EdTech Readiness Index

Dominican Republic: ETRI Indicators and Results

The document *Dominican Republic: ETRI Indicators and Results* was elaborated by the World Bank's Education Global Practice as part of the EdTech Readiness Index. Version 1.0. Published on 13th of April 2023. For further information please contact: ETRI@worldbank.org.

Background

EdTech Readiness Index

6 Pillars to Understand the System

School Management

Teachers

Students

Devices

Connectivity

Digital Education Resources

PRACTICE					
• Strategy • Leadership • Prioritization	• Self-Efficacy • Use – Planning • Use – Teaching	• Self-Efficacy • Use – Inside • Use – Outside	• Student Access • Student Use • Tech Support	• Availability • Student Access • Quality	• Access • Use • Quality
POLICY					
• Responsibility • Guidance • Support	• Standards • Support • Evaluation	• Framework • Curriculum • Assessment	• Standards • Monitoring • Responsibility	• Plan • Monitoring • Support system	• Guidance • Strategy • Standards

Implementation of the Policy Survey

- Expert consultant: Catherine Rodríguez
- Dates/duration: 15 days between February-June 2022
- Type of documents reviewed, and person interviewed:
  - The documents reviewed included laws, national plans, governmental programs and academic research.
  - 14 personal interviews with public servants working at MINERD were undertaken. These helped to understand and complement the information depicted in the documents. More importantly, it allowed the team to understand which policies and actions were the governments' priority and those areas that they are currently working on to improve.

Results are summarized for key indicators and compared

- Answers are aggregated into indicators and sub indicators
  - Scored between 1 (worst) to 5 (best)
- Results are color coded (as below) to understand strengths and weaknesses of the system
  - The thresholds used are only indicative at this stage and will be reassessed after the ETRI pilot phase (2023)
- Results are compared between
  - **Practices** (what is implemented in the schools) and de facto policies (how policies are understood on the ground)
  - **De facto** policies (how policies are understood on the ground) versus de jure policies (what policies/regulations/strategies are available)
- Analysis is included in bubbles on the slides

Results

Preview of Recommendations

1) **School Management:** Develop a policy that defines ICT integration at the school level.

2) **Teachers:** Define official digital competency framework to guide teacher training and practices.

3) **Students**: Define an official digital competency framework to increase students' digital proficiency.

4) **Devices**: Design and implement a monitoring and technical service support system.

5) **Connectivity**: Continue the efforts to connect all schools and implement a monitoring and technical service system.

6) **Digital Education Resources**: Increase usage of DER and knowledge of existent policies.

7) **Inequalities**: Enhance practices in public and rural schools. Enhance information on policies in urban and private schools.

8) ***De Jure* policies**: Design additional policies for all pillars, except for DERs.

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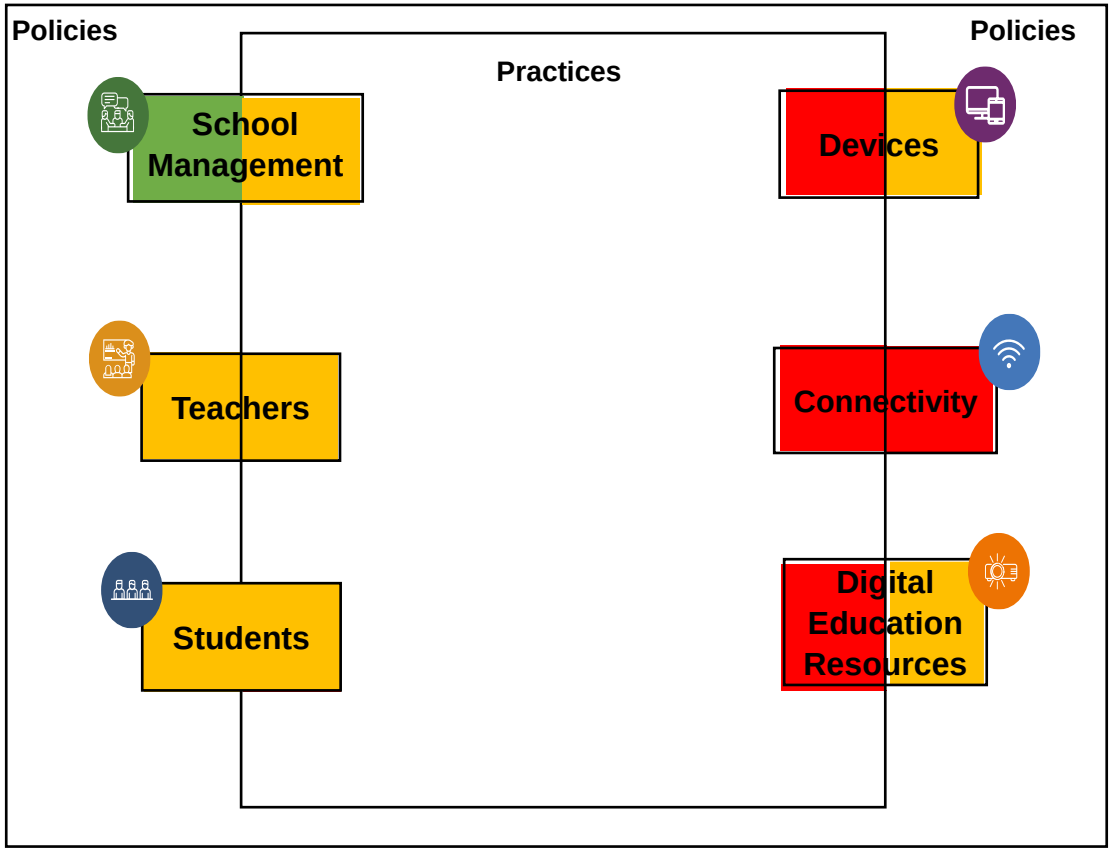
Digital Competency Framework for Educators (DCF); Digital Education Resources (DER)

