



INTEGRATING 21ST CENTURY SKILLS IN THE MALDIVES CURRICULUM: GRADE 4 MATHEMATICS

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ABOUT THE RCCS ON INTEGRATION OF 21ST CENTURY SKILLS IN CURRICULUM IN THE MALDIVES

The KIX EMAP RCCS: Integration of 21st century skills in curriculum in the Maldives responded to a demand from the National Institute of Education (NIE) to strengthen their staff's capacity to review curricula for integrating 21st Century Skills (21CS) into all levels of education and to implement the new curriculum framework into practice. The RCCS activity ran from May 2023 to July 2025, led by the NIE, in collaboration with the KIX EMAP Hub and with technical support from the Australian Council for Educational Research (ACER). Capacity strengthening activities were delivered to the NIE for the implementation of a comprehensive review of the K-12 curricula in view of integrating 21CS into the competency-based curriculum and related teaching and assessment strategies into classrooms. The learnings were then applied by key NIE representatives in the form of two reports. This report showcases how 21CS are embedded into the curriculum of a selected exemplary grade and subject – Grade 4 Mathematics. A second report showcases, in an exemplary manner, how one of the competencies – Key Competency 06: Making Meaning – is integrated into the new national curriculum.



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CONTENTS

List of Acronyms and Abbreviations	5
Acknowledgements	6
Executive Summary	7
1. Introduction	8
1.1. The New National Curriculum	8
1.2. Background and Context for Integrating 21CS Standards	9
1.3. Report Outline	9
2. Holistic Development in the National Curriculum Framework	10
2.1. Grade 4 Mathematics as a Key Example for 21CS Standards Integration	10
3. Challenges and Strategies for Integrating 21CS Standards into the Mathematics Curriculum	11
3.1. Potential Strategies for Implementing 21CS into the Mathematics Curriculum	12
3.2. Relevance of ACER's 21CS Frameworks	12
4. Reviewing the Integration of 21CS Standards into Grade 4 Mathematics	14
5. Recommendations and Next Steps	15
5.1. Recommendations	15
5.2. Next Steps	16
References	17

LIST OF ACRONYMS AND ABBREVIATIONS

21CS	21st Century Skills
ACER	Australian Council for Educational Research
CG	Competency Guide
EAP¹	Europe, Asia, Pacific
EMAP²	Europe, Middle East and North Africa, Asia and Pacific
GPE KIX	Global Partnership for Education Knowledge and Innovation Exchange
NIE	National Institute of Education
RCCS	Rapid Customised Country Support

¹ From May 2020–September 2023, the Hub was known as the KIX EAP Hub.

² In 2023, the Hub received a grant extension through to 2027 and underwent a rebranding to the EMAP Hub as it expanded its scope of work.

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EXECUTIVE SUMMARY

The Maldives' National Institute of Education (NIE) has embarked on a comprehensive endeavour to embed essential 21st century skills (21CS) into the educational framework, drawing from the insights and recommendations of a case study produced by a Maldives national team during the KIX EMAP Learning Cycle on "Integration of 21st Century Skills (21CS) in Curriculum". A country-tailored KIX EMAP activity followed to address NIE's identified need for (i) capacity strengthening of their staff in reviewing curricula for integrating 21CS into all levels of education and (ii) implementation of the new curriculum framework into practice. This report is a result of the KIX EMAP Rapid Customised Country Support (RCCS) on the integration of the 21CS into the Maldives competency-based curriculum, which started in May 2023 and ended in July 2025.

This initiative is a response to the ever-changing global landscape, highlighting the importance of equipping students with competencies like critical thinking, creative thinking, and collaboration. The focus of this report is on integrating 21CS into Grade 4 Mathematics, with future plans to extend this initiative to other subjects and grade levels.

The National Curriculum Framework, introduced in 2015, laid the foundation for prioritising skills development alongside traditional knowledge acquisition, addressing the uncertainties of the future. Informed by extensive consultations and stakeholder engagements, this framework emphasises eight key competencies, including 21CS, while also reflecting the

nation's cultural and Islamic heritage. Challenges in integrating 21CS into the curriculum include limitations in resources, gaps in teacher capacity, time constraints, parental perceptions, and assessment-related issues. However, potential strategies to overcome these challenges involve targeted training for teachers, collaboration between NIE and educators, appropriate resource allocation, community involvement, and reforming assessment practices. The Australian Council for Education Research's (ACER) 21CS frameworks utilised in this report offer a structured approach, leveraging ACER's credibility, comprehensive frameworks, and alignment with international standards. These frameworks provide detailed guidance on integrating critical thinking, creative thinking, and collaboration into subject-specific curricula.

