BACKDROP

30 years of IT integration in Europe

1980s//90s:
- Initially, expensive hardware/poor internet in the 80s/90's
- Fixed wire networks and desktops and computer rooms
- Focus on funding and security of equipment – little on policy
- Vocal industry

2000 +
- cheaper devices, laptops/tablet and ICT networking
- cheaper ICT infrastructure, classroom devices/peripherals
- WiFi, mobile options and BYOD.
- National & school-based strategies
- approximately €10 Billion in exchequer funding inEurope

Outcome?

- Patchy roll out of ICT integration across countries
- isolated pocket of excellence in schools– no strategies for whole school integration across the curriculum
- traditional examination/assessment system remain as well as the supremacy of the textbook so no evidence of enhanced academic attainment through ICT
- effective use of ICT increases motivation and enriches learning
- The "transformation" of ICT infused education never happened and the 21st century classroom remains a showcase

THE TEACHER

- Central role of the teacher was discovered.
- new emphasis on teacher ICT competency development – in initial teacher education and in continuing professional development (mostly outside the classroom)
- Training in the pedagogical incorporation of ICT in teaching and learning
- Use of OER
- classroom management of devices

NEW PERSPECTIVES ON THE TEACHER

"THE TEACHER AND TEACHER EDUCATION ARE CENTRAL FOR THE SUCCESSFUL INTEGRATION OF DIGITAL TECHNOLOGY INTO THE CLASSROOM".

"THE POWER OF USING TECHNOLOGY IN THE CLASSROOM IS DEPENDENT ON TECHNOLOGY BEING INTEGRATED INTO EXISTING PEDAGOGY".

"WITHOUT ICT -BASED TPD, GENUINE PEDAGOGICAL TRANSFORMATION FACILITATED BY TECHNOLOGY IS UNLIKELY TO OCCUR".

TEACHER STATUS/SENSE OF PROFESSIONALISM

- Low social status – no longer the pillar of the community
- low pay/low self-esteem/high PTR/facility deficiencies
- shortage of teachers & shortage of candidates for teaching
- Little sense of "professionalism" as we <u>knew</u> it
- Ref. *Bring back the Teacher to the African school – Pai Obonya (2012)*
- Shortage of 6 million teachers
- Deficit of 15,000 teachers exists in Kenya alone

ICT incentivises better teaching

- helps to reform initial teacher education in core pedagogical skills and in ICT competencies

- helps to improve teaching abilities through peer-to-peer group sharing, collaboration and content co-creation

- raise the social status of teachers in the community

- establish subject associations networks for professional development in ICT

ICT helps provide access to:

➢ increased schooling opportunities to remote areas, disadvantage groups, SEN, facilitates inclusiveness

➢ richer learning experiences

➢ enables informal/community based learning

➢ inter generational opportunities for L&N and community development

Education for All progress

Last 15 years has seen great progress in education in Africa

➤ Net Enrolment Ratio in primary education had increased from 58% (1999) to 92% (2015)

➤ Gender parity index from 0.85 to 0.96

➤ Enrolment in secondary education more than doubled from 20.8m to 43.7m (max of 36% can be accommodated)

➤ EFA efforts have led to significant achievement in SSA – under the MDGs

Low-income countries

8%

23%

69%
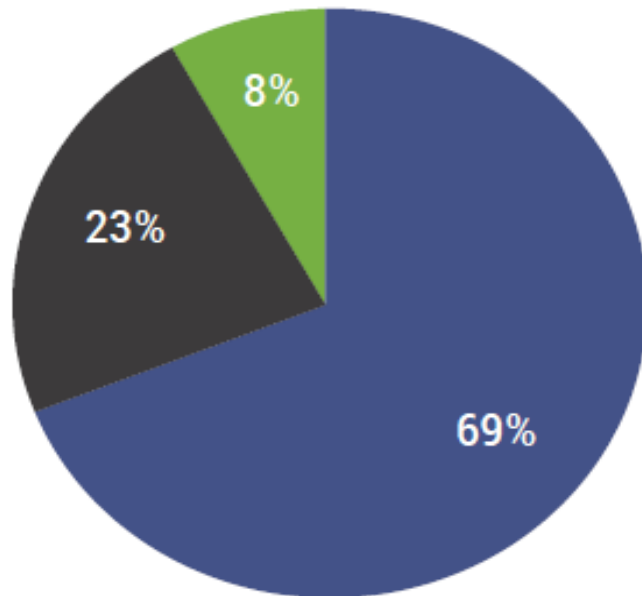
264 million school age children
by expected
learning outcomes

