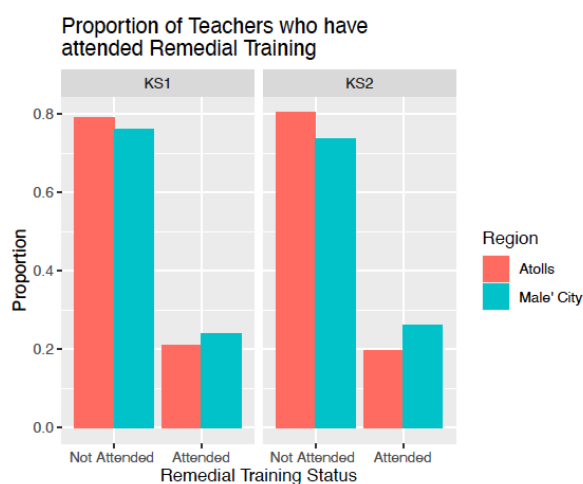
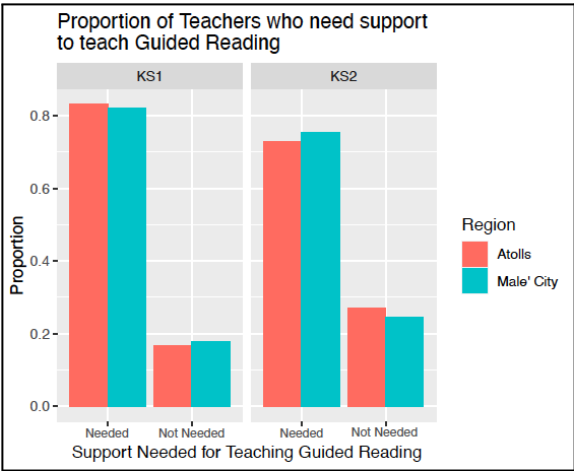
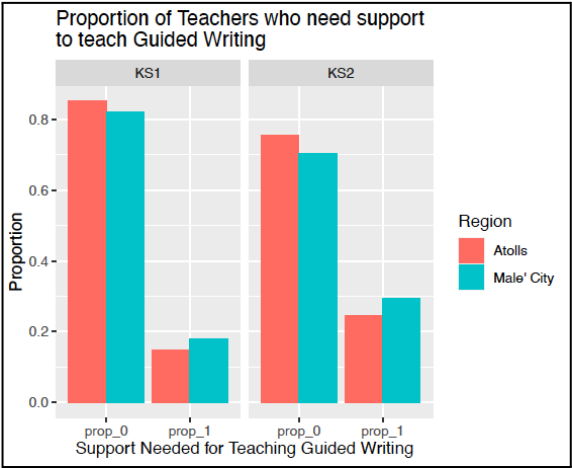
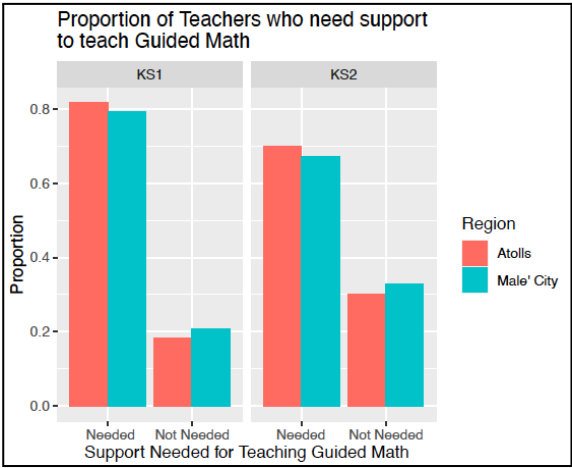