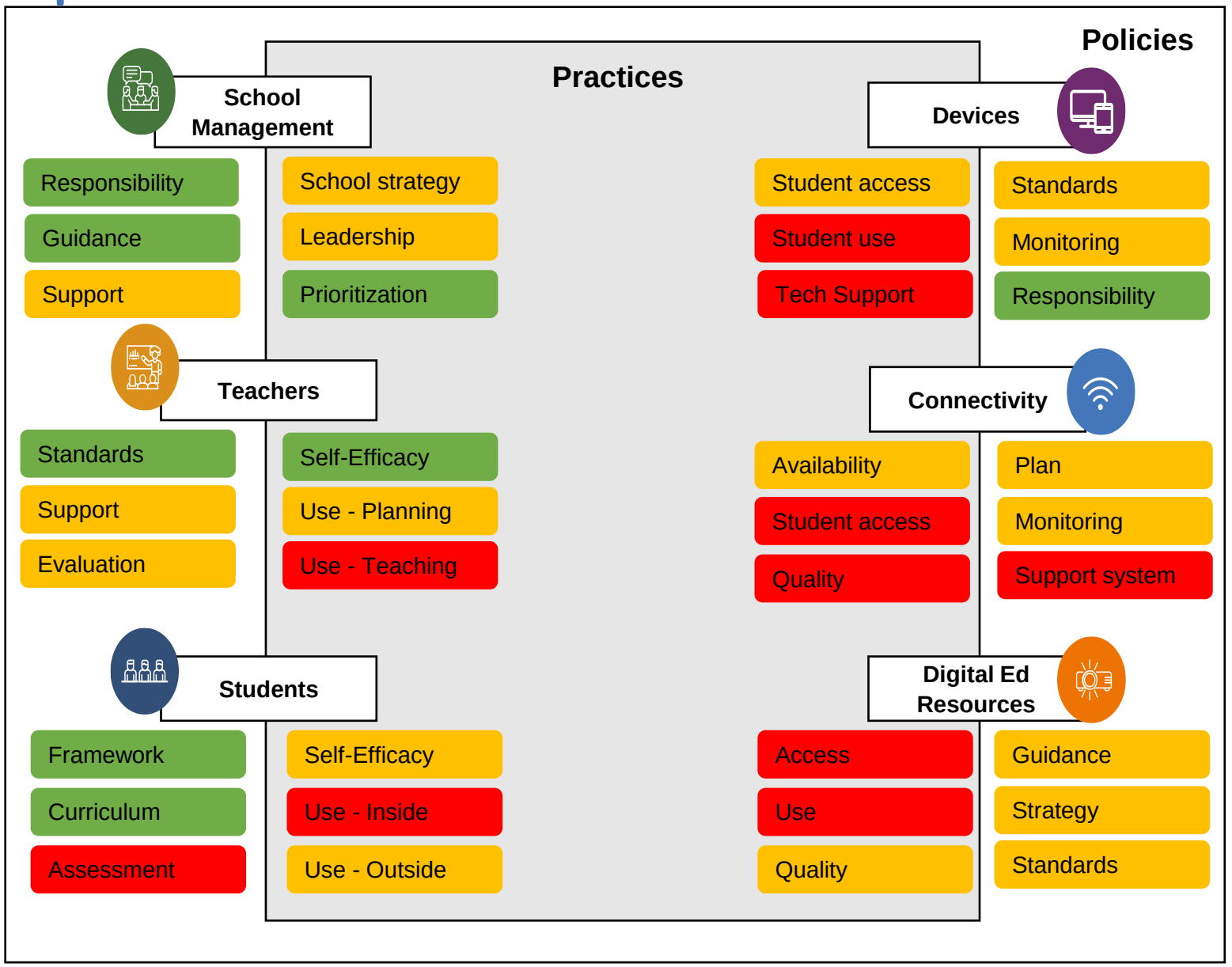
Country Level Results



- *School management: principals' views on policies and practices are the most positive of the six pillars.*
- *Teachers: definition of a DCF is needed and this in turn could enhance training and practices in the country.*
- *Students: definition of a DCF is needed to enhance self efficiency and in-school practices is needed.*
- *Devices: The support required to maintain the devices needs to be enhanced so that student usage is higher.*
- *Connectivity is the weakest pilar and work on all its aspects is vital.*
- *DER: quality, knowledge, usage of existing DER should be enhanced.*

Digital Competency Framework for Educators (DCF); Digital Education Resources (DER)

Country Level Results



In terms of practices appears strong in school management, prioritization of students' ICT abilities; teachers'' self efficacy, students' usage of devices outside school and the availability of devices.

The weakest points are:

- *Teacher's use of EdTech for teaching and students, inside the classroom.*
- *Student access, usage and quality of devices, connectivity, and DERs.*
- *Technical support for devices.*

In terms of de facto policies, the strongest points rated by principals are the allocation of responsibilities and guidance to include ICTs in school; as well as standards for students and teachers.

According to principals the weakest areas are a poor connectivity and lack of student digital competencies assessment.

School Management

Practices

School strategy 3.5

- 78% of school principals report having a digital strategy or a plan to incorporate the use of ICT into teaching and administration at their school

Leadership 3.7

% of school principals who report

- Involving teachers in the development of plan to apply ICT in the school: 91%
- Supporting teachers in trying out new ways of teaching with ICT: 89%
- That there are discussions on the advantages and disadvantages of teaching and learning with ICT: 90%

Prioritization 4.8

% of school principals who report ensuring students have the skills to use ICT is important for

- basic computer functions: 95%
- accessing and using information: 96%
- using digital devices safely and appropriately: 97%
- improving their learning generally 96%

Policies

Responsibility 4.9

- 97% of principals reported that responsibilities for integrating ICT use into schools' strategic plans are assigned (at the national, sub-national/local or school levels)

Guidance 4.4

- 89% of school principals aware of guidelines to incorporate ICT into teaching and learning activities
- 81% of school principals find useful guidelines to incorporate ICT into teaching and learning activities

Support 3.9

- 79% of school principals report attending or participating in a training on the use ICT in school over the last 12 months
- 60% of school principals report the training was required

- *Almost 80% of principals report having a digital strategy.*
- *The majority think responsibilities for integrating ICTs are defined, that they use guidelines, and participate in training.*
- *Almost all principals rate as very important the need for students to have digital abilities and the involvement of teachers in the integration of ICTs to schools if high.*
- *Support/training of principals could be improved, making sure all participate on yearly basis by making it "required"*

