



Government of the Republic of Trinidad and Tobago

MINISTRY OF EDUCATION

DIGITAL TRANSFORMATION POLICY

2023 - 2027

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MOE
ACCESS

SERVICES

SYSTEMS

SOLUTIONS



The Government of the Republic of Trinidad and Tobago
MINISTRY OF EDUCATION

Digital Transformation Programme

Ministry of Education

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Introduction

1.1 Background

The Draft Education Policy Paper 2022-2027 specifies various strategic goals to ensure effective governance and administration of the education system, access to educational opportunities by all learners, and quality education provided at all levels. The implementation of strategies to achieve these goals has had to be fast-tracked to address the learning challenges presented by COVID-19.

An in-depth identification and analysis of the gaps in Ministry operations, the delivery of services to key stakeholders and target audiences and solutions to ensure limited negative impact or loss of learning at all levels due to global, regional and local environmental factors is now needed. In essence, the Ministry needs to rethink and restructure its operations, re-train its human resources at all levels, re-align its services to meet a more dynamic and sophisticated client and re-strategize how it prepares students for the world of tomorrow.

A key factor of this restructuring and realignment process is Digital Transformation, which is neither a product nor a solution, but a continuous process of adaptation to new circumstances in order to compete successfully. This process involves innovative technologies and work methods.

Digital transformation allows the Ministry of Education to make strategic decisions that impact the education sector with present and future technological advances in mind. The impact of digital transformation initiatives is profound in that the extensive cost savings realised, along with the efficiencies gained, contribute to the Ministry of Education's commitment to improving public sector service delivery and public sector perception.

These digital transformation initiatives introduce all stakeholders to a connected experience, which drives the receipt of data that is analysed in real time, to be used as the basis for strategic decisions taken by the Ministry of Education.

For some time, the Ministry of Education has been developing digital transformation initiatives, and active development of systems followed by the requisite monitoring and evaluation is expected to continue into 2027.

1.2 Problem Identification

The conceptualisation of the Digital Transformation Programme was characterised by:

- the lack of:
 - educational continuity in circumstances where face to face instruction is not possible/ desired,
 - personalised learning opportunities outside of the classroom,
 - student engagement,
 - 21st century skill development,
 - equity in educational offerings,
 - readiness for e-testing,
 - readily accessible data re schools' enrolment, performance, resources,
 - method to track student attendance, engagement and performance,
 - easily accessible reports to track trends in school and student performance and implement intervention strategies,
 - facile access to various categories of staff and students, and
 - a teacher-centred system.

Programme Definition

2.1 Digital Transformation Strategy

The Digital Transformation Strategy of the Ministry of Education looks at the current situation, the Ministry's goals, and the way forward on a transformational journey using a method that makes sense and connects the dots. Effectively, the strategy speaks to building bridges between the current state and the desired long-term plan of the Ministry.

The questions to be asked are:

- Why do we need to transform? Vision
- What do we need to transform? Plan
- How can we transform? Action

Programme Approach

Some of the projects considered under the Digital Transformation Programme (**Appendix I**) have already been implemented and others are in the initiation stage, where the full scope is being defined in detail.

A Roadmap will be developed and maintained throughout the life of the Programme to identify and track projects, Programme Objectives, Programme Deliverables, and Key Performance Indicators that develop over time.

This Programme Proposal, along with the Roadmap, will act as the base documents against which the Digital Transformation Team can assess progress and review issues, on-going viability and overall strategy.

The Roadmap, once developed, will be reviewed and updated on a regular schedule.

2.2 Programme Vision

The vision of the MOE's Digital Transformation Program:

“Efficient development of globally competitive citizens. ”

Alignment with Ministry's Strategic Vision

The objectives of the Digital Transformation Programme must reflect those defined in the Digital Transformation Strategy, which in turn reflects the Ministry of Education's key strategic elements:

- alignment with Vision 2030;
- gained efficiency;
- cost savings;
- improve public sector delivery; and
- improve public sector perception.

Areas to be impacted by MOE's Digital Transformation

- Budget Management – Estimates (Recurrent/PSIP)
- Digital Records Management
- ICT Infrastructure Upgrades/Maintenance
- School Infrastructure (Repair Programme)
- Examinations (Online Modalities)
- Curriculum Delivery
- Lifelong Learning
- Human Resource Processes
- Staff Terms and Conditions
- School Operations
- Professional Development
- Staffing Support for Divisions

2.3 Programme Goals

The goals of the Programme are as follows:

1. to promote a learner centred education system.
2. to allow for digital fluency at all levels in the education system and among all stakeholders.
3. to encourage continuous learning and development (teaches 21st century skills).

4. to promote continuous stakeholder and client engagement for continued buy-in and adoption.
5. to improve teacher efficiency and effectiveness.
6. to reduce workload at the technical and administrative level.
7. to improve stakeholder communications.
8. to ensure efficiency in project implementation and monitoring.
9. to build resilience and continuity and minimises loss of learning.
10. to allow for learning at individualised pace.
11. to creates databases, which can be used to generate a variety of reports for monitoring schools and student performance.
12. To improve school academic performance and student achievement
13. To enhance the delivery of quality, equitable educational opportunities
14. To achieve cost reductions in the administration of examinations and school operations

2.4 Programme Objectives

1. To provide teachers with e-classrooms which they can use routinely in and out of the physical classroom.
2. To provide schools with internet access throughout the compound.
3. to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally.
4. To allow teachers to regularly use modes of e-testing in formative evaluation.
5. To ensure that Summative Examinations at the Secondary Level can be done in a blended format, or online.
6. To ensure that Schools have increased access to support staff for data entry purposes.
7. To ensure that Students can access learning materials, including textbooks, digitally.
8. To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens.
9. To ensure that there will be synchronous teaching sessions and tutorials each academic year available to those registering for the MOE's Online Continuation Classes.

10. To ensure that Schools electrical infrastructure will support the use of digital devices.
11. To ensure that T&T will undertake e-testing for CXC examinations in all subjects available.
12. To ensure that each primary and secondary school student will have access to a laptop for educational purposes.
13. To ensure that Students will be offered avenues to obtain certification in digital literacy at the primary level.
14. To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills.
15. To ensure that all HR records, including that of teachers, will be digitized.
16. To ensure that all teachers will be issued an MOE laptop.
17. To ensure that all HR processes will be digitalized.
18. To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility.
19. To ensure that the attendance of teachers and students will be recorded digitally.
20. To ensure that access to services / resources of the MOE will be recorded digitally (e.g. NSDSL, School Transport).
21. To ensure that Student bio-data will be collected and stored digitally.
22. To ensure that examination results at all levels will be released to parents digitally, including SEA.
23. To ensure that robust ICT and Educational Technology Units will be maintained at the MOE, including a cadre of suitably trained OJTs/ interns.
24. To ensure that readily available and robust ICT and Educational Technology support for staff, teachers and students will be available with respect to all digital processes and initiatives of the MOE.
25. To ensure that teachers will routinely incorporate digital resources and technology in the delivery of the Curriculum.