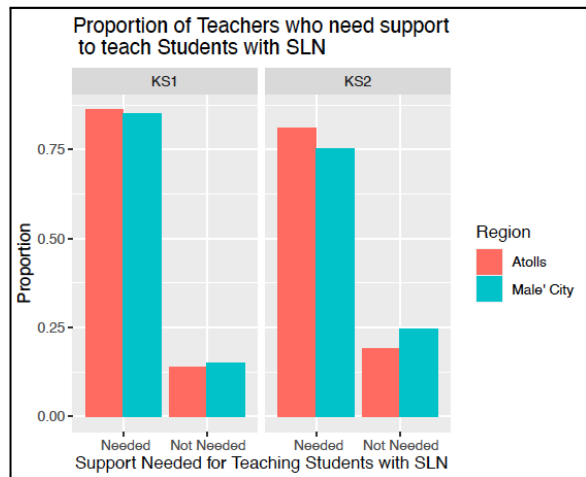
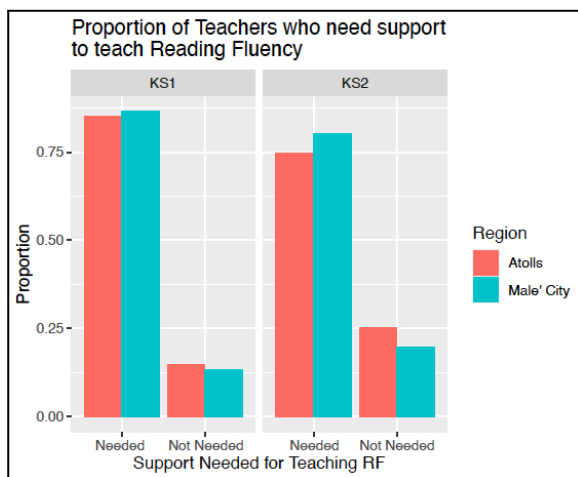
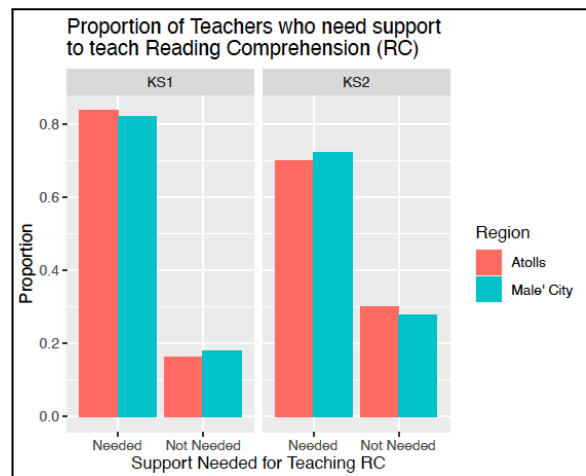
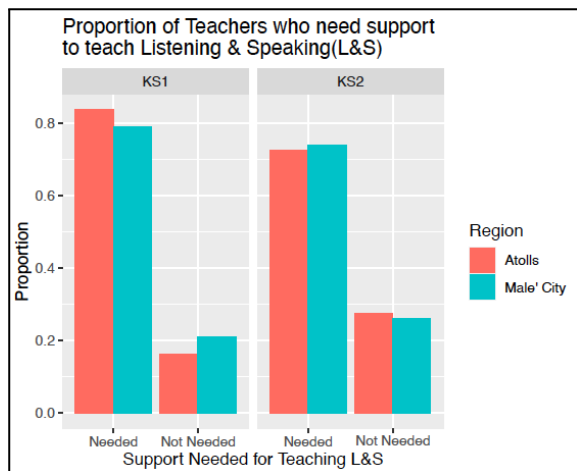
Figure 1: The above represents data from Q.10 in the Google Form. Clearly, close to 80% teachers from both Male & Atolls, and Key Stage 1 & 2, have not attended the training for implementing the Remediation and Monitoring Plan

b. Limited readiness to support learners -

The charts below show the proportion of teachers who need support in implementing small group guided activities, as recommended by NLMS.

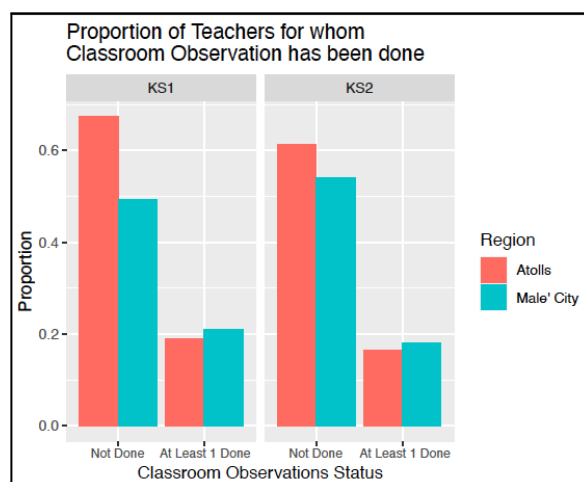


The charts below show the proportion of teachers who need support in implementing activities to improve literacy levels, as recommended by NLMS.