Teachers

Practices

Self-Efficacy 4.2

% of principals who report being confident in their teachers' own ability to :

- Contribute to online discussion/forum: 64%
- Produce presentations for use in class: 73%
- Prepare lessons in which students use ICT: 80%
- Use spreadsheet for keeping records: 61%
- Assess student learning using ICT: 75%
- Collaborate with colleagues using shared resources: 67%

Use – Planning 3.9

% of principals reporting teachers doing the following using digital devices while preparing/planning their lessons

- Searching for content to use during class: 66%
- Sharing educational content with other teachers: 52%
- Participating in project developed with other: 52%
- Preparing presentations to use for teaching: 61%
- Expanding your knowledge about the use of ICT: 62%
- Carrying out administrative class management: 51%

Use – Teaching 2.7

% of principals reporting teachers doing the following during direct class instruction:

- Using ICT to search for info. for discussions: 47%
- Using ICT to present info. during instruction: 45%
- Using classroom management tools: 27%
- Asking students to search for information: 37%
- Asking students to present results using ICT: 29%
- Using digital tools to assess students' learning: 28%

Policies

Standards 4.3

- 84% of principals report that there is a guiding document that defines the digital competences that a teacher is expected to have or develop
- 78% of principals find the guiding document useful

Support 3.7

% of principals reporting that teachers' initial training included the following:

- Learning how to use ICT generally: 68%
- Learning how to use ICT in teaching: 71%

71% of teachers report participating in professional development activities on using ICT in teaching and learning practices, but it was never required

Evaluation 3.1

- 51% of principals report teachers have been formally evaluated on their use of ICT during the last school year.

- *According to self efficacy responses, additional training for teachers is needed, particularly in the usage of spreadsheets and for collaboration with peers.*
- *These limitations reflect in the very low use of ICTs for teaching, planning, and processing information.*
- *Only about a quarter of principals believe teachers use ICT for classroom management and student assessment or ask their students to use ICT for schoolwork.*
- *Increasing the offer of teacher training on EdTech (pre and in-service) could help improve teacher's practices.*
- *Regarding policy, even though there are no official digital competencies for teachers defined, 84% of directors respond there is. Similarly, 51% report they have been evaluated in the matter when there is no formal policy or competencies available to do so.*
- *Clearer definitions, adoption and assessment of ICT competencies for teaching could be strengthened.*

Students

Practices

Self-Efficacy 3.5

% of principals who report thinking that at least half of the students can perform the following independently:

- Open a new tab in a browser: 73%
- Save a photo that they find online: 75%
- Find a website they have visited before: 72%
- Check if information found online is true: 61%

Use – Inside 2.9

% of principals who report students use digital devices while in school in most/every lessons for:

- Searching for information for lesson exercises: 84%
- Communicating with students on projects: 67%
- Sharing assignment results with students: 67%
- Submitting completed work for assessment: 68%
- Evaluating information resulting from a search: 72%
- Producing document, presentation, or videos: 69%

Use – Outside 3.9

% of principals who believe students use digital devices outside of school at least once week for:

- Browsing the Internet for schoolwork: 82%
- Communicating with teacher (social networks or email): 89%
- Doing homework on a digital device: 79%
- Using learning apps/websites: 80%

Policies

Framework 4.2

- 83% of principals who report that there a guiding document defining the digital competences that a student is expected to have or develop

Curriculum 4.5

- 86% of principals believe that the educational curriculum recommends using ICT in teaching

Assessment 2.9

- 50% of principals report that the digital competencies of students were formally assessed.

- *According to the principal, self efficacy measures of students suggest 71% can perform basic tasks as open new tabs, save content or revisit webpages. As expected, a lower percentage of 5th graders can discriminate information.*
- *A clear mismatch between the use of devices in the classroom and outside of the school:*
  - *All type of usage of ICT devices inside schools can be improved.*
  - *Principals believe usage outside of school is more common. The most frequent use is browsing the internet and using learning apps and websites, followed by doing homework using devices.*
- *Policy indexes are relatively (high except for assessment).*
  - *86% of principals believe the curriculum recommends ICT usage in learning (as it is truly the case).*
  - *However, principals wrongly believe a DCF for students exist.*

  However, policy wise, only 50% report that students were formally evaluated in the use of ICT.

Devices

Practices

Student access 3.2

- Share of working digital devices that are available to students for learning: 84%
- Proportion of school principals that agree that there is sufficient number of digital devices for instruction: 47%

Student use 2.5

- 17% of school principals report that the school has digital devices that are adapted for the use of students with disabilities
- 58% of principals report that digital devices available at the school were used in class at least once or twice a week

Tech Support 2.7

- 37% of school principals agree that there is sufficient technical support to maintain ICT resources so that they are fully functional

Policies

Standards 3.7

- 68% of school principals know if there are standards in place which require that students in all schools have access to functioning digital devices (PCs, laptops, tablets and/or other digital devices)

Monitoring 3.2

% of school principals who report that there is someone or any institution or mechanism that monitors:

- that all schools have access to functioning digital devices: 54%
- If digital devices and connectivity are used by the students: 57%

Responsibility 4.1

- 77% of school principals report that there is a government legislation that assigns responsibility to MINERD for maintaining school ICT infrastructure and for providing technical support

- *Student access and use: Principals think that 80% of devices in schools are working (and 84% of working devices are used for learning), but only 47% report that this is enough devices.*
- *Only 17% of principals report having devices for students with disabilities.*
- *Tech Support is weak: Work should be focused primarily on monitoring devices and connectivity, but also on increasing the technical support to maintain the ICT fully functional.*
- *Related to policies 68% of school principals believe there are standards that require students to have access to functional devices and MINERD is responsible for maintaining the infrastructure and providing technical support.*
- *Half the principals believe there is a policy that allows the monitoring of access and usage of devices, even though there isn't.*

Connectivity

Practices

Availability 3.3

- 57% of schools have Internet access

Student Access 2.6

- 36% of devices available to students are connected to the Internet
- 29% of school principals believe that here is a sufficient number of digital decides connected to internet

Quality 2.5

% of school principals who believe that:
- The school bandwidth or speed is sufficient: 28%
- The Internet stability is sufficient: 27%

Policies

Plan 3.1

- 52% of school principal believe that the government has any strategy or plan to provide or facilitate Internet connectivity to all schools

Monitoring 3.1

- 53% of school principals report that there is someone or any institution or mechanism that monitors the availability of an Internet connection in the school.