The integration of 21CS into Grade 4 Mathematics underwent a skill audit, revealing significant coverage of critical thinking and improvements in creative thinking and collaboration. However, further adjustments are necessary to ensure comprehensive integration. This report's recommendations include offering comprehensive training for NIE staff and teachers, developing customised resources, conducting pilot tests, drafting relevant documentation, establishing clear timelines, identifying support requirements, and implementing monitoring and quality assurance mechanisms. Through systematic integration of 21CS into the curriculum and adequate support provision, NIE aims to equip students with a diverse skill set, preparing them for success in the complexities of the modern world.

1

INTRODUCTION

1.1. The New National Curriculum

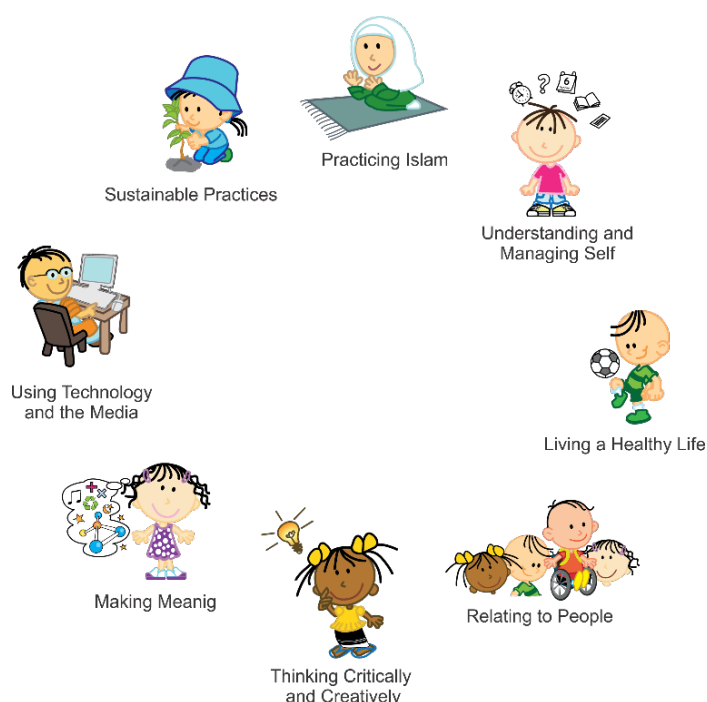
The National Curriculum Framework in the Maldives was introduced in 2015. The decision to implement a new national school curriculum at that time was driven by the recognition that the world was evolving rapidly, making it challenging to predict the specific knowledge that would be essential for the future. In response to this uncertainty, there was a strategic initiative to shift the focus from merely imparting content knowledge to fostering soft or transferable skills, commonly referred to as 21st century skills (2ICS) (National Institute of Education [NIE], 2014).

The reform process, which involved intensive literature reviews, curriculum symposia and stakeholder meetings, aimed to address the changing needs of the global landscape. The intention was to equip Maldivian students with the skills necessary to adapt to evolving circumstances, think critically, solve problems, and effectively apply knowledge. As a result,

the 2015 National Curriculum Framework emphasised the importance of learning processes, the development of investigative and problem-solving skills, appropriate use of reading skills, reasoning in writing, and the cultivation of skills essential for effective learning. Additionally, insights from focus group discussions during this reform process indicated the need to include Islamic spirituality and values specific to Maldivian society and culture in the curriculum. The culmination of these considerations led to the identification of eight key competencies that were incorporated into the curriculum, contributing to a more holistic and adaptable educational approach in the Maldives.

The new National Curriculum Framework comprises eight areas of skills which are vital for children to be prepared for a decent life. These eight areas of skills are given as eight key competencies, as shown in Figure 1, which is the centre of focus of the curriculum.