High-income countries

8%

22%

70%
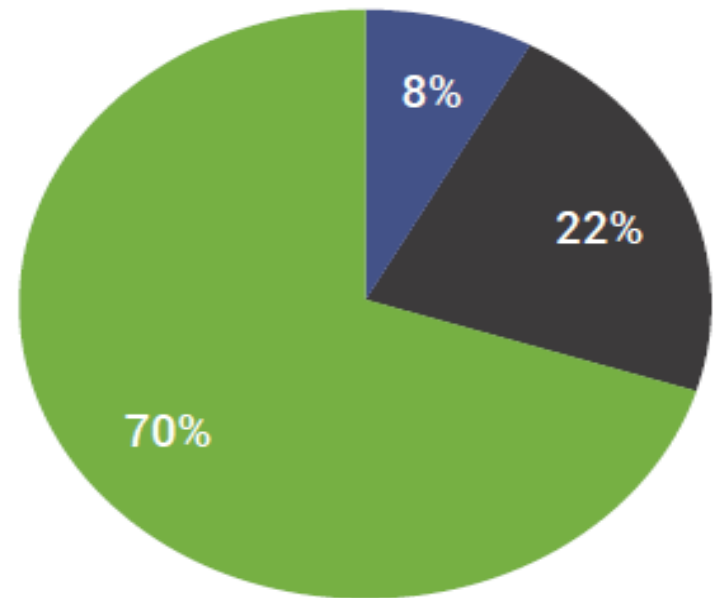
198 million school age children
by expected
learning outcomes

● Will not learn basic
primary level skills

● Will learn basic primary
level skills only

● Will learn minimum
secondary level skills

I. Performance

To succeed, the first priority for any reform effort is to put in place the proven building blocks of delivery, strengthen the performance of the education system, and put results first.

II. Innovation

Successful education systems must develop new and creative approaches to achieving results, capitalizing on opportunities for innovation in who delivers education, where and how, in order to meet the education challenges ahead.

A Financing Compact for the Learning Generation:
12 recommendations to get all children learning

I. Performance

Successful education systems put results front and center

1. Set standards, track progress and make information public
2. Invest in what delivers the best results
3. Cut waste

II. Innovation

Successful education systems develop new and creative approaches to achieving results

4. Strengthen and diversify the education workforce
5. Harness technology for teaching and learning
6. Improve partnerships with non-state actors

III. Inclusion

Successful education systems must reach everyone, including the most disadvantaged and marginalized. While the first two transformations will help to en-sure more effective learning systems, they will not close the learning gap unless leaders also take additional steps to include and support those at greatest risk of not learning – the poor, the discriminated against, girls, and those facing multiple disadvantages.

IV. Finance

Successful education systems will require more and better investment. This investment must be based upon the primary responsibility of national governments to ensure that every child has access to quality education, free from pre-primary to secondary levels. It must be supported by the resources and leadership of international partners, prioritizing their investment in countries that demonstrate commitment to invest and reform.