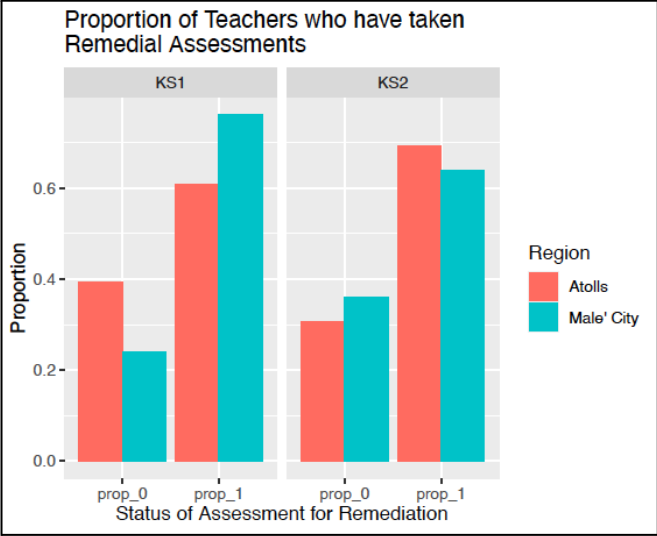
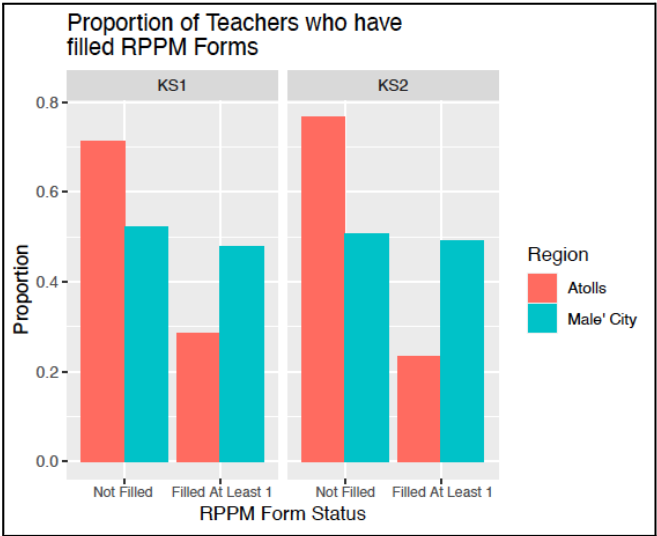
c. Limited support for teachers -

The chart below showcases the status of Classroom Observations done from August 2022 to December 2022.



d. Poorly followed structures on assessments, Monitoring & Evaluation -

The charts below showcase the status of implementation of the assessment and monitoring & evaluation structure as per the RMP.



Appendix 5: Detailed Policy Analysis Matrix -

Policy Alternative	Cost	Effectiveness	Swiftiness in Achievement of Outcome	Learner Equity	Regional Equity	Administrative Feasibility	Feasibility for Teachers
Alternative 1: Status quo	Low - No additional direct costs of running existing programs - Constant variable costs	Low to Medium - Inadequate implementation of remediation and formative assessments	Low - Multi-year policy documents contain ambiguous timelines for achievement of outcomes	Low to Medium While Remediation Plan and NLMS emphasize on children with Special Educational Needs, however remedial learning is not	Low to Medium Low participation of small schools in remote atolls in training programs - Human resource constraints	High NLMS and Remedial Plan align with existing administrative structures at national (NIE, QAD), atoll (TRC) and school (LTs) levels for implementation	Medium Teachers are aligned to remedial teaching, however not aligned to remedial plan to address learning losses
Alternative 2: Incremental change to the Status Quo through Provision of Teacher Guides and Teaching-Learning Material	High - High direct costs involved in creation of teacher guides and TLM	Medium - Provision of teacher guides and TLM if not accompanied by improvement in teacher capacity will lead to moderate improvements in learning outcomes.	Medium - One academic year needed to achieve outcomes	Medium - Introducing grade level TLM without strengthening teacher capacity will yield moderate improvements	Medium - Introducing context-appropriate TLM without strengthening teacher capacity will yield moderate improvements	Medium - Creation of teacher guides and TLM is human resource intensive and may require capacity building of the NIE	Medium - Teachers receptive towards additional guidelines in the form of teacher guides - Some pushback can be anticipated on TLM from teachers as they can view these as additional material to be covered