Figure 1. Key Competencies in the National Curriculum Framework



Source: NIE, 2015, p.2

1.2. Background and Context for Integrating 21CS Standards

In 2021, a team of five national experts from the Maldives participated in the KIX EMAP Learning Cycle on “Integration of 21st Century Skills (21CS) in Curriculum”³ and produced a case study reviewing the extent to which 21CS had been integrated across the education system in the Maldives. The national team conducted a needs analysis in which they reviewed the 10 alignment steps for 21CS integration. A skills audit and mapping exercise was conducted for individual subjects to identify which key skills were well embedded in the learning area and which skills had been neglected to a greater or lesser extent. All the elements of analysis were combined to inform a strategic plan for further integrating skills into the curriculum and the system more broadly (Ali et al., 2022).

Building on the recommendations from the aforementioned strategic action plan, the National Institute of Education (NIE)⁴ identified the need to strengthen the capacity of their staff to review curricula for the integration of 21CS into all levels of education and for the implementation of the new curriculum framework into practice. In March 2023, a request from NIE was put forward via the KIX EMAP National Steering Committee in the Maldives for a KIX EMAP Rapid Customised Country Support (RCCS) to support this identified need. The KIX EMAP RCCS on the integration of the 21CS into the Maldives competency-based curriculum ran from May 2023 to July 2025, with technical support from the Australian Council for Educational Research (ACER). Capacity strengthening activities were delivered to 58 staff members of the NIE for the implementation of a comprehensive review of the K-12 curricula in view of integrating 21CS into the competency-based curriculum and related teaching and assessment strategies into classrooms. The learnings from such activities were then applied by key representatives of the NIE in the form of two reports. One of the reports showcases, in an exemplary manner, how one of the competencies – Key Competency 06: Making Meaning – is integrated into the new national curriculum. Complementarily, this report showcases how 21CS are embedded into the curriculum of a selected exemplary grade and subject – Grade 4 Mathematics. Both reports are expected to contribute to the systematic implementation of the 21CS curriculum reform for the remaining grades and subjects in the Maldives. In addition, they aim to document NIE’s learnings and share innovations with policymakers and educators in the Maldives and beyond.

1.3. Report Outline

This report outlines a strategic approach for revising the curriculum framework and enhancing its implementation effectively across educational settings.

Following the introduction, section 2 discusses how holistic development is incorporated in the National Curriculum Framework and the rationale behind selecting Grade 4 Mathematics as the starting point for integrating 21CS standards, highlighting the subject’s potential to nurture critical thinking, creative thinking, and collaboration among students. Section 3 follows with the identification and examination of the challenges encountered in integrating 21CS standards into the Mathematics curriculum, ranging from resource constraints to parental perceptions and assessment issues. It also proposes potential strategies for overcoming these challenges, including targeted teacher training, collaboration between the NIE and educators, resource allocation, community engagement, and assessment reform. The third section also explores the adaptation of ACER’s 21CS frameworks, underscoring their suitability and benefits for guiding the skills integration process. It provides an overview of ACER’s skill development frameworks and delineates the division of key skills into strands and aspects, offering a structured approach for curriculum developers and educators.

Moving forward, section 4 explores the integration of 21CS standards into the curriculum, emphasising the importance of skill development in education and detailing the efforts to incorporate 21CS into Grade 4 Mathematics. It discusses the results of a skill audit and mapping exercise, highlighting the coverage of critical thinking, creative thinking, and collaboration within the revised syllabus, and identifies challenges and areas for further refinement.

Finally, the report outlines recommendations and next steps for advancing the integration of 21CS into the curriculum, including the identification of additional essential skills, the focus on grade and subject, the implementation of training programs for staff and teachers, and the development of comprehensive teacher resources. The importance of conducting pilot phases, drafting relevant documents, establishing timeframes, and ensuring monitoring and quality assurance mechanisms are also addressed.

³ Learning Cycles are professional development courses offered to national education experts where teams of national experts analyse, contextualise, exchange and produce new knowledge on policy analysis and innovations. The Learning Cycle on “Integration of 21st Century Skills (21CS) in Curriculum” was organised in two rounds from 14 June – 9 July, and 16 August – 9 September 2021 for 69 national education experts from 14 KIX EAP countries. The Learning Cycle was facilitated by ACER and addressed the steps required to implement systematic curriculum reform that further emphasises 21CS within learning outcomes, assessment, and pedagogical strategies (KIX EAP Hub, 2021).

