Guidebook 1:

ICTs in Education and SchoolNets

For: Everyone

1.1 The knowledge society

Digital technologies have fuelled exponential growth in society's ability to generate, exchange and consume information. This has had far-reaching effects on economic and social organisation. The "knowledge society" is one where growth, development and innovation are driven by the optimal use of information and information products. In knowledge societies:

- The agricultural and manufacturing sectors become less significant, in favour of service and knowledge-based industries.
- Individual opportunity is greatly increased, with mobility being determined largely by education.
- Competition is greater, with enterprises being exposed to global competition and global markets.
- Co-operation is an important strategy for organisations and enterprises, in markets and societies with high levels of integration and interdependence.

The information revolution, along with its attendant explosive growth of knowledge, and the related phenomenon of the globalization of the world economy have brought about the Information Age, which affects all aspects of economic, social and political activity.[1]

The transition to knowledge-based economies is being driven by globalisation and the changing world economy. Developing countries in particular need knowledge-based economies not only to build more efficient domestic economies, but to take advantage of economic opportunities outside their own borders.

A knowledge-based economy...is one in which the creation, distribution and utilization of knowledge perform a predominant role in the generation of wealth.[2]

In the social sphere, the knowledge society brings greater access to information and new forms of social interaction and cultural expression. Individuals therefore have more opportunities to participate in and influence the development of their societies.

An African Information Society

The world has entered the Knowledge and Information Society, driven by information and intellectual products as raw materials. In this context, the ability to transmit data over information and communication infrastructure is a crucial resource for any nation, to participate effectively in the global information society and to address development challenges.

The successful deployment of information and communication technologies can contribute to the development of knowledge societies in the countries on the continent and contribute to bridging the digital divide.

African Information Society Initiative[3]
www.uneca.org/aisi/docs/AISIBriefingPaperNo.1.pdf

We may...define an Information Society as one that has:

- built the necessary capacity to maximally use ICTs to accelerate social and economic development,
- set goals for such developments,
- formulated policy and legislative measures to realise these goals.

South African Presidential National Commission on Information Society and Development
www.pnc.gov.za/is.htm

1.2 What are ICTs?

Information and communication technologies (ICTs) are technologies used to communicate, create, manage and distribute information. A broad definition of ICTs includes computers, the Internet, telephone, television, radio, satellite and audiovisual equipment.

The ability for users to communicate, collaborate and exchange information online is especially important for schoolnets. In this context ICTs typically refer to computers, computer networks and the Internet and, increasingly, other devices that can be used as network or Internet access devices (such as hand-held portable or personal digital assistants (PDAs) and mobile phones).

1.3 ICTs and the knowledge society

ICTs are the key enabler of the knowledge society. Those who have easy and affordable access to ICTs and communication networks can participate fully, while those without have fewer opportunities and remain trapped in pre-knowledge economy forms of economic activity.

The phenomenon of differential access to ICTs has been labelled the "digital divide." This is often assumed to be about the presence of ICT infrastructure and equipment, but it also has many other aspects. For example, the International Telecommunication Union (ITU) has identified three further drivers of ICT usage: language (ability to use languages in widespread use on the Internet), literacy (specifically a culture of reading) and learning (level of educational attainment).[4]

Education is, therefore, one of the most important components in creating knowledge societies, economic growth and prosperity. Education is not only the means by which individuals become skilled participants in society and the economy, it is also one of the key drivers in expanding ICT usage.

What is the digital divide? The term "digital divide" refers to the disparity between those who have use of and access to information and communication technology (ICT) tools and those who do not. The digital divide describes the differences between nations in terms of their access to and use of ICTs as a tool for social and economic development. The term can also be used to describe differences in access to these tools within a country.

Why is the digital divide a key global issue? Bridging the digital divide is of benefit to all. Although they do not inherently guarantee economic and social development, ICTs are generally believed to enable a better quality of life. ICT development can influence the way a country reaches its capabilities and leapfrogs the traditional barriers to development. Bridging the divide means we can prevent a situation where some benefit from technological innovation while others cannot access it.

www.pnc.gov.za/

1.4 ICTs in education

Schooling traditionally stopped when work began. In the knowledge society it never stops.[5]

Seen within the context of the transition to the knowledge society, the following are the broad reasons for developing the pervasive use of ICTs within education systems:

- **To develop knowledge-society attributes in students.** This includes the development of higher-order thinking skills, lifelong learning habits and the ability to think critically, communicate and collaborate, and access, evaluate and synthesise information.