III. Inclusion

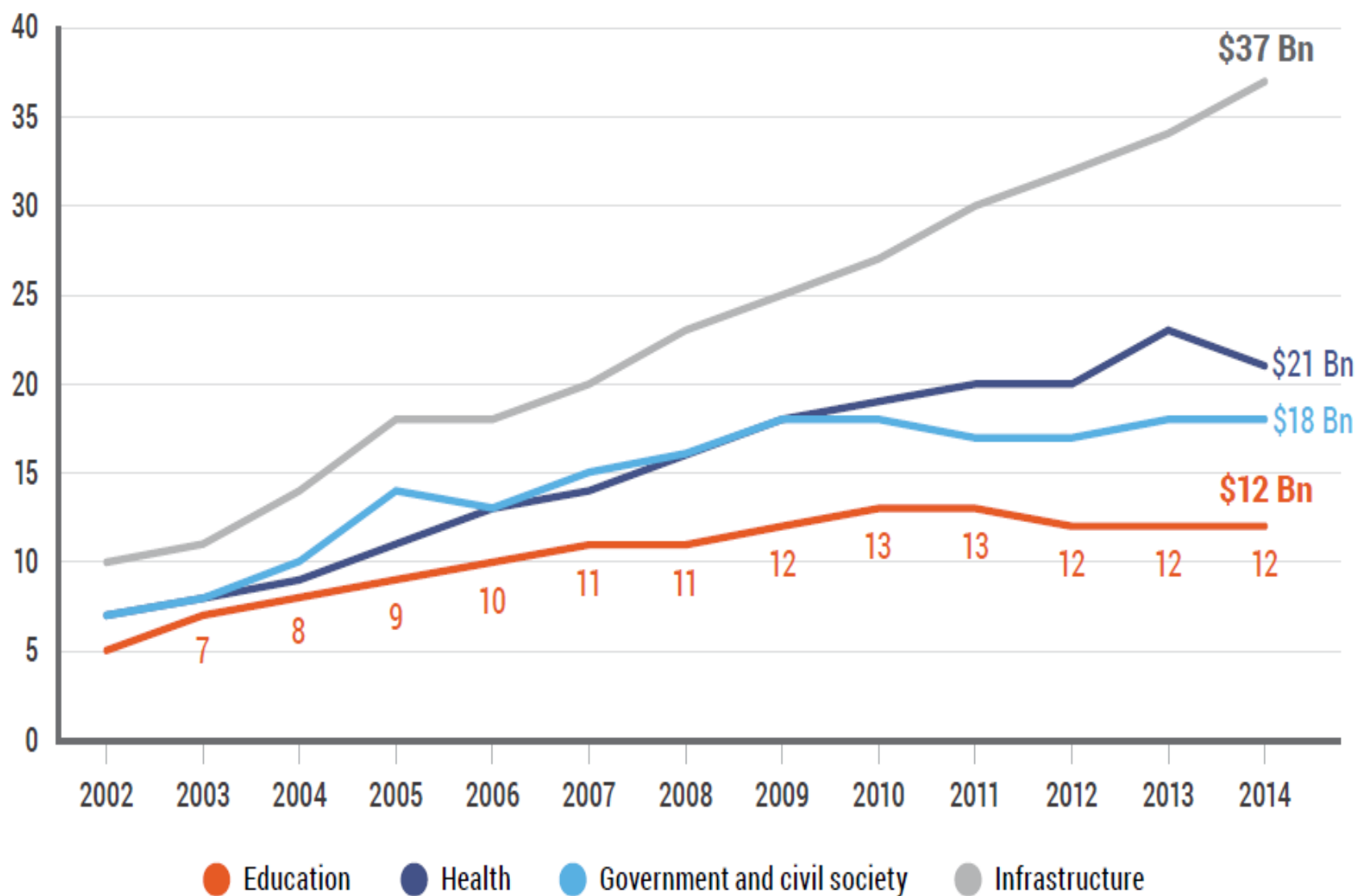Successful education systems reach everyone, including the most disadvantaged and marginalized

7 Prioritize the poor and early years – progressive universalism

8 Invest across sectors to tackle the factors preventing learning

IV. Finance

Successful education systems require more and better investment

9 Mobilize more and better domestic resources for education

10 Increase the international financing of education and improve its effectiveness

11 Establish a Multilateral Development Bank (MDB) investment mechanism for education

12 Ensure leadership and accountability for the Learning Generation

US$ Billions (2014 constant prices)

Legend: Education · Health · Government and civil society · Infrastructure

Infrastructure: $37 Bn
Health: $21 Bn
Government and civil society: $18 Bn
Education: $12 Bn

Education values by year: 7, 8, 9, 10, 11, 11, 12, 13, 13, 12, 12, 12

Funding education in Africa

- By 2050 - I billion young people in Africa

- By 2030 - 1in10 will benefit from secondary education

- Education underfunded in Africa – average of 4% but 6% required giving $16 billion USD yearly

- a further $74 billion USD (approx) required from ODA.

SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"

- Education goals for the whole world – not just low-income countries

- Not restricted to Education as SDG 4 but with targets in in 5 other goals: an isolated objective
  - *Health and wellbeing*
  - *Gender Equality*
  - *Decent Work and Economic Growth*
  - *Responsible Consumption and Production*
  - *Climate Change Mitigation*
- ICT4D incorporating ICT4E

A Connected Professional Learning Environment

- High quality collaborative professional learning rooted in a coherent instructional system – a teacher learning focus culture in the school as a learning organisation.

- Time for planning, team work, poling knowledge reviewing the success of teaching practice, regular critical analysis of classroom practice.

- Active, participative self-empowered learners who justify/defend their work

- Revision to relevant curriculae

Whole school ICT integration

"EDUCATION RESEARCH SHOWS THAT RESOURCE-BASED INTERVENTIONS ALONE HAVE LIMITED IMPACT: TECHNOLOGY IN ITSELF DOES NOT ADD VALUE TO EDUCATION".

"TECHNOLOGY IS MOST EFFECTIVE WHEN THERE IS AN HOLISTIC STRATEGY TO INTEGRATE DIGITAL AND NONDIGITAL RESOURCES".

Who/What is GESCI?

At the founding of GESCI in 2003 as an UN initiative, Kofi Annan maintained that:

- education was the key to social & economic development and, in the context of the MDGs, that
- ICT had the ability to address accessibility, inclusivity and raise the quality of education through ICT integration

Today, GESCI is an international Organization, headquartered in Nairobi, Kenya, working with countries willing to harness the undoubted power of ICT in education and in leadership building for knowledge society development in 16 African counties.

African Digital Schools Initiative (ADSI) -
a new model for secondary school development
2016- 2020

The **African Digital Schools Initiative (ADSI)**

A project to be implemented in 3 countries over a 5-year period (2016-2020) in Kenya, Tanzania and Cote D'Ivoire.

The goal is to provide an effective, sustainable and replicable model of whole school ICT integration and teacher development that can contribute to raising quality of teaching and learning and increasing ICT integration in secondary level education in the countries of Kenya, Tanzania and Cote D'Ivoire

Project Objectives/Activities

High-level objective 1: Utilise the GESCI Digital Schools of Distinction
- **Core Activity 1**: **Strengthen whole school approach to ICT capacity and integration** through a digital schools of distinction framework
- **Core Activity 2: graduated teacher training in ICT** including the creation of curricula materials and online repository of resources and lessons involving ICT and STEM

High-level objective 2: Generate evidence that can be used by governments, GESCI and The Foundation to take the project to scale
- **Core Activity 3:** Embed and coordinate the implementation of the ADSI model with the ministries of Education in Kenya and Tanzania

High–level objective 3: Expand, adapt and test the model in a Francophone context (Cote D'Ivoire)
- **Core Activity 4**: Implement the model in Cote D'Ivoire

Partnerships to support successful and sustainable implementation

- **Institutionalization** of the ADSI model- working with the ministries, Expert Working Group (EWG) at both county/region levels; a School Support Team (SST) at County/region level

- Digital Schools of Distinction - **whole school planning for ICT Integration** through the school leadership, STEM Teachers and other subject teachers in planned transformation of schools to Digital Schools of Distinction

- **School-based Professional Development** - led by/supported through school-based coordinators and their capacities developed to provide the first line support in project activities at school level

- **A Blended Learning Approach** for STEM teachers, and other teachers including face-to-face sessions, online access to content through a Learning Management System and classroom observation sessions during ICT Integration practice

African Digital Schools Initiative (ADSI)
Kenya, Tanzania and Côte D'Ivoire

ADSI
2016 - 2020

140 schools in Kenya, Tanzania and Cote D'Ivoire

- **Tanzania - 40 school heads, 400 STEM teachers & 20,000 students**

- **Kenya - 80 school heads, 800 STEM teachers, 40,000 students**

- **Cote d'Ivoire - 20 school heads, 200 STEM teachers, 10,000 students.**

- **Outreach General - 140 school heads, 1,400 STEM teachers, 70,000 students.**

- **Additional – 140 School Boards, 2,800 teachers of other subjects, outreach of up to 140,000 other students**

What are the core elements of innovation in the implementation of The African Digital Schools Initiative/Digital Schools of Distinction?