⁴ NIE is a division of the Ministry of Education, which is the main body that designs, develops, implements, and revises the national curriculum in Maldives as mandated in the letter of the President’s Office of the Maldives in December 2012.

2

HOLISTIC DEVELOPMENT IN THE NATIONAL CURRICULUM FRAMEWORK

The National Curriculum Framework was developed to promote a holistic approach to education which places an equal emphasis on the development of knowledge, understanding, skills, values and attitudes (NIE, 2015).

The National Curriculum Framework highlights the significance of nurturing children's skill development. In a constantly evolving world, predicting future knowledge requirements becomes challenging. Therefore, schools must prioritise equipping children and young individuals with skills enabling them to acquire, organise, and utilise information effectively. The National Curriculum Framework underscores the significance of learning processes, fostering investigation and problem-solving abilities, employing suitable reading skills for various tasks, employing reasoning in writing, and cultivating essential skills for proficient learning.

The development of the new curriculum involved extensive consultations with educational experts. Following this, a curriculum symposium to address the necessity for change was conducted. In addition, numerous stakeholder discussions to identify essential elements to incorporate in the curriculum were also executed. Furthermore, the NIE conducted thorough literature research to inform the process and include appropriate content in the curriculum. Similarly, specific subject syllabi were prepared in collaboration with stakeholders, teachers, and experts in the respective disciplines. Since the vision of the curriculum is 'to prepare children for life', 21CS were embedded in the curriculum during the process mentioned above. Henceforth, the Grade 4 Mathematics curriculum, which is the focus of this report, also integrates various levels of 21CS.

2.1. Grade 4 Mathematics as a Key Example for 21CS Standards Integration

Integrating 21CS into the mathematics curriculum is essential for equipping students with the tools necessary to navigate the dynamic challenges of contemporary society. Mathematics serves as an optimal platform for nurturing critical thinking abilities, enabling students to dissect problems, evaluate solutions, and adapt to novel situations (NIE, 2015).

Additionally, fostering creative thinking empowers students to explore inventive problem-solving approaches. Emphasising collaboration in mathematics cultivates indispensable teamwork and communication proficiencies essential for success in collaborative work settings. This comprehensive educational approach ensures that students are adequately prepared for both personal and professional achievements beyond traditional classroom confines. Therefore, Grade 4 Mathematics has been identified as a key example for analysis and enhancement within this report.

The decision to focus on Grade 4 Mathematics is informed by several factors. Firstly, Grade 4 marks the inception of Key Stage 2, signifying a pivotal transition in students' educational journey from early primary education to later stages. Introducing 21CS at this juncture facilitates a seamless progression into more advanced learning experiences while establishing clear expectations for skill development.

Furthermore, the ongoing process of curriculum revisions and educational reforms typically commences at the onset of key stages. Integrating 21CS into Grade 4 curriculum revisions ensures that these competencies are prioritised and integrated across various subject areas, reinforcing their significance in the broader educational landscape.

During the KIX EMAP Learning Cycle on "Integration of 21st Century Skills (21CS) in Curriculum", the Maldivian team conducted a comprehensive skills audit and mapping exercise focused on Grade 1 Mathematics. This assessment highlighted substantial incorporation of critical thinking (100%), creative thinking (73.9%), and collaboration (100%) within Grade 1. Building upon these findings, the capacity strengthening activities held as part of the KIX EMAP RCCS facilitated revisions of Key Stage 2 subject syllabi, including Grade 4. Although Grade 4 syllabi had been finalised, they had yet to be disseminated to schools, presenting an opportune moment to infuse elements of creative thinking, critical thinking, and collaboration into the Grade 4 Mathematics syllabus, leveraging insights garnered from the RCCS training.

3

CHALLENGES AND STRATEGIES FOR INTEGRATING 21CS STANDARDS INTO THE MATHEMATICS CURRICULUM

Integrating 21CS into the curriculum presents both challenges and opportunities for teachers in the Maldives. As our educational system evolves to meet the dynamic needs of a rapidly changing global landscape, it becomes increasingly crucial to equip students with essential skills such as critical thinking, communication, collaboration, and creativity.