Support System 2.5

- 36% of school principals believe that, if the school has problems with Internet connectivity, such as stability, low bandwidth, etc., there is a system or mechanism at the government level to assist and resolve the problem

- *Quality of internet connectivity is a major challenge, and additional actions are needed.*
- *Internet access and quality (speed, stability) in the schools needs improvement.*
  - *Only half of the principals report the school is connected to internet and less than a third believe the bandwidth, stability and speed is sufficient.*
- *Regarding policies half of them believe there is a plan to facilitate internet connectivity access in schools and only 36% believe there is a system in place to solve connectivity technical problems.*
- *Planning, monitoring, improving the support system should be considered a priority.*

Digital Education Resources (DER)

Practices

Access 2.9

- 49% of school principals agree that his/her school has access to sufficient digital learning resources
- 45% of school principals agree that there is sufficient digital learning resources adapted for students with disability

Use 2.5

% of principals who report teachers using tools in most lessons:

- Computer-based information resources: 86%
- Digital resources linked with school textbooks: 91%
- Digital learning games: 63%
- Collaborative software: 64%
- Graphing or drawing software: 65%
- Word-processor software (e.g. Word): 84%
- Presentation software (e.g. PowerPoint): 85%

Quality 3.2

% of school principals who agree that, in his/her school:

- Available DERs are of adequate quality: 61%
- Available DERs are aligned to the needs of the curriculum: 68%
- Available DERs are adapted to the local context: 67%

Policies

Guidance 3.5

- 62% of school principals believe that there is a strategy/plan for ensuring that public schools have access to DERs

Strategy 3.4

% of school principals who believe that there is a government legislation/policy that defines :

- How DERs should be aligned to the curriculum's requirements: 71%
- How DERs should be adapted to the local culture or language: 64%
- How DERs should be adapted for the use of students with disabilities: 49%

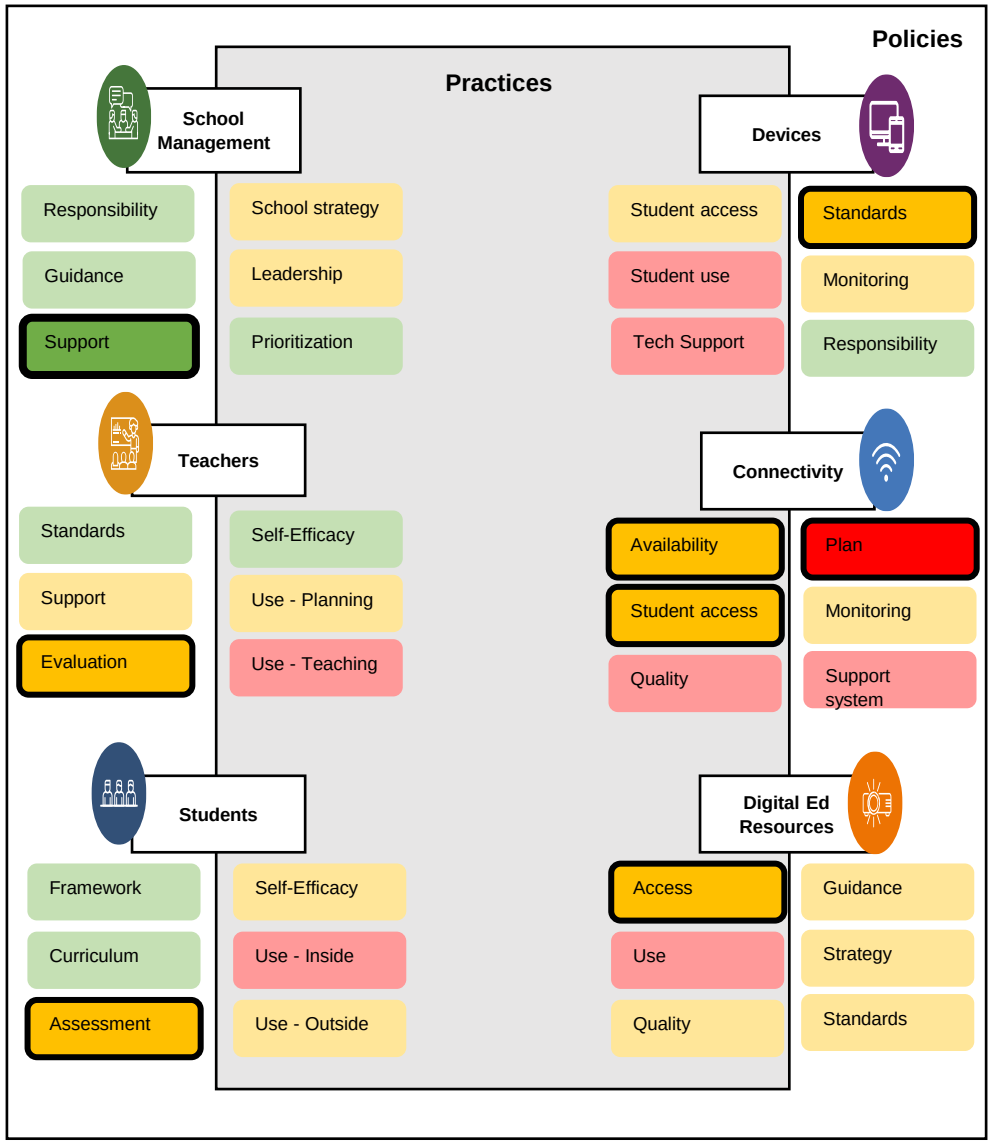
Standards 3.6

- 65% of school principals believe that there is a government legislation/policy defining quality standards for DERs