26. To ensure that Schools which cannot operate physically for any reason will switch automatically to virtual teaching mode.
27. To ensure that Students who cannot attend school physically will, based on the permission of the Principal, be allowed to attend scheduled classes virtually.
28. To ensure that the MOE's social media presence will be robust – informative, responsive, current, targeted and engaging.
29. To ensure that the work processes of the MOE will be digitalized as far as possible to allow for virtual work arrangements where physical access to offices is impeded.
30. To ensure that job descriptions will be updated where required to include digital work processes and virtual operations. Negotiations should include revised job descriptions.
31. To ensure that School ICT laboratories will be well maintained, supported, and stocked.
32. To ensure that annual allocations for digital infrastructure upgrades will be made based on a routine maintenance program, to ensure that devices are up to date, infrastructure is sufficient, support resources are adequate, and improvements are planned and implemented.

2.5 Programme Outcomes

1. A learner centred and digitally agile education system.
2. Digital fluency at all levels in the education system and among all stakeholders.
3. Continuous learning and development of 21st century skills.
4. Continuous stakeholder and client engagement for continued buy-in and adoption.
5. Improved Teacher efficiency and effectiveness.
6. Reduced workload at the technical and administrative level.
7. Greater efficiency in project implementation and monitoring.
8. Resilience and minimising of the loss of learning.
9. An Education System that facilitates learning at individualised pace.
10. Databases which can be used to generate a variety of reports for monitoring schools and student performance.
11. Improved school academic performance and student achievement
12. Enhanced the delivery of quality, equitable educational opportunities
13. Cost reductions in the administration of examinations and school operations

2.6 Programme Outputs

The Digital Transformation Programme currently consists of a suite of thirteen projects/products/services designed to solve the problems identified in Section 1.2. These solutions provide unique individual and collective benefits to users. These products and services are at various levels of implementation. This suite of projects stands to be augmented, as the MOE continues to be responsive to changing local and global circumstances.

The 13 Digital Projects comprising the Digital Transformation Plan are as follows:

1. School Learning Management System (SLMS)
2. E-book Platform
3. Literacy and Numeracy Adaptive Learning Platform
4. Student Management System
5. Open Educational Resources (OERs)
6. National Online Open and Innovative School
7. Student Digital Literacy
8. Human Resource Support (IHRIS/Document Management)
9. School Issue Management System - SIMS
10. E-testing
11. Quick Response Identification Cards for Students
12. Device Provision for Staff, Teachers and Students
13. Scholarship/Bursaries Management Platform

Details of each Digital Transformation Project, and its status, are outlined in the following sections.

1.1.1.1. School Learning Management System

The School Learning Management System is an online portal that allows for the remote livestreaming of classes by teachers as well as student access to educational material. Teachers and educators continue to add content to the SLMS, thereby providing a full online repository of accessible content for all students at the Early Childhood Care and Education, Primary, and Secondary school levels in Trinidad and Tobago.

This project promotes the following for Ministry of Education officials, school personnel, parents, students and stakeholders:

- data to ensure equity and access to quality education for each child;
- allows for learning at individualised pace;
- student generated Ministry of Education email accounts which allow all students access to Microsoft Office programmes.

This system is in the implementation stage

1.1.1.2. E-Textbooks Platform Solution

This project provides electronic text support for teachers and students that follow the main flow of content and skills to be taught, with a focus on enabling learning to continue in an electronic medium. It will also play an important role in changing teaching and learning from a largely textbook-based and teacher-centred approach to a more interactive and learner-centred approach. The use of electronic textbooks will better prepare our students for life in a digital age, as students will learn to use different electronic tools and develop critical thinking skills.

The end product is the provision of an e-book content platform that shall guarantee access to e-textbooks in all subject areas taught at primary and secondary schools and shall be aligned to the Ministry's curricula/syllabi and compatible with its Student Learning Management System (SLMS).

The implementation of the e-books project:

- provides a range of cost-effective, quality and Information and Communication Technology (ICT) infused learning resources that can provide more functionality than a hard copy text: embed notes, interact with online resources like videos, surveys, podcasts etc.;
- makes equity in access of quality resource more possible, provided ICT infrastructure and devices are in place; and
- augurs well for modernisation of the education system with respect to providing opportunity for development of 21st century skills.

This system is currently subject to a procurement exercise jointly facilitated by iGovTT and the MOE.

1.1.1.3. Literacy and Numeracy Adaptive Learning System

The Literacy and Numeracy Adaptive Learning System is a web-based platform that will provide administrators, teachers and parents the opportunity to collaborate meaningfully to provide students with enriching, developmentally appropriate literacy and numeracy experiences. The offerings on the platform will allow students to engage in interactive, personalised, needs-based and self-paced learning via a variety of modalities.

The implementation of this System:

- facilitates information sharing among key stakeholders, which facilitates a deeper understanding of students' actual needs;
- provides opportunity for timely responses to needs identified within the teaching-learning context;
- minimises learning loss that social and economic barriers may cause by providing ready access to opportunities for sustained learning; and
- increases the likelihood of each student reaching his/her full potential through:
 - content and strategies that are based on students' performance data and identified needs;
 - immediate feedback, which allows students to address misconceptions and to clarify what they have learned and still need to learn;
 - opportunities for extensive practice facilitates deep learning which in turn increases the capacity to learn; and
 - self-directed, self-paced learning, which teaches students to take responsibility for their learning and builds students' confidence in their ability to learn.

This system is currently subject to a procurement exercise jointly facilitated by iGovTT and the MOE.

1.1.1.4. Student Management System

The Student Management System is being designed to facilitate the efficient management of digital records and automation of all back-office operations at the school level. The features include management of teacher, student and employee biodata; class timetabling, attendance, examination data, schedule, exam results, student promotions, library operations, announcements, registration and emails to parents. A fully featured report library will allow for student and school performance comparisons at each level. All schools will also be able to securely update all categories of information on the platform and the public-school admission form will now be available for online completion and submission.