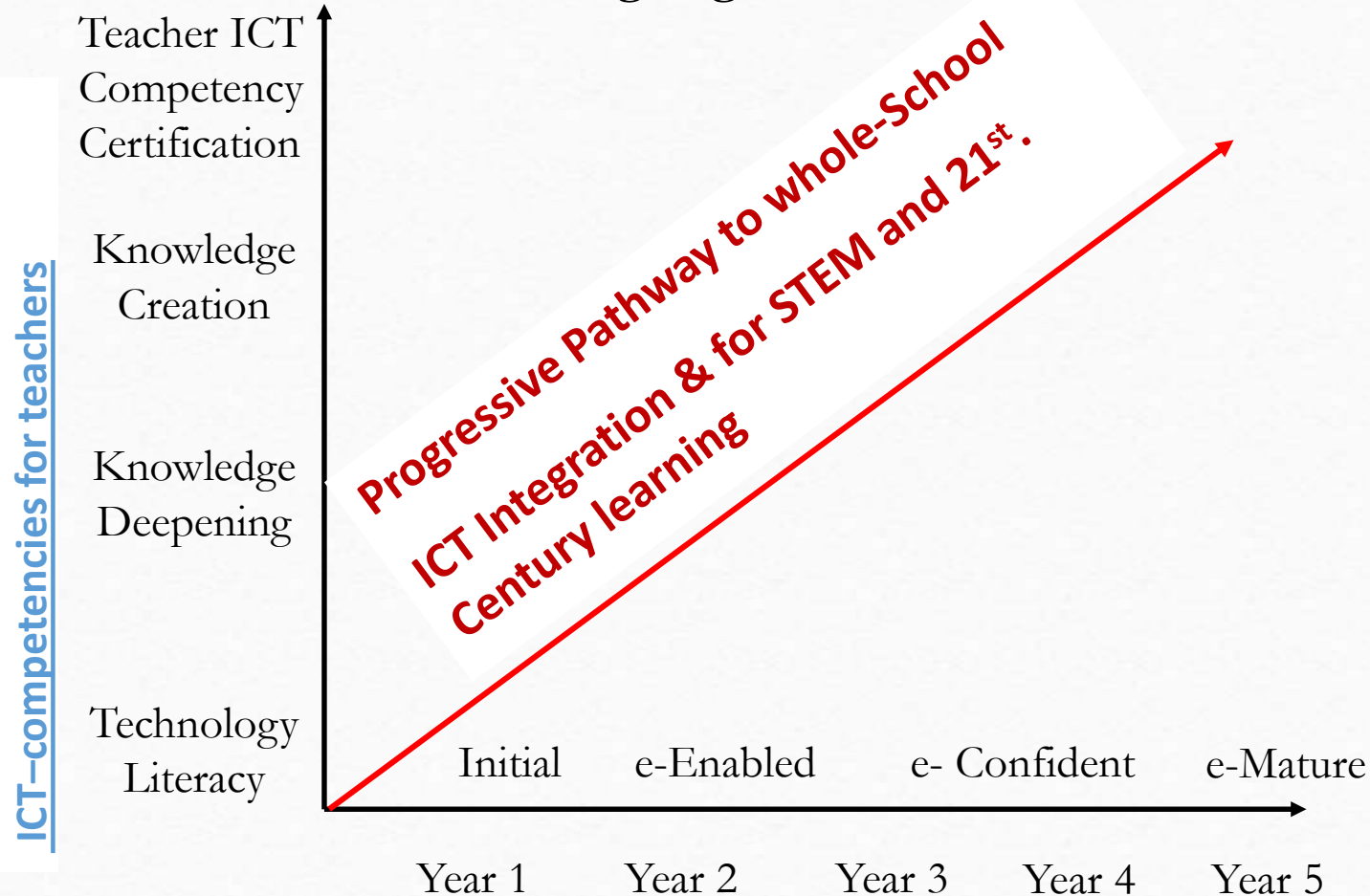# Utilisation of 3 integrated frameworks underpinned by the *Digital Schools of Distinction* framework