- **To develop ICT skills and competencies in students**, as preparation for operating in an ICT-rich workplace and society

- **To address structural problems and deficits in education systems.** This can include using ICTs to enhance administrative and teaching efficiency; alleviate under-resourcing in specific areas (e.g., a lack of textbooks or learning support materials); address equity issues through enabling equality of access to knowledge, resources and expertise; or support teachers who may be under-equipped to deal with new teaching challenges.

Because of the wide-ranging potential impact of ICTs, they are often associated with radical rather than incremental transformation processes. ICT-in-education programmes benefit from a strong association with curriculum change processes and other system-wide changes, such as moves towards decentralisation, school-based management and learner-centred philosophies.

1.5 The value chain for educational ICTs

For ICTs to deliver meaningful results in an educational context, a number of related elements need to be in place. These can be thought of as interlocking pieces in a jigsaw puzzle or as a value chain. One description of these elements as a value chain is:

- Preparing all sectors of the education system to understand the investment in and value of technology

- Preparing schools to accept the technology

What Countries Say about ICTs in Education

Ghana

The emerging information and knowledge age and the new technological revolution are heralding a new economic and social order characterized by the development and exploitation of ICTs within all spheres of human endeavor....

It is acknowledged that for Ghana to make any appreciable progress in its socio-economic development efforts, substantial resources will need to be directed at reducing the percentage of the population without any educational attainment, widening access to education to the vast majority of the population and increasing the percentage of the population with tertiary level education.

The key role that ICTs can play in widening access to education to a wider section of the population; and in literacy education and for facilitating educational delivery and training at all levels has been recognized. The Government has acknowledged the need for ICT training and education in the schools, colleges and universities, and the improvement of the educational system as a whole.[6]

Namibia

Namibia recognises the importance of ICTs to the development of the country. ICT has a role to play in education both directly as a subject, and indirectly as a technology to assist in educational delivery and management. Used appropriately ICT can bring many benefits to the classroom and the education process. This usage is as a tool to provide new opportunities for teaching professionals delivering education.[7]

South Africa

A global revolution is currently taking place in education and training. It is driven by the changing nature of work, the realities of the information age, new global partnerships and an awareness of the need for equal distribution of educational opportunities....

Like most parts of the world, the South African education and training system has to respond to the pressures and challenges posed by the information revolution. It is for this reason that Government has expressed a strong commitment to the use of ICTs in education.[8]