First, incorporating 21CS into the existing mathematics curriculum poses a substantial challenge, demanding thorough mapping and seamless integration of new skills while maintaining the core mathematical content's integrity. The NIE faces limitations in human resources and necessary facilities crucial for conducting in-depth curriculum mapping and effectively integrating 21CS into it, hindering the smooth implementation of these enhancements in schools. This emphasises the need for concerted efforts to address resource constraints and provide adequate support to ensure successful alignment between the curriculum and 21CS standards, as well as enable effective teaching and learning experiences for teachers and students alike.

Second, in the Maldives, a significant challenge arises from teachers' insufficient knowledge and pedagogical approaches to effectively integrate 21CS standards into mathematics instruction. While the NIE has incorporated elements of 21CS into the curriculum, teachers often struggle to recognise and implement them in practice. For instance, when students encounter a problem like dividing 93 by 5, they typically default to traditional methods, overlooking opportunities for creative problem-solving skills encouraged by the curriculum. This disconnection stems from a lack of training provided to teachers regarding 21CS. Addressing this challenge necessitates tailored professional development programs designed to equip both in-service and pre-service teachers with the necessary skills and strategies to effectively integrate 21CS into mathematics instruction, enabling them to nurture students' creativity and adaptability in problem-solving approaches.

Third, the 2019 Curriculum Symposium held in Addu City highlighted teachers' concerns about the limited time available for delivering content, citing it as a significant challenge. This scarcity of time often leads teachers to rely on outdated resources or uninspiring teaching methods, impacting student engagement and learning outcomes while overlooking individual student needs. With most schools having class periods of only 35 minutes, teachers struggle to cover the curriculum comprehensively, resulting in superficial learning and missed opportunities for deeper understanding and meaningful participation. Additionally, the packed academic schedule leaves little room for extracurricular activities, hindering students' development of crucial social, emotional, and leadership skills beyond the classroom (NIE, 2019).

Fourth, it is crucial to involve parents and the wider community in promoting the integration of 21CS standards into mathematics education. Many parents perceive such skills in the curriculum, particularly in subjects like mathematics, as a waste of time, prioritising academic success above all else for their children. Therefore, raising awareness and gaining support for the significance of these skills in education can contribute to creating a supportive learning environment.

Lastly, the Curriculum Symposium shed light on significant challenges related to assessment faced by teachers in the Maldives. Many teachers lack familiarity with assessment techniques and procedures, which results in ineffective evaluation methods that fail to accurately represent students' abilities and progress. This lack of understanding is intensified by insufficient training, leaving teachers struggling to implement fair and reliable assessment strategies. Consequently, students may develop a negative attitude towards studying, particularly when assessments lack tangible numerical values, leading them to perceive evaluations as unfair or unreliable measures of their academic performance. Ultimately, this situation undermines students' motivation and engagement in the learning process.

3.1. Potential Strategies for Implementing 21CS into the Mathematics Curriculum

In order to effectively address the challenges associated with integrating 21CS into mathematics education in the Maldives, a comprehensive approach is necessary. First, it is crucial to provide teachers with the necessary training and professional development opportunities to enhance their understanding and pedagogical approaches in integrating 21CS into mathematics instruction. This includes organising workshops, seminars, and ongoing support sessions to help educators grasp the importance of 21CS and learn how to effectively incorporate them into their teaching practices.

Second, teachers working alongside curriculum developers at the NIE are crucial for supporting the alignment of the mathematics curriculum with 21CS standards. This collaboration involves accurately analysing the current curriculum to identify areas for seamless integration of 21CS skills. Teachers and developers can then align the identified standards with specific learning objectives, ensuring enhancement rather than divergence from core mathematical concepts. Together, they can map out the integration of 21CS into various units, fostering purposeful engagement with mathematical concepts. Continuous communication and feedback will also serve to refine this process, ensuring students acquire both mathematical proficiency and essential 21CS.

Third, allocating sufficient resources and support to NIE and schools is paramount to address limitations in human resources and facilities for curriculum mapping and integration. This may entail providing additional funding, technology tools, and staffing to facilitate the effective implementation of 21CS enhancements in schools.

Fourth, engaging parents and the broader community is also crucial in promoting the importance of 21CS in mathematics education. This can be achieved through informational sessions, workshops, and outreach programs, which can raise awareness and support for integrating 21CS into the curriculum. This proactive approach can help address misconceptions and concerns about the relevance of these skills and foster a supportive learning environment.