Policy Alternative	Cost	Effectiveness	Swiftness in Achievement of Outcome	Learner Equity	Regional Equity	Administrative Feasibility	Feasibility for Teachers
Alternative 3: Capacity Building + Coaching + Instructional Material	High - High direct costs of creating and implementing self-paced course - High direct costs of creating supplementary instructional material	High - Sustained professional development with coaching and instructional material evidenced to improve student learning outcomes significantly	Medium - Implementation time of at least one academic year needed to achieve outcomes	High - Specific emphasis on supporting struggling learners in the training course and coaching - Instructional material provided to students at their grade level	Medium - Context-specific training workshops and coaching evidenced to improve learning outcomes - Online training may not be seamless in remote atolls with poor internet connectivity	Medium - High alignment with existing curricular framework and pedagogical focus - Creation of training courses and TLM is human resource intensive and may require capacity building of the NIE	Medium - Some pushback from teachers expected around mandatory training, coaching and use of TLM
Alternative 4: Continuous Assessment & Monitoring of Students' Progress	Medium - Creating new papers on FLN - High direct costs of training teachers on real-time assessment software and development costs of integrating to MEMIS	Medium - Diagnostic and Formative assessments (D & FA) will identify learning gaps for the entire class - This will enable teachers to align instruction to overall learning needs. - Teachers may find it difficult to differentiate if there is high variedness in learner requirements	Medium - Integrating real-time assessment software and training teachers will require 2 semesters	Medium - D & FA will identify learning gaps for each child. - This will enable teachers to provide targeted instruction to struggling learners to serve their specific needs. - Teachers will need to be equipped with tools to provide targeted support	Medium - D & FA will identify learning gaps among schools in remote atolls. - This will enable teachers from all regions to work on their students' requirements. - Teachers in remote Atolls may not have bandwidth to access the real-time assessment software	Medium - Administrative structure will remain the same for implementing assessments. - Capacity building needed in QAD & NIE to monitor and analyze real-time data - Coordination between QAD, NIE & TRCs to share reports & do capacity building	Low - Increase in tasks and accountability for teachers. - Teachers will have to upload data of diagnostic assessments on MEMIS, in addition to the pre-existing data entry requirements. - Teachers will be held accountable for student progress from LTs, TRCs, NIE. Hence, they may resist this measure.

Policy Alternative	Cost	Effectiveness	Swiftness in Achievement of Outcome	Learner Equity	Regional Equity	Administrative Feasibility	Feasibility for Teachers
Alternative 5: Accelerated Learning for All Program (ALfA)	Medium - Online refresher training before implementation. - Printing of materials for teachers and students. - Assessments - printing and implementation.	High - Significant gains in LOs expected	High - Gains in LOs expected within a semester (approx. 90 instructional days)	High - Pedagogy is targeted to support struggling learners rapidly fill learning gaps and improve learning level	Medium - Teachers in small and remote Atoll schools may not have the capacity and skills to implement a new pedagogy	Low - Burden on NIE to additionally monitor and support program implementation. - May require additional NGO staff to support teachers creating a parallel monitoring structure	Medium - The idea of learning acceleration and swift improvement aligns with teacher needs & beliefs. - Teachers will need to significantly alter their teaching practices for literacy & math.

Appendix 6 - Gantt Chart - Implementation Timeline for Recommendation

	2023					2024	
Tasks	Semester 2 (AY 2022-23)		July Break	Semester 1 (AY 2023-24)		Semester 2 (AY 2023-24)	
	January-March	April-June		July-September	October-December	January-March	April-June
Alternative 3: Capacity Building + Coaching + Instructional Material							
1. Development of training modules							
2. Development of online self paced course content and platform							
3. Training of Master-trainers and Leading Teachers							
4. Training of Teachers							
5. In-person Teacher Coaching and Classroom Implementation							
Alternative 4: Continuous Assessment & Monitoring of Students' Progress							
1. Procurement and integration of real-time assessment app with MEMIS							
2. Training for teachers on conduct diagnostic and formative assessments on app							

	2023					2024	
Tasks	Semester 2 (AY 2022-23)		July Break	Semester 1 (AY 2023-24)		Semester 2 (AY 2023-24)	
	January- March	April- June		July- September	October- December	January- March	April- June
3. Periodic assessments and real-time monitoring							
Alternative 5: Accelerated Learning for All Program (ALfA)							
1. Training of master-trainers and Leading Teachers							
2. Training of Teachers							
3. Classroom implementation and teacher coaching							