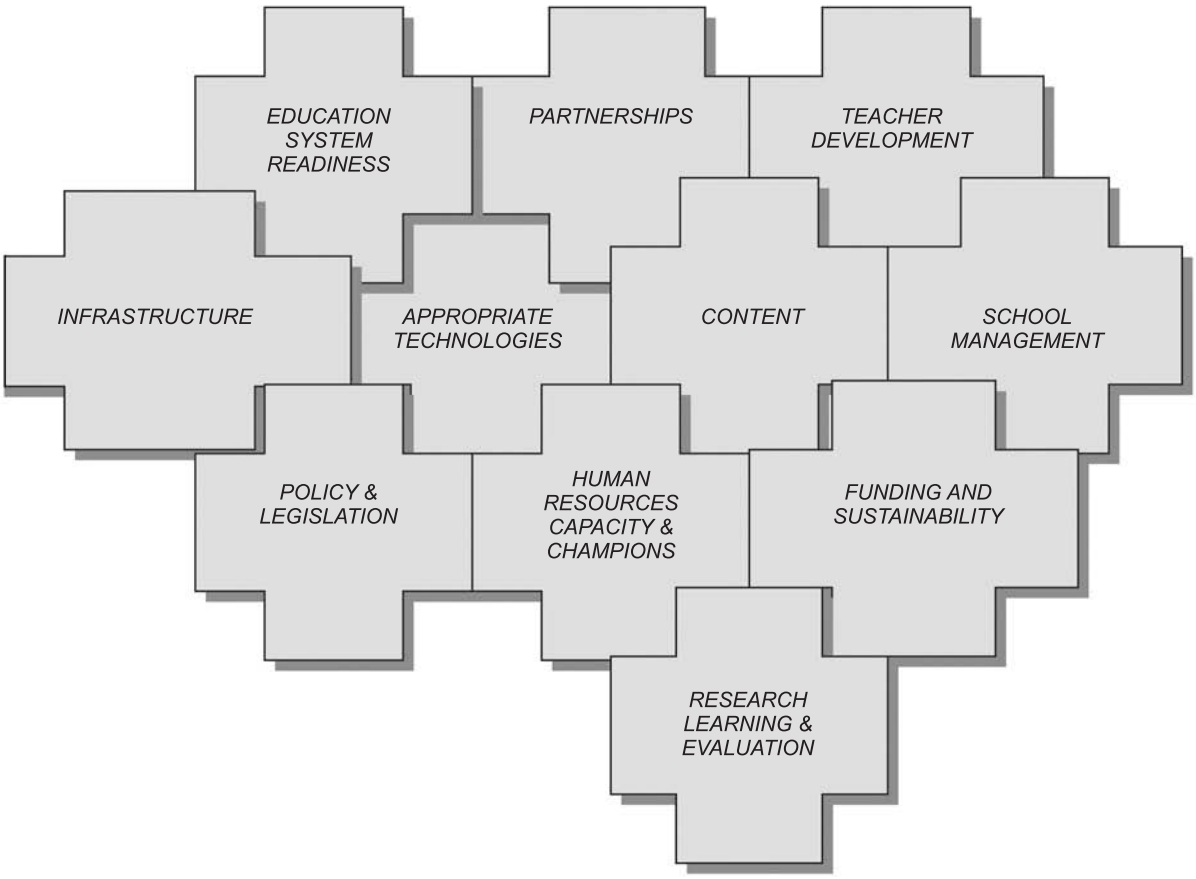
Zambia

Proficiency in ICT skills is now regarded as important as basic reading and writing skills. In order to achieve computer literacy among the entire population, ICTs should be incorporated into both the formal and informal education systems of Zambia. However, it must be noted that this process does not begin and end with putting computers in schools. Maximum use and benefits can only be derived through corresponding changes in the approach to teacher training, curriculum development, content development and the education management / administration system.[9]

- Procuring and installing the technology
- Training teachers to use ICTs
- Developing and managing digital content
- Integrating ICTs into the curriculum
- Providing ongoing technical support
- Providing ongoing curriculum support
- Undertaking continuous evaluation and research[10]

In essence, this means that implementing ICTs in education calls for a holistic, system-wide approach with investment balanced appropriately in different areas and implementation elements smoothly integrated. If too many elements are missing or under-resourced, the investment is unlikely to be successful and cost-effective.

Figure 1: ICTs in education: assembling the pieces of the puzzle[11]



1.6 What is a schoolnet?

Schoolnets promote the development of knowledge societies by connecting schools to the Internet, building connections among students, teachers and schools, sharing information and resources and supporting e-learning in online, networked environments.

Schoolnet initiatives operate at the interface between ICTs and education. This is how one of the first country schoolnets to be created, Canada's SchoolNet, defines itself: "SchoolNet readies learners for the knowledge-based society. It champions lifelong learning and the creation of world-class educational resources through information and communication technology (ICT) and partnerships."[12]

This is a characteristically broad definition. Schoolnet initiatives can in some ways be seen as vision-based initiatives, with ICTs and connected schools being the common means to an end.

Organisationally, schoolnets exist in a wide variety of forms. A schoolnet could be a programme located within a government department or ministry, a multilateral government initiative or a non-government organisation (NGO) or project.

The term "schoolnet" has become an internationally recognisable generic brand name, and as such has been used in a variety of different contexts by international foundations and projects (such as the Global Schoolnet Foundation), for-profit companies (in the US, UK and India), regional schoolnets (such as European Schoolnet and SchoolNet Africa) and country schoolnets (such as SchoolNet Uganda and SchoolNet Nigeria) supporting school networking activities in defined geographic areas.

For the purposes of this Toolkit, schoolnets should be understood as country-level programmes, government or non-profit, that have the objective of developing and supporting the use of ICTs in schools in a developmental rather than market-driven way. Schoolnets often also have a strong focus on building a community of practitioners with a membership of connected schools, teachers and learners.

1.7 Why have a schoolnet?

Schoolnet initiatives usually arise from the realisation that there is a common interest that is not being adequately addressed by existing institutional structures. As ICTs typically evolve far more rapidly than individual institutions and education systems as a whole, this is to be expected.