Lastly, offering training programs for teachers on assessment techniques and procedures is essential. These programs should focus on developing fair and reliable evaluation methods that accurately measure students' abilities and progress in relation to 21CS standards. Ongoing support and resources should be provided to assist teachers in implementing effective assessment strategies in the classroom. By implementing these strategies in a coordinated manner, the integration of 21CS into mathematics education can be successfully achieved, ultimately preparing students for success in the 21st century.

3.2. Relevance of ACER's 21CS Frameworks

One of the most important requirements for integrating 21CS in curriculum is to be guided by well-developed skills frameworks, such as those established and tested by ACER. ACER (Scoular et al., 2020) emphasises the importance of understanding and supporting skill development in the classroom, particularly focusing on critical thinking, creative thinking, and collaboration. Despite the high value placed on these skills globally, there is still a lack of detailed research on how to define, teach, and assess them effectively. To address this gap, ACER's general capabilities project provides frameworks for these skills, aiding educators and researchers to better understand and incorporate them into teaching practices. These frameworks offer detailed descriptions to establish consistent terminology and support efforts to enhance student skill development.

ACER's global reputation for excellence in educational research and assessment lends credibility to its meticulously developed frameworks, which are based on rigorous research and evidence-based practices. This credibility ensures that the frameworks serve as reliable resources for enhancing education standards. Moreover, these frameworks are often aligned with international educational standards and best practices, ensuring that the Maldives' education system remains abreast of global trends and expectations while effectively integrating 21CS into mathematics education and maintaining alignment with international benchmarks.

ACER frameworks are renowned for their comprehensive nature, offering curriculum developers and teachers clear guidance and practical strategies for incorporating 21CS into various subject areas, including mathematics. This ensures that teachers and curriculum developers have the necessary tools to develop and assess 21CS skills within the context of mathematics instruction, thereby enriching the learning experience for students. Additionally, ACER's commitment to supporting professional development initiatives further strengthens the case for adopting its frameworks, as through training workshops, resources, and ongoing assistance, ACER can empower educators in the Maldives to effectively integrate 21CS into mathematics education and enhance their instructional practices, ultimately benefiting students' academic growth and development.

The ACER skill development frameworks serve as teaching and assessment tools aiming to define the core 21CS and how they are practically utilised. While the frameworks offer a general description of skills like critical thinking, creative thinking, and collaboration, they must be integrated into specific learning areas to effectively teach and assess them. Embedding these skills within the approaches and norms within specific fields provides context, relevance, and sustainable integration, facilitated by consistent terminology across learning areas for

describing skills and their associated aspects. These aspects can then be utilised for crafting assessments or integrating them into lesson plans.

Table 1 below illustrates the division of key skills into strands and aspects, intended for implementation in classroom instruction and assessment.

Table 1. Summary of ACER's Skill Development Frameworks

21CS	Strand	Aspect
Critical Thinking	1. Knowledge construction	1.1. Identifies gaps in knowledge 1.2. Discriminates amongst information 1.3. Identifies patterns and makes connections
	2. Evaluating reasoning	2.1. Applies logic 2.2. Identifies assumptions and motivations 2.3. Justifies arguments
	3. Decision-making	3.1. Identifies criteria for decision-making 3.2. Evaluates options 3.3. Tests and monitors implementation
Creative Thinking	1. Generation of ideas	1.1. Identifies criteria for decision-making 1.2. Range of ideas
	2. Experimentation	2.1. Shifting perspective 2.2. Manipulating ideas
	3. Quality of ideas	3.1. Fitness for purpose 3.2. Novelty 3.3. Elaboration
Collaboration	1. Building shared understanding	1.1. Communicates with others 1.2. Pools resources and information 1.3. Negotiates roles and responsibilities
	2. Collectively contributing	2.1. Participates in the group 2.2. Recognises contributions of others 2.3. Engages with role and responsibilities
	3. Regulating	3.1. Ensures own contributions are constructive 3.2. Resolves differences 3.3. Maintains shared understanding 3.4. Adapts behaviour and contributions for others

4

REVIEWING THE INTEGRATION OF 21CS STANDARDS INTO GRADE 4 MATHEMATICS

Following the RCCS capacity strengthening activities on incorporating 21CS into the curriculum in 2023, curriculum developers at NIE acknowledged the necessity to revise the Grade 4 Mathematics syllabus. Consequently, by using ACER's skill frameworks, a skill audit was conducted to determine which key skills were adequately integrated into the learning area and which ones were overlooked to varying degrees. Utilising the findings from the skill audit and mapping, measures were devised to rectify any imbalances in the incorporation of skills within the learning outcomes.

