



Learning Device Management Guideline

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REB RWANDA BASIC
EDUCATION BOARD

ACRONYMS/ ABBREVIATIONS

BSC	Broadband Systems Corporation
CBC	Competence Based Curriculum
COP	Child Online Protection
CPD	Continuous Professional Development
DP	Development Partner
ICT	Information and Communication Technology
ICTE-MIS	ICT in Education Management Information System
ISP	Internet Service Provider
OGN	One Government Network
PFM	Public Financial Management
REB	Rwanda Basic Education Board
RISA	Rwanda Information Society Authority
SDMS	School Data Management System
TTC	Teacher Training College



1. BACKGROUND

Rwanda Basic Education Board (REB) through the ICT in Education Department has put in place an “Operational Manual for ICT in Basic Education in Rwanda” (hereinafter referred to as “Operational Manual”) to guide the integration and effective usage of Information and Communication Technology (ICT) in basic education. The motivation is promoting coordinated use of well-designed technology to disseminate educational resources, connect students and teachers to information, enhance teacher capacity and students’ learning in all subject areas. In the same perspective, the Operational Manual defines REB’s approaches regarding digital content development, use of modernized instructional technologies, deployment of desired hardware and e-learning to ensure common understanding and facilitate partnership building and innovation among government and partners.

This Learning Device Management Guideline (hereinafter referred to as "Guideline") has been developed based on the Operational Manual, as a higher-level document, to provide Basic Education Schools (pre-primary, primary, secondary schools including Teacher Training Colleges (TTCs), and special schools) with practical guidance regarding management of digital learning devices and ICT equipment including network infrastructure for better integration of ICT in teaching, learning and assessment as well as school administration.

2. PUPRPOSE OF THE GUIDELINE

This Guideline has been specifically developed to:

- i. Indicate the components of ICT in education and define associated roles, responsibilities and activities
- ii. Guide the scale-up of smart classrooms and ICT usage
- iii. Improve teachers’ digital competences and their application to teaching and learning

3. SCOPE OF DEVICES

This Guideline mainly covers the following devices, but does not limit to: laptops, tablets, smartphones, content access points and projectors.

4. ICT IN EDUCATION COMPONENT

This Guideline covers three components that relate to the effective and sustainable use of ICT¹. For each component, the different activities to be implemented and the processes and procedures involved are described. The components are as follows:

- Component 1: Access, use, and sustainability of ICT devices
- Component 2: Access and sustainability of Internet connectivity to enhance teaching and learning
- Component 3: Improving teacher competencies in teaching, learning, and assessment with ICT

This Guideline will be amended when deemed necessary to reflect new developments.

4.1 Component 1: Access, use, and sustainability of ICT devices in basic education

4.1.1 Before deployment of ICT devices

The provision of ICT devices in schools is done by REB in collaboration with relevant stakeholders including Development Partners (DPs). In case a school has partnership with a donor, the school can initiate such a project but shall obtain REB's endorsement before its implementation. Donors can also propose ICT device support. In such cases, REB shall assess and guide the donor on the next procedures.

¹ The Operational Manual specifies one more component "Digital teaching and learning material development, accessibility and quality enhancement" as Component 4, but this Guideline covers the other three components related to devices, connectivity and teacher competences, which are the basis for proper device management.

When REB deploys devices, it conducts physical verification to assess their readiness, and the school is requested to follow and cooperate with it. The following minimum requirements need to be met to receive ICT devices:

- Connection to electricity
- Availability of room(s) with metal doors and windows with solid and tight fences to accommodate the ICT devices
- Tables, desks and chairs
- Power extension cables
- Suitable safety and security mechanisms including hired professional security guards, and installed fire extinguishers
- Timetable indicating time and purpose to utilize ICT devices
- Nomination of at least two teachers who will be responsible for the ICT rooms and smart classrooms

4.1.2 Deployment of ICT devices

To achieve effective deployment of ICT devices, REB ensures the following. Schools follow REB's instructions.

- The procured ICT devices are engraved with unique asset tags and recorded in the ICT in Education Management Information System (ICTE-MIS).
- A distribution plan is prepared and communicated to schools as well as districts.
- Upon receipt of the ICT devices, a commitment agreement to ensure proper use, management, safety and security is signed between the school leader and the Director General of REB

4.1.3 Maintenance of ICT devices

Identification and maintenance of ICT devices

To ensure effective maintenance, schools are required to:

- Receive training from REB for decentralized and efficient device maintenance

- Send request for maintenance or repairs through ICTE-MIS (<https://icte.reb.rw/index.php>) in case it cannot be done within the school
- Bring ICT devices to REB computer mobile clinic or a repair center that works with REB for maintenance in accordance with guidance from REB

How to send request for maintenance or repair through ICTE-MIS

(<https://icte.reb.rw/find-school.php>)

1. Go to the link “Apply FOR TOKEN”
2. Search your school by using the school name
3. After Finding your school, click on “Apply for token” [check the School name and school location]
4. After submission, an email containing token and other instructions will be sent to the registered school email address
5. For any problem, call +250-788-601-499 or send an email to: jingabire@reb.rw

4.1.4 In the case that devices are lost or stolen

In case of missing and/or stolen devices, the school leaders have to inform the nearest police offices, district and REB without delay.

REB through ICT in Education Department sensitizes schools about the instructions established by competent organs regarding the safety and security of ICT devices.

The ICT in Education Department also informs the school of the unit cost of the missing and/or stolen device(s), and provides the public treasury account on which to pay for the devices.