NEPAD realises that delay in implementing a meaningful ICT programme for this continent is a delay in raising its standards of living and eradicating poverty and a delay in the meaningful participation of Africa, especially of its young people, in the modern world.[13]

In the early stages of ICT adoption, existing public institutions are generally poorly equipped to bring to fruition the advantage that ICTs can provide for education. There may also be roadblocks of various forms, such as high connectivity costs, a need for more resources than are available or equity concerns such as a possible digital divide in public education.

Over and above the strong arguments for integrating ICTs into education generally, it is often accepted that there should be a special, co-operative effort to develop ICTs in education in a structured way. This is important because ICTs in education:

- Have far-reaching impacts (e.g., on physical infrastructure, curriculum, teacher training, assessment and content development)
- Are complex and expensive, requiring the services and resources of multiple agencies for successful deployment and use (e.g., telecommunications companies, ISPs, content providers, school leadership)

ICT-in-education initiatives therefore work best when they are well resourced and have a multilateral approach with the participation of a wide range of stake-holders and partners.

A schoolnet initiative becomes a recognisable focus and identity for such efforts, is an easily marketable concept and reinforces the idea that ICTs have a

[Canada's] SchoolNet, Computers for Schools and LibraryNet programs...have been important catalysts and facilitators, bringing together the complementary needs and resources of federal, provincial, and private sector partners. It is clear that the majority of tasks addressed in the past as well as those that must be addressed in the future have broad cross-jurisdictional implications, and would be impossible for individual partners to effectively tackle alone.[14]

transforming role to play, rather than being another “business as usual” process. Schoolnets can facilitate system-wide changes, broader than the mandate of any individual agency.

At a semantic level, the model of a network applies in several ways, from connectivity (networking computers) to fostering connections between schools, teachers and students (networking people). Schoolnets therefore also encourage the development of communities of practice and orient participants towards collaboration and co-operation.

Establishing schoolnets also makes excellent sense as a response to increasing ICT adoption at the school level. The risks arising from unco-ordinated and unplanned investment in ICTs are substantial. These include increased cost and lower efficiency, unsustainable solutions, educationally unsound implementation and vendor-driven solutions that may not be appropriate for the environment or may increase the total cost of ownership. A schoolnet programme can provide best practices, appropriate standards and strong, visible direction for ICT implementation, while not impeding grassroots innovation.

1.8 Where are schoolnets located?

Schoolnet programmes exist in a number of different organisational forms, depending on a number of country-specific factors. Where schoolnets are located can be a function of the following factors:

- The funding and resources available for ICTs in education
- The extent of support for ICTs in education by political and education leadership
- The political and government structure (the levels of government involved in education delivery and degree of centralisation)
- The extent and nature of grassroots activity
- Any particular opportunities and/or obstacles present
- Other initiatives underway related to ICTs in education

Schoolnets typically have slightly different roles and can achieve different things depending on their location and the extent of government involvement. The most common forms of schoolnet programmes are:

- Educational technology units located within the ministry or department of education (e.g., Schoolnet Mozambique)

- Initiatives within other government departments or government-owned organisations (such as RITSEC's Kids Information Highway Programme in Egypt)

- Non-government organisations (such as SchoolNet Namibia)

In some cases, connectivity and educational services are separate. Schoolnet programmes that have large operational and service components often also provide these in conjunction with private sector companies. Table 1.1 outlines some of the characteristics of schoolnet programmes emerging from their location.

Table 1.1: Schoolnet characteristics

	ADVANTAGES	DISADVANTAGES
Schoolnet programmes within government	• Abililty to set policy and curriculum frameworks and make changes requiring official or legislative backing • Ability to establish ICT vision and goals across entire education system • Best prospects for long-term financial backing and sustainability	• Slower to set up and slower to change • Risk averse • Potentially cumbersome procurement processes and other government overheads • Political requirements that promote breadth over depth and all-or-nothing approaches
Schoolnet programmes outside government	• Easy to set up on a small scale • Innovative and able to react quickly • Grassroots, with bottom-up approach that responds directly to needs • Easier to develop different types of partnerships and relationships with multiple players • Advocacy role through small-scale pilots and demonstrations	• Sometimes fewer resources available • Possible dependence on donor agendas • Process of institutionalisation within government that can take longer • Uncertain prospects for long-term sustainability

In practice, schoolnet programmes typically evolve over time. In the best case, they lead to increased institutionalisation of educational ICT competencies and practices and different organisational structures as needs evolve.