This project promotes the following for Ministry of Education officials, school personnel, parents, students and stakeholders:

- access to real time data to inform the decision-making process at the home, school, community, district and at Head Office;
- parent portals for easy access to their child/ward's reports (academic, attendance, discipline, etc.); and
- automatically generated reports, which give the principal more time to focus on school operations.
- promotes efficient data collection on the enactment of the curriculum and support ease of analysis, projections and interventions at multiple levels of school, district and nationally;

- facilitates the systematic collation of data on various aspects of curriculum enactment into a comprehensive profiling of schools; and
- caters for a formative assessment of school performance to complement national, standardised assessments and provide a more authentic evaluation of the well-being of schools.

This system is in the process of being implemented on a pilot basis, and continues to be assessed, upgraded and improved.

1.1.1.5. Lifelong Learning - Open Educational Resources

Open Educational Resources (OERs) are teaching, learning or research materials that are in the public domain and released with an open license (such as Creative Commons). They allow for educators to copy, adapt and share their resources legally and freely, in order to support high-quality and locally relevant teaching and learning. The ‘open’ nature of OERs provide the Ministry of Education with a strategic opportunity to ensure wider access to quality learning and teaching resources at all levels of education. Trinidad and Tobago, through UNICEF and Commonwealth of Learning (Notesmaster and Open School-2006) has created a repository of content for both Primary and Secondary Schools.

Additionally, the Ministry will use OERs as digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research. OERs includes learning content, software tools to develop, use and distribute content, and implementation resources such as open licences. The intent is that the Ministry will have accumulated digital assets that can be adjusted and which provide benefits without restricting the possibilities for educators to access.

This programme has already been implemented and technical and legal arrangements for the uploading of the content are being made.

1.1.1.6. The National Online Open and Innovative School for Teaching and Learning

The National Online Open and Innovative School for Teaching and Learning will incorporate a Professional Development (PD) component for teachers, as well as Online Continuation Classes to effectively address the learning needs of Out-of-School Children, Youths and Second-Chance Adults.

The Professional Development component targets educators, and is an educational system which uses a blend of conventional and distance education methods to allow learners to choose how to learn, when to learn, where to learn and what to learn using a wide range of educational media.

Professional Development (PD) for all Educators will be based on technology enabled teaching and learning, which incorporates processes such as modelling preferred instructional strategies,

engaging teachers in active learning, and building a professional learning online and offline community.

When teacher educators model instructional strategies, PD participants have the opportunity to experience these strategies as learners, and then reflect on their learning and on the effectiveness of the strategies from the perspective of teachers. This type of approach is particularly important in times of reform, when teachers frequently are being asked to teach in ways that are substantially different from how they were taught or how they learned to teach.

The Online Continuation Classes component focuses on the provision of distance learning education through means that offer a credible quality alternative to school-based provision of teaching, given the difficulty of reaching the heterogeneous and distributed population and the growing need for second chance and continuing education opportunities. It is expected that the establishment of open and distance learning provision will enhance the entire education system.

The Professional Development component is at design stage, while the Online Continuation Classes component will be implemented from September, 2022.

1.1.1.7. Student Digital Literacy and Digital Ethics

A project to develop a self-directed programme in the fundamentals of digital literacy for all students.

The Digital Literacy program will develop both the competency to use, access and communicate information using digital tools and forms, as well as the ability to comply with the necessary standards of behaviours expected in online environments. The program should also impart an understanding of the shared social issues created by digital technologies. This would include modules on netiquette, cyber safety and cyber security.

Key digital literacy skills include:

- **Photo-Visual Literacy:** In working with graphic user interfaces, this helps students to “read” intuitively and freely, and to understand the instructions and messages represented visually.
- **Information Literacy:** The ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.”
- **Socio-Emotional Literacy:** This means being able to avoid “traps” as well as derive benefits from the advantages of digital communication. It involves mainly sociological and emotional aspects of work in cyberspace.
- **Reproduction Literacy:** Digital reproduction literacy is the ability to create a meaningful, authentic, and creative work or interpretation, by integrating existing independent pieces of information.

- **Branching Literacy:** This pertains to the skills of knowledge construction using information that was accessed in a non-linear manner.

Students will be provided with opportunities to engage in collaborative projects to use digital technology.

Teachers will have access to digital solutions, utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction (in all subject areas, and with particular emphasis on the enhancement of literacy and numeracy skills.)

This programme is at the design stage

1.1.1.8. Human Resource Support

Effective workforce management is a crucial aspect of a comprehensive Human Resources strategy. HR managers and other decision-makers require up-to-date and accurate data on the current number of workers, where they are deployed, what their skill sets and salaries are, as well as information on vacant posts and migration. Currently, at the Ministry of Education, this information is stored in a combination of paper files and electronic databases that do not link together, making it difficult to locate employee records or aggregate data for analysis.

A computerized and integrated human resources information system (IHRIS) will enable the MOE to more easily collect, maintain, and analyze workforce data.

Benefits of IHRIS to the MOE

- Enables the shift from old-style Personnel Administration to HR Management
- Facilitate storage of a vast quantity of easy-to- retrieve HR data
- Faster access and retrieval of HR data for strategy development, HR Planning, HR Monitoring and decision-making
- Improve HR Officer time utilization and efficiency
- Increased Opportunities for Employee Self Service

IHRIS Modules that facilitate the ease of information gathering:

- Workforce Administration
- Position Management
- Recruit Workforce
- Performance Management
- Health and Safety
- Labour Relations
- Training Administration

- Absence Management
- Workforce Administration facilitates easy retrieval of Officers information such as D.O.B, first Permanent Appointment, Promotions etc
- Position Management affords for the accountability of each position on the estimate
- Recruit Workforce enables the selection of the best fit for a specific job from a pool of applicants
- Performance Management, when entered makes for the accessibility by the Service Commissions Department
- Health and Safety provides the ability to record and track incidents, injuries, illnesses and dangerous occurrences at the workplace
- Labour Relations is designed to record grievances and disciplinary (SCD) actions which may be brought or taken by an Officer
- Training Administration facilitates the maintenance of recording and tracking training programs for which Officers are trained
- Absence Management tracks absence (S/L, V/L C/L or other reason) from work which is critical to producing an accurate payroll

Examples of IHRIS Reports that can be generated to assist the MOE's HR Division:

- Daily HR Transaction Summary
- Employees Due to Retire
- Employees hired for a period
- Employees retired for a period
- Return of Personnel

This project promotes the:

- easy access to data for coherence of reporting internally and responding to applicants as well as teaching staff; and
- facilitation of internal queries and transmission of information to ensure efficiency, consistency and accuracy.

This project is in the process of being implemented on a phased basis by correcting position number assignments and continues to be tracked and actioned for full usage throughout the MOE.