Firstly, Mathematics Curriculum Leads at NIE conducted a skill audit of the syllabus prepared before the RCCS training in 2023, using ACER's skill frameworks as a foundation. The skills identified from the Grade 4 Mathematics syllabus were the 3Cs: critical thinking, creative thinking, and collaboration, along with different strands and aspects of each skill. The number of outcomes in the syllabus was considered the denominator, and the number of outcomes that embed the skills was taken as the numerator in the quantification process.

According to the audit, the mathematics syllabus prepared before the RCCS training demonstrated 100% critical thinking, 53% creative thinking, and 50% collaboration embedded within it.

Consequently, following the RCCS training, the curriculum leads decided to revise the syllabus by including more elements of creative thinking and collaboration, which were less evident in the syllabus. Subsequently, the revised syllabus indicated 100% critical thinking and 76% in both creative thinking and collaboration.

The outcome of the skill audit is presented below in Table 2, detailing not only the skills covered in each learning area but also the extent to which these skills are integrated into the learning outcomes. The NIE team established criteria for the skills covered in the outcomes accordingly.

Table 2. Percentage of Skill Descriptions in Grade 4 Mathematics

Little to no coverage	1% – 25%
Some coverage	26% – 50%
Moderate coverage	51% – 74%
Lots of coverage	75% – 100%

	Number of Skills		Percentage	
	Old Syllabus (32)	Revised Syllabus (33)	Old Syllabus	Revised Syllabus
Critical Thinking	32	33	100	100
Creative Thinking	17	25	53	76
Collaboration	16	25	50	76

While the revised syllabus shows improvements in creative thinking and collaboration, additional steps have to be taken to enhance the incorporation of these skills. Therefore, further refinements are needed to ensure the comprehensive integration of 21CS into the mathematics syllabus.

5

RECOMMENDATIONS AND NEXT STEPS

In response to evolving educational needs, the NIE is leading a comprehensive effort to embed essential 21CS into the curriculum. Recognising the significance of skills like critical thinking and collaboration, NIE aims to integrate them systematically into subject syllabi and teaching methods. Through targeted training for curriculum developers and teachers, NIE seeks to ensure effective implementation. By providing tailored resources and rigorous quality assurance, NIE is committed to nurturing a learning environment that equips students for success in today's dynamic world.

5.1. Recommendations

Identified 21CS

In the Grade 4 Mathematics skill audit, we have identified critical thinking, creative thinking, and collaboration as key skills, aligning with the frameworks outlined by ACER. However, to conduct a thorough and inclusive skill audit, we recognise the need to expand our focus to include additional essential skills. These include communication, information literacy, adaptability, and ethical responsibility.

Our objective is to revise the subject syllabi, textbooks, and teachers' guides to ensure that these skills are integrated systematically and evenly throughout the curriculum. By doing so, we aim to empower students with a well-rounded skill set that not only prepares them for academic success but also equips them for the complexities of the modern world.

Grade and Subject Focus

For this report, we have chosen Grade 4 Mathematics as the subject of focus. However, moving forward, we aim to conduct skill audits for all subjects across Grades 5 to 8. Additionally, we will need to include Dhivehi and Islam for Key Stages 4 and 5.

It is important to note that subjects following the Cambridge IGCSE and Edexcel curricula in Key Stages 4 and 5 will not be part of the skill audits conducted by NIE.

This expansion of scope will ensure a comprehensive assessment of skills across various subjects and grade levels, contributing to a more holistic understanding of student abilities and educational needs.

Training

It is crucial to provide comprehensive training to the professional staff at NIE who are responsible for crafting, refining, and executing the curriculum in Maldivian schools. However, this training will not suffice if it does not extend to the teachers who work directly with students. Therefore, following thorough training for NIE curriculum developers, it is imperative to ensure that all teachers across schools receive training.