Schoolnets in Some African Countries

Egypt
School students and youth are the main targets for the Kids and Youth Program at the Regional Information Technology and Software Engineering Center (RITSEC). The Kids and Youth Program mandate is the integration of technology for the creation of practical models of educational excellence, pilot projects, professional development and enhancement programs designed to facilitate the dissemination of knowledge and global enrichment. RITSEC as SchoolNet Egypt is involved in a number projects that range from establishment of a school networking institution/organisation to teacher development and introduction of online collaborative programs that integrate computers and Internet with the school curriculum.

Mozambique
Schoolnet Mozambique started in 1997 as *Internet para as Escolas*, a project based at the Centre of Informatics, University of Eduardo Mondlane (CIUEM) with support from the World Bank and the International Development Research Centre (IDRC). From its first project connecting 10 schools to the Internet, Schoolnet Mozambique has become an activity of the Ministry of Education, which now takes the lead in resourcing Mozambican schools with access to and use of ICTs as a tool for learning and teaching. *ESCOLAS DOT MZ* is Schoolnet Mozambique's three-year plan (2003–2005) to work in 200 schools, build an education portal, develop a teacher training programme, promote collaborative projects and build its own sustainability and future revenue sources.[15]

Namibia
SchoolNet Namibia is an NGO that started in 1999. It has connected hundreds of schools to the Internet, tackling the provision of physical infrastructure, computers, Internet connectivity, teacher training and educational content. SchoolNet Namibia has formed a range of partnerships to accomplish its mission, such as the XNet Development Alliance, a countrywide Internet access network for schools operated by Telecom Namibia. SchoolNet Namibia is supported by a number of international donors (including the Swedish International Development Cooperation Agency (SIDA) and USAID), and works closely with the Ministry of Basic Education, Sports and Culture.

Nigeria
SchoolNet Nigeria was launched in September 2001 with the support of the Ministries of Education, Telecommunications, Science and Technology and the Education Tax Fund. SchoolNet Nigeria is a non-profit organization created to address the secondary education sector in Nigeria, as a partnership between a diverse range of public and private sector interests to mobilize Nigeria's human and financial resources for the purposes of using ICTs in education. A key activity is the Diginet project, which has established computer labs in 35 schools, and is being expanded in a second phase.[16]

South Africa
School networking projects in South Africa started in 1994, with the formation of grassroots provincial networks providing Internet connectivity such as the Western Cape Schools Network. SchoolNet South Africa was established as a national NGO with donor funding in 1998. Provincial education departments supported these initiatives, and have subsequently launched large-scale ICT-in-education programmes, such as the Khanya Technology in Education Project (Western Cape) and Gauteng Online (Gauteng), as well as incorporating ICTs into areas such as curriculum development and support.

The national Department of Education has supported school networking programmes, is in the process of finalising a white paper on e-education and is developing a national educational portal for teachers and schools. South Africa also has a wide range of other ICT-in-education initiatives—a 2002 survey identified 34 different programmes, including NGOs, international funders, private sector companies and corporate social responsibility initiatives. [17]

Uganda
SchoolNet Uganda's vision is to transform the Uganda educational system from an industrial model to a knowledge-based model, preparing the youth of Uganda to effectively enter the global information and knowledge economy. SchoolNet Uganda has 42 participating member institutions, with 27 schools connected by VSAT, 8 schools connected by spread-spectrum radio connections and 2 schools using dial-up connections.

SchoolNet Uganda works with the Ministry of Education, National Curriculum Development Centre and a range of other local and international partners and funders.[18]

1.9 What enabling conditions are required?

These are some of the enabling conditions for a successful schoolnet programme:

- **A supportive policy environment.** In the best case, there should be a clearly articulated rationale for the use of ICTs in education that is linked to national economic and social development frameworks.

- **A multilateral approach.** This approach calls for a willingness by all role-players to create working partnerships where required.

- **A receptive educational environment.** The ministry or department of education, school management and teachers should be open to new ways of teaching and learning with ICTs and prepared to invest time and effort in implementing potentially far-reaching changes.

- **Adequate infrastructure in schools.** Sufficient computers with good Internet connectivity in turn depend on electricity and telecommunications services.