1.1.1.9. School Issue Management System

The School Issue Management System (SIMS) is an online platform developed for all schools to submit infrastructural issues that require resolution by the Ministry. All issues submitted are tracked and prioritised in real time and assigned to a district engineer who will then complete an assessment. Once the necessary reports are uploaded and approved, the issue can be addressed for the affected school operations to resume. This is intended to resolve a national issue – the collation

of data regarding operationally degraded schools. This solution increases the efficiency of the Educational Facilities Project and Procurement Division's incident, resolution and contracting reporting processes.

The following modifications are underway:

- Notification System (Completed):
 - Allowing schools and SIMS staff to receive email notifications when communicating using the communication function of the system.
 - Priority level notification when priority status is changed.
- Restructuring of the drop type of issues making it easier for schools to understand (Pending):
- Contractor information and rating (Completed):
 - Contractor information and rating has been added to the platform in "The Officer" field.
- Video Tutorials (Pending):
 - This will allow users to effectively use the platform with the information presented on the video.
- Engineering Assistant online form (Pending):
 - Allows the Engineering Assistant to create online reports, which can then be added to the SIMS platform without them having to physically complete the report.

This project has already been implemented and is subject to continuous development activity.

1.1.1.10. E-testing

e-Testing (electronic testing) refers to the administering of examinations utilising digital means. An e-test replicates or replaces paper-based tests with an application accessed on a computer screen, and involves the transfer from paper-based tests to computers with appropriately designed user interfaces.

E-Testing has the potential to offer several benefits including:

- Reduced examination administration costs
- improved efficiency and student engagement
- reduced paper usage
- reduction in the logistics of paper script handling
- greater examination security, and
- automated marking

Some of the basic requirements for e-testing include:

- a computer with modern web browser for each candidate
- an internet service with adequate bandwidth and reliability
- a reliable supply of electricity power

- the ‘Safe Exam Browser’ installed on each computer

This project is currently ongoing; an action plan is being implemented, with the expectation that increases in the use of the e-testing modality for CXC examinations will be realized from January 2023.

1.1.1.11. Quick Response Identification Cards for Students

The QR code identification card and reader platform will present an innovative solution that automates school and class access, improves school security, and streamlines school services such as attendance tracking, transportation, and school feeding program and student records.

It is expected that the QR ID cards would play an important role with regard to streamlining access by students to the following school-based services:

- a. The technology augments the online attendance records that school administrators must complete for each class session and for each student. With QR (Quick Response) ID cards, the attendance data can be synced to the online Student Management System. The school transition from a legacy-handwritten approach to an automated one will deliver a level of accountability and enforcement.**
- b. Students can utilize their cards to access school transportation services, while notifications can be enabled to ensure that students were on a particular vehicle – whether or not they arrived, and if they exited at a particular stop. Procedures can be implemented to have the transport operator scan each QR ID code on entry and exit; utilizing a data enabled smartphone, which uploads the data in real-time to a secure portal so that administrators and parents are aware of the in transit whereabouts of students.**
- c. In addition, access to the school feeding programme can be managed via activation and use of the QR ID card. The online student record can be updated after their application is approved to indicate that the student is part of the programme and before collection, the QR ID card can be swiped at a reader to verify the details before issuance.**
- d. Parents can utilize the QR ID card to access individual student records, such as end of term reports, disciplinary history, attendance and punctuality records and other biodata as required via a secure portal by scanning the QR image with a mobile device.**

This project is currently subject to a recently closed Expression of Interest exercise. This will be furthered by a procurement activity jointly facilitated by iGovTT and the MOE subject to the approval of Cabinet.

1.1.1.12. Device Provision for Teachers and Students

To facilitate the distribution of devices to students and teachers to undertake blended instruction, online classes and eTesting, the Ministry of Education proposes the continued procurement of laptops for distribution. These will be distributed to all teachers and Principals, and to students of Government and Government-assisted schools in Trinidad who require the assistance of GORTT to access these devices. The need for assistance is determined by the MOE's Device Means Test. To date, 20,000 laptops were distributed by the Ministry of Education, with a further 23,000 distributed by private sector donors. A further 7000 laptops are being procured in 2022. In addition, the computer laboratories of schools which require devices have been catered for in the MOE's budgetary request for fiscal 2022/23.

7000 devices are expected to arrive in Trinidad in August 2022, and the requisite budgetary allocation has been requested for school laboratory upgrades.

2.7.1.13. Scholarship/Bursaries Management Platform

The MOE SATIS application will allow for a more efficient selection and monitoring process of scholarship awards to nationals. The monitoring process extends to National Bursaries, and will include the implementation of digital methods for acceptance and servicing of awards, reporting on the progress of study and ensuring that contractual obligations are fulfilled; facilitating the placement of returned scholars and ensuring the recovery of monies spent on awards in the case of defaulting awardees.

This project is currently ongoing and is subject to continuous project activity. expected implementation will be in 2022.

Benefits, Impact and Success Criteria of the Digital Transformation Programme

The clear linking of the Digital Transformation Program Goals with the Objectives and Projects allow for the development of Key Performance Indicators (KPIs) to measure the impact, benefits and success of each initiative. (See Appendix I)

Each initiative has its unique timeframe for implementation, and the specific KPIs will be defined and tracked in the Digital Transformation Action Plan.

While each initiative is distinct, together, the suite of initiatives are designed to provide the outcomes and outputs which will fulfil the stated goals of the Digital Transformation Program.

Cross-cutting themes which will be considered as the suite of initiatives are implemented are as follows:

- The development of a governance structure for directing and managing the Program
- The achievement of cost savings in the design of the projects through in-house development and operational inaction as far as possible
- The establishment of partnerships and engagements with third parties, including Government Ministries and Agencies to drive down overall implementation cost.
- The provision of a properly coordinated system for data transfer amongst multiple users that allows for authentic and timely feedback and intervention as is needed.
- The promotion of a coherent, standardised but flexible system of e-resources, that is complemented by a robust data management system to inform interventions.
- The provision of a responsive system that tracks, and makes accessible, accurate and complete data on staff and students in a timely manner.

Risks, Assumptions, Issues, Dependencies

4.1 Risks

- Unexpected learning curves for innovative technology delays Programme schedule.
- Unexpected security related issues that delay the Programme or prevents anticipated deployments.
- Levels of interest do not match expectations.
- The Programme has a reliance on key individuals and there is a risk that limited availability of these individuals could delay progress.
- Unplanned changes in assignment of personnel and allocation of resource within the contexts selected for implementation leading to:
 - inordinate lapses between identification of issues and the resolution of those issues; and
 - decline in levels of participation.
- Staffing, workload and scheduling of content development for e-books is a significant issue if Curriculum Planning and Development Division is only source of human resource. Possible assistance from materials derived from Notesmaster.
- Similar resources for development of database as for e-book would be a constraint.
- Ability to supply necessary ICT equipment and upgrade internet connectivity at schools and district.
- Buy in and support of Teacher's Union and Principals' Associations.
- A system of certification of the basic digital literacy competencies is not financially viable or accessed by users due to overwhelming curricula or work requirements.