4.1.5 In the case that devices are depreciated or damaged beyond repair

To ensure a safe teaching and learning environment, depreciated and damaged ICT devices may be replaced. REB estimates the periods of depreciation for devices are 3 years for all ICT devices (i.e. laptops, tablets,

smartphones, content access points and projectors), in accordance with Manual of Public Financial Management (PFM) Policies and Procedures by Ministry of Finance & Economic Planning in 2019.

Schools are responsible to:

- Notify REB on the ICT device status annually by using School Data Management System (SDMS)
- Request REB to replace damaged ICT devices
- Hand over end-of-life devices to REB so that the devices are properly disposed of, following e-waste management

4.2 Component 2: Access and sustainability of internet connectivity to enhance teaching and learning

4.2.1 Internet Service Providers (ISP)

Schools are connected by Rwanda Information Society Authority (RISA) through the One Government Network (OGN) initiative. ISPs provide the connectivity map with the network infrastructure layouts. The equipment to be installed and its technical specifications depends on the available network infrastructure layouts. The procurement of network equipment is conducted by RISA or any other competent organ based on the specifications including but are not limited to:

- Minimum number of users per device
- Manageable devices with remote control capabilities
- Antenna setting in that school location (strong signal, weak and no signal), school type (public or government-aided)

Under the guidance of REB, other institutions and partners can also provide internet connectivity to schools.

4.2.2 Maintenance of devices for network infrastructure

Installed devices for network infrastructure have to be managed by schools. In case of internet connectivity issues that cannot be solved

within the school, it is required to call online network support (remote support) by the ISP (Broadband Systems Corporation: BSC) on +250 785-927-485 or send an email to: noc@bsc.rw. Once the school contacted BSC and if internet is not restored, the school should contact REB through ICTE-MIS (<https://icte.reb.rw/index.php>)

There are two types of REB maintenance:

- *Off-site maintenance*: This is the first line of REB support where the school is assisted remotely. The support is done through phone calls or online applications such as TeamViewer and others.
- *On-site maintenance*: This includes a physical visit to the school to resolve the internet issues by either internet troubleshooting or repairing/replacing damaged devices.

How to send request for maintenance or repair through ICTE-MIS

(https://icte.reb.rw/find_school_network.php)

1. Go to the link “NETWORK SUPPORT”
2. Search your school by using the school name
3. After Finding your school, click on “Request for a support” [check the School name and school location]
4. After submission, an email containing token and other instructions will be sent to the registered school email address
5. For any problem, call +250-734-542-540/786-543-643 or send an email to: pkamara@reb.rw

4.2.3 In the case that devices are depreciated or damaged beyond repair To ensure a safe teaching and learning environment, depreciated and damaged devices may be replaced. The school shall hand over end-of-life devices to REB so that the devices are properly disposed of, following e-waste management.

4.2.4 Monthly connectivity report

Schools have to submit monthly connectivity reports on the internet usage and the status of the network devices through the ICTE-MIS. This helps REB in conducting maintenance and payment of the monthly subscription fees. REB has already trained ICT teachers or IT managers at schools physically or online, on the use of the ICTE-MIS to report the monthly usage of the internet. A user guide is available on the ICTE-MIS (https://icte.reb.rw/admin/admin_panel/announcements/907acd34a3c7a2cd11b94ac9260654f9.pdf). The user guide is also annexed in this Guideline (Annex 1).

4.2.5 Ensuring security and safety of internet connectivity

The internet is an open space that may bring risks and harms if not used properly. This becomes even more dangerous to children than adults as the latter have a mature analytical capacity. It is against this background that Rwanda through the Ministry of ICT and Innovation approved the child online protection (COP) policy in June 2019².

Schools are provided with physical or online materials for awareness raising and information dissemination with regard to the risk of unprotected internet usage. REB is responsible for configuring and deploying firewalls and any other method for content filtering to ensure that the content schools are accessing is protected and safe. If any loophole is identified by the schools, it has to be reported to REB immediately via email (connectivity@reb.rw).

4.3 Component 3: Improving teacher competences in teaching, learning and assessment with ICT

4.3.1 Continuous Professional Development (CPD)

In line with the Competence Based Curriculum (CBC), ICT is integrated as a tool to improve the quality of education in all subjects at all levels. ICT should also support individualized learning tailored to student's different learning needs, while it should also facilitate collaborative

² https://rura.rw/fileadmin/Documents/ICT/Laws/Rwanda_Child_Online_Protection_Policy.pdf

learning among students. Schools are required to conduct CPD on the use of ICT in different subject matters in addition to training provided by REB and other partners. CPD may cover many topics, including 1) effective use of ICT for formative learning assessments, 2) use of ICT for individualized instruction, 3) safe and responsible access to online resources, and 4) how to foster student interaction and collaboration with ICT.

4.3.2 Supervision of ICT use in education

ICT use in teaching, learning, and assessment as well as in educational leadership is increasingly becoming a key enabler to quality education. As much as teachers are empowered with the competences to embrace ICT in their teaching practices, schools equipped with the relevant ICT infrastructure, policies and relevant guidelines in place, there is a need to ensure that effective supervision is done. This helps in ensuring conformity to quality standards in basic education, especially with the use of ICT in teaching, learning, and assessment.

The supervision is carried out by different levels of administration (REB, districts, sectors and schools) to ensure that ICT skills are applied in schools. The supervision groups at all levels are capacitated for their observation, analytical and advisory skills with regard to effective use of ICT in education. Supervisors at all levels must be able to evaluate ICT's effect in improving teaching and learning, and propose evidence-based and concrete measures in case challenges are identified.

For effective supervision, supervision tools are developed and validated under the leadership of REB. The supervision groups are invited to training sessions to ensure that they are equipped with the required capacity.



ANNEXES

Annex 1 ICTE-MIS User Manual on Monthly Connectivity Report