Curriculum developers must undergo training to conduct more thorough skill audits, map out relevant skills, create heatmaps to visually represent the findings of audits and mappings, and incorporate these essential skills into the curriculum content. This integration should be contextualised in a manner that allows teachers to effectively convey it to students in classrooms. Additionally, professional staff should receive training to effectively educate teachers on the specifics of skill frameworks.

Teachers, on the other hand, need training to recognise the skills outlined in the curriculum content that are crucial for student development and to implement them as intended by NIE's curriculum developers.

Additionally, it is crucial to organise sustainable professional development sessions for teachers in every subject domain. These sessions should prioritise enriching teachers' comprehension of 21CS and furnishing them with actionable strategies to embed these skills into their everyday teaching. The ultimate goal is to ensure that teachers are well-prepared to successfully navigate and implement 21CS, fostering an engaging and student-centred learning atmosphere.

Resource Needs

By developing a comprehensive range of teaching resources tailored to each subject area, educators can effectively integrate 21CS into the Maldivian curriculum content and empower students to thrive in today's rapidly evolving world.

Development of Comprehensive Guidelines: NIE needs to develop thorough guidelines for each subject to be incorporated into the subject syllabi. These guidelines will outline specific strategies and methodologies for seamlessly integrating 21CS into lesson plans and activities. They will offer clear instructions and examples to assist teachers in infusing critical thinking, communication, collaboration, creativity, adaptability, information literacy, and ethical responsibility into their teaching practices.

Creation of Video Tutorials: NIE needs to produce video tutorials illustrating how to incorporate 21CS into subject-specific lessons. These videos will showcase effective teaching practices, model classroom interactions, and provide step-by-step instructions for implementing activities that foster critical thinking, collaboration, and other vital skills.

Development of Resource Packs: NIE needs to design comprehensive resource packs for each subject, comprising lesson plans, activity ideas, worksheets, assessment tools, and other materials tailored to support the integration of 21CS. These resource packs will be easily accessible online and in print format, enabling teachers to access and adapt the materials according to their unique teaching contexts.

Design of Interactive Online Resources: NIE needs to create interactive online resources dedicated to integrating 21CS into subject-specific curriculum content. These resources will feature multimedia presentations, quizzes, discussion forums, and self-assessment tools to engage teachers in active learning and reflection.

Creation of Assessment Resources: NIE needs to develop assessment resources, including rubrics, checklists, and performance tasks, to aid teachers in evaluating students' proficiency in 21CS within the context of each subject. These assessment tools will align with curriculum objectives and furnish clear criteria for measuring student progress and achievement.

5.2. Next Steps

Pilot / Test Teaching Resources

NIE plans to conduct a pilot to test the resources mentioned in the previous section with a smaller group of teachers. These will be drawn from a selected group of schools throughout the Maldives, first in a controlled setting before full implementation. This phase will enable NIE to collect feedback and make necessary adjustments based on real-world usage and practical considerations.

Draft / Develop Relevant Teaching Resources and Activities

Following the pilot phase, NIE will proceed to further develop and refine the resources based on feedback received. This involves creating detailed content, lesson plans, worksheets, and other materials that align with curriculum objectives and 21CS integration goals.

Draft Relevant Documents

Alongside resource development, NIE will draft relevant documents such as user guidelines, policies, and documentation with the assistance of selected teachers from schools throughout the Maldives. These documents will provide clear instructions and procedures for teachers on how to effectively utilise the resource and integrate it into their teaching practices.

Identify Timeframe

NIE will establish a specific timeframe for each step of the process, including when to begin, continue, and complete the next steps. This will help in setting realistic deadlines and ensuring that progress is made in a timely manner.

Identify Further Assistance / Support Needed

NIE will assess whether additional assistance or support is required to successfully complete the next steps. This may involve obtaining additional resources, seeking expert guidance, or collaborating with other stakeholders to address any challenges or gaps in the development process.

Identify Monitoring and Quality Assurance Requirements

NIE will establish monitoring and quality assurance mechanisms to ensure the effectiveness and sustainability of the teacher resource. This involves setting up processes to regularly evaluate the resource's performance, gather feedback from users, and make continuous improvements to maintain its relevance and impact.

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