- **Sustainable operating costs.** The ongoing costs for connectivity, equipment maintenance and support should be affordable for individual schools over a sustained period, or there should be provision to cover these costs centrally in the long term.

- **Technical support.** It should be possible for schools to have technical problems resolved within a reasonably short period of time. Technical support services should therefore be accessible, affordable, responsive and effective.

- **A critical mass of connected schools and teachers.** There should be a large enough existing or potential user base to build effective online communities, achieve economies of scale and justify investment in resources such as online content.

If not all of the enabling conditions are present, schoolnets are unlikely to be able to achieve their objectives on a large scale. However, pilot projects on a smaller scale are often able to work around constraints using strategies such as “selecting for success” or working in urban areas where there are fewer infrastructure and technical support problems.

Given sufficient resources, the use of ICTs in education also often develops through "virtuous cycles" (e.g., developing online content builds demand for connectivity and hardware), which increases the number of connected schools, which in turn creates more demand for online content. The enabling conditions listed above should, therefore, not be seen as prerequisites to any investment in schoolnet programmes, but rather as necessary components to be addressed in a broad strategy.

1.10 What do schoolnets do?

As noted above, the range of activities undertaken by schoolnets is usually shaped by the organisational form of a particular schoolnet. It may also be determined by the range of ICT-related services available in the marketplace and the maturity of the education market, with schoolnet programs seeking to provide services not otherwise catered for.

The next section describes some of the functions, activities and services provided by schoolnets.

1.10.1 Technology services

- Providing connectivity services, acting as an Internet service provider (ISP) for schools or facilitating partnerships with ISPs to connect schools at preferential rates (schoolnets that act as ISPs directly sometimes establish their own network infrastructure and/or operate as virtual ISPs, using network infrastructure of commercial providers)

- Supplying equipment to schools (purchased through government funding, sponsored through donor or corporate funding or paid for by donations)

- Providing domain registration by allowing schools to register individual domain names under an appropriate umbrella domain for schools (such as the school.za domain for schools in South Africa)

- Hosting Web sites for schools

- Developing appropriate software solutions for schools (such as thin-client network solutions pioneered in Namibia by SchoolNet Namibia)

- Providing technical support and help desk services

- Providing "complete solution" implementation (connectivity, equipment, networking, software, training and support, such as in the Gauteng Online project in South Africa)

1.10.2 Content services

- Providing portal sites to direct teachers and learners to appropriate Internet content (ideally organised and searchable by grade and curriculum area or subject)

- Providing content repositories to host locally developed online content

- Developing content at a professional level (developed by content specialists) or grassroots level (contributed by practising educators)

1.10.3 Fostering communities

- Facilitating the development of learning communities, where educators can interact with each other to share experiences and provide peer support

- Creating and supporting virtual communities that interact through e-mail (using mailing lists), Web sites (Web forums or blogs) or other Internet technologies (e.g., instant messaging and audio- or videoconferencing)

- Running periodic face-to-face workshops or conferences on ICTs in education (such as the conferences run by Western Cape Schools Network in South Africa).

1.10.4 Collaborative projects

- Facilitating the involvement of schools and students in collaborative online projects such as ThinkQuest and Global Teenager

- Designing and running collaborative projects on a country level, either original projects or localised international projects

1.10.5 Professional development

- Providing in-service training for teachers on ICT skills and using ICTs in teaching and learning (curriculum integration)

- Providing school management training on implementing, managing and supporting ICTs in a school

- Providing training in participating in schoolnet activities such as Internet-based collaborative projects, sharing resources online and participating in virtual communities

1.10.6 Partnerships

- Acting as an intermediary or bridge between various role players and stakeholders who share a common interest
- Facilitating investment in ICTs in education by corporate partners and donor organisations
- Promoting industry partnerships, especially with the ICT industry, to expose schools to new and emerging technologies

1.10.7 Experimentation, innovation and advocacy

- Conducting pilot projects across a range of environments and circumstances
- Developing and disseminating best-practice guidelines
- Advocating policy changes at various levels based on experience with pilot projects and best-practice knowledge
- Promoting and supporting innovation in the application of educational technologies

1.10.8 Curriculum and policy development

- Effecting changes in the education system that arise as a result of the introduction of ICTs in schools
- Contributing to ICT-in-education policy processes
- Redesigning the curriculum to leverage new teaching methods made possible by technology and integrate ICTs into the curriculum
- Updating assessment processes to assess ICT-enabled learning processes more accurately
- Establishing competency frameworks for use of ICTs by learners and teachers
- Including ICT competencies in appointment and promotion standards for teachers

- Ensuring that ICT competencies are adequately embedded in preservice teacher training courses

1.11 What is a successful schoolnet?

What are the key performance indicators for schoolnets? In some cases, quantitative measurements may be easy to apply. However, in many cases schoolnets perform the role of catalyst, helping to bring about change in a system. The results of such efforts are often indirect and seen in shifts of policy, improved understanding of ICTs, changes in budget allocations or revised curriculum frameworks.