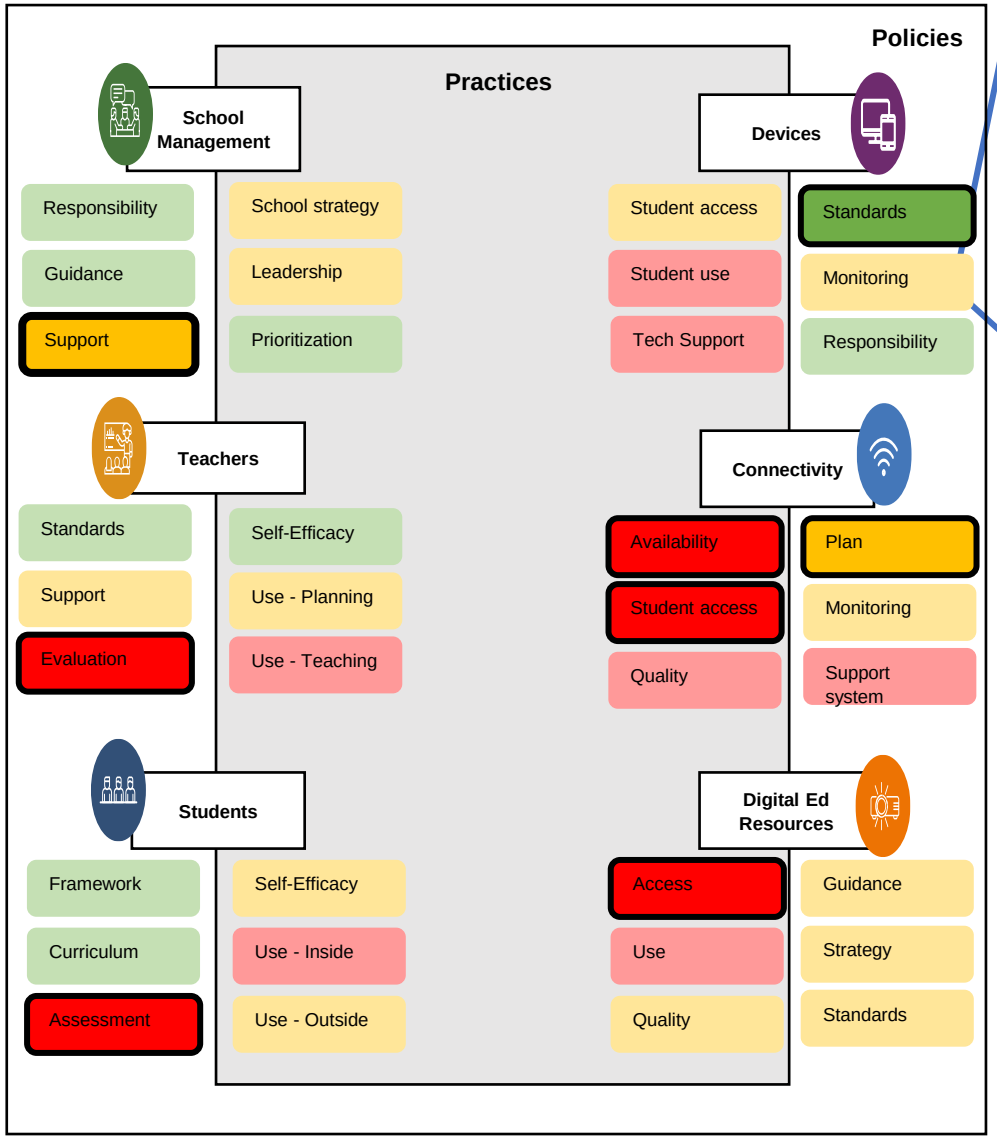
- *Access and use of DER need to be improved at the policy and practice level.*
- *Only 49% of principals agree that the schools have sufficient access to DER. Similarly for students with disabilities.*
- *Usage is high for textbooks, Office (Word and Power Point), but lower for games, collaborative software and graphing.*
- *Knowledge of principals regarding DER policies can be improved.*
  - *Around 60% believe there is a strategy or plan to ensure the access and quality of these instruments in school.*
  - *71% believe that policies assure they are aligned with the curriculum and 63% that they are adapted to local culture.*
  - *Less than half believe the existence of policies to adapt DER for students with disabilities.*
- *In addition to poor access and use, the definition and adoption of quality standards for DERs need to be improved.*