- ✓ ICT Competency Framework for Teacher development

- ✓ Technology pedagogy and Content Knowledge

- ✓ 21st Century Skills

Five key domains of focus of the roadmap to achieve *Digital School of Distinction* status

1. Schools-based leadership and planning – developing a strategy for whole school ICT integration.

2. Developing an e-learning culture in the school

3. Plan for ongoing professional development of teachers

4. ICT integration in MST&E (Maths, Science, Technology and English) but also across the curriculum

5. ICT infrastructure - planning for the acquisition of the most suitable equipment configurations

Towards achieving Digital School of Distinction status

ICT–competencies for teachers

Teacher ICT Competency Certification

Knowledge Creation

Knowledge Deepening

Technology Literacy

Progressive Pathway to whole-School ICT Integration & for STEM and 21st. Century learning

Initial   e-Enabled   e- Confident   e-Mature

Year 1   Year 2   Year 3   Year 4   Year 5

Digital Schools of Distinction Framework

Overview

Introduction

Getting Started

STEP 1 Review & Prioritise

STEP 2 Develop Plan

STEP 3 Implement & Monitor Plan

STEP 4 Evaluate Plan

NCTE Advice & Support

ADSI DIGITAL SCHOOLS OF DISTINCTION ROADMAP

		Initial	e-Enabled	E-Confident	e-Mature
LEADERSHIP & PLANNING	**Vision**	Vision focuses mainly on ICT equipment.	ICT vision is developed by an ICT Integration Team	ICT vision is fully integrated into the whole school vision.	ICT vision is wide ranging and shared by all stakeholders. It is actively evidenced through the student learning experience.
	Plan	Basic ICT Work Plan is in place.	ICT Work Plan has been developed by ICT Integration team. One teacher or a group of teachers has assumed leadership for ICT planning in the school.	Comprehensive ICT Plan is integral to the school strategic plan. The development of the plan is led by principal/ICT coordinating teacher/e-Learning team with all staff contributing and whole school acceptance. There is a designated ICT coordinating teacher with clearly defined duties and responsibilities.	Teachers implement the ICT Plan in their daily work. Staff & students are actively engaged in innovative and exemplary practice.
	Integration	Focus is mainly on ICT equipment and the acquisition of basic ICT skills.	Focus is mainly on supporting the integration of school management and teaching and learning.	Focus is mainly on supporting more comprehensive integration of ICT in all subjects and the exploration of new and more effective approaches to ICT integration.	Focus is mainly on supporting and facilitating personalized and self-directed learning.
	Acceptable Use Policy	School has developed an Acceptable Use Policy for ICT and the Internet.	School has developed an AUP following consultation with staff, students, parents/guardians, board of management/trustees.	School has developed and ratified a policy for Internet and ICT use following consultations with staff, students, and parents. All stakeholders are familiar with its contents and the plan is fully implemented.	The AUP accommodates innovative use of new technologies, and facilitates the development of an ethical and responsible approach to the use of these technologies.

Components of ADSI model

- Virtual Learning Environment (VLE)
- Online Educational Resources (OER).
- Technology Pedagogy and Content Knowledge (TPACK)
- 21ST Century Skills – 4C's
- Teaching methodologies e.g ATL
- Lesson Design- lesson planning, presentation
- Teachers Reflection practice & peer review through video observation.
- Course outline.

Teacher ICT competence certification

- **Certification for completion of each cycle** by GESCI - technology literacy, knowledge deepening, knowledge creation

- **In discussion certification recognition** by employer nationally

- **In discussion certification recognition** towards credits regionally

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