In this sense, a successful schoolnet programme is one that has contributed to the transformation of a country and its education system towards a knowledge society. The categories below suggest some intermediate indicators that can be used to measure the progress of schoolnets.

1.11.1 Access and sustainable usage

- The connectedness of schools increases (i.e., the number of schools connected, the geographic spread of connectivity in urban and rural environments and the effective bandwidth available).

- There is evidence of usage, such as e-mail volumes and Internet traffic.

- Sustainable usage occurs: progressive increase in usage over time, extending beyond the lifespan of pilot projects.

1.11.2 Institutionalisation

- ICTs in education are not seen as a special activity, but become integrated into all aspects of the core business of ministries and departments of education and schools.

- ICT skills and competencies increase across the board.

- E-mail and Internet services are used to carry out official functions.

- Schools and teachers regard themselves as part of a broader network constituted by the schoolnet.

- Decision-makers are convinced of the value of ICTs, and there is high-level policy support.

- Curriculum revision processes incorporate new ways of teaching and learning with ICTs.

1.11.3 Content

- There is active use of digital content in classrooms and by learners, with ongoing development.
- Online content has been developed or adapted locally, with some content in local languages.
- Teachers and students contribute actively to expand the content database.

1.11.4 Community

- There are active online communities of teachers using ICTs. Educators provide peer support and derive professional benefit from their participation.
- Students establish and participate in online communities for both educational and social purposes.

1.11.5 Learning impact

- Learners show evidence of improved motivation and performance attributable to the use of ICTs in learning programmes and participation in schoolnet activities.

1.11.6 Continuous improvement

- Periodic evaluation and feedback leads to continuous improvement in implementation practices.

1.11.7 Resources

- Multilateral and public–private sector partnerships develop, leading to greater resources being invested in ICTs in education from sources outside education line-function budgets.
- Teachers, students, parents and the local community are involved in supporting school ICT resources, through fees, fundraising or other activities, reflecting a sense of ownership and commitment.

1.12 Examples of schoolnets

Table 1.2 lists some schoolnets in Africa, and Table 1.3 lists regional schoolnets.

Table 1.2: Some Schoolnets in Africa

COUNTRY	SCHOOLNET NAME	WEB SITE
Angola	SchoolNet Angola	
Benin	Schoolnet Benin	*www.schoolnetbenin.org*
Egypt	Smart Schools Project	*www.mcit.gov.eg*
Kenya	Kenya SchoolNet	
Malawi	SchoolNet Malawi	*www.schoolnetmalawi.org*
Mozambique	Schoolnet Mozambique	*www.mined.gov.mz/schoolnet/*
Namibia	SchoolNet Namibia	*www.schoolnet.na*
Nigeria	SchoolNet Nigeria	*www.snng.org*
South Africa	SchoolNet SA e-Schools Network (formerly WCSN) Gauteng Online Khanya Project WCED e-Curriculum	*www.school.za* *www.esn.org.za* *www.gautengonline.com* *www.khanya.co.za* *http://curriculum.wcape.school.za*
Uganda	SchoolNet Uganda NCDC CurriculumNet	*www.schoolnetuganda.sc.ug* *www.ncdc.go.ug/curriculumnet.htm*
Zambia	SchoolNet Zambia	*www.schoolnet.org.zm*

A detailed list of school networking-related programmes and organisations in Africa is presented in SchoolNet Africa's *Mkusanyiko on School Networking.*[19]

Table 1.3: Regional schoolnets

SCHOOLNET	WEB SITE
SchoolNet Africa	*www.schoolnetafrica.net*
NEPAD e-Schools	*www.nepad.org*
European Schoolnet	*www.eun.org*
Southeast Asia Schoolnet	*www.unescobkk.org/education/ict/v2/info.asp?id=10966*