Group level results - by location

Urban

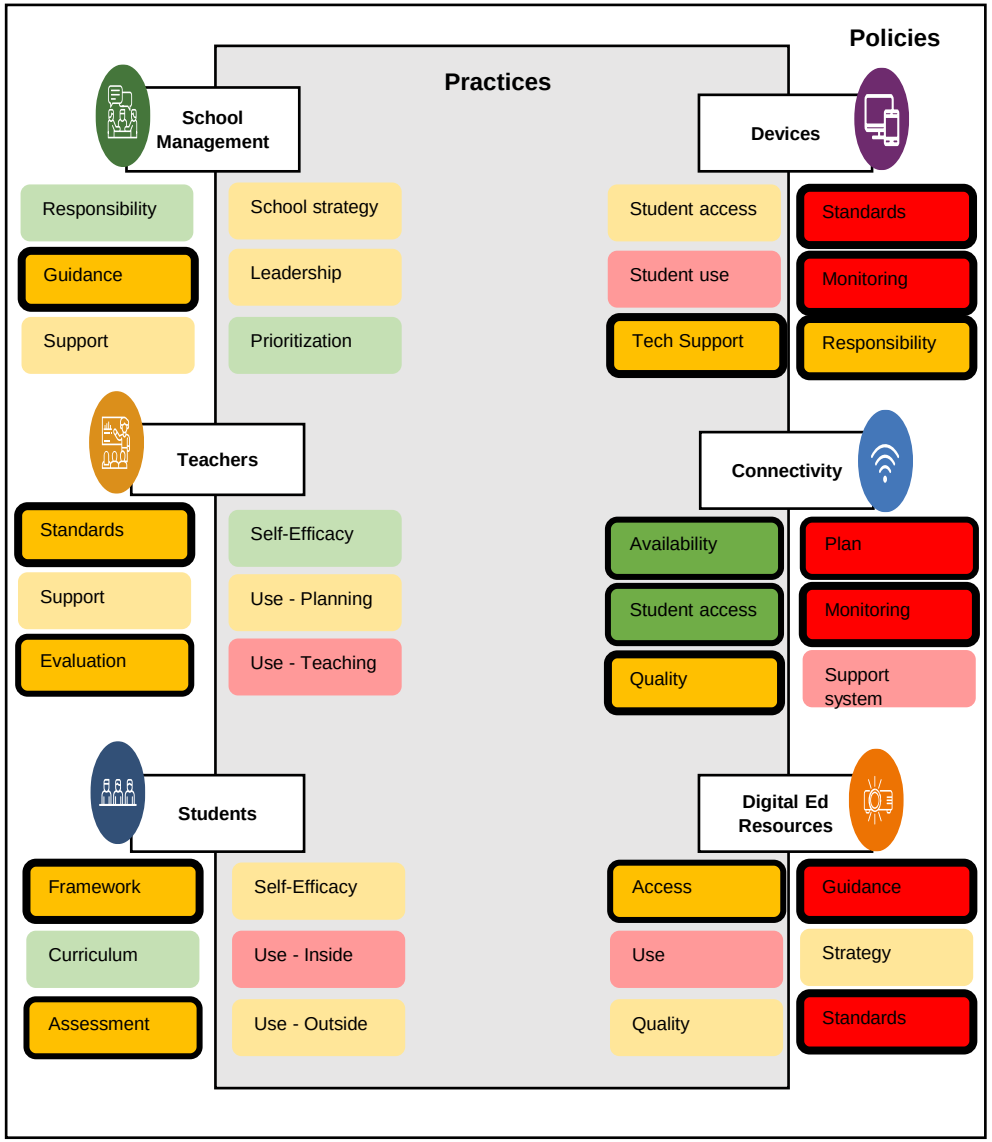


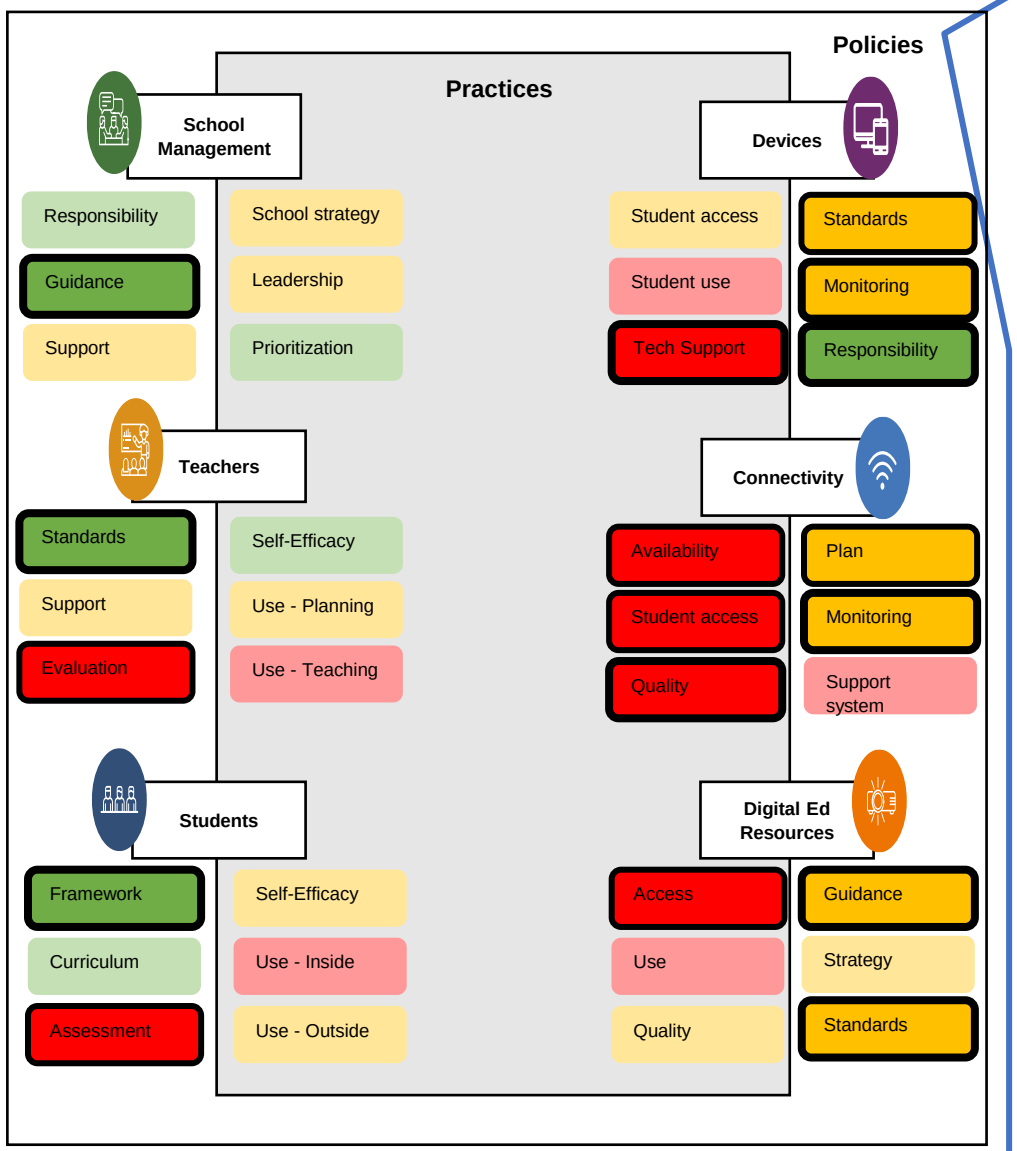
Rural



- *Urban schools' principals' views on practices are higher. The biggest difference where the index is higher for urban schools are those related with availability of connectivity in the school, as well as evaluation and assessment of teachers and students.*
- *Principals from rural schools have a more positive view of the policies in place and their implementation. Differences are particularly important in standards for devices and DERs as well as planning for connectivity.*