Risks will be tracked and managed via the Programme risk log going forward.

4.2 Assumptions

The Programme is premised on the following assumptions:

- The mandate to take forward this Programme of work is secure.
- Currently no barriers to adoption and rollout of the Programme.
- Sufficient funding will be sourced for the Programme to support its objectives.
- Sufficient project team, or other team, resources will be available to meet Programme objectives.

4.3 Issues

Issues identified at various stages will be tracked and managed via the Programme issue log going forward.

4.4 Dependencies

These will be tracked and managed via the Programme roadmap going forward.

4.5 Constraints

Constraints on the Programme are set by:

- acceptance of technology, willingness to invest on improve skill sets, willing to use it and continue to do so.
- availability of:
 - funding
 - resource to facilitate timely response to requests for technical and technological support;
 - expertise required to design, develop and provide high quality tools and resources via the ALS;
 - technical support required to maintain the ALS and promote sustained use; and
 - mechanisms for managing the mind-set shift required to promote and maximise use of the ALS.

Reporting and Communication Strategy

The Programme's communication strategy is an umbrella or overarching plan for the Programme with spin-off plans for each project. The objective of the Plan is to provide guiding communication goals, strategy, tactics, Key Performance Indicators, budget and Monitoring and Evaluation to ensure consistency in messaging.

For the purposes of communication strategy, the Programme's component-projects are defined as products and services.

5.1 Rationale

The intent of the communications strategy is to create an ecosystem where each element supports the other and works concurrently in each phase of the Programme. One of the main communication challenges is the sheer number of projects and the very technical names, explanations and operations of each. The goal is to simplify this for stakeholder understanding, buy-in and uptake. This however requires a visual association that captures intent, features or client benefits, that allows for ease of recognition and recall and alignment to brand promise.

The Ministry of Education is one of the Ministries with strong brand recognition. High brand recall is a solid foundation and therefore, the objective is to have any association with the brand be positive and not associated with inefficiency or unresponsiveness.

Umbrella branding is a strategy used effectively by some of the world's largest technology corporations e.g., Apple, LG, Virgin, Amazon. They can take success in one product category and leverage it to introduce and market into an adjacent category, thereby leveraging the wins and learnings. Umbrella brands also known as family brands, use an umbrella brand strategy when they do not want to have individual product brands as in this case with twelve sub projects of this Digital Transformation Programme. This approach is cost effective, manages the number of messages to be understood by the target audience, timesaving and helps position new products. The main risk is that the negative publicity of one product in the architecture can affect others.

The recommendations are :

- To create a brand architecture with one or two project brand names as an umbrella brand/s or theme for the programme with the twelve projects as extensions of this brand.
- To have a main theme for the project to direct messaging.

The theme needs to capture and speak to the underlying reasoning of why technology is critical in the advancement of education i.e. what it does, supports, facilitates and provides. In essence, educational technology is "the technological tools and media that assist in the communication of

knowledge, and its development and exchange” as defined by <https://onlinedegrees.sandiego.edu/>.
The suggested themes are :

- Building a resilient education system
- Developing a robust education network
- Building an Education System for the Future
- Building an Educational System of the Future.
- Building an Education System through Technology
- Transforming Education through Technology
- Transforming the Education System for the Future
- Fostering Education and Learning through Technology

5.2 Communication Goals

The following are the goals of the communication strategy for the Programme:

- Develop a programme brand that speaks to Ministry’s intent, solution features and client benefits.
- Stakeholder and client awareness of programme.
- Stakeholder understanding of what it seeks to achieve.
- Target audience/client/market segment desire and interest in services and products re: What’s in it for me?
- Stakeholder and client/market segment buy-in and uptake/use of services.
- Positive positioning of the Ministry of Education as proactive in Government’s digital transformation initiatives, responsive to target audience needs and service driven.
- Positive user experience.

5.3 Communication Objectives

1. Inform key stakeholders of main features and benefits of each product service and solution within the projected project rollout timeframe with an average of 60% awareness and understanding
2. 50% buy-in in benefits of the products/solutions offered
3. 80% Positive/neutral media coverage across all media in each year over the duration of the project with achievement of target AVE for each initiative
4. 75% attendance of targeted audience to all events (virtual or otherwise)
5. 60% uptake of service/solution by target audience based on project target audience within the 1 year after implementation and roll out of campaign
6. 50% recall of umbrella brand name and project theme by key stakeholders at end of programme implementation

Figure 1 Proposed Branding Structure provides the essence of the branding strategy under **proposed** brand names as follows: MoE-Service, Operations and Systems (MoE-Service) and or MoE-Solutions for Education, Learning and Literacy (MoE-Solutions).