Group level results - by school type

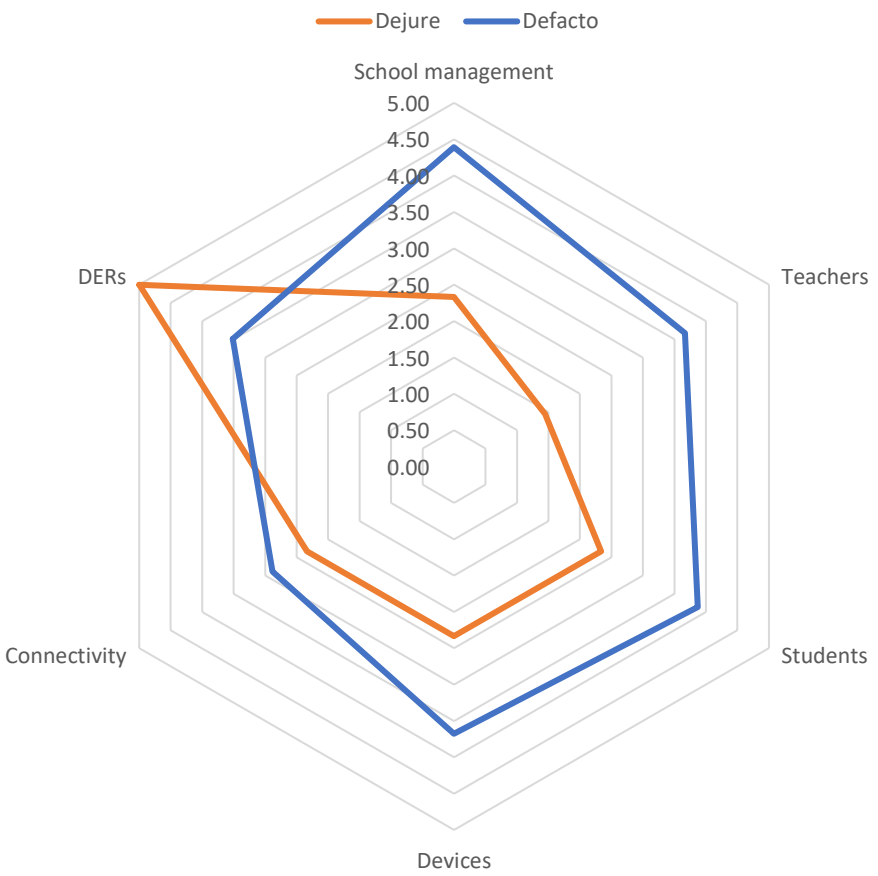


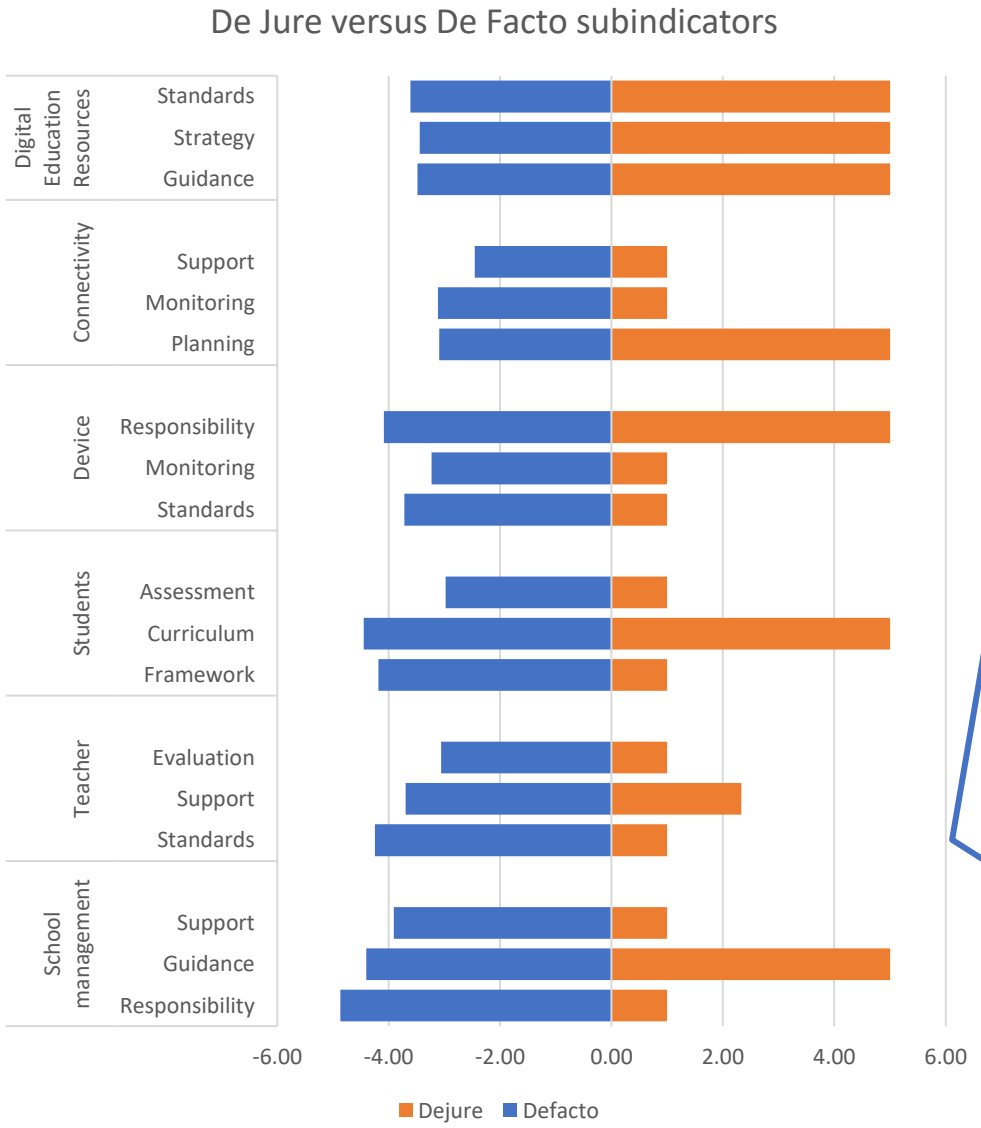


- *Private schools' principals' views on practices are higher. The biggest difference are those related with connectivity access and quality, followed by devices support system and access to DERs. There are smaller differences also in teachers' practices and consequently in students' usage in school.*