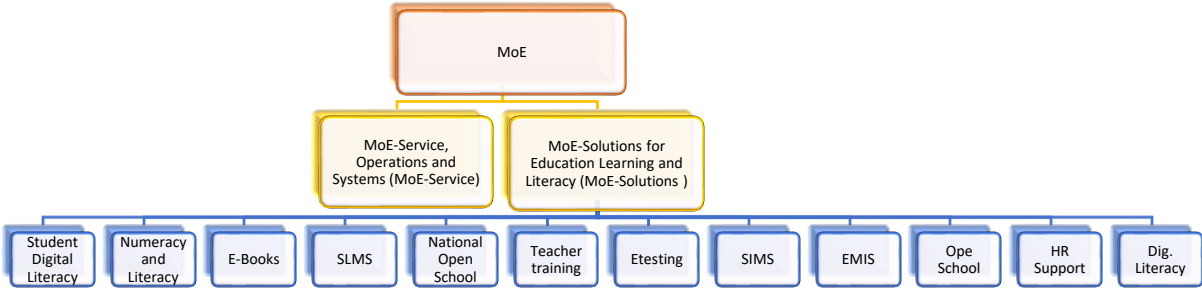


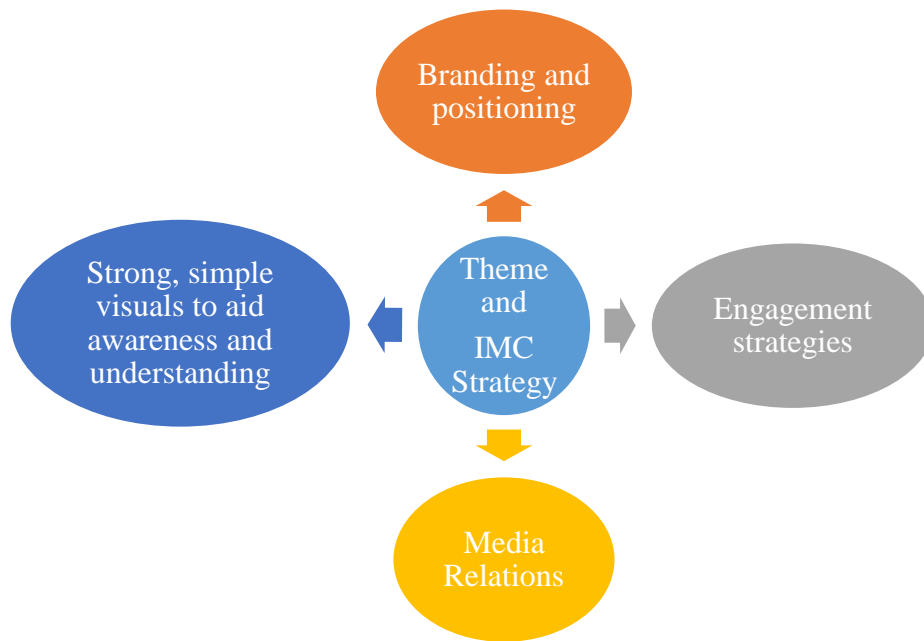
Figure 2 Communications SWOT Analysis

Strengths	Weakness
IT Expertise Expertise in Technical staff in Divisions Strong and robust IT infrastructure Clearly identified stakeholder group Strong social media presences Comprehensive programme and project plan	Number of concurrent projects Staffing issues-slow process for hiring MoE Culture-low staff morale and buy-in Major challenges with other customer facing division ie Exams Challenge with simplifying concepts/very academic approach/language in communicating
Opportunities	Threats
Leverage experience/learning of early adopters to online learning and use of online resources	Financial constraints/releases Government bureaucracy in implementation of digital transformation initiatives

Government mandate that supports digital transformation Strong MOE brand recognition High media coverage of MoE High social media and digital appetite of target group and stakeholders	COVID 19 measures disrupting implementation strategies Non buy in from Union Compensation related issues of teachers affecting buy-in and implementation
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Figure 3 Communication Strategy demonstrates the main strategies of this implementation plan:

- Strong branding and positioning.
- Engagement Strategies.
- Media Relations.
- Strong, simple visuals to aid awareness and understanding.



5.4 Tactics

The tactics are the specific activities to be actioned under each strategy heading. **Figure 3** captures this narrative.

Figure 1: Communication Tactics



5.5 Features and Benefits

Critical to the build of key messages and marketing and communications strategies is a clear understanding for the product/service mix, features and their consumer benefits. The information presented in **Table 2** will form the basis of the development of these messages.

Table 1: Features and Benefits of Key Products

Product	Key Features	Main Benefits
School Learning Management System	<p>online repository of accessible content by all students at the ECCE, Primary and Secondary level in Trinidad & Tobago.</p> <p>Virtual courses</p> <p>remote livestreaming of classes</p>	<p>Students can learn from the safety of their homes (hw loss of interaction with peers will be a drawback)</p> <p>Home schooling as a method of education can be explored with full build out</p> <p>Continuous Content creation</p> <p>Facilitate blended learning</p> <p>Provide parents and students with easily accessible content for remedial work</p> <p>Designed to address most modes of learning</p>
E-books	<p>provides a range of cost-effective, quality and Information and Communication Technology (ICT) infused learning resources</p> <p>ebooks have more functionality than a hard copy text:</p>	<p>Easier access to learning resources for students with devices</p> <p>Cheaper than having to purchase text books</p> <p>learning resources that can provide more functionality than a hard copy</p>

Product	Key Features	Main Benefits
	<p>makes equity in access of quality resource more possible,</p>	<p>embed notes, interact with online resources like videos, surveys, podcasts etc.;</p> <p>more students can access learning material at cheaper cost</p>
<p>Literacy and Numeracy Adaptive Learning system</p>	<p>allow students to engage in interactive, personalised, needs-based and self-paced learning via a variety of modalities</p>	<p>facilitates information sharing which facilitates a deeper understanding of students' actual needs</p> <p>minimises learning loss that social and economic barriers may cause</p> <p>opportunities for extensive practice facilitates deep learning</p> <p>self-directed, self-paced learning</p>
<p>Student Management System</p>	<p>schools will utilize the portal for direct provision of services to parents</p> <p>Automated back office operations</p>	<p>Efficient records management</p> <p>Students/Parents can access: classes, forms, syllabus, class schedule, attendance, exam schedule, exam results</p> <p>Administrators: teachers, students, employees, student promotions, library operations, accounting for schools.</p> <p>Teachers and Principals : announcements, internal messaging to parents</p>

Product	Key Features	Main Benefits
		parents to apply/request specific services directly, faster service delivery
Open Educational Resources	Open source repository of content for both Primary and Secondary Schools.	<p>Educational resources that are readily available to wider target groups</p> <p>With access to quality learning and teaching resources at all levels of education</p> <p>Unrestricted access to educator freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research</p>
National Online Open School	Online educational system which uses a blend of conventional and distance education methods	<p>Allows for blend of conventional and distance education methods</p> <p>allow learners to choose how to learn, when to learn, where to learn and what to learn using a wide range of educational media</p>
Student Digital Literacy	Modules designed to develop both the competency to use, access and communicate information using digital tools and forms as well as the ability to comply with the necessary standards of behaviours	<p>Key digital literacy skills to helps them to “read” intuitively and freely, so users can understand the instructions and messages represented visually.</p> <p>able to identify, locate, evaluate, and effectively use that information</p>

Product	Key Features	Main Benefits
		ensure Safe operation in cyberspace
<p>Human Resource Support</p> <p><u>This project has multiple subprojects at various phases of implementation</u></p>	<p>information can be inputted via multiple entry and retrieval points</p> <p>self-service functionality</p>	<p>Addresses need for speed and efficiency in addressing queries from target audience</p> <p>Readily accessible information on promotions, filling of vacancies, transfers faster approvals for amending the curriculum</p>
<p>School Issue Management System</p>	<p>online platform developed for all schools to submit issues that require resolution by the MOE</p> <p>tracked and prioritized in real time and assigned to a district engineer</p> <p>Once solution approved, issue can be addressed for the affected school operations to resume</p>	<p>Faster communication with MOE, due to reduced bureaucracy in the system</p> <p>School repairs happen faster</p> <p>Students return to school faster, shorter disruption in learning</p>
<p>Teacher Training</p>	<p>online modes of teacher professional development</p>	<p>expand access to high-quality resources and experiences</p>
<p>E-testing</p>	<p>Can be fully online, partially online and fully offline</p> <p>four levels of security measures are instituted, secure exam browser, encryption and</p>	<p>requires decreasing levels of Internet Service and connectivity</p> <p>improved validity and reliability to test forms</p>

Product	Key Features	Main Benefits
	penetrating testing and physical oversight.	
Quick Response Identification Cards for Students		Access to services online Secure Ingress/Egress at Schools
Device Provision for Teachers and Students		Access to devices Online Teaching/Learning

5.6 Stakeholder Map

Stakeholders have a role in defining the Programme and project parameters and, as the main users, drivers and administrators, have direct influence in its successful implementation. **Table 3** seeks to identify primary and secondary internal and external stakeholders.

The following high level primary stakeholder map will be broken down in detail for each of the individual projects noting that there will be an overlap in stakeholders and target audiences in some instances.

Table 2: Internal and External Stakeholders

Internal	External
Staff- administrative and technical	Media
Heads of technical departments directly driving the programme and projects	Unions- TTUTA, PSA
Heads of departments not directly involved.	Representative Associations -NPTA, Principals
Head of Support Departments	Students, teachers and administrators
Primary Statutory and Boards Directly impacted or involved in the programme.	Parents, Guardians
Secondary Statutory and Boards Directly impacted or involved in the programme.	Service Organisations
	Ministry of Public Administration
	Ministry of Finance
	OPM-Communications
	Owners of Private primary and secondary educational institutions
	Tertiary Educational Institutions – direct and distance learning

Internal	External
	CXC

5.7 Target Audience

The rationale for segmenting the target audience on three levels is to articulate the Ministry’s focus in terms of awareness, understanding, uptake, user experience, influence and behaviour change. This is demonstrated in **Table 4**.

Table 3: Primary, Secondary and Tertiary Stakeholders

Primary	Secondary	Tertiary
<ul style="list-style-type: none"> • Teachers • Students • Ministry Staff • Administrators • Parents /Guardians 	<ul style="list-style-type: none"> • Media • Associations • Unions • Service delivery agencies(internal and external) • Key Gov't Ministries and Agencies • Examining Bodies 	<ul style="list-style-type: none"> • Tertiary Institutions • Other Gov't Ministries and agencies

5.8 Key Communication Messages

The key messages are:

- digital solutions ensure students at the primary and secondary school levels consistently have access to relevant and timely educational resources;
- digital management systems ensure minimal disruption in learning;
- solutions ensure education management and implementation is efficient;
- educational tools are easy to use at all levels;
- the Ministry is proactive and responsive to client needs in a dynamic educational environment;
- services are easy to access; and
- Digital solutions make accessing information for educational advancement simple.

5.9 Implementation Plan

The execution of the marketing and communications plan must be aligned to the project roll out and implementation. As such, the overarching strategies and specific tactics to provide key deliverables as articulated above will be tied to specific timelines.

Programme Goals	Programme Objectives	Digital Transformation Project
<p>To Promote A Learner Centred Education System.</p>	<ul style="list-style-type: none"> • To provide schools with internet access throughout the compound. • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Students can access learning materials, including textbooks, digitally. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that there will be synchronous teaching sessions and tutorials each academic year available to those registering for the MOE’s Online Continuation Classes. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that teachers will routinely incorporate digital resources and technology in the delivery of the Curriculum. • To ensure that School ICT laboratories will be well maintained, supported, and stocked. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • Literacy and Numeracy Adaptive Learning Platform • Open Educational Resources (OERs) • National Online Open and Innovative School • Device Provision for Staff, Teachers and Students
<p>To Allow For Digital Fluency At All Levels In The Education System And Among All Stakeholders.</p>	<ul style="list-style-type: none"> • To provide schools with internet access throughout the compound. • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Students can access learning materials, including textbooks, digitally • To ensure that each primary and secondary school student will have access to a laptop for educational purposes. • To ensure that Students will be offered avenues to obtain certification in digital literacy at the primary level. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • E-book Platform • Student Digital Literacy • Device Provision for Staff, Teachers and Students

	<ul style="list-style-type: none"> • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility. 	
To Encourage Continuous Learning And Development (Teaches 21st Century Skills).	<ul style="list-style-type: none"> • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To ensure that Students can access learning materials, including textbooks, digitally. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that there will be synchronous teaching sessions and tutorials each academic year available to those registering for the MOE's Online Continuation Classes. • To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • Open Educational Resources (OERs) • National Online Open and Innovative School
To Promote Continuous Stakeholder And Client Engagement For Continued Buy-In And Adoption.	<ul style="list-style-type: none"> • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that robust ICT and Educational Technology Units will be maintained at the MOE, including a cadre of suitably trained OJTs/ interns. • To ensure that readily available and robust ICT and Educational Technology support for staff, teachers and students will be available with respect to all digital processes and initiatives of the MOE. • To ensure that the MOE's social media presence will be robust – informative, responsive, current, targeted and engaging. 	<ul style="list-style-type: none"> • Open Educational Resources (OERs) • National Online Open and Innovative School

	<ul style="list-style-type: none"> • To ensure that job descriptions will be updated where required to include digital work processes and virtual operations. Negotiations should include revised job descriptions. 	
<p>To Promote Teacher Efficiency And Effectiveness.</p>	<ul style="list-style-type: none"> • To provide teachers with e-classrooms which they can use routinely in and out of the physical classroom. • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Schools have increased access to support staff for data entry purposes. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that all teachers will be issued an MOE laptop. • To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility. • To ensure that Student bio-data will be collected and stored digitally. • To ensure that teachers will routinely incorporate digital resources and technology in the delivery of the Curriculum. • To ensure that readily available and robust ICT and Educational Technology support for staff, teachers and students will be available with respect to all digital processes and initiatives of the MOE. • To ensure that job descriptions will be updated where required to include digital work processes and virtual operations. Negotiations should include revised job descriptions. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • Literacy and Numeracy Adaptive Learning Platform • Student Management System • Open Educational Resources (OERs) • Device Provision for Staff, Teachers and Students

<p>To Reduce Workload And Increase Efficiency At The Technical And Administrative Level Of The MOE.</p>	<ul style="list-style-type: none"> • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Summative Examinations at the Secondary Level can be done in a blended format, or online. • To ensure that Schools have increased access to support staff for data entry purposes. • To ensure that all HR records, including that of teachers, will be digitized. • To ensure that all HR processes will be digitalized. • To ensure that robust ICT and Educational Technology Units will be maintained at the MOE, including a cadre of suitably trained OJTs/ interns. • To ensure that the work processes of the MOE will be digitalized as far as possible to allow for virtual work arrangements where physical access to offices is impeded. • To ensure that annual allocations for digital infrastructure upgrades will be made based on a routine maintenance program, to ensure that devices are up to date, infrastructure is sufficient, support resources are adequate, and improvements are planned and implemented. 	<ul style="list-style-type: none"> • Student Management System • Human Resource Support (IHRIS/Document Management) • Quick Response Identification Cards for Students • Scholarship/Bursaries Management Platform
<p>To Improve Stakeholder Communications.</p>	<ul style="list-style-type: none"> • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To ensure that readily available and robust ICT and Educational Technology support for staff, teachers and students will be available with respect to all digital processes and initiatives of the MOE. • To ensure that the MOE’s social media presence will be robust – informative, responsive, current, targeted and engaging. 	<ul style="list-style-type: none"> • Student Management System • Quick Response Identification Cards for Students
<p>To Ensure Efficiency In Human Resource Management, Project Implementation And Monitoring.</p>	<ul style="list-style-type: none"> • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Schools have increased access to support staff for data entry purposes. • To ensure that Schools electrical infrastructure will support the use of digital devices • To ensure that all HR records, including that of teachers, will be digitized. • To ensure that all HR processes will be digitalized. • To ensure that robust ICT and Educational Technology Units will be maintained at the MOE, including a cadre of suitably trained OJTs/ interns. • To ensure that annual allocations for digital infrastructure upgrades will be made based on a routine maintenance program, to ensure that devices are up to date, 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • E-book Platform • Student Management System • Human Resource Support (IHRIS/Document Management)

	<p>infrastructure is sufficient, support resources are adequate, and improvements are planned and implemented.</p>	
<p>To Build Resilience And Continuity And Minimises Loss Of Learning.</p>	<ul style="list-style-type: none"> • To provide teachers with e-classrooms which they can use routinely in and out of the physical classroom. • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To ensure that Summative Examinations at the Secondary Level can be done in a blended format, or online. • To ensure that Students can access learning materials, including textbooks, digitally. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that there will be synchronous teaching sessions and tutorials each academic year available to those registering for the MOE’s Online Continuation Classes. • To ensure that each primary and secondary school student will have access to a laptop for educational purposes. • To ensure that Students will be offered avenues to obtain certification in digital literacy at the primary level. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that Schools which cannot operate physically for any reason will switch automatically to virtual teaching mode. • To ensure that Students who cannot attend school physically will, based on the permission of the Principal, be allowed to attend scheduled classes virtually. • 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • National Online Open and Innovative School • Student Digital Literacy • Device Provision for Staff, Teachers and Students

<p>To Allow For Learning At Individualised Pace.</p>	<ul style="list-style-type: none"> • to allow schools to act as community hotspots; especially in rural areas, to increase access to the internet nationally. • To ensure that Students can access learning materials, including textbooks, digitally. • To ensure that there is a suite of digital lessons covering the CSEC syllabus in all subjects available on the SLMS, accessible to all citizens. • To ensure that there will be synchronous teaching sessions and tutorials each academic year available to those registering for the MOE’s Online Continuation Classes. • To ensure that each primary and secondary school student will have access to a laptop for educational purposes. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that Students who cannot attend school physically will, based on the permission of the Principal, be allowed to attend scheduled classes virtually. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • Literacy and Numeracy Adaptive Learning Platform • Open Educational Resources (OERs) • Student Digital Literacy
<p>To Creates Databases, Which Can Be Used To Generate A Variety Of Reports For Resource Consumption Monitoring Of Schools And Student Performance.</p>	<ul style="list-style-type: none"> • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Schools have increased access to support staff for data entry purposes. • To ensure that the attendance of teachers and students will be recorded digitally. • To ensure that access to services / resources of the MOE will be recorded digitally (e.g. NSDSL, School Transport). • To ensure that Student bio-data will be collected and stored digitally. • To ensure that examination results at all levels will be released to parents digitally, including SEA. 	<ul style="list-style-type: none"> • Student Management System • Human Resource Support (IHRIS/Document Management) • School Issue Management System - SIMS • E-testing • Quick Response Identification Cards for Students
<p>To Improve School Academic Performance And Student Achievement</p>	<ul style="list-style-type: none"> • To ensure that each primary and secondary school student will have access to a laptop for educational purposes. • To provide schools with internet access throughout the compound. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • Literacy and Numeracy Adaptive Learning Platform • Student Digital Literacy

	<ul style="list-style-type: none"> • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility. • To ensure that teachers will routinely incorporate digital resources and technology in the delivery of the Curriculum. • To ensure that Students who cannot attend school physically will, based on the permission of the Principal, be allowed to attend scheduled classes virtually. • To ensure that School ICT laboratories will be well maintained, supported, and stocked. 	
<p>To Enhance The Delivery Of Quality, Equitable Educational Opportunities</p>	<ul style="list-style-type: none"> • To ensure that each primary and secondary school student will have access to a laptop for educational purposes. • To provide schools with internet access throughout the compound. • To ensure that Teachers will have access to digital solutions utilizing adaptive learning technologies, to enhance their ability to offer differentiated instruction for the enhancement of literacy and numeracy skills. • To ensure that all teachers, students and administrators will receive consistent training to update their digital practices and facility. • To ensure that Schools which cannot operate physically for any reason will switch automatically to virtual teaching mode. • To ensure that Students who cannot attend school physically will, based on the permission of the Principal, be allowed to attend scheduled classes virtually. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • E-book Platform • Literacy and Numeracy Adaptive Learning Platform • Open Educational Resources (OERs) • National Online Open and Innovative School

<p>To Achieve Cost Reductions In The Administration Of Examinations And School Operations</p>	<ul style="list-style-type: none"> • To ensure that T&T will undertake e-testing for CXC examinations in all subjects available. • To allow teachers to regularly use modes of e-testing in formative evaluation. • To ensure that Summative Examinations at the Secondary Level can be done in a blended format, or online. • To ensure that access to services / resources of the MOE will be recorded digitally (e.g. NSDSL, School Transport). • To ensure that Student bio-data will be collected and stored digitally. • To ensure that examination results at all levels will be released to parents digitally, including SEA. • To ensure that School ICT laboratories will be well maintained, supported, and stocked. • To ensure that annual allocations for digital infrastructure upgrades will be made based on a routine maintenance program, to ensure that devices are up to date, infrastructure is sufficient, support resources are adequate, and improvements are planned and implemented. 	<ul style="list-style-type: none"> • School Learning Management System (SLMS) • E-book Platform • Student Management System • National Online Open and Innovative School • School Issue Management System - SIMS • E-testing
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