- *In comparison, principals from the public sector tend to have a more positive view of the policies in place, except for teacher and students' evaluation (and worst at the practice level in areas like connectivity or tech support for DER).*

Comparison between de facto and *de jure* policies





- *The pillar with the lowest De jure score is teachers. The other four pillars need the same level of attention. The only pillar in which no further action is required is that regarding the DERs.*
- *For all pillars, de jure and de facto policies are not well aligned. In most (except for the DER pillar), principals report knowing of and use policies/plans/standards even when they don't formally exist.*

8 Key Messages and Recommendations

1. School management, definitions are key but further enforcement is needed

- The MINERD should develop a normative or policy that explicitly requires schools to have a digital strategy or plan to incorporate the use of ICT in schools.

- Although normative is important, it is not sufficient. Normative should have clear objectives, standardized processes, and a clear strategy to evaluate how well the integration is going (or what actions need to be taken).

- Clear responsibilities need to be established for who is in charge of incorporating the ICTs into the school's plans. Today, the vast majority believe that it is the responsibility of all actors in the system.

- Additional actions can be taken to provide further support, leadership and training.

2. To empower teachers in the use of ICT (guidance, training and monitoring is needed)

- The very low use of ICT for teaching should lead to an action plan. Here are some considerations:
- Defining and adopting an official ICT competency framework for teachers is required. Teachers need guidance, training, and support.
- The competency framework and pedagogical guidance could be enhanced with pre- and in-service training (e.g., use of ICT for teaching and planning, improved self-efficacy, adoption of a formal evaluation mechanism, etc.).
- Learning communities among teachers on ICT-related issues could also be strengthened to enhance the adoption of ICT competency frameworks.

3. Students require better skills and support to effectively use ICT in the classroom (not only outside the school)

- The mismatch between the use of devices in the classroom and outside of the school indicates that further actions are needed.
- As for teachers, an official ICT competency framework for students is needed to indicate what knowledge they need and the skills they require to develop.
- The framework, when implemented, could increase students' ICT usage inside and outside schools, as well as their ability to independently use EdTech.
- An evaluation policy and an assessment plan of students' digital skills should be defined and implemented to understand the strengths and areas for improvement.
- The availability of recommendations and guidelines to assure schools include ICT use in the curriculum is considered an asset.

4. Digital devices for learning policies require more quality

- To improve existing digital devices for learning policies, quality is required.
- To ensure the efforts carried out to deliver on all public schools' devices are truly realized, the Ministry of Education needs to continue its technical assistance systems in areas such as training, monitoring, maintenance, repositioning, etc. Only then can the country ensure that ICT devices are adequate for usage (and learning).
- To monitor this last aspect, MINERD should also design and implement a monitoring system. This could provide timely and continuous information about the usage of ICTs in teaching and how it varies according to users in different contexts and needs.
- Assistive devices for learners with special needs are required.

5. More and better connectivity for a more inclusive EdTech policy

- The quality of internet connectivity is a major challenge to ensuring the expansion of EdTech at the national level. Access, quality, and support are some of the areas that need planning and execution.
- The country needs to assure a sufficient and stable electricity service to schools.
- Continue the efforts to provide connectivity to all public schools in the country.
- Implementing a monitoring system to identify and address connectivity issues should be prioritized.
- While the country works to improve connectivity quality, additional steps can be taken to consider EdTech solutions that do not require constant connectivity (offline).

6. DERs are key to support teaching and learning (but access, use and quality are needed)

- Several challenges associated with DER should be addressed at the policy and practice levels.
- Opinions about access and use of DER highlight major problems. The use of DER could be improved (beyond traditional Office tools), particularly in software related to drawing, games, and collaborative platforms.
- To review the quality of the DER and identify areas for improvement. For instance, better DER quality standards and better training could increase the knowledge of principals and the relevance of these resources to support teaching and learning.
- Limited evidence of DER adapted for learners with disabilities.

7.Inequalities (urban-rural / private-public)

- Practices: Although connectivity and support for devices must be enhanced in all schools, a higher effort needs to be undertaken in rural zones and public schools for them to catch up. Additional efforts regarding teachers' practices and, consequently, in students' usage of EdTech in public schools are also necessary.

- Policies: Information on policies in place around EdTech for urban and private schools need to be strengthened (better communication, training and guidance can be considered).

8. Better alignment between EdTech *de Jure* and *de Facto* (major actions are recommended)

- For all pillars, de jure and de facto policies are not sufficiently aligned. Examples of policies that need to be revised are:
  - Digital competency frameworks for teachers and students.
  - Policies for the integration of ICTs in schools.
  - Policies related to connectivity and support for devices in schools.

- In most cases (except for the DER pillar), principals report knowing of and using policies/plans/standards (even when they don't formally exist). A communication campaign and training once the policies are designed and approved should be undertaken.

- Systematic monitoring, as well as proficient Education and Management Information Systems (EMIS) , are critical to ensure the alignment between EdTech policies and their implementation.

Summary of Recommendations

1) **School Management:** Develop a policy that defines ICT integration at the school level.

2) **Teachers:** Define official digital competency framework to guide teacher training and practices.

3) **Students**: Define an official digital competency framework to increase students' digital proficiency.

4) **Devices**: Design and implement a monitoring and technical service support system.

5) **Connectivity**: Continue the efforts to connect all schools and implement a monitoring and technical service system.

6) **Digital Education Resources**: Increase usage of DER and knowledge of existent policies.

7) **Inequalities**: Enhance practices in public and rural schools. Enhance information on policies in urban and private schools.

8) ***De Jure* policies**: Design additional policies for all pillars, except for DERs.

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